

RELIABILITY MAINTENANCE— A case study



**FERTILIZER, FOOD & PHARMA
AUTOMATION MEET-2019**

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Reliability Maintenance- The Beginning

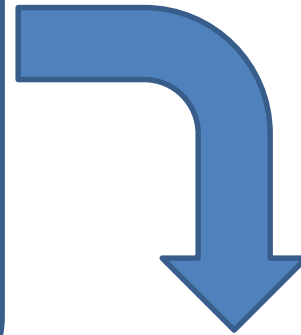
Journey of Condition Driven Maintenance started in 2009

Objective: To improve equipment reliability by routine inspection of rotating machines & electrical panels.

Vibration Analysis



Thermography



Tools used for Analysis

MICROLOG Gx-70

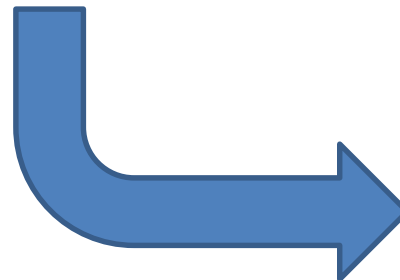


Vibration
Analysis

THERMAL CAMERA



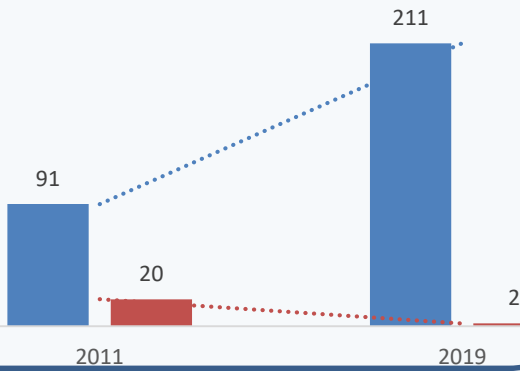
Thermography
Analysis



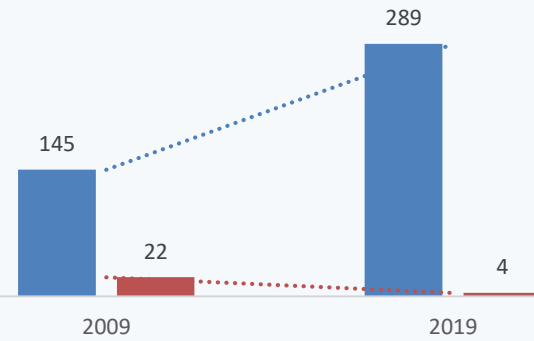
Knowledge Partner



Vibration Analysis



Thermography



Reliability Maintenance – The Next Step

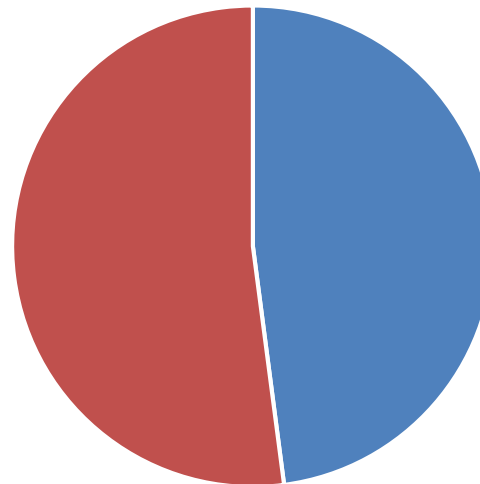
Scope of Reliability maintenance was expanded for Steam trap monitoring in 2017

