



Case Study

Enabled IIoT Powered Remote Monitoring of Construction Machine's Efficiency Parameters

Client

The client is one of the largest Asian construction companies. They were looking for a digital solution, which could provide real-time insights into machine utilization, parts servicing requirements, energy consumption, and more.

Challenge

The client was facing various business challenges that included:

- Real-time monitoring of OEE (Overall Equipment Effectiveness) and equipment effectiveness
- Analyzing productivity trends in order to handle breakdown alert management
- Monitoring the conditioning of the key machines
- Functionality to monitor energy consumption per operation for each factory remotely from the headquarters
- Reducing unplanned downtime
- Maintaining consistent quality of components

LTIMindtree Solution

Our solution consisted of the below key solution components:

- The solution enabled data acquisition of machines by using sensors (level, temperature, and pressure) and from machine controllers (through OPC, MODBUS, and OEM's (Original Equipment Manufacturer) Proprietary TCP/IP protocols) and wireless data transfer from machine controllers/- sensors to the central data store
- Local interactive HMI (Human-Machine Interface) - for operators to trigger alerts (through Kaizala) to dedicated groups for production/maintenance related issues for immediate action
- Andon display board - for consolidated plant information, the measured data was visualized at a local Andon in real-time for quick decision making at the shop floor
- Intuitive dashboards - Visualized trends for utilization, energy consumption, operation efficiency, etc.

Business Benefits

The business impact of our solution was sudden and visible with the below achievements:



About LTIMindtree

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