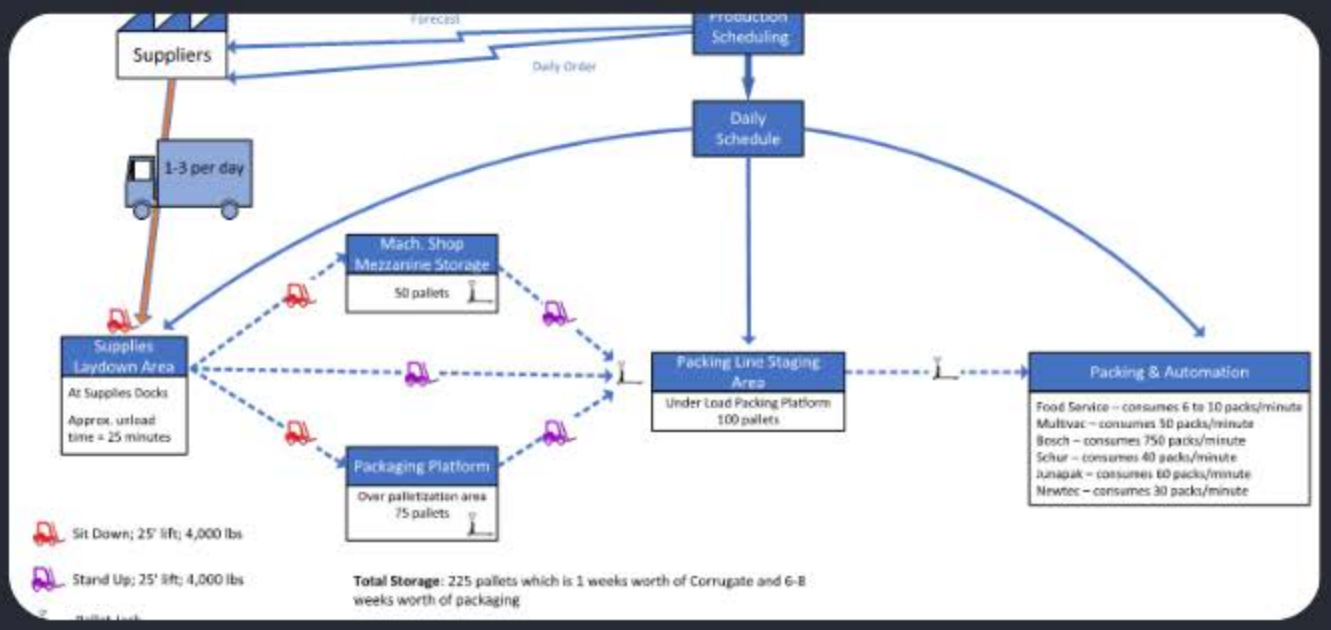
DESIGN SYSTEMS CANADA LTD.

Case Study

Slip Coat Manufacturer
Greenfield Facility



BOTTOM-LINE RESULTS:

- Comprehensive mapping of people, material, and forklift flows
- Identification of operational efficiency opportunities
- Evaluation of labor utilization across production lines
- Improved understanding of internal logistics and production processes

Ref. DSC-2098

PROJECT

Design Systems Canada Ltd. was contracted to perform a Value Stream Mapping (VSM) analysis for their new food processing facility in Nisku, Alberta.

The objective of the project was to analyze production operations and develop detailed maps illustrating the flow of people, materials, and equipment throughout the facility.

By documenting and analyzing these flows, DSC provided insights into operational efficiency, potential bottlenecks, and opportunities to improve throughput and labor utilization within the production environment.

CUSTOMER

Food Processing/ Consumer Packaged Goods Facility

OVERVIEW

Design Systems Canada worked with facility stakeholders to gather operational data, understand production requirements, and document the intended manufacturing processes.

Using this information, DSC developed value stream maps that illustrated the movement of materials, people, and equipment throughout the facility. These maps captured each step in the production process, highlighting how work progressed through the system and identifying interactions between production activities.

