

# A leading food and beverage manufacturer reduced product spoilage by 45% through **real-time IIoT based condition monitoring**



## Background

A leading food and beverage manufacturing company struggled with frequent equipment malfunctions in their production line, leading to product spoilage and high operational costs.

## Approach

- ◆ **Data Collection & Integration**
  - ◆ Installed IIoT sensors on key machinery in the production line to track operational metrics like temperature, pressure, and humidity in real-time.
  - ◆ Integrated sensor data with the company's existing Manufacturing Execution System (MES) to allow for centralized monitoring.
- ◆ **Predictive Maintenance Algorithms**
  - ◆ Developed machine learning algorithms to analyze the sensor data and predict potential equipment malfunctions.
  - ◆ Used historical data to fine-tune predictive models, improving accuracy in forecasting equipment failures and degradation.
- ◆ **Automated Alerts and Maintenance Optimization**
  - ◆ Implemented a system of automated alerts, notifying the maintenance team when equipment showed signs of impending failure.
  - ◆ Adjusted maintenance schedules dynamically based on real-time data, ensuring minimal disruptions to production processes.

## Challenge

- ◆ **Product Spoilage:** Equipment failures causing interruptions in the production process, leading to product wastage.
- ◆ **High Maintenance Costs:** Reactive maintenance strategies led to high costs for emergency repairs and replacements.
- ◆ **Inconsistent Production Quality:** Machinery malfunctions affecting the consistency and quality of the final product.

## Objectives

- ◆ **Ensure Continuous Production:** Minimize equipment breakdowns to avoid production halts and product spoilage.
- ◆ **Reduce Maintenance Expenses:** Shift from reactive to predictive maintenance to lower emergency repair costs.
- ◆ **Maintain Consistent Product Quality:** Improve equipment reliability to ensure high-quality, consistent output.

## Benefits

**Reduced Product Spoilage:** Equipment breakdowns were reduced by 45%, minimizing spoilage and waste on the production line.

## About Straive

Straive helps operationalize the data → insights → knowledge → AI journey with its deep domain expertise, process knowledge, and tech and analytics capabilities. Serving a diverse range of industries-including science and research publishing, information services, EdTech, life sciences, and banking and financial services-Straive boasts a global client base spanning over 30 countries. Our strategically positioned resource pool operates across seven countries, including the Philippines, India, the United States, Nicaragua, Vietnam, the United Kingdom, and Singapore, where the company is headquartered.

