Acoem MV-x

PREDICTIVE MAINTENANCE POWERED BY ARTIFICIAL INTELLIGENCE

acoem
CREATING ENVIRONMENTS OF POSSIBILITY

Is asset reliability a challenge for you?

It's challenging to predict industrial failures using operating hours or life cycles of machines. Yet most manufacturers are slow to embrace maintenance, reliability and asset management as core drivers of their digital transformation strategy.

Reliability engineers and maintenance professionals are keenly aware of the optimal balance of plant safety, reliability, and financial returns. However, today reliability engineers face various challenges in deploying condition monitoring solutions and getting optimum results.

- Spending too much time collecting data versus analysing
- Complexities of speed and load variations
- Possibility of data errors or missed event leading to inconsistent diagnostics
- Limited trending and analysis capabilities
- Lack of unified visibility into machine health
- Lack of correlation between process and vibration data
- The ability of the solution to scale with evolving needs
- Interoperability with third-party hardware and software packages
- Cybersecurity
- Hire, and train new equipment specialists

Connect critical remote assets in real time

The next generation of AI-enabled vibrational analysis, with real-time edge computing, provides a pathbreaking predictive tool to pinpoint the source, direction, and intensity of the vibration. It represents a fundamental shift from reactive maintenance to predictive maintenance. More importantly, it provides vibration analysis and condition monitoring users, with a seamless industry 4.0 experience.

Acoem MV-x - Black edition: The convergence of IoT and AI

Acoem has further expanded its reliability ecosystem by fully integrating the MV-x real-time vibration monitoring system with its Nest i4.0 platform to improve your user experience and make diagnostics of rotating machinery even easier and more precise."

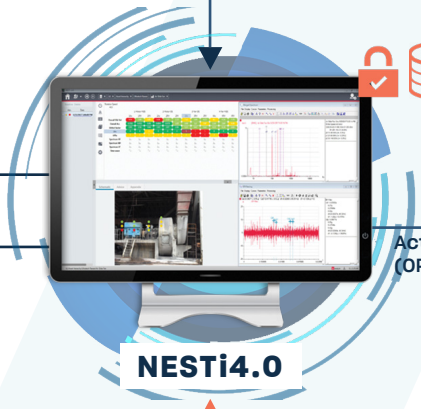
MV-x in action

Reporting Dashboard

LDAP

Remote Diagnostics

Traceability, integrity checks, Auto backup



NESTi4.0

Actionable data (OPC UA, CSV)

Industry 4.0 Ecosystem (CMMS, MES, Datalake...)

Automatic Diagnostics AI

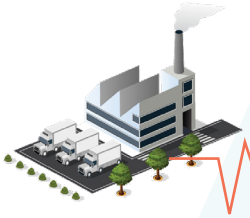
https

LAN, WAN, Internet

4G / 5G

Edge Computing

Shock Finder™, Bearing Defect Factor™, Broadband Energy, Narrowband peak extraction...



Main Production Line

MV-x

6 to 32ch synchronous acquisition and processing of vibration and multiphysical data

Remote Location / Isolated assets

Real Time monitoring (Modbus TCP, OPC UA)

Automation (I&C) SCADA, PLC

Predict & avoid machine failures before they happen

MV-x is an invaluable tool for condition monitoring and is already the solution of choice for industrial applications around the world — including wind turbines, petrochemical plants, maritime transportation, logistics, mining and automotive manufacturing.

Real time monitoring & diagnosis

Your business depends on very critical assets. We know that very well, that is why MV-x reacts to process events and captures data in real time (80ms), with individual ADC for each channel.

More than vibration

The core DNA of the product is to measure any physical quantity on any of its channels, simultaneously. Combining analog and digital inputs of the MV-x opens the path to the most complex applications. Vibration, process data, thermography, load, oil quality... the possibilities are limitless.

Machine condition tracking

Machine behavior varies drastically as per its operating conditions. MV-x reacts in real time to adapt monitoring and provide the greatest added value expected by experts: adaptability of alarms, reproducibility and trends filtered by conditions. No more headaches, the most complex processes are under control with up to 10 operating conditions per machine.

Slow speed monitoring

With embedded post processing of long time waveform of up to 4M samples Time Waveform with our unique Shock Finder™ technology to detect the presence and number of shocks.

Flexible and modular

Field upgradeable to monitor one or more machines simultaneously.

Universal input channels

MVX is a versatile system offering 6 to 32 data acquisition channels for all signal types (IEPE, AC voltage, DC voltage, 4-20 mA, impulses).

