



CASE STUDY

"IoT Connectivity-as-a-Service"- A step towards becoming a light house factory



Client

An American CPG Manufacturer of food toppings, sauces, and syrups.



Business Challenge

- Unavailability of connectivity with shop floor equipment and PLCs for reading fault codes
- No real-time visibility of production line equipment status and associated controllers are not networked and monitored centrally.
- Need for an operator to manually enter downtime hours and reasons at the end of the shift which reduces effective production time
- Downtime reasons captured at a high level e.g., mechanical issues, electrical issues that do not represent exact downtime reasons to take necessary corrective action
- Historical data analysis of machine or line was not possible as the machine status and downtime reasons lie only within the PLCs
- Non-visibility of frequency and magnitude of micro stops as well as infeed and outfeed standby machine statuses which reduce machine throughput



ITC Infotech Solution

- ITC Infotech team using its “IOT Connectivity-as-a-service” framework assessed the plant's OT network to identify plant connectivity needs and proposed the right fit solution
- Established connectivity with Rockwell controllers via KEPServerEX for data acquisition such as machine status, current speed, and outcount
- Derived machine status (Running, Outfeed standby, Infeed standby, and Stopped) by analyzing existing PLC/HMI program and machine study. Updated machine PLC code to reflect exact machine status to calculate accurate OEE
- Automated data capturing from PLC to identify exact downtime reasons and accurate downtime hours to eliminate the need and potential errors of manual logging

Business Benefits



15% reduction in unscheduled maintenance time and to 3% reduction in line downtime due to a focused action plan



5% increase in OEE. Real-time insights on machine status and outcount help calculate. Real-time OEE Information brings agility and intelligence to the shop floor operations.



Automated capturing of 2100+ downtime reasons from PLC helps in prioritizing machines and actions towards reducing the downtime



Categorized and grouped fault codes (Ex. Electrical, mechanical, sensor, safety, etc.) that help prioritize them based-on criticality and focus areas



Packaging Line level logic implementation helps proactive identification of bottleneck machines in the line and provides insights on the magnitude of impact that each machine has on the line downtime. This helps prioritize the actions and machines where the impact to line level OEE is high

About ITC Infotech

ITC Infotech is a leading global technology services and solutions provider, led by Business and Technology Consulting. ITC Infotech provides business-friendly solutions to help clients succeed and be future-ready, by seamlessly bringing together digital expertise, strong industry specific alliances and deep domain expertise. The company provides technology solutions and services to enterprises across industries through a combination of traditional and newer business models, as a long-term sustainable partner.

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