

# Full-Featured Online Vibration Monitoring

Replace stand-alone vibration monitoring software with your PI System

## At-A-Glance

### Solution Type

- > Vibration Monitoring
- > Condition Monitoring
- > Machinery Monitoring

### Regions Available

- > Global

### Industries

- > Power Gen, Oil & Gas (Upstream, Midstream, and/or Downstream)
- > Metals & Mining
- > Chem & Petrochem
- > Pulp & Paper
- > Water & Wastewater

### Features & Benefits

- > Works with any underlying machinery protection system
- > Complies with modern cybersecurity requirements
- > Seamless integration of process and mechanical condition data
- > Fully customizable user interface

### Implementation Requirements

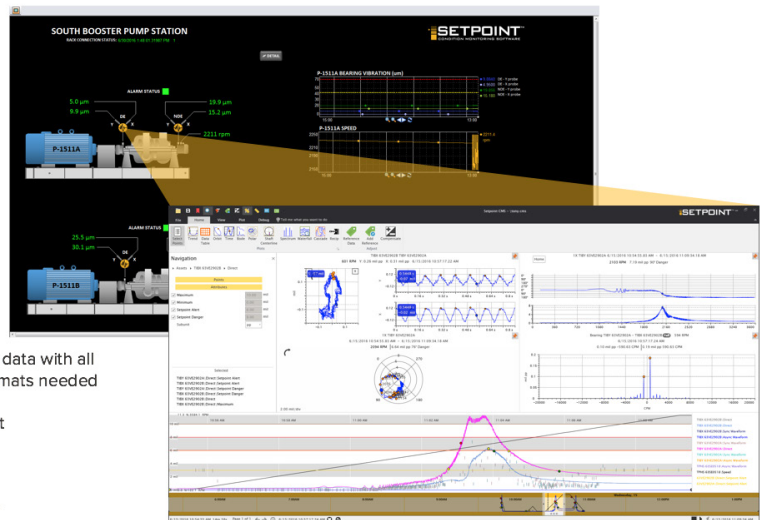
- > PI Server 2012
- > Asset Framework (AF)
- > SETPOINT-to-PI Adapter

## BUSINESS CHALLENGES

To lower costs, improve safety, and increase reliability/availability from rotating and reciprocating machinery, failures must be reduced and time between outages extended. Vibration analysis is key to condition monitoring, but online condition monitoring systems have typically entailed stand-alone, proprietary software used only for vibration. The result is increased cost, unnecessarily redundant data infrastructures, insufficient cybersecurity, additional IT burden, and extensive integration to introduce process data.

SETPOINT Vibration eliminates the need for stand-alone software and allows you to use your PI System for vibration data, including high-speed waveform data – not just summary static data values and statuses.

Start from fully customizable PI ProcessBook screens with summary data...



and drill down to detailed data with all of the specialized plot formats needed by vibration analysts

- Timebase / Orbit
- Spectrum
- Bode
- Polar
- Shaft Centerline
- Trend

All data (including waveforms!) resides in your PI System

## BUSINESS IMPACTS

- > **Faster Problem Resolution/Reduced Downtime:** Combining vibration data with process and condition data in a single repository can dramatically reduce the time needed to diagnose problems and the resulting costly outages.
- > **Reduced IT Burden:** Support and training can be confined to a single system.
- > **Secure Operations:** Because all data is in the PI System, everyone in the organization has secure, timely, and easy access.
- > **Improved Collaboration with Subject Matter Experts:** Data can be exported and shared in easily viewed formats with no additional costs or licensing fees. Third parties spend time analyzing the data, not accessing the data.

## SOLUTION APPROACH

SETPOINT hardware acts as a “PI System gateway” and accepts raw vibration signals directly from sensors or underlying protection systems, including Bently Nevada, SKF, Emerson/CSI, Vibro-Meter, and Bruel & Kjaer. It digitizes this data and streams it into a PI Server with Asset Framework (AF). SETPOINT’s patented change detection technology ensures that the PI Server and its connected networks are never clogged with excess data, while ensuring that interesting data, such as machine starts, stops, and anomalies are always available in ultra-high resolution fidelity.

