

IoT-based Solution Helps Manufacturer Cut Machine Downtime by 60 Percent

Case Study



Overview

Modernizing the production process

A \$1+ billion tire manufacturer, producing 165+ million tires a year with 8,000 employees across the globe, was facing difficulties with production stoppage and operational inefficiencies. An IoT-based solution was required for a complete modernization of its production process.

Zensar's brief:

- Connect various machine touchpoints in the whole value chain.
- Gather and analyze the data.
- Make predictions for future maintenance.

Beyond the brief:

We helped the client modernize its production process and optimize its IoT capabilities.



Challenges

Finding and fixing causes for underperformance

The client's IT department had a mandate to explore ways to capture machine operational data to understand the failure patterns of the machines, find causes for the unpredictable downtime of critical machinery, and mitigate the underperformance of its production process.



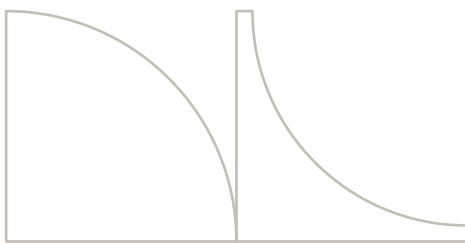
Solution

Monitoring with IoT touchpoints

We developed a real-time monitoring solution by connecting 170 IoT touchpoints in the production process, formulating algorithms to connect machine parameters to critical failure risk scenarios, and helping predict problems and plan actions accordingly.

Key actions:

- Enable predictive maintenance through machine condition monitoring to boost equipment efficiency.
- Combine PLC machine data with maintenance data to identify variables causing maximum variability.
- Implement notifications for maintenance and imminent failure for better production plan attainment.
- Deploy Edge analytics of machine data through "blocking," working with Wonderware MES.





Impact

Greater reliability and resilience

- 60 percent lower machine downtime
- 65 percent lower spends on spare parts

Business outcomes:

The solution optimized equipment efficiency, resulting in greater business continuity and profitability.

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