

AS/RS and automated inbound  
material handling system  
Gordon Food Service  
Shepherdsville, Kentucky

References

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## AS/RS for High-Throughput Distribution Center

### Initial Situation

Gordon Food Service, founded in 1897, is North America's largest family-owned and managed broad line food-service distributor. During the planning stages for the construction of their fourth distribution center (to serve customers in Kentucky, Tennessee, and parts of Indiana, Illinois, Arkansas and Missouri) Gordon Food Service made the decision to automate this facility. The Kentucky distribution center would be a high-throughput operation, handling as many as 5,000 incoming pallets per day. The distribution center would have three different storage areas: dry grocery, cooler, and freezer.

Gordon Food Service contacted **viastore systems** to assist them with the automation of quickly handling waves of inbound pallets in the small amount of square footage available for receiving. In the end, **viastore systems** worked with Gordon Food Service to implement the new Automated Storage and Retrieval Systems (AS/RS), and to provide the Material Flow Control (MFC) software needed to run the system.

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### System Solution

**viastore systems** provided the AS/RS for the inbound side of the new distribution center. The outbound side is a "pick to belt" conveyor system from pick tunnels in the rack. There is also a sortation system for order sorting and consolidation, and a trailer loading conveyor system. The entire system has been designed to provide a highly reliable process to efficiently fill orders for Gordon Food Service customers.

Two of the unique innovations provided by **viastore systems** are automatic bin sensing and chain transfers on the load-handling devices. The automatic bin sensing, located on the S/R machines, eliminates the need for hard wired sensors in the pick locations for replenishment. The chain transfers, located on the load-handling device on the lift carriage, improve cycle time by eliminating the telescopic shuttle extension at the P & D stations.

The Material Flow Control directs the in bound transportation system, including the high speed transfer cars feeding the P & D stations. It also optimizes the material flow and S/R machine movement. Statistical history is maintained to provide information for further system optimization. There is a graphical user display that provides the operator with visibility to the system for system status and diagnostics.

### The Result

The system provided Gordon Food Service with a highly reliable, automated Distribution Center that supplies much higher throughput than previous designs.

#### Scope of Supply:

- Storage/Retrieval Machines
- Mechanical/Electrical aisle hardware
- Load/Unload stations
- High Speed Shuttle Cars
- Material Flow Control (MFC) Software with visualization
- Portable wireless PDA system interface
- Interface to host WMS

#### Essential Features:

AS/RS approximate size:

Length: 490 ft. (150.8 m)

Width: 300 ft. (92.3 m)

Height: 98 ft. (30.2 m)

(9) **viapal** S/R machines, each equipped with a double deep shuttle with chain transfer

System Configuration:

Dry Grocery - 4 Aisles  
with 27,930 Storage Locations

Cool Grocery - 2 Aisles  
with 9020 Storage Locations

Freezer - 3 Aisles  
with 23,724 Storage Locations

Product stored:

Food Service products for dry, cool and frozen storage.

Storage is on GMA and CHEP 8 inch X 40 inch Pallets with 4 Pallet heights from 36 inches to 84 inches

Maximum capacity per pallet: 2500 lb.