



Mindtree

A Larsen & Toubro Group Company

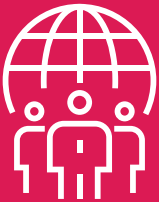
Welcome to possible

Enabled ***IIoT powered remote monitoring*** of construction machine's efficiency parameters



A Mindtree Case Study

Mindtree NxT



## Client overview

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

Moreover, most of the machines were working under extreme conditions, and maintaining their health along with monitoring energy consumption was something that was a top priority for the client from the digital solution.



## Mindtree 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.



## Benefits

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

- The night shift productivity was increased by 2.5 times through insight-based intervention
- The first output from the start of the shift was drastically reduced from 1.5 hours to 30 minutes
- Our insights-based solution resulted in higher power saving, and the post breakdown response was brought down from 30 mins to 5 mins through digitizing the process
- The most significant result was the streamlining of root cause analysis by replacing manual paper-based record keeping with HMI enabled recording of breakdown causes

## About Mindtree

Mindtree [NSE: MINDTREE] is a global technology consulting and services company, helping enterprises marry scale with agility to achieve competitive advantage. "Born digital," in 1999 and now a Larsen & Toubro Group Company, Mindtree applies its deep domain knowledge to 270 enterprise client engagements to break down silos, make sense of digital complexity and bring new initiatives to market faster. We enable IT to move at the speed of business, leveraging emerging technologies and the efficiencies of Continuous Delivery to spur business innovation. Operating in 24 countries across the world, we are consistently regarded as one of the best places to work, embodied every day by our winning culture made up of over 23,800 entrepreneurial, collaborative and dedicated "Mindtree Minds."