

Precision Perfected: How Data Analytics Transformed Batch Manufacturing at OptiMolds, Inc.



Discover this use case for Minitab, showcasing how our tools empower manufacturers to achieve consistent quality, reduce waste, and make data-driven decisions that drive success

Use case*: Improving Batch Production with Minitab

Company Overview: OptiMolds Inc.

OptiMolds Inc. is a mid-sized manufacturer specializing in custom plastic injection molding. They serve a wide range of industries, from automotive to consumer goods, and operate several batch production lines. Their quality team faced challenges with frequent process deviations and increasing waste, particularly in large production batches.

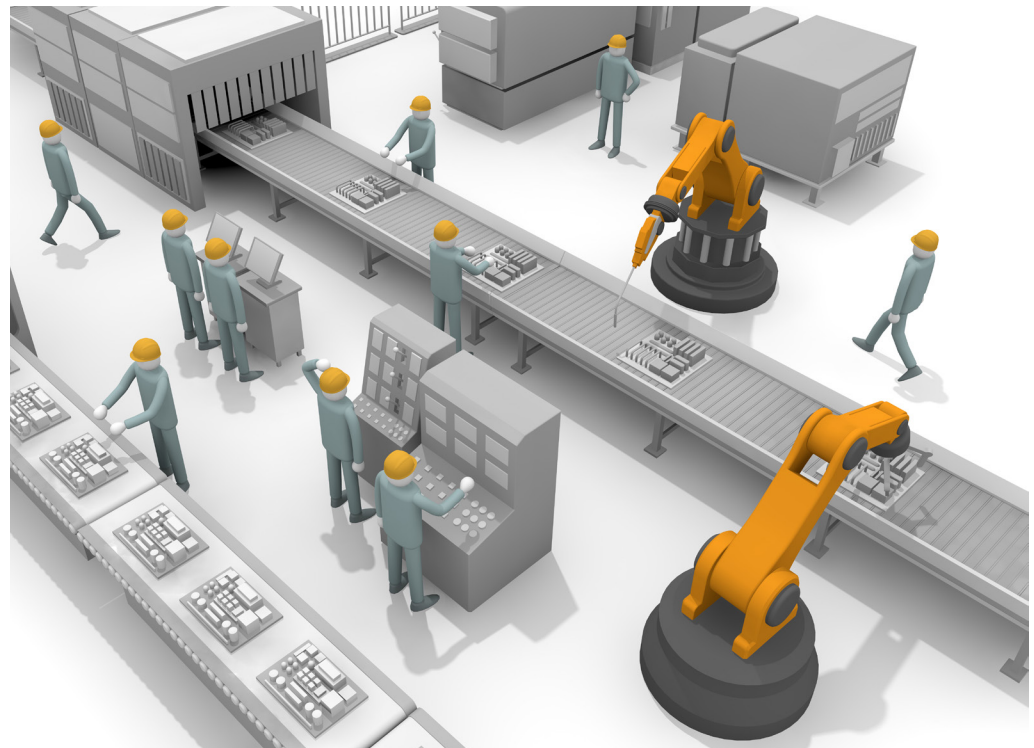
The Problem

OptiMolds struggled with inconsistencies in product quality, resulting in costly rework and scrapped materials. Their operators were relying on outdated manual inspection methods, leading to delayed identification of defects and production inefficiencies. The company needed a solution to identify out-of-spec products earlier in the process and reduce overall waste.

How Minitab Was Used

The team at OptiMolds implemented Minitab's Real-Time SPC to track their production data continuously. They used control charts to monitor product dimensions and applied Root Cause Analysis when deviations were detected. Minitab's predictive analytics tools were then used to forecast future quality issues, allowing the company to adjust its process proactively.

- **Control Charts** helped OptiMolds reduce variability in product dimensions, catching defects early before they compounded
- **Root Cause Analysis** pinpointed the underlying causes of frequent defects, allowing the team to make precise adjustments to machine settings and batch compositions.
- **Sampling Methods** were refined, leading to more accurate detection of variations and enabling faster corrective actions.



Results

Within six months of using Minitab, OptiMolds saw a 25% reduction in scrap material, a 15% improvement in production efficiency, and a significant decrease in customer complaints related to product quality. By identifying process issues early, they saved time, materials, and operational costs while enhancing overall product quality.

**Disclaimer: The use case included in this guide is fictional and based on a hypothetical use case to illustrate how Minitab's tools and solutions could be applied in a real-world batch production environment. While the company and results are not real, the scenarios and challenges reflect common industry issues, and the solutions provided demonstrate the practical application of Minitab's software.*



The Power of Real-Time SPC in Batch Production

Batch production in manufacturing comes with inherent complexities, but by leveraging real-time analytics, effective sampling, and root cause analysis with tools like Minitab, companies can significantly improve quality outcomes, reduce waste, and streamline operations.

Minitab provides the comprehensive solution that manufacturers need to remain competitive and efficient in an ever-evolving marketplace.

Ready to reduce variability, prevent defects, and improve quality in every stage of your manufacturing process?

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