McCain DCL

Global frozen food leader partners with TribalScale to transform their digital operations

McCain Foods Limited, the world's largest manufacturer of frozen potato products with 1 in 4 french fries globally being a McCain fry, partners with TribalScale to modernize their digital operations. With over 47 production facilities across six continents, 20,000 employees worldwide, and annual revenue of $14 billion CAD (2023), McCain serves markets globally through their extensive manufacturing and distribution network.

Challenge

In manufacturing processes, maintaining accuracy, consistency, and proper alignment is crucial, often facilitated by a centerline. However, the existing centerline management process posed challenges for Operators, Shift Managers, and Supervisors.

These included:

+ Lack of visibility into upstream/
downstream centerline status

+ Difficulty in identifying and reacting
to relevant operating conditions

+ Absence of granular historical stop
and loss data storage

KEY RESULTS

Increase throughput

Decrease unplanned downtime

Enable data collection for Advanced Analytics

Solution

To address these challenges and achieve the goals, we embarked on creating a digital product aimed at enhancing centerline management. The approach involved optimizing for a wider range of raw input parameters and empowering operators through real-time visualizations of relevant operating conditions. We prioritized features using a blend of MoSCoW and Value vs Effort frameworks, where must-haves with minimal effort received the highest priority, followed by must-haves with larger effort.

+   PROCESS: We conducted intensive Domain Driven Design (DDD) and Event Storming sessions over 2 days to uncover the solution. Led by a Solution Architect and Anchor Engineer, these sessions aimed to understand the business problem using a blank slate approach and a common language with McCain stakeholders. The goal was to create a solution accessible to stakeholders with varying technical knowledge, addressing end-user pain points. Diagrams illustrating the outcomes of the DDD and Event Storming sessions are provided below.

+   IMPLEMENTATION: We integrated PowerApps for the front-end interface and utilized JavaScript for backend API development, deployed on Azure Container Apps. APIs were accessible via Azure API Management, with security enhanced by an Application Gateway featuring a Web Application Firewall (WAF). We outlined the data processing workflow, established the data interaction model, devised mechanisms for tracking CL deviations, and set up protocols for dispatching CL deviation alerts. The solution architecture focused on OSI PI Data Ingestion, Power Platform Data Exchange, and Production Schedule Synchronization.

TECHNOLOGIES

+   Azure

+   Microsoft Power Apps

Outcome

Through our partnership with McCain's digital innovation team, we significantly boosted manufacturing throughput by streamlining workflows, optimizing resource allocation, and leveraging real-time data insights, increasing product output without compromising quality. Within 6 months, we transformed the plant from paper-based information sharing to a fully digital system featuring 60-inch displays showing real-time updates and tablets for operator access. Through predictive maintenance algorithms and IoT sensors, unplanned downtime was minimized, ensuring continuous production and maximum equipment uptime. Robust data collection and advanced analytics techniques further empowered McCain to identify optimization opportunities, driving continuous improvement and enhancing overall efficiency, quality, and profitability.

This case study showcases how agile transformation can rapidly deliver results in complex manufacturing environments. Through the strategic integration of cutting-edge technologies and collaborative development methodologies, we moved from concept to implementation in just 6 months. By the project's end, we had not only built the solution but also helped McCain's new MDI team onboard and trained a group of product owners who continue to drive digital initiatives forward. This achievement demonstrates how our agile approach helps large-scale projects achieve faster results while building lasting capabilities within organizations.

> " TribalScale's expertise with Agile development has been key in this project, which is ultimately a great learning opportunity for McCain as we are focused on building a capability to build digital tools.

CAROLINE MORISSETTE
VP of Digital & Data at McCain Foods

TRIBAL SCALE

TribalScale is a global innovation firm that helps enterprises adapt and thrive in the digital era. We have years of experience in digital strategy, design, and multi-platform engineering and through agile practices, we transform teams, build best-in-class digital products, and create disruptive startups.

Whether we're righting the ship for another company or creating a fresh end-to-end solution, we innovate for a better tomorrow.
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