ALTIZON
The Industrial IoT Company

IoT enabled
Assembly Line Performance Improvement

Productivity Improvement

Downtime Analysis

Condition Based Monitoring

A leading construction machinery manufacturer implements integrated IoT solution to analyze the effectiveness of its assembly lines at manufacturing plants in North America.

Learn how Altizon's **Datonis**®– Industrial IoT Platform and MInt (Manufacturing Intelligence Application) helped the client to monitor and analyze their assembly line performance and improve line throughput by 12% and bring predictability into the operations.

- 12% increase in line throughput
- Part and process traceability across the manufacturing value chain
- Real time dashboards with actionable insights
- Ability to perform co-relations across dimensions like productivity, machine/tools conditions, quality, operator – line performance
- Adaptable IoT template to scale across multiple lines, cells, and plants

SECTOR
Construction Machinery Manufacturing

FOCUS AREA
Engine Assembly

HIGHLIGHTS

- No common platform for data analysis
- Lack of visibility into downtime reasons
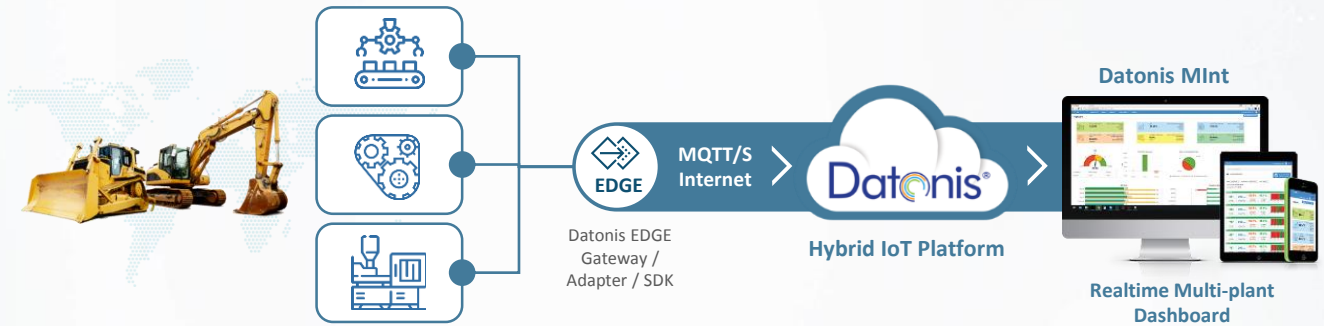
THE PROBLEM

The plant comprises of fabrication, paint shop, and several component and main assembly lines. The assembly line in scope had a high degree of automation with PLC's capturing critical product and process data. Despite the level of automation, data was siloed and not available on a common platform for analysis. The line throughput was consistently low and the unplanned downtimes on the line were not clearly attributed to the real causes (engineering, quality, supply chain, etc.). Line Manager wanted to implement a realtime line monitoring and alerting system to identify the unplanned downtimes, capture reasons and generate actionable insights for continuous improvement.

SOLUTION

Altizon, along with a system integrator partner, designed an integrated IoT solution. In the solution, existing PLC system data was configured over OPC-UA protocol and pushed to the Datonis IoT platform via Edge component which has readymade compatible adaptors. With MInt application, the collected time series raw data got a business context with live dashboards and ability of Do-It-Yourself reporting. Alerts and notifications were configured for management in case of process deviations as well as unplanned downtimes.

Datonis EDGE Gateway / Adapter / SDK

EDGE

MQTT/S Internet

Datonis®
Hybrid IoT Platform

Datonis MInt

Realtime Multi-plant Dashboard

PROJECT BENEFITS

Build on existing automation: The data was tapped from existing PLC systems. Therefore, the solution required minimal additional hardware on the line.

Faster Deployment: PLC data was made available in Datonis and MInt in a span of 4 working days. Because of Datonis IoT platform's wide range of connectivity protocols and 'Thing' templates, overall solution was deployed very rapidly.

Easy Customization: With extended APIs and easy SDK, application customization was quick. In addition to the canned reports, the DIY reporting capabilities help users to segment data as needed and build custom reports to get additional actionable insights.

Co-relations: MInt application provides 360-degree view of the line operational KPIs like productivity, quality, maintenance and traceability. This enabled the customer to build co-relation reports across multiple dimensions and generate actionable insights to achieve desired system performance.

Realized Benefits:

- Realtime visibility into engine assembly line's performance
- 12% improvement in line throughput after physical actions were taken on the data insights provided by the solution
- Realtime Co-relations and internal benchmarking helped in turbocharging the lean and continuous improvement initiatives.