

# Improving Production Capacity, Cost Accuracy, and Profitability Visibility in Food Manufacturing



*Digital Twin of an Organization (DTO) powered by Collaborative Business Planning (CBP)*

## Business Context

**Crosby Foods** is a Canadian CPG manufacturer/co-manufacturer with over 120 employees producing 160+ wet and dry SKUs across 10 production lines, serving both retail and industrial customers.



Like many mid-sized manufacturers, Crosby's faced challenges with:

- Limited visibility into production capacity and resource utilization
- Difficulty sustaining continuous improvement (CI) initiatives
- Inaccurate product costing and profitability insights
- Fragmented inputs for budgeting and capital investment decisions

These constraints created a need for a more integrated, data-driven planning capability.

## Key Problem Statement

Crosby's lacked a unified model to:

- Accurately simulate production constraints and throughput
- Understand true cost-to-produce across diverse SKUs
- Align operations, finance, and CI teams around consistent data
- Support forward-looking planning and investment decisions

## CBP-DTO Solution Approach

Crosby's implemented a Digital Twin of the Organization (DTO) using Collaborative Business Planning (CBP), supported by the QualiWare platform. Key elements of the approach included:

- Building a constraint-based operational model across all production lines
- Grouping 160+ SKUs into 45 process-based product families for modeling efficiency
- Capturing:
  - Process flows and activities
  - Labour and equipment requirements
  - Production rates, setup times, and capacities
- Integrating operational and financial data from:
  - ERP (Syspro)
  - Production tracking systems
  - Shop-floor interviews

The DTO model enabled end-to-end simulation of production, resource utilization, and cost flows.

# Improving Production Capacity, Cost Accuracy, and Profitability Visibility in Food Manufacturing



*Digital Twin of an Organization (DTO) powered by Collaborative Business Planning (CBP)*

## Key Capabilities Enabled by CBP

- **End-to-End Operational Visibility**  
Single integrated model of production, support activities, and cost flows
- **Constraint-Based Planning**  
Identification of bottlenecks across labour, equipment, and production lines
- **Scenario Simulation**  
Evaluation of CI initiatives, staffing changes, and production adjustments before execution
- **Integrated Costing & Profitability Analysis**  
Activity-based costing tied directly to operational flows, improving cost accuracy
- **Cross-Functional Alignment**  
Unified model used by Production, CI, and Finance teams

## Quantified Business Benefits

### Operational Efficiency

- +160 hours of additional production capacity identified through utilization improvements
- +200 hours gained through optimized sanitation labour and reduced downtime

### Financial Impact

- Identification of **over- and under-costed products**, improving pricing and margin decisions
- Enabled **more accurate labour, material, and production cost forecasting**

### Decision Quality

- Data-driven justification of capital investment in a plant management system
- DTO project delivered **~50% first-year ROI**

### Continuous Improvement Enablement

- Structured platform to evaluate and prioritize **Lean improvement initiatives**
- Improved visibility into **non-value-added activities**

### Implementation Timeline: ~ 3 months to operational DTO

- **Phase 1:** Process discovery and data collection (3-4 weeks)
- **Phase 2:** CBP-DTO model build and validation (4-6 weeks)
- **Phase 3:** Scenario analysis and stakeholder alignment (4 – 6+ weeks)

# Improving Production Capacity, Cost Accuracy, and Profitability Visibility in Food Manufacturing



*Digital Twin of an Organization (DTO) powered by Collaborative Business Planning (CBP)*

## Why CBP for DTO?

- Purpose-built for operational and financial digital twin modeling
- Combines:
  - Value Stream and Activity-Based Planning process modeling
  - Resource planning based on Theory of Constraints (TOC)
  - Simulation of both operational and financials flows, costs and profitability
- Enables practical, executable DTOs — not just conceptual models
- Proven in complex, multi-line manufacturing environments

## Key Benefits of CBP-DTO Modeling

- Clear visibility into true production constraints and available capacity
- Stronger foundation for ongoing CI and operational optimization
- Improved alignment between operations and finance
- Enhanced operational and financial budgeting and forecasting accuracy
- Ability to cost new products and model future customer demand scenarios

## For more information

*Assess your organization's opportunity to improve capacity, costing accuracy, and profitability using a DTO powered by CBP.*

**Visit:** <https://cbp-software.com>

**Contact:** [info@cbp-software.com](mailto:info@cbp-software.com)