

Food Manufacturer Avoids Unnecessary Equipment Expense & Increases Throughput

Manufacturing

Success Story

Food Manufacturing

Process Simulator
Professional



CHALLENGES

One of the largest food manufacturers in North America, produces many different varieties of canned food. It owns several brands in the United States and Canada with wide brand recognition. They have a large and loyal customer base, due to the quality, nutritional value and affordability of their products. They also maintain and operate canning facilities throughout the world.

At one overseas plant, the automated filling machines in the canning lines were a mix of leased and purchased equipment. The leases on some of the machines were expiring and the question was posed whether to renew the leases or purchase that type of filling machine equipment. They needed to determine exactly how many new machines to purchase, and at \$250K to \$500K per machine, accuracy was vital. The manufacturer also needed to understand the potential impact to the upstream and downstream processes of each equipment type in order to ensure that the throughput of the entire line still met demand requirements.

Initially, a consulting firm was hired to help determine the proper path forward for this complex problem. The consultant relied primarily on spreadsheets and averages as their analysis method. The firm suggested a certain combination of filling machines, as well as additional equipment upstream and downstream in the processing lines in order to avoid bottlenecks. The consultant's recommendations were projected to cost the food manufacturer millions in new capital equipment purchases. The Management team's intuition raised doubts about these recommendations.

Some employees had seen the value of using simulation to solve these types of problems in other organizations and were certain simulation was the right approach to help in this situation. After some due diligence, they decided to engage ProModel Corporation.

OBJECTIVES

A re-usable simulation tool with which they can:

- Determine exactly how many new machines to purchase
- Understand the potential impact to the upstream and downstream processes of each equipment type
- Ensure that the throughput of the entire line still meets demand requirements

SOLUTION

The company chose Process Simulator, ProModel's Microsoft Visio Plug-In, due to its intuitive interface and short learning curve. A ProModel consultant was brought in to conduct a four day on-site jump start training. By the end of the week, they had not only been trained in how to use the tool, but had a working model with which they could conduct actual simulation analysis.

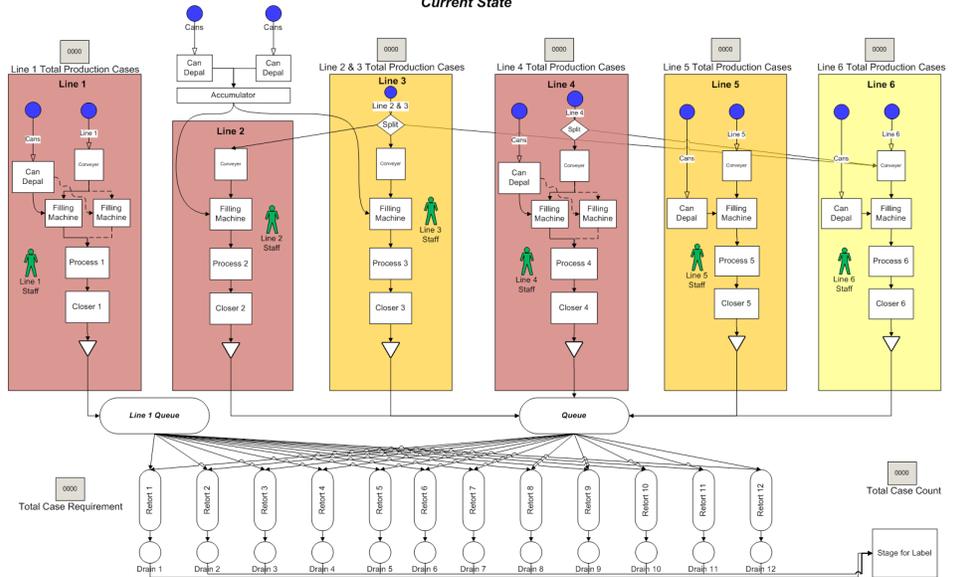
As expected, the simulation yielded more accurate results than spreadsheets by accounting for variability, uncertainty and interdependencies within the canning processes. Using Process Simulator the manufacturer was able to determine precisely how many new filling machines to purchase as well as discovering that they did not need any of the extra upstream or downstream equipment recommended by the consulting firm.

VALUE PROVIDED

Along the way, as often happens when conducting a simulation project, they uncovered other inefficiencies in some of their processes. The plant management had suspected this, but had never been able to pinpoint what and where they were. By solving many of these issues it turns out that additional throughput could be achieved.

Other savings opportunities were identified related to modification of the plant layout, equipment and labor, including the ability to incorporate in the model a way to optimize the scheduling sequence for production.

**Canning Simulation
Current State**



**Canning Simulation
Future State**

