



GLOBAL DAIRY AND PLANT-BASED FOOD AND BEVERAGE COMPANY

Background

A *global manufacturer* and distributor of *dairy and plant-based products* must manage a very *complex supply chain* and often there are large mismatches between *forecasted demand* and *planned production*, leading to *product waste* or insufficient supply. These mismatches *cost the company* tens of millions of dollars each year.

The company needs to *better manage supply and demand* for their products across *multiple production facilities* and *warehousing operations* spread out throughout the globe.

Highlights:

- Thousands of *SKUs*
- *Many production* and warehousing *facilities worldwide*
- A need for *coordination* among *production plants and warehouses* to deliver products regionally and *globally*

The Challenge

The company was facing:

- Large **mismatches** between **forecasted demand** and **planned production** for many of its products
- Supply and demand **planning** functions were **not well integrated**
- Planning capacity was **too limited** to keep track of all **mismatched products**
- **Little coordination** among different **manufacturing plants** and **warehouses**
- **Perishable end-products** cannot not be stored indefinitely to **satisfy future demand**
- **Perishable raw materials** exacerbated the problems

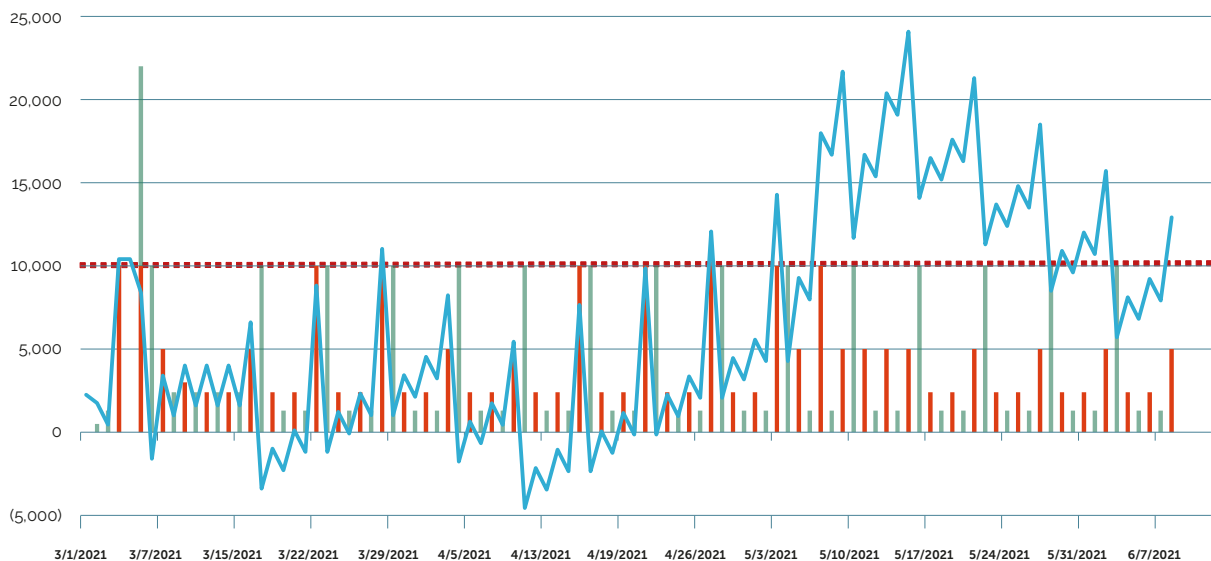
OptPro Solution

OptPro combines **advanced analytics methods**, including **mathematical optimization** and **artificial intelligence**, with a **digital twin representation** of the actual process.

In this case, the **OptPro** solution was utilized to **implement a cloud-based system** to **compute mismatches** between forecasted **demand** and planned **supply** at a level of granularity that includes the **SKU, location, and assigned planner**. The system proactively **alerts planners**, in a **prioritized list**, to their largest **projected mismatches**, and the type of projected mismatch (**waste risk vs. shortage risk**), so that each planner can take **timely action to remedy the risk**. The solution also ensures that **actions are tracked from alert creation to follow-through**, before closing an alert.

Product Shortage / Waste Risk

■ Production ■ Demand — Inventory



Results

This application exemplifies the **simplicity of using advanced analytics** to **solve complex problems** in manufacturing and supply chain management.

By using the cloud based **OptPro** alert system, the company estimates **annual savings of over \$16 million** through the **reduction in product waste and product shortages**. In addition, the company is already **planning to enhance and add features to the solution** for additional cost savings.

The system uses **advanced analytics** to set **threshold levels for each product** based on shelf-life and **projected inventory levels** to create the **alerts for a given planning horizon**.



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