Best ROI on critical applications

Early fault detection suitable for slow speed and variable speed, with ROI commonly acknowledged at the very first fault detection.

Industry 4.0 compliant

Integrated into your industry 4.0 environment with Modbus TCP, OPC UA and CSV interfaces.

Reliable and safe

Secure and encrypted communication for reinforced cybersecurity (https, encryption certificate, user authentication management)

Long range wireless monitoring solution*

Machines isolated on land as at sea, remain accessible thanks to Long Range Wireless Monitoring Solutions. The ideal solution for larger companies (voltage, DC voltage, 4-20 mA, impulses) thanks to long range wifi, 4G or other TCP technologies.

**Optional capacity*

Next level of predictive maintenance

MV-x, Acoem's signature real-time vibration monitoring system has joined the Falcon portable analyser and the wireless Eagle to feature full connectivity with our Nest i4.0 software operating platform, providing vibration analysis and condition monitoring users, technical experts, with a seamless industry 4.0 experience.

Accurex™ - Automatic diagnostic

Embedding 50 years of expertise in vibration analysis, Accurex™ patented AI solution provides instant results for the detection of the most common defects such as unbalance, misalignment, resonance, bearing and gear defects, and more. Accurex™ puts machinery diagnostics at the grasp of every maintenance user. Describing the machine through an intuitive interface is all you need to do, to automatically create all measurements needed in a few seconds. The diagnostic rules are determined without any setup, just based on the machine description.

NEST i4.0

Predictive Maintenance platform

NESTi4.0 Software Platform provides clear, concise, and easy to understand information for everyone involved in maintaining optimal condition of industrial machinery. NESTi4.0 is the most productive vibration analysis software available in the market.

- Accurex™ AI powered diagnostics
- Intuitive & quick setup with the Machine Builder module
- Enhanced analysis productivity via the Health Matrix
- Enhanced reporting productivity via the Accurex diagnostic Matrix
- Open data platform (OPC UA, CSV export)

> ***With AI-powered automatic diagnostics via the Nest i4.0 platform, operators can be confident that the maintenance decisions they make using the MV-x system will be accurate and will help them avoid costly delays or shutdowns."***

Powerful capabilities for critical applications

Monitoring of complex machines

- Up to 10 operating conditions can be managed with Acoem MCT™ (Machine Condition Tracking) using one or more process parameters
- Data acquisition strategy, signals, indicators and alarm thresholds are automatically adapted according to each operating condition
- Stability parameters are set to make sure each measurement is done in good condition

Monitoring for Slow shafts

- Synchronous record of several rotations of low speed shafts (<10RPM) can be performed on up to 32 channels
- Acoem Shock Finder™, a smart algorithm developed on real applications provides an early and automatic indication of fault on such a low speed asset
- All analysis tools required are available: along with all post processing trending indicators

Enhanced cyber security

At Acoem, we are aware of the importance of keeping your production or operational data secure. With the global rise in cyberattacks and infiltration of processing data, especially within sensitive industries, we have taken decisive action to change the way that your data is communicated through Nest i4.0. In addition to enforcing passwords and encrypted certificates, we have enhanced the way the MV-x system communicates with the software. Now encrypted communication remains an IoT initiative to keep your data more secure and protect it from possible access by external parties.

Acoem Advisor - Expert advice, on your terms

Acoem Advisor is the solution to these setbacks. We are always just a click away from being able to diagnose your machine condition. Rely on us to analyse your data, identify machine problems,suggest actionable recommendations and assess risk.

- **Connectivity -** A new way to interact with your machines and remote experts
- **Instant alarms -** Analysis on every alarm occurrence to always keep your process up and running
- **No expertise needed -** 1st level of built-in AI, experts just a click away
- **Minimal CAPEX Budget -** Start maintenance 4.0 with minimal CAPEX budget
- **Easy to deploy -** Cloud and wireless connectivity, immediately actionable
- **Real-time monitoring -** Machines monitored in real time with MV-x can be remotely monitored by our certified experts

About **Acoem**

Creating environments of possibility

At Acoem, we create environments of possibility - helping organisations find the right balance between progress and preservation - safeguarding businesses and assets, and maximising opportunities while conserving the planet's resources. We deliver unrivalled, interoperable AI-powered sensors and ecosystems that empower our customers to make enlightened decisions based on accurate information.

Together with 220 distributors, our 850+ employees work across 28 offices, 8 manufacturing facilities and 5 R&D centres in 11 countries to provide trusted, holistic data solutions for customers worldwide.

Acoem links possibilities with protection.

For more information, please visit **acoem.com**

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