



METRIS

# ANDRITZ Automation | Metris Digital Solutions : Condition Monitoring

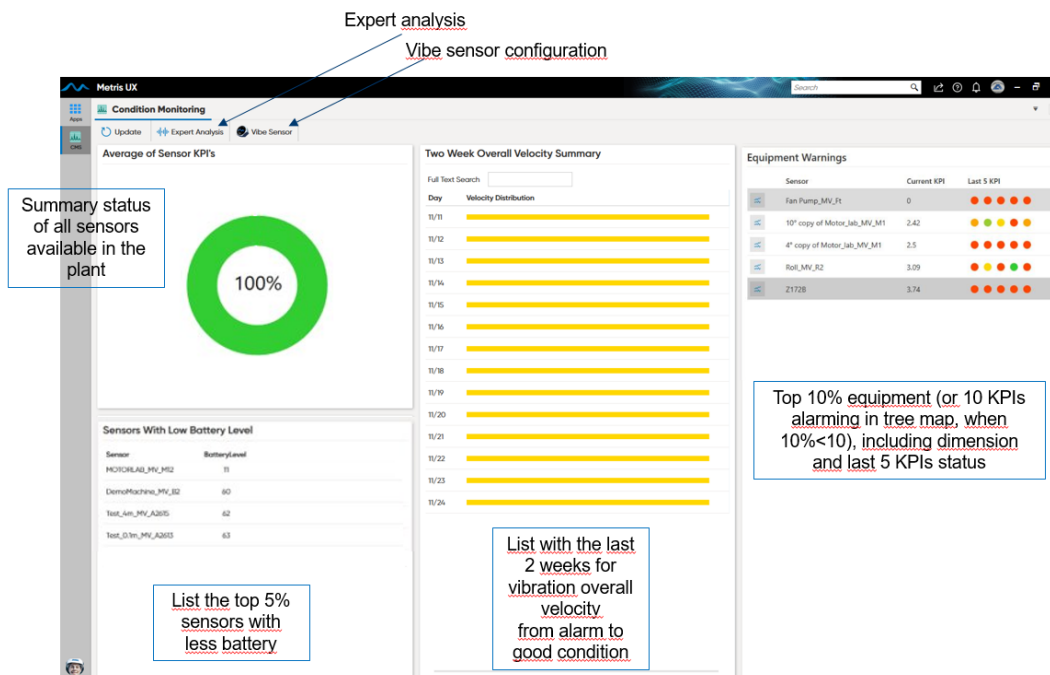
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**ANDRITZ**

ENGINEERED SUCCESS

Condition Monitoring systems are described as systems that monitor the condition of machines and systems. The primary goal of Condition Monitoring is to determine and relay the current condition of a system as well as to provide advanced detection or prediction of a fault and any possible damage.

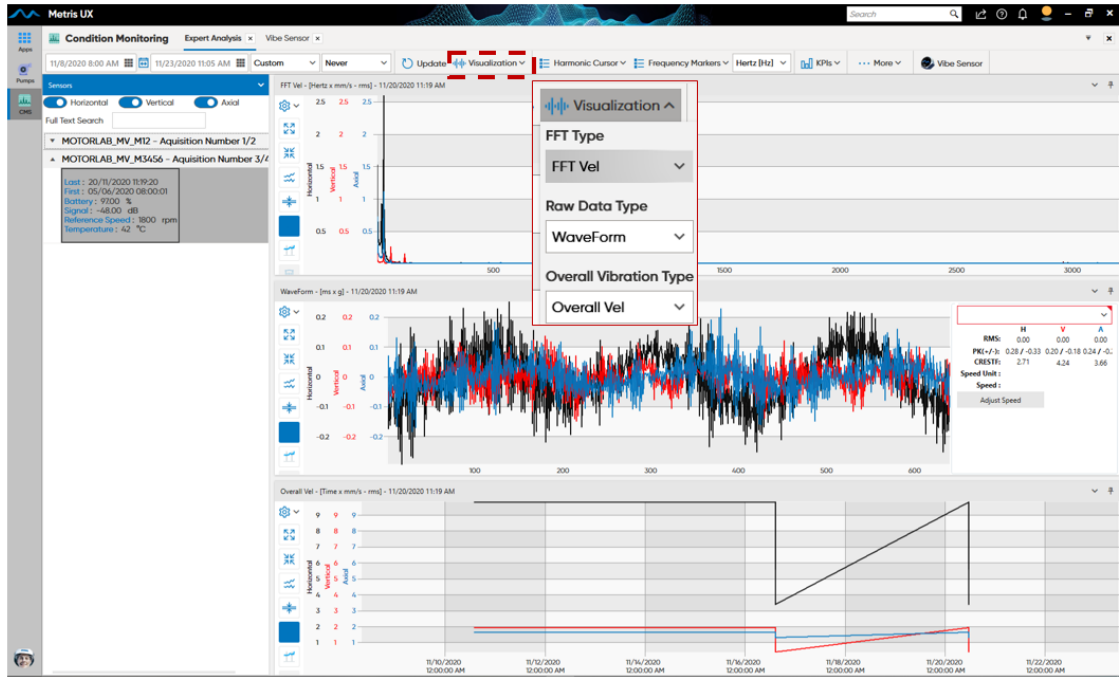
Condition monitoring is an app designed to visualize data from Andritz Metris Vibe sensors, including raw signal, overall vibration, the FFTs and temperature. Beside that, it allows the users to configure their own spectral bands (vibration bands) to monitor issues like misalignment, unbalancing, bad lubrication, bearing related issues, etc.



