Case Study - Indias largest integreted steel plant

As-is Operation

- Multiple critical assets operating in various plants such as Sinter, Coke Oven, Power, Furnace, Hot & Cold Rolling Mills
- Continuous & complex operations carried out in high temperature & hazardous environment
- For asset reliability, vibration data is captured once in a month for all critical assets
- Difficult to predict failures of assets in the real time

Problem Statement

- Unplanned breakdowns of critical asset during the production
- Breakdowns result in loss of productivity and quality (Holding time impact and rework)
- Significant impact to the production schedule & product delivery

Solution Offered

Vegam deployed Condition Monitoring Solution comprising of **vSens Sensors**, **vGateway** and **vCMS**

Vegam Condition Monitoring Solution vCMS deployed with 20 vibration & temperature sensors mounted on 20 assets that were critical for production

The solution provided real time alerts for abnormal machine conditions using vibration data patterns, and laid the basis for predictive maintenance

Solution could be extended to predict machine failure by using AI/ML based predictive analytics.

Outcome

25% Reduction in breakdown for the rolling mill

20% reduction in maintenance cost

15% improvement in overall productivity for the rolling mill

Enable Predictive Maintenance using

Vegam Condition Monitoring Solution(vCMS)

Model No: P008E FCC ID: 2A89BP008E

IP 68

Maintenance

Health				RPM	1500
Vibration		Temperature		Temp	50°C
Utilization		Total Running hr	1000min	Power	20kWh

Vegam 4i Version 6.0.3.4

ANT1 ANT RST LED Console

Monitor your critical assets in real time continuously using cloud based condition monitoring solution. Predict equipment failure and plan maintenance before the occurrence of failure.

Predictive Maintenance

- Continuous, online monitoring of assets
- Real time measurement using connected sensors
- Smart wireless industrial IoT sensors
- Data stored in the cloud or on premise server
- Visualization of real time and historical data
- In-built analytical algorithm for failure detection
- Alerts on abnormal health of equipment

Helps in...

- Early identification of failures using machine data patterns
- Prevent unplanned breakdowns
- Minimize maintenance and repair costs by preventing unnecessarily maintenance
- Resource Optimization-Optimal use of inventory and spare parts by performing maintenance activities only when necessary

Easy to deploy Smart and robust IoT Sensors

Real time and historical data on cloud/On premise

AI/ML based algorithm for failure detection