

### ORGANIZATION:

Founded in 1918, Joy Cone Company is the world's largest manufacturer of ice cream cones, based in Hermitage, PA.

### APPLICATION:

Deployed a printer applicator solution that applies labels to two sides of cartons, without touching the carton. Automates warehouse management approach. Enables custom, compliant labels and streamlines warehouse management.

### ENVIRONMENT:

Steadily increasing worldwide demand for the world's freshest ice cream cones required overhaul of warehouse management approach. In addition, increased regulatory and customer compliance necessitated more detailed and accurate labeling approach.

### KEY BENEFITS:

- Increased customer satisfaction and regulatory compliance.
- Faster and more accurate order fulfillment
- Reduced costs
- Minimized downtime
- Reduced lost stock due to spoilage

## PEAK & Joy Cone Create Crisp Labeling Operations

### *Printer applicator solution helps ice cream cone manufacturer modernize warehouse management system*

#### The Joy of Fresh Thinking

An ice cream cone is a timeless treat. Every cone is a crisp, fresh, delightfully delicate-yet-sturdy friend to its rich and creamy companion. And when it's your job to get more than 1.5 billion perfect cones into the anxious hands of eager children of all ages, you need every advantage you can get your hands on. Welcome to packaging and warehouse operations at the Joy Cone ice cream cone company in Hermitage, PA. The world's largest ice cream cone manufacturer, Joy Cone ships a billion-and-a-half ice cream cones per year.

Since 1918, Joy Cone has been synonymous with the art of the cone baking. And when it came time to modernize their warehouse operations, they turned to the company synonymous with supply automation – PEAK Technologies.

#### Old-fashioned Quality, State-of-the-Art Operations

As a family and employee-owned company serving retailers, grocers and restaurants, Joy Cone prides itself on time-honored quality. And that quality has paid off. The company now offers over a dozen product lines and runs more than 350 SKUs.

To keep pace with demand, costs under control, and quality at the highest standards, Joy Cone recently implemented new barcode printer applicator and labeling systems as part of their overall warehouse modernization projects at their 215,000-sq/ft. warehouse in Hermitage, PA, and 90,000-sq/ft. Flagstaff, AZ facility.

Joy Cone had been experiencing a variety of labeling accuracy issues, mostly due to a reliance on manually recorded product data. According to Joy Cone director of logistics, Brent Fisher, customers were asking for more detailed and accurate shipment case labeling.

"We had to track our finished goods more accurately to meet regulatory and customer requirements in the event of a product recall," said Fisher. "In addition, our order fill accuracy was lower than it is today and it subjected us to charge backs or fines for inaccurate shipments."



Previously, all out-of-date coding had been handled via hand stamp or dot matrix printing. Inventory records were written into a notebook and all production information was entered into a computer database using handwritten tags, one tag per pallet. A hardworking and extremely conscientious warehouse crew struggled mightily to run more than 200 to 300 pallets per day at peak season. However, this tedious process held the potential for a variety of labeling errors.

"We experienced some issues fulfilling shipments," explained Fisher. "Everything was manually labeled and tracked. We would refer to a manual log to locate products in the warehouse, create a pick list, and handwrite the carton's location. Joy Cone always prides itself on delivering quality cones, so in some instances we had to dispose of product that may have been on the shelf a bit too long because our labeling system made the cartons hard to locate," he said.

#### Printer Applicators Deliver Immediate Results

Automating warehouse and shipping functions, Joy Cone turned to PEAK Technologies to develop a print and apply solution to optimize label application. PEAK responded with an automated barcode label application system that delivered immediate results.

Joy Cone wanted labels their tow-motor operators could easily read from different directions. Instead of a wrap-around corner label which wastes material, PEAK provided an automated system that applied two standard 6 x 4 labels on each carton's front and side as it moves along the conveyor.

## CASE STUDY

# PEAK & Joy Cone Create Crisp Labeling Operations

## Printer applicator solution helps modernize warehouse management system

PEAK outfitted the warehouse with 14 CTM 3600 dual-tamp printer applicators running Zebra print engines. The dual-tamp arms swing out to apply one label to the front and one label on the side. To avoid risk of damaging the carton or its deliciously fragile cargo the printer applicators apply the labels without ever touching the carton. The applicator head "blows" the label on from 1/8-in. away, retracts, and does it again. PEAK calculated the sensors, angle and timing of the line to ensure labeling accuracy. The labeling placement is so reliable that Joy Cone re-designed its carton graphics specifically around the labeling area. To further enhance the labels for easier identification, customer logos can be printed directly on the label.

Evaluating the floor space, the Joy Cone and PEAK team worked together to determine the best locations for the printer applicators to ensure easy re-loading and service access. The printer applicators' layout configuration – designed to be replicated at other facilities – allows "plug-in" flexibility for relocating or replacing a unit with a spare.

PEAK also installed 15 Zebra ZM600 portable thermal desktop printers which serve as back-ups for printing small quantity, custom order labels. These printers feature operator-friendly peel-and-present functionality (the label prints but doesn't advance until the previous label is removed).



In addition to the printer application solution, PEAK provided 13 Xplore dual-mode tablet PCs that are wall-mounted around the warehouse. These allow operators to change carton label parameters directly at the line, increasing efficiency and reducing the time needed to make changeovers.

"With the printer applicators we saw an improvement in accuracy and inventory control overnight," said Fisher. "In terms of tracking inventory for shipping, we went from having weekly out-of-stock products to having almost no out-of-stocks, plus we increased our warehouse productivity by about 20 percent as a result of the entire warehouse automation project."

### Corrugated Cost Savings

According to Fisher, a major benefit came from corrugated cartons printing cost savings. Joy Cone had been special-printing boxes for each customer. By printing customer information directly on the label, Joy Cone could replace pre-printed customer boxes with generic boxes.

"With our new labeling system we can purchase a single box style at a higher volume instead of printing assorted customer boxes at lower volumes," explained Fisher. "By switching to generic corrugate, we saved about ten percent on printing and purchasing," he said. "Not only are we saving money, managing inventory is easier. We don't have to worry about locating customers' pre-printed boxes, so our production outages have been greatly reduced," Fisher explained.

### Partnership Pays Off

In addition to the equipment recommendations and installation, PEAK provided all the consumables such as labels and printer ribbon. (PEAK recommended anti-static ribbons to combat the static electricity prevalent in Joy Cone's warehouses.). PEAK also provided training and a service agreement to keep the equipment operating at peak efficiency.

"PEAK has been great at ongoing training and support as well as maintenance and service," said Fisher. "We've had good response regarding technical issues. They come in on a regular basis to maintain the printers and if any parts are needed, it's covered. This allows us to spend our time fine-tuning our systems, not on maintaining printers.

Fisher said he is very pleased with the results experienced with PEAK. "We haven't had any problems or line shutdowns because of printer applicator failure," said Fisher. "PEAK's expertise was vital in getting the new system up and running quickly with virtually no downtime."

The PEAK and Joy Cone partnership has resulted in a modernized and efficient automated labeling system that allows Joy Cone to do what it does best: creating the perfect pairing of the world's finest cones for the world's coolest and creamiest treat.



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**Brent Fisher, Director of Logistics  
Joy Cone Company**

### About PEAK Technologies

PEAK Technologies, a Platinum Equity Company, is a systems integrator of supply chain automation and inventory management solutions delivering tangible return on investment to some of the world's largest corporations. PEAK's primary applications include solutions for warehousing, manufacturing, and distribution operations. PEAK's portfolio of solutions and services include business process consulting, enterprise resource planning (ERP) systems integration, wireless professional services, project management, printing/media solutions, and life-cycle support services. PEAK Technologies has locations throughout North America providing a comprehensive "foot print" for national, multi-site life cycle service and support.

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