

## **Swire Coca-Cola Predictive Maintenance**

### **Business Problem**

Swire Coca-Cola needs more productivity and revenue due to unplanned machine downtimes at its production plants. These unexpected breakdowns cause significant disruptions in meeting production targets, leading to an estimated \$60 million in annual losses.

This project aims to predict when unplanned machine downtimes will occur.

### **Benefit of Solution**

The benefit of solving this problem will be to:

- Predict and prevent downtimes
- Ensure machines are maintained proactively
- Minimize output losses and maximize profit
- Optimize the supply chain to meet demand more effectively.

### **Analytics Approach**

Our approach involves building a predictive maintenance model using historical data from the IWC system. This begins with exploring and preprocessing the data to identify key factors such as machine conditions, common breakdown parts, and downtime duration. Then a preliminary model is developed to forecast future downtimes and identify high-risk parts. The final step is implementing a final predictive maintenance model that enables the production team to take action, reducing downtime, and presenting these insights in a business-friendly format, focusing on actionable steps to minimize malfunctions and save costs.

### **Success Metrics**

Our focus will be the reduction in downtime of machines, minimizing both the frequency and duration of machine breakdowns after the predictive maintenance model is implemented. Success would be measured by a significant drop in unplanned interruptions, with machines operating for longer periods between failures. This reduction directly impacts profitability, decreasing the \$60 million in annual losses.

## **Scope / Deliverables**

The deliverables of the project are as follows:

- Completed presentation and report documenting findings and processes
- Repository of code including a deployment ready model

## **Project Details**

This project will be completed by the team members of Group 3 by November 20, 2024.

The following are a list of milestones:

- Business Problem Statement Delivery
- Exploratory Analysis
- Presentation Draft
- Final Presentation