NEST INDUSTRY 4.0

ALL IN ONE PREDICTIVE MAINTENANCE SOLUTION



acoem
CREATING ENVIRONMENTS OF POSSIBILITY

Nest Industry 4.0