Condition Monitoring app overview page



List of sensors (left) and Expert analysis, including Frequency markers



CMS app - Plot visualization options

Edit

General Reference Speed Frequency Markers

**Name**  
MOTORLAB\_MV\_M12

**Description**  
Acquisition Number 1/2

**Serial Number**  
MOTORLAB\_MV\_M12

**Installation Local**  
Motor lab

**Temperature**  
MOTORLAB\_MV\_M12\_T

**Battery**  
MOTORLAB\_MV\_M12\_battery

**Signal Strength**  
MOTORLAB\_MV\_M12\_signal\_strength

**Axis**

Vertical (V):  X  Y  Z  
 Horizontal (H):  X  Y  Z  
 Axial (A):  X  Y  Z

Save Cancel

Metris Vibe sensor configuration

Edit

General Reference Speed **Frequency Markers**

Add Single Frequency Add Bearing Frequency

Failure Frequency	Description	Frequency Unit	Component Number	Enabled
Test_F	Freq	Hertz [Hz]	250.00	On
6N	6 x rpm	Hertz [Hz]	100.00	On
11162R/300 BSF	11162R/300 BSF	Hertz [Hz]	3.63	Off
11162R/300 BPFO	11162R/300 BPFO	Hertz [Hz]	8.27	On
gearmesh	geramesh	Order	19.00	On
Test_F_2T	Freq_2	Order	1.00	On
6312ZZ BSF	6312ZZ BSF	Order	2.04	Off
6312ZZ BPFO	6312ZZ BPFO	Order	3.07	Off
6312ZZ BPFI	6312ZZ BPFI	Order	4.93	On

Save Cancel

Adding Frequency markers - Single frequency or Bearing frequency

Start		Tree map - Vibe for all s   X		Tree map - Vibe for all sensors - Tree Map		Non Defini		Recupération et Unités	
281-0011_MVA1399_P1_2_General_2N_spec_rms_vel	281-0010_MVA1233_P1_2_General_2N_spec_rms_vel	281-0011_MVA1399_P2_2_General_2N_spec_rms_vel	281-0011_MVA1399_P2_2_General_2N_spec_rms_vel	281-0011_MVA1399_P2_2_General_2N_spec_rms_vel	281-0011_MVA1399_P2_2_General_2N_spec_rms_vel	281-0011_MVA1399_P2_2_General_2N_spec_rms_vel	281-0011_MVA1399_P2_2_General_2N_spec_rms_vel	281-0011_MVA1399_P2_2_General_2N_spec_rms_vel	281-0011_MVA1399_P2_2_General_2N_spec_rms_vel

Vibe sensors tree map - different vibration bands status



### Functionalities of the Condition Monitoring System:

- ✓ Monitoring the condition/status of machines and systems
- ✓ Vibration is one of the first indications that some form of damage is developing
- ✓ Detection in advance can predict potential damage and outages
- ✓ Send warning/alarm to the operator
- ✓ Means of increasing reliability and customer productivity, as well as decreasing downtime
- ✓ Detect unexpected noise/sounds
- ✓ Schedule a more effective maintenance plan, including planned stoppages
- ✓ Smart spare part management

## Benefits

- "Online" vibration monitoring
- Vibration levels per bands
- Customizable alarms & notifications
- Integration with process variables
- Integration with data analytics and RBM
- Easy set-up

## Objectives

#	Objective
1	Monitor the vibration of mill's assets and set alarms to ensure equipment and production reliability.
2	Allow the users to configure their own vibration spectral bands to be monitored.
3	Enable a user friendly view to analyze vibration data by a technician when needed.

	Objective 1	Objective 2	Objective 3
Mill Coordinator	MEDIUM	LOW	LOW
Production Manager	HIGH	LOW	LOW
Maintenance Manager	HIGH	HIGH	HIGH
Maintenance Engineer	HIGH	HIGH	HIGH

Importance: LOW MEDIUM HIGH

## Use cases

#	User Story
1	As a Production Manager, I want to know the number of assets operating at high vibration/temperature levels so I can discuss with the Maintenance Manager the proper actions to be taken.
2	As a Maintenance Manager, I want to know the main problems from the assets operating at high vibration/temperature levels so I can budget the solutions for the problems.
3	As a Maintenance Engineer, I want to identify the assets operating at high vibration/temperature levels and their origin, so that I can work on troubleshooting the causes and find opportunities or avoid production losses.

## See also

- [Condition Monitoring – Articles](#)
- [Condition Monitoring – FAQ](#)
- [Condition Monitoring – Release notes](#)
- [Condition Monitoring – Metris UX/X CMS User manual](#)
- [Condition Monitoring – Use cases](#)
- [Metris Vibe Installation procedure](#)

- [Metris Vibe App](#)
- [Condition Monitoring – Metris UX/X Web CMS User manual](#)