

# LEADING FLOUR MILLING OPERATION



## Background

A **large flour milling operation** utilizes **several different wheat values** (classified by varying attributes such as **protein content**, water content, etc.) as part of its **manufacturing operations**. Meeting **customer demand** for flour of a specific quality requires a **complex blending** of different classes of wheat. Thus far, this effort had been accomplished via a **manual process**, utilizing a combination of staff **know-how** and excel spreadsheets. The company realized it was leaving money on the table by not blending in an optimal fashion and sought an **automated mechanism** for achieving this task.

## The production facility had the following baseline requirements:

- Utilization of **multiple wheat mixes** prior to milling
- **Strict customer quality specifications** on many mix attributes (e.g., protein, moisture, etc.)
- Inventory constraints (**bin capacities**)
- **Wheat preference** constraints for each mix





## The Challenge

- *Optimizing* wheat blending while meeting all the required constraints
- *Maximizing market value* of the mix
- Provide a *user-friendly tool* that is *accepted and used* by current plant personnel

## OptPro Solution

Working closely with the *plant team*, OptTek developed a *mathematical optimization solution* that, coupled with a digital twin of the *mill grain storage and transfer system*, leverages the **OptPro** core infrastructure software to:

- *Achieve* all of the above *challenge goals*
- *Improve mix value* by 5% (a \$29k single-plant *savings per week*, or \$1.5M per year)
- Be *actively utilized* by plant personnel with *feedback* that it is very easy to use

## Future

Given the *success* with this initial plant, OptTek is now *working with this same client* to port the solution to *several other plants* with *similar blending requirements*, enabling savings at those plants, and providing a *great economy of scale of the solution* investment overall.

Further, a future anticipated *enhancement of the solution* will permit the company procurement teams to be *better and sooner informed* of future specific wheat classification *demand requirements*, and therefore be able to make more *cost-effective buying decisions*.



2241 17th Street  
Boulder, CO 80302

 303.447.3255

[www.OptTek.com](http://www.OptTek.com)