Maximizing profit with proactive maintenance in the pulp and paper industry

How condition monitoring creates a path to profit

Reactive maintenance is expensive

- $10000-$12000 USD per hour
- 60% of unplanned downtime results in significant losses.
- Downtime increases maintenance costs by $1000-$2000 USD per hour
- 50-60% of equipment malfunctions are due to incorrect or lack of maintenance

Proactive maintenance

Proactive maintenance via condition monitoring predicts potential failures, saving 15%+ of maintenance costs

Avert these potential pulp and paper equipment failures

- Paper press rolls have many moving and rotating parts prone to bearing failure
- Press Rolls (Bearing Failure)
- Dryers: Common problems occur in rotating parts and gear boxes due to bearing and lube oil failures.
- Bleaching towers: Common problems occur in rotating parts and gear boxes due to bearing and lube oil failures.
- Turbine: Explosion of water tubes due to overheating in the boiler section.
- Recovery Boiler fans (Overheating)
- Lime kiln: Plastic deformation due to overheating of the casing.
- (Overheating)
- Bleaching Towers (Overheating)
- Generator: Failure due to structural misalignments and lubrication oil defects.
- Turbine: Slow speed bearing failure
- Pulp washers: Failure due to incorrect lubrication and bearing failure
- Pulp and paper conditions are critical to the process. Monitoring and diagnostic need to be in place.

Remaining challenges

- Employee safety
- Machine accessibility
- Skill loss high maintenance rates
- Pulp and paper conditions: Customized workflows, algorithms & bearing diagnostics needed

How Bently Nevada’s extensive portfolio of products and services can help you reach your productivity goals

- User-driven condition monitoring and diagnostic workflows
- High-resolution trend, shutdown data
- Modern and intuitive interface and continuous user involvement
- Remote portable data transfer
- built-in data mining element and hydrodynamic bearing diagnostics

Adoption of Artificial Intelligence (AI) / Machine Learning (ML)

- 33% Of the pulp and paper manufacturers have implemented AI/ML into their condition monitoring system.

Condition monitoring systems can help reduce maintenance costs by 10–15% annually

- Incorporation of AI/ML with or without AI/ML

Implementing Bently Nevada condition monitoring systems can prevent production losses of up to hundreds of thousands of dollars per day.