The mapped processes were then analyzed to evaluate workflow efficiency, identify potential bottlenecks, and assess opportunities to improve throughput and labor utilization.
The resulting analysis provided the client with a clear understanding of how production would function within the new facility and offered practical insights to support operational optimization and informed facility planning decisions

ENGINEERING CHALLENGES

Food manufacturing facilities require careful coordination between labor, materials, and automated equipment to maintain production efficiency and product quality.

Key challenges included:

- Understanding the interaction between multiple production workstations
- Evaluating employee workloads and work instructions across production lines
- Mapping complex material movement throughout the facility
- Analyzing forklift traffic patterns and logistics flow
- Determining whether one operator could efficiently manage two production lines

Accurately analyzing these factors required a structured industrial engineering approach to visualize and quantify operational processes.

ENGINEERING SOLUTION/ METHODOLOGY

Design Systems Canada implemented a structured Value Stream Mapping methodology to analyze production operations.

Site Analysis and Data Collection

DSC reviewed facility data provided by the customer, including production layouts, workstation locations, employee assignments, and operational procedures.

Key elements evaluated included:

- Workstation locations
- Material supply points
- Forklift traffic routes
- Work instructions and labor assignments
- Production cycle times

This data provided the foundation for analyzing the operational flow of the facility.

Value Stream Mapping Development

Using the collected data, DSC developed three core operational maps:

People Flow Map -
Analyzing employee movement and workflow between workstations.

Material Flow Map -
Tracking how materials move through production and packaging operations.

Forklift Flow Map -
Evaluating forklift routes and internal logistics efficiency.
These visual maps provided a clear representation of production flow and operational dependencies.

Operational Analysis

DSC engineers reviewed the collected data and developed recommendations to improve operational efficiency.

Key evaluation included determining whether a single operator could effectively manage two production lines simultaneously without reducing production performance.

PROJECT TIMELINE

Phase	Activity
Phase 1	- Data collection and facility analysis
Phase 2	- Production process evaluation
Phase 3	- Development of value stream maps
Phase 4	- Operational efficiency analysis
Phase 5	- Reporting and recommendations

Design Systems was prepared to begin the project within one week of purchase order authorization, demonstrating the firm's ability to rapidly mobilize engineering resources.

BEFORE/ AFTER METRICS

Operational Metric	Before	After
Production Flow Visibility	- Limited	- Fully mapped
Labor Utilization Analysis	- Unknown	- Quantified
Material Flow Efficiency	- Unanalyzed	- Documented
Forklift Traffic Patterns	- Unclear	- Optimized

WHY DSC WAS SELECTED

The Client Company selected Design Systems Canada due to DSC's extensive experience in industrial engineering and manufacturing optimization.

Key differentiators included:

Manufacturing Engineering Expertise

Design Systems has over 35 years of experience providing engineering and consulting services to manufacturing clients.

Concept-to-Commission Approach

DSC applies a comprehensive engineering methodology that supports projects from early analysis through implementation.

Multidisciplinary Engineering Team

The organization supports projects with specialists across eight engineering disciplines, enabling integrated solutions for complex manufacturing environments.

CLIENT VALUE DELIVERED

Improved Operational Visibility

The value stream maps provided a clear visual representation of production flow across the facility.

Enhanced Labor Efficiency Analysis

The study enabled the customer to evaluate whether one operator could manage multiple production lines efficiently.

Material Flow Optimization

Understanding material movement allowed the customer to identify potential improvements in internal logistics.

Data-Driven Decision Making

The final report provided the customer with actionable insights to support production planning and facility optimization.

BOTTOM-LINE RESULTS

The Value Stream Mapping project provided the Little Potato Company with a structured analysis of their production operations and actionable recommendations for improvement.

Key outcomes included:

- Comprehensive mapping of people, material, and forklift flows
- Identification of operational efficiency opportunities
- Evaluation of labor utilization across production lines
- Improved understanding of internal logistics and production processes

The final deliverables equipped the customer with the insights needed to optimize production flow and improve facility performance.

About Design Systems Canada Ltd.

Design Systems Canada Ltd. provides manufacturing engineering and design services for industrial facilities across North America.

Core capabilities include:

- Industrial Engineering
- Mechanical Engineering
- Electrical Engineering
- Facility Layout Optimization
- Process System Design
- Manufacturing Facility Upgrades
- Operational Assessments

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