



Brüel & Kjær Vibro

A member of the NSK Group

Digital transformation of vibration edge devices in a pharmaceutical company

Success Story



The pharma biomedical industry is one that all hold near and dear to their hearts. The research they do today will help improve healthcare for many in the future, and the products they are currently delivering are helping millions everyday. Any unexpected interruption in pharmaceutical production, however, is not only a commercial setback to the company's business, but it could have a significant impact on delivering healthcare products to patients. Many lives are literally dependent on this.

The legacy portable instruments did not prevent pump failure

One particular European pharmaceutical company plays a very important role in the biomedical field in saving lives. They helped build up the basic structure of a COVID-19 vaccine and are producing it for a major vaccine supplier. They also produce a number of other products, but any unexpected product asset downtime will risk having a detrimental affect on the lives of countless persons. They had felt this pressure with their production assets and decided to take action. Many of the process pumps there are operated only a few hours at a time but this operation is critical to the process. These machines had historically been monitored at fixed intervals with a portable instrument, but with only limited success. If the measurement interval isn't properly timed to a particular production run, measurements are missed. Even if there are measurements made during operation, fast-developing faults could occur before the next scheduled measurement. If one of the pumps is down in a particular process, then there is anxiety if the remaining pump is in good condition. After several unexpected failures, it was decided to upgrade their handheld monitoring solution with a permanently installed online system. What kind of system is needed?

VCM-3 provided early fault detection together with actionable diagnostics

The Brüel & Kjær Vibro VCM-3 field monitor was selected for the task! The VCM-3 provides early fault detection for many rolling-element bearing faults as well as for other components. In fact, the highly refined measurement descriptors not only provide early fault detection, but can



also pinpoint which specific component is failing and the severity of the fault. These machine fault measurements can then be trended to determine when service has to be done, with ample lead-time for planning. Just as importantly, the field mounted edge device stores data in the OSIssoft® PI Server™. This not only eliminates the need for a proprietary monitoring server from a cost and maintenance point of view, but it also provides access



to maintenance crew, operators, reliability engineers and diagnostic specialists without costly license fees. What's more, the pump vibration data can be correlated with process parameters and compared to other pumps in the same OSIssoft® PI Server™, increasing diagnostic reliability while introducing fleet monitoring for better maintenance planning. Root cause analysis can be done on the data using the SETPOINT® CMS diagnostic software.

Eyes to the future

The pharmaceutical company has their own diagnostic specialist, but when help is needed, remote, cyber-secure access is easy and fast. Even third-party suppliers that have OSIssoft®PI Interfaces can provide a wide range services such as statistical analysis, thermodynamic performance monitoring, advanced diagnostics, reporting functions, etc., if the need arises. This is made possible by the VCM-3 since it even saves vibration time waveforms into OSIssoft® PI system®, which other instrument suppliers can't do.

As experience is gained, the pharma and biomedical company is expecting to install other VCM-3 units to extend monitoring to other machines.

This condition monitoring solution not only brings increased uptime and reduced maintenance costs to the company, but also reassurance to the people who depend on their products.

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