CASE STUDY

IoT For Steel Wheel Plants

Industry

OEM for Steel wheel manufacturing

Client Summary

- IoT system is used for Condition Based Monitoring of Machines producing Steel wheels for both Truck and Passenger card segments.
- Monitoring parameters of machine live on-the-go helped customer to know health of machine. Condition based monitoring of machine given the alert to user about the when the maintenance of machine needs to carry out. This has helped significantly in improving downtime of machine. Customer was able to avoid the major breakdown which may occur in future hence this IoT system helped to save cost.
- OEE monitoring helped customer to prepare the production planning and monitoring. Reports made the shop floor work paperless and moving truly towards digitization.

IoT System Includes

- ✓ Key Parameter Indicators(KPI)
- ✓ OEE/Production monitoring dashboards
- ✓ Trends facility
- ✓ Reports
- ✓ Machines alerts/notification over Mobile

🎯 Challenges

▶▶ Data Integration and Legacy Systems: Interfacing with different types of controller was challenge the customer were facing. We developed software which can read data from existing controller and shown live data without additional of extra hardware.

▶▶ Security and Privacy: Application needed to be safe from vulnerability and Cyber attacks

🛠 Improvements Observed:

Before	After	Benefits	Savings
Live monitoring of machine health not possible	Live monitoring is possible now with alerts and notification of parameters reading deviation.	Real time monitoring of parameters and machine health and alerts	Reducing the risk of major breakdowns
Reason for breakdown was unknown.	Break down reasons now can be diagnosed	Reduction is major breakdowns.	Substantial cost savings through improved uptime
Production data was recorded manually. Manual errors were going un-noticed	Automatic production recording eliminated manual data entry.	Paperless documentation	Environmental benefits Cost saving
Energy consumption data recording and calculation was manual.	Automatic energy consumption data recording and calculation eliminated manual entry errors.	Organizations can focus their efforts on implementing energy-saving measures and process improvements	Cost and man hours savings

Customer Feedback

Instron Technologies' team has experience of handling Digital factory solutions and helped them in substantial cost saving and helped organization for inching a step towards digitization. This has given us confidence in their ability and we are going to work with them for our next project soon!

About Instron Technologies

With operations in India and Canada, Instron Technologies is a leader in Process Skid Plants, Digital Factory Solutions, and Test Bench Systems. Committed to sustainability, our dynamic team develops innovative solutions that not only meet critical customer challenges but also emphasize eco-friendly practices. Serving over 200 clients in more than 10 countries, we demonstrate our dedication to innovation, operational efficiency, and environmental responsibility.

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