

A global food & beverage manufacturer reduced product spoilage by 45% using IIoT-based condition monitoring



Background

A global manufacturing company was facing frequent equipment failures, leading to costly repairs and production delays. They sought an IIoT-based condition monitoring solution to predict equipment issues, reduce maintenance costs, and ensure smooth production operations.

Objectives

- ♦ **Predict Equipment Failures:** Identify potential equipment issues early to prevent unexpected downtime.
- ♦ **Reduce Maintenance Costs:** Minimize the expenses related to emergency repairs and part replacements.
- ♦ **Optimize Operational Efficiency:** Ensure smooth production processes by minimizing equipment-related delays.

Benefits

Reduced Downtime: Unplanned downtime decreased by 40% through proactive issue detection and maintenance.

Lower Maintenance Costs: Reduced emergency repair costs by 30% by addressing issues before they escalated.

Challenge

- ♦ **Unscheduled Downtime:** Frequent equipment failures causing unexpected production halts.
- ♦ **High Repair Costs:** Significant expenses due to emergency repairs and unscheduled maintenance.
- ♦ **Operational Inefficiencies:** Equipment malfunctions leading to reduced efficiency and operational delays.

Approach

- ♦ **Data Acquisition:**
 - ♦ Deployed IIoT sensors on critical machinery to continuously monitor parameters such as vibration, temperature, and operational speed.
 - ♦ Collected real-time data and stored it in a centralized platform for analysis.
- ♦ **Condition Monitoring Algorithms**
 - ♦ Developed predictive algorithms to analyze sensor data and detect early signs of equipment degradation. Used data to estimate the remaining useful life of critical components and identify potential failure points.
- ♦ **Proactive Maintenance Strategy**
 - ♦ Implemented a condition-based maintenance schedule triggered by predictive insights from the data. Created a notification system to alert the maintenance team in advance of potential issues, allowing for timely interventions.

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.