

# THE CHALLENGE



When a confections manufacturer needed to relocate internationally, it had to move its lines to an existing facility without interrupting operations while also consolidating and optimizing the relocated lines to reduce costs.



The engineering manager for this company knew he needed to bring on an experienced partner to perform this work and also help the organization gain operational efficiency and better meet market demand. However, this was complicated since news of the plant closure was confidential, making bidding out the project not an option.



## Near Vertical Startup During International Relocation

To ensure a smooth relocation process, Polytron developed a conceptual plan that detailed the groundwork for the international move. We also performed engineering work, assessments on the existing equipment, and consolidated assets from multiple packaging lines to incorporate lines into the existing U.S. facility. By performing vendor management, we also helped resolve ingredient delivery issues, facilitate a near vertical startup, improve efficiencies in the new line, and reduce startup time by approximately 25 percent, resulting in a successful relocation process.



# EXECUTIVE SUMMARY

## ► Near Vertical Startup During International Relocation

**Client: Confections Manufacturer**

### **Challenge:**

Relocation and consolidation of factory lines across international borders without internal staff support.

### **Solution:**

- Developing a flexible, detailed moving plan that anticipated possible challenges
- Performing an engineering study to determine if/how relocated equipment should function in the U.S. plant
- Resolving ingredient delivery issues from the previous plant
- Facilitating construction required to consolidate lines, including development of a master plan and vendor management

### **Results:**

- Achieved a near vertical startup in the new location
- Improved efficiencies achieved in new lines
- Freed up the engineering manager to focus on his job because of his trust in Polytron
- Demonstrated confidence and certainty of outcome

### **International Relocation Challenges**

To better meet market demand and gain operational efficiency, a confections manufacturer concluded it needed to close its Canadian facility and move its lines to an existing factory in the U.S.

The senior regional engineering manager was responsible for the move – a \$28 million project – and faced substantial challenges without internal staff support, including:

- Relocating used assets across international borders
- Integrating used and new assets in the U.S. facility
- Constructing the relocated lines without interrupting operations in the U.S. facility
- Consolidating and optimizing relocated lines to reduce overall cost

The engineering manager knew he would need an experienced partner to pull this off, but with news of the closure being kept confidential, bidding the project out wasn't an option. Fortunately, he had engaged Polytron for project management before and trusted our expertise and ability to work within the constraints the confidential project imposed.

### **A Reliable Model for Complicated Moves**

With a move this involved, a detailed plan is a make-or-break proposition. The engineering manager needed to conduct a situation analysis that could diminish uncertainty and develop a program to deliver the project within the deadline and budget required.

Our flexible project delivery model anticipates challenges and allows wiggle room for unanticipated events that can throw complex projects off target. By completing front-end engineering (FEE), we provided the engineering manager with options and recommendations for fitting the relocated equipment in the U.S. plant while optimizing cost. The FEE study also helped facilitate making the best decisions for the business.

### **Planning for and Conducting the Relocation**

After the FEE, the engineering manager had the situation analysis and recommendations he needed to move forward. Since we have extensive experience delivering these types of projects, he saved months previously needed to negotiate with another provider to execute the plan. At this point, the engineering manager could confidently turn the project over to our team and focus his energy on building an engineering team internally to take on future business initiatives and market demands.

## Ensuring a Smooth Relocation Process

We worked onsite in both the Canadian and U.S. plants to lay the groundwork for a successful move, which included:

- Verifying assets to be relocated
- Taking mechanical dimensions of all equipment and checking against drawings
- Accounting for every item to be moved

## Combining Assets from Multiple Packaging Lines into One Line

The relocation plan included a program for the construction necessary to incorporate the former Canadian lines into the U.S. plant. Our team was responsible for a variety of mechanical and process engineering tasks to make this happen including:

- Developing the upfront engineering work and master plan needed to expand the U.S. facility
- Creating space in the existing U.S. facility for the equipment to be relocated, which included developing plans for demolishing existing equipment and reconfiguring rooms
- Performing assessments on equipment from the Canadian plant to determine whether it was best to relocate equipment or purchase new
- Analyzing the utilities in the U.S. facility to ensure they could meet the demand of the loads being added by the relocated equipment
- Coordinating a phased construction approach in two major areas of the U.S. plant
- Combining assets from multiple packaging lines into one line to conserve floor space, which involved identifying and integrating any new equipment and conveyors needed
- Building a new flavor vault, including tank layout and demolishing the existing flavor vault, to add flavor capacity and flexibility to the delivery system
- Completing layouts of the relocated equipment in the U.S. facility to optimize line operations once the equipment was installed in its new configuration

## Construction in the Facility During Operation

To help the engineering manager minimize impact on the U.S. plant during the relocation, our team:

- Consulted with personnel to understand the requirements of working in its production facility
- Enclosed the construction area and established good manufacturing practices (GMP) for contractors to follow
- Phased work for minimal impact on production

## Improving Process Efficiency and Equipment Safety

As part of the move, the engineering manager wanted to resolve ingredient delivery issues. We helped achieve this objective by working with plant personnel and process vendors. Vendor management services ensured equipment specifications were met, including implementation of safety features required for the Canadian equipment to be compliant with U.S. regulations.

## Meeting, and Beating, Demanding Startup Requirements

Vendor management also helped the engineering manager facilitate a near vertical startup. As part of combining the Canadian and U.S. lines, we modeled a new batch deck that included four mixers, liquid ingredients, dry ingredients, manual adds, and discharge conveyors.

Using PolySim<sup>sm</sup>, a proprietary modeling and emulation tool, the team pre-tested PLC programs and HMI applications, getting everyone – including vendors – on the same page and reducing startup time by approximately 25 percent.



**Polytron's project management facilitated near vertical startup during international relocation, minimizing the impact on the existing plant and reducing startup time by approximately 25%.**

## Trusting Polytron's Approach

From front-end-engineering through full execution, Polytron worked with the engineering manager to meet the manufacturer's production strategy. With this support, the engineering manager could maximize production inside the landlocked U.S. facility, saving the expense of expanding the plant. At the same time, with our team managing all aspects of the relocation, the engineering manager could lead his engineering team in planning the manufacturer's next expansion.



Ultimately, our conceptual planning enabled a big picture perspective – a five-to-ten-year vision for production at a number of sites, which included everything from actual execution of each project to delivering the overall business plan.

## About Polytron

Polytron partners with manufacturers to address complex business challenges. We first develop a thorough understanding of opportunities and then leverage our expertise and industry best practices to develop and implement a strategy that delivers results.

