



Snack Food Quality Control

Hanover, PA

Streamlined and automated food quality control.

Jason Margolis/PRI



THE PROJECT

There's nothing like opening a fresh bag of Utz potato chips. But what if you were to find something foreign in your snack bag? For Utz Quality Foods, food safety means nothing but product in every bag of potato chips, pretzels, cheese curls, tortilla chips, popcorn, and party mix.



From its modest beginning in 1921 until today, Utz production has grown to millions of pounds of snacks each week in their four Hanover, PA manufacturing facilities. From the adjacent World Distribution Center, product is shipped via Utz's distribution network to retail customers from Maine to the Carolinas, including big box and warehouse companies such as Wal-Mart and BJ's.

As the volume of products shipped increased, so did Utz's concern about ensuring the integrity of every bag of snacks. Food safety became an issue for us," says Jeff Fuhrman, vice president of engineering. Utz needed a way to ensure that products were completely free of foreign contamination.



THE SOLUTION

PULSE, in collaboration with Hytrol Conveyor Company, equipment suppliers, and the customer, devised the solution using new X-ray detection and innovative automation technology. The system conveys finished cartons through an X-ray system which detects the proper product weight and quantity of each SKU. The X-ray step improves both food safety and product quality. Fuhrman explains, "We are looking for foreign objects, missing product, seasoning conglomerates, and incorrect weights. DC managers are alerted when the X-ray system rejects a carton so employees can correct and reintroduce them into the system prior to the X-ray detector."

THE CHALLENGE

The solution was not without its challenges. In addition to straightforward cases of bagged product, various sizes of plastic jugs containing cheese balls and snack mix had to be conveyed to the X-ray system via Hytrol roller conveyor. Some jugs were tall, skinny or oddly shaped, making them unstable. PULSE chose to use NEDCO table-top conveyors similar to those used in bottling operations to transport the jugs securely through the X-ray machine to the palletizing operation.

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*- Jeff Fuhrman, Vice President of Engineering
Utz Quality Foods*

INNOVATIONS & BENEFITS

PULSE is known for its innovative way of solving material handling challenges. Working with Hytrol, they devised a way to not only solve Utz's food safety problem and improve product quality, but also streamline operations, free up DC floor space, and improve productivity. Chris Paulsen, CEO of PULSE, explains. To preserve available floor space, we chose to elevate much of the conveyor systems. We even located the X-ray equipment on a structural mezzanine leaving the floor below for the palletizing operation. And for clean, quiet operation above the packaging floor, they utilized Hytrol Conveyors new EZ-24 low voltage powered roller technology.

PULSE's innovative thinking also significantly improved productivity in the Utz facility. Previously, product was cased and palletized at the end of each packaging line, then transported out to the warehouse. Now, cases (or individual jugs) are transported by conveyor to a central palletizing operation located just after the X-ray machines in the warehouse. It was this kind of inventive thinking that originally convinced Utz to award the contract to PULSE. Paulsen asserts, "We competed for this project against several very capable system integrators. We were told that, although we were not the lowest bidder, we had the most cost effective and innovative approach."



THE DETAILS

Each carton packed in production receives a bar code label containing product, customer and shipping data. The cartons accumulate onto one of eight Hytrol EZ-24 conveyor lines and are elevated 17 feet by eight impressive United Sortation System hi-speed vertical reciprocating lifts. They are then merged onto a main conveyor line, conveyed around a 90-degree curve onto a mezzanine, and delivered to the X-ray detector. The bar codes of the cartons have already been scanned and product SKU information sent to the X-ray, which detects proper product weight and quantity for each SKU. "If incorrect conditions are detected, the case is rejected into a contaminated lane, an over/underweight lane, or a failed bar code read lane. The system captures an image of each carton, making it easy for employees to identify which package in the carton has a problem," Fuhrman explains.

Cartons that pass correctly through the X-ray system descend on a spiral conveyor through a bar code reader, then onto a Hytrol two-sided narrow belt sorter which diverts cartons onto one of 14 gravity-sort lanes, as determined by bar code. Workers waiting at the end of these gravity lanes palletize the cartons by hand.

THE FUTURE

For the Utz facility, there is more automation to come. The company intends to add automated case packing and palletizing and six additional vertical lifts in the near future. Fuhrman says, "We've set up the infrastructure for a totally automated system. And the Utz company intends to install systems similar to this in its other manufacturing plants. "Our food safety goal is to X-ray every product. This has been a huge help."

ABOUT PULSE

PULSE is a full system integrator working diligently to provide a customized solution for every client. Combining design expertise, seamless integration with intentional transparency to provide clients with scalable engineered solutions.

Cultivating over 45 years of material handling experience, they specifically help companies leverage the right mix of technology (digital and physical) in their facilities. Their team ingrains Industry 4.0 Thinking into the design philosophy at every level to deliver truly agnostic solutions that adapt to continuous evolving customer requirements.

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