Objective: To reduce steam leakages from traps



Steam Trap Monitoring

No. of equipment covered in Sound monitoring



■ 2017 ■ 2019

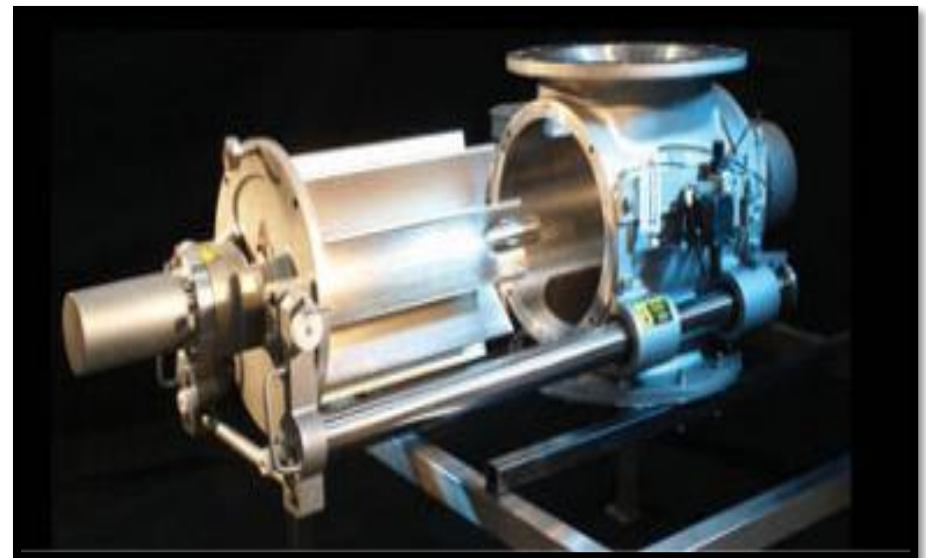
Year	No. of equipment covered
2017	162
2019	176

Reliability Maintenance – Ensuring Food safety

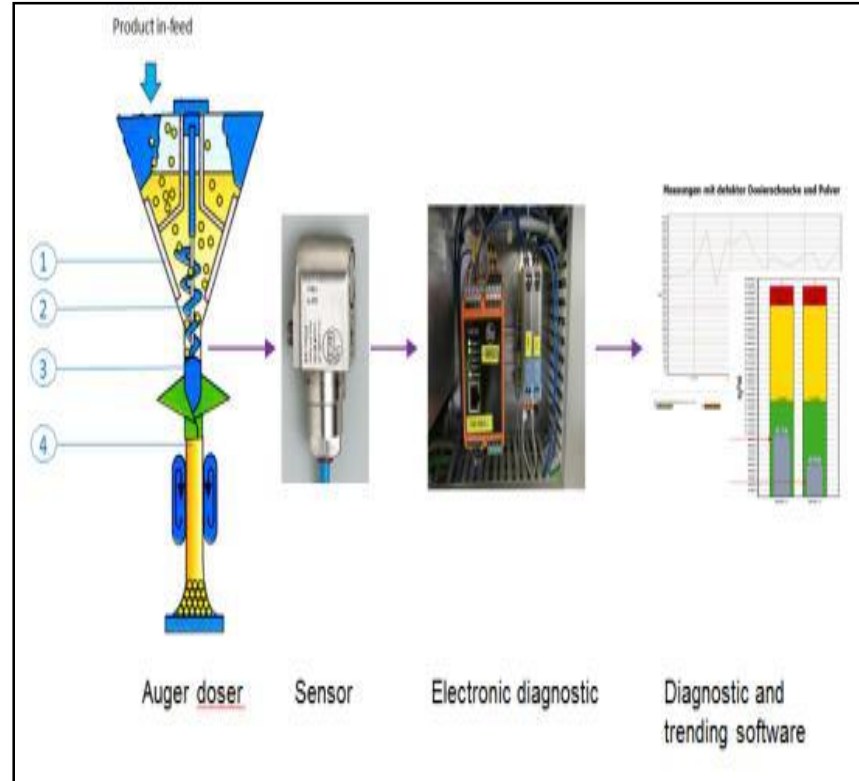
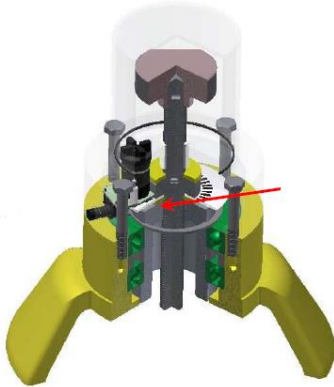
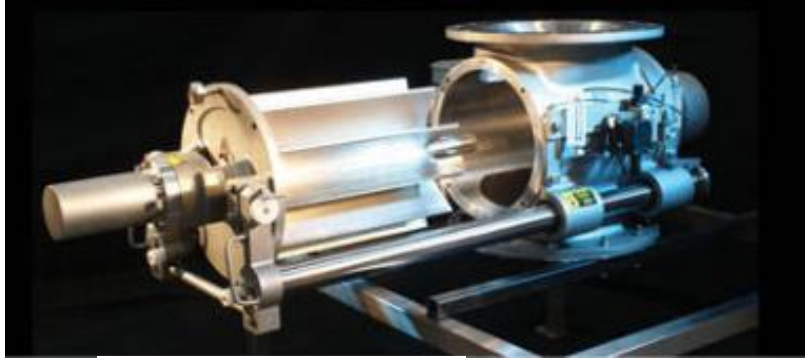
Scope of Reliability maintenance was expanded further for Sound Monitoring

Objective: *To ensure proper fitment of rotating equipment*

RISK: *Food safety is the prime priority. Considering that interventions during cleaning can lead to wrong fitment, sound monitoring of the rotary equipment was started.*



Online contact detection system was installed on rotary equipment



Knowledge Partners



WAY FORWARD - IOT

Online Vibration & Temperature monitoring using IOT enabled sensors



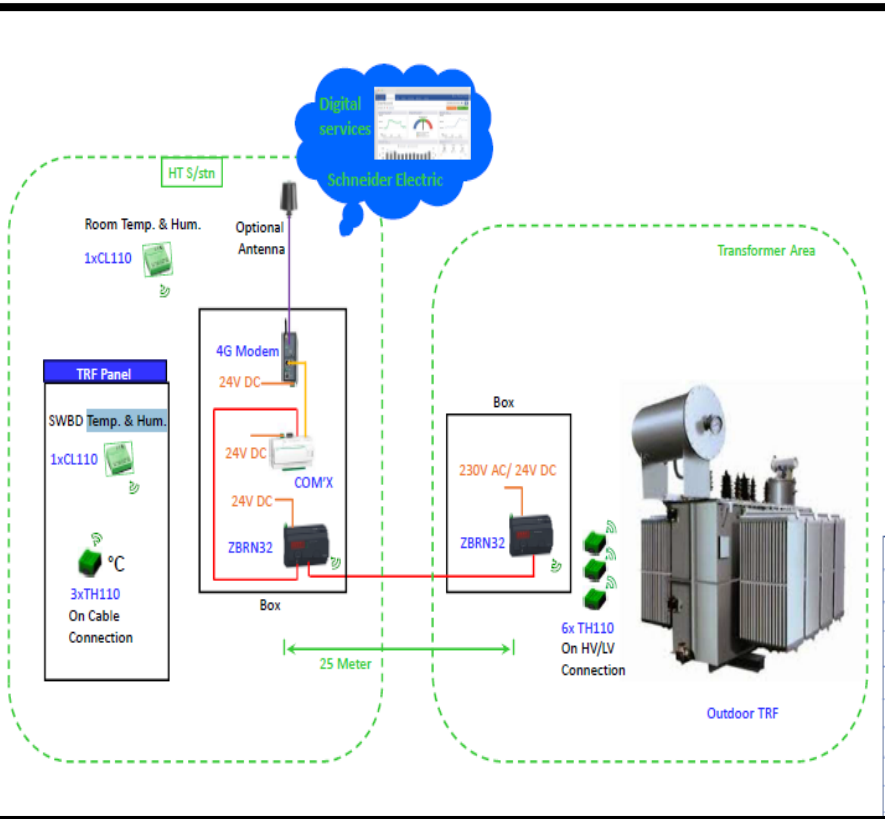
Knowledge Partners

Vibration Dashboard IOT Solution



With EcoStruxure Asset Advisor, proactively identify and address issues inside electrical equipment to:

1. Mitigate electrical failure risk
2. Reduce downtime
3. Optimize maintenance work



Knowledge Partners

THANKS