DataToBiz

Innovating the Manufacturing Process: How AI Transformed Efficiency for a Global Plastic Packaging Company

ABOUT CLIENT

With over 40 years of expertise in the field, this plastic packaging manufacturer is an industry leader. Headquartered in California, USA, and boasting multiple manufacturing facilities worldwide, they are a global presence. Their core focus revolves around producing and delivering packaging materials that cater to a diverse array of industries

PROBLEM STATEMENT

The client faced several challenges that hindered their manufacturing efficiency and profitability. The key issues included:

Unplanned Machine Downtime: Frequent breakdowns and unexpected machine failures resulted in significant downtime, leading to delays in production schedules and increased maintenance costs.

Inefficient Maintenance Practices: The client relied on traditional preventive maintenance schedules that were not optimized for machine health and performance. This approach often led to unnecessary maintenance tasks or overlooked critical issues, resulting in reduced equipment reliability.

Lack of Real-time Insights: The client had limited visibility into the performance of their manufacturing processes and machinery. The absence of real-time data made it difficult to identify inefficiencies, bottlenecks, and anomalies, preventing timely interventions and process improvements

SOLUTIONS

To address these concerns, we developed data warehousing and BI solutions:

Data Collection and Integration: We set up a system to collect data from machines in real-time. This data was combined into a central platform.

Predictive Maintenance: We used AI and ML to predict when machines might break down. This helped avoid unexpected stoppages, saved money on repairs, and made machines more reliable.

Machine Downtime Detection: We used ML to monitor machines and alert us if they suddenly stopped working. This allowed us to react quickly and minimize delays in production

Industry

Plastic Packaging Manufacturer

Products used

Procurement analytics dashboard

Functionality Enable

Artificial Intelligence (AI) and Machine Learning (ML)

Impact

12%

Reduction in unplanned machine downtime plus an increased production uptime, with an average of 5 additional production hours per week

9%

Reduction in maintenance costs and extended lifespan of machines by approximately 15%

22%

Reduction in time-to-market, enabling the client to capture emerging opportunities and gain a 9% increase in market share

7%

Reduction in production defects and a 10% increase in overall production efficiency

pro tip

Start small, with a clear problem to solve. Experiment and iterate as you gradually expand your AI and ML initiatives

Take the next step

Ping us to explore how we can help you get started and drive success with these technologies