Existing PI System users can add SETPOINT data streams by simply allocating adequate tags (typically, about 12 tags per vibration sensor) in their PI Server. The PI System receives this data from SETPOINT hardware via a specialized software component called the SETPOINT-to-PI Adapter which runs as an embedded application inside the SETPOINT rack, on the PI Server itself, or elsewhere in the PI System. An existing PI Server or a separate PI Server dedicated to vibration can be used to store data. Detailed waveforms and other specialized plot formats are viewed in SETPOINT’s free CMS Display software. Up to 300 channels of vibration data (typically enough for 15-20 machine trains) can comfortably reside on a single PI Server, and data can be replicated to other PI Servers using a PI-to-PI Interface.

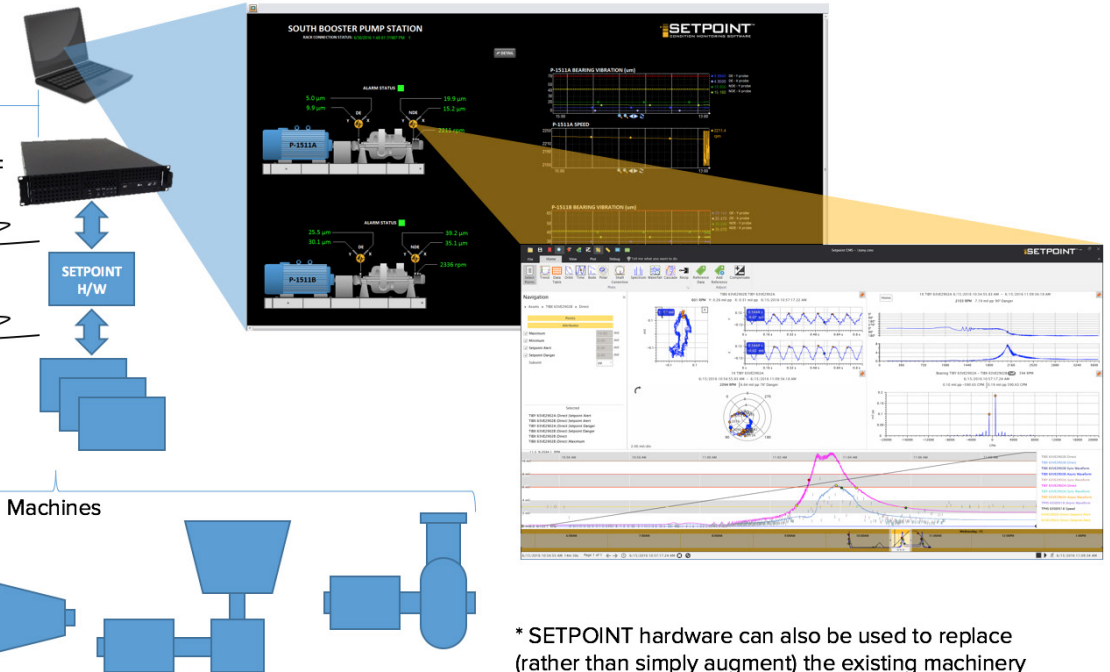
Visualization Clients (PI Coresight, PI ProcessBook, CMS Display, etc.)

Shared or Dedicated PI Server w/ AF

SETPOINT-to-PI Adapter Software (runs in SETPOINT rack or on PI Server)

100% analog connections (highly secure)

Existing\* Machinery Protection System(s) (Bently Nevada, SKF, Emerson/CSI, etc.)



\* SETPOINT hardware can also be used to replace (rather than simply augment) the existing machinery protection system if desired.

## About the Partner EcoSphere

The OSIsoft Partner EcoSphere provides a collection of third-party services, applications, and technology to help customers maximize the value of the PI System.

Explore more solutions and the OSIsoft Partner EcoSphere at: [partners.osisoft.com](http://partners.osisoft.com).

## For More Information

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