CASE STUDY

Pulp & Paper facility uses diagnostics to reach uniformity

Challenge

A pulp & paper plant in Quebec has a very extensive boiler and steam system. They use steam for a variety of processes, everything from adding it to the pulp itself as well as using rolls that are internally heated with steam. Maintaining a uniform temperature across the surface of the roll is essential for making quality product. Since steam is a gas, it fills the entire volume of the roll and evenly distributes heat as it condenses.

Solution

Recovery of pretreatment steam during pulping and steam for drying is paramount for reusing energy. In fact it can result in approx 14% energy savings. But with steam accounting for 43% of the facilities total energy usage, there is a potential for additional significant cost savings by detecting and repairing steam trap failures. They installed Pulse Steam Trap Monitors on all steam traps, connected to a series of gateways to connect all wireless IoT monitors to a cloud server. They now receive email alerts of all failures instantly and can repair traps with very little lost energy or variations in uniformity of temperatures. In the future they hope to use the AI inherent in the Pulse Solution to do additional analytics. They hope to use predictive modelling to see how different levels of steam pressure affect the cost and efficiency of the system.

Steam accounts for 43% of facility energy usage. They have an entire team of engineers dedicated to increasing efficiency.

Benefits

- Significant energy cost savings were recognized through the instant availability of failure alerts
- Product outputs were now more consistent and of higher quality overall
- Future AI plans are in place to try to optimize the steam system efficiency
- They were able to go from 3 shifts of workers to 2 as actual manufacturing only happens 16 hours a day, the third shift were only babysitting the infrastructure

> *"We are always looking for innovations in order to stay competitive. AI is the next level for us"*