

DECREASING SHUTDOWNS & INCREASING SAFETY OF PERSONELL

RESULTS:

- No shutdowns in two years monitoring time
- Increased personell safety
- Faster maintenance due to predictive algorithems
- Increased profits of 150k EUR/year

APPLICATION:

Monitoring Yankee gearboxes for tissue paper machine at one of the largest Tissue Paper Factories in Europe.

CHALLENGE:

The company faced several shutdowns during last years due to unproper/sudden unplanned issues with yankee gearboxes. They approached our system integrator company ISE, with extensive knowledge in machine condition mnitoring, to find a solution able to help them assess the state of the machine and needed maintenance well ahead the machine stops and the factory shutwdown occurs.

SOLUTION:

The client factory didn't have a maintenance plan in place for the rotating machinery. Therefore there was a necessity to assess the current state of the Yankee Motors condition and to put in place a maintenance plan. The company personell was trained by ISE in order to get the sufficient understanding of Yankee Motor vibrations, its impacts on operation and to be able to set alarm values as well as KPI's. In the second step ISE introduced the MonoDAQ Condition Based Monitoring solution and set the vibration and temperature tresholds based on alarm values set by the company.

In order to design a flexible and general-purpose acquisition panel, which can be able to cover every possible measuring activities on the mentioned machine and environment at the same time, a system with small dimensions, flexible number of channels input and an easy software configuration is required. A standard configuration is composed of: sensors and cables, an acquisition box and a remote-control channel.

For such technical specifications, **DEWESoft** data acquisition software and **MonoDAQ** EtherCAT measurement hardware were selected as a flexible solution to be implemented in a box which can be easily re-configured, in both hardware and software parts, basing on the activity that has to be performed. Monodaq are EtherCAT modules with several possible interfaces: IEPE, strain gauge amplifier, digital inputs, digital outputs, analog output, wide range voltage input. In the presented application four IEPE interface modules have been installed. Moreover, those modules were upgraded with 40KS/s firmware, which allows the module having a 3dB bandwidth @20kHz. Another significant feature is the EherCAT cabling solution. Single channel instruments are daisy chained by an affordable



Figure 1: Tissue Paper production

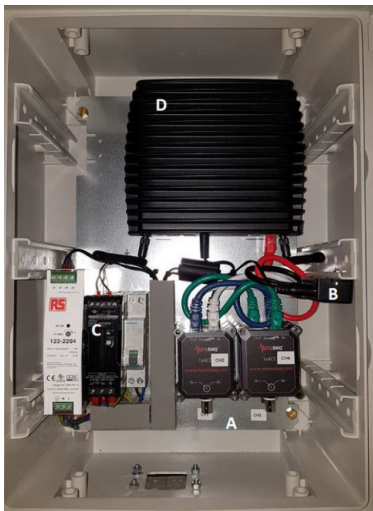


Figure 2: CBM Hardware

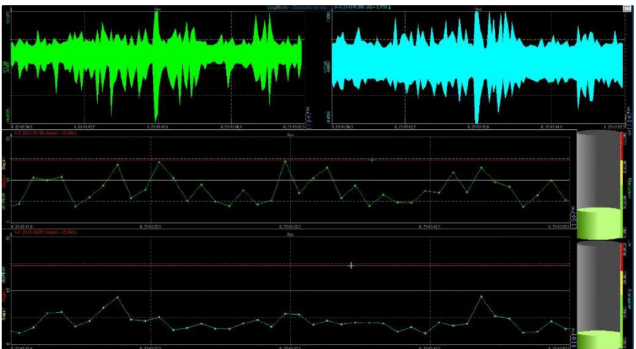


Figure 3: CBM Software with set treshholds