

## Frito-Lay

The ACTIV® System speeds up order fulfillment, exceeds customer expectations.



### Frito-Lay Jonesboro, AR and Lynchburg, VA

#### About Frito-Lay:

Frito-Lay North America is the convenient foods division of PepsiCo, headquartered in Purchase, NY. Other divisions include Pepsi-Cola, Quaker Foods, Gatorade and Tropicana. Employing over 48,000 people and bringing in over \$12 billion of business, Frito-Lay accounts for 59% of the U.S. snack chip industry.

#### Business Challenges:

- ▶ Frito-Lay built two new distribution centers to handle higher volume order fulfillment anticipated by the introduction of a new product platform.
- ▶ Higher velocity, accuracy, productivity, and less damage were requirements to the new centers.
- ▶ Plans had to be developed and executed quickly without disruption to ongoing order fulfillment.

#### Highlights of the Project:

Frito-Lay hired Retrotech to install ACTIV Systems at two new distribution centers they were building in Jonesboro, AK and Lynchburg, VA. This unique high-density, dynamic storage technology would act as a buffer that could sort, and pre-stage variable sizes of palletized unit loads automatically. This gave the distribution warehouse a versatile, modular concept that is flexible, reliable, efficient and cost effective. Both sites were built to house automated material handling systems that could be expanded to 10,000+ positions (by adding an ACTIV rack) and output 500 pallets, per 24-hours, during peak operations.

Forklifts move palletized finished goods from manufacturing to an input point where bar-coding technology scans the unit loads into the ACTIV System. An input conveyor transports the loads to Vertical Transfer Lifts (VTLs) which elevate and store loads on one of three levels. When an order is placed, ACTIV Software calculates the optimum path for each load as systems components (VTLs, Deep Lane Transfer Cars, and Cross-Aisle Transfer mechanisms) collaborate to move loads through the system in the most efficient manner. Catwalks and platforms were installed to permit safe, fast and easy access to control panels and drives that are located outside the rack structure.

Orders are load sequenced into "slots" that are 2 lanes wide by 2 lanes high. Each site has 1 slot that is 1 lane by 2 high that is meant to be used in "emergencies". For loading, the trailers are directed to the dock nearest the location of the staged order. Because the unit staging takes place within the system footprint, trailers arriving at the pre-designated loading docks receive the loads in a timely manner.

The forklift operator uses an RF terminal on the forklift to sign onto the applicable staging slot. As each load is brought off a staging lane the ACTIV System updates automatically. For positive verification of the order, the forklift operator scans the bar code that corresponds to the dock door to which the load is delivered. This information is then provided to Frito-Lays' Warehouse Management System.

Pick faces, 2 and 3 deep, are located outside the ACTIV system. The ACTIV system delivers product to special output staging lanes where a fork truck then delivers the product to the pick faces. Fast-moving products are assigned dedicated pick faces; medium movers are assigned a single-deep position with backup pick faces located on the opposite side of the distribution transfer; and slow-moving items are located in a fast access area and pulled for picking as needed. The WMS controls the replenishment by generating requests to ACTIV for additional pallets as they are needed. Frito-Lay is able to utilize an intelligent first-in/first-out (FIFO) process for product movement. The ACTIV System's software selects, routes and tracks the product location at all points within the system. To enable internal cross docking or cross docking from manufacturing to staging, each level within the system has it's own express lane that is dedicated to transporting products from one end of the system to the other.

#### Results:

- ▶ Intelligent staging allows for shorter delivery cycles and competitive transportation costs.
- ▶ Minimally handling of pallets virtually eliminates product damage.
- ▶ Labor associated with pick replenishment, product transfer and trailer load time is reduced.
- ▶ System maintenance and safety are enhanced because normal inspection and upgrades take place outside the rack structure.
- ▶ The ACTIV System controls and verifies the complex product flow, in real time, to significantly improve productivity and accuracy.

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