

Snack Food Producer

Midwest U.S.

Retrotech, Inc. modernized the snack food distribution system and the Warehouse Control System - with no production downtime.

Business Challenges:

- ▶ A Daifuku system, installed in 1993, had become unreliable and unsupported. The system, an integral part of the production lines at the facility, stored and transported totes of ingredients and the plant could not tolerate a significant downtime to replace the system.
- ▶ Automated material handling equipment that acted as a receiving and delivery buffer for ingredients and WC software were becoming obsolete.
- ▶ There were service problems with the Sorting Transfer Vehicles (STVs) and some spare parts were becoming increasingly difficult to source. The original equipment manufacturer told the plant that the Warehouse Control System (WCS) would no longer be supported after 2008.
- ▶ A new WCS was needed to function transparently and seamlessly between the old and the new equipment and it needed to run reliably before installing the new equipment. The modernization had to be completed without taking the system off line. This was a challenge because the only way to get product from the ASRS to the production lines is by the STV loop. If anything happened to the loop or the STVs during the modernization it would shut down production.
- ▶ More flexibility and better visibility was required so the in-house team could maintain the equipment and software in future.

Highlights of the Project:

To address the plant's challenges Retrotech teams began to focus on three major areas: the Warehouse Control System, the Sorting Transfer Vehicles, and the Cranes.

The Retrotech software team developed the new WCS, beginning with in-house testing at the Retrotech location. Every other weekend the software team would test the WCS on-site by switching system control from the old computers and software to the new servers and software on Friday evening, running the entire process without ingredients, and then switching back again on Sunday night. This process is known as a "Live Retrofit" within Retrotech. They fully tested the new system software to operational levels without affecting production at all, so 'going live' brought no surprises.

Retrotech and the plant engineers worked on the STV and crane upgrades. The original plan, called for gradually upgrading each of the nine STVs, one per week, over a nine-week period. Retrotech found a company willing to sell nine used Daifuku STVs to the plant. They upgraded all of the newly purchased vehicles offline, shipped one of them to the site for testing, and delivered the remaining eight for installation over two scheduled down weekends, with no loss of production time for the plant. Retrotech also modified one crane on site each week during the modernization project allowing the plant to continue normal operations with the five remaining cranes, avoiding lost production time

Results:

- ▶ The complete modernized system was up and running within the deadline, on budget, and with no loss of production.
- ▶ Retrotech installed non-proprietary, off-the-shelf components and software providing the plant with the ability to support and maintain the upgrade independently in the future.
- ▶ The upgrades dramatically improved efficiency, performance and reliability of the material handling operation, as well as maintained high throughput and improved diagnostics.
- ▶ The new WCS operator screens are user friendly and provide easy access to real time information on product flow and troubleshooting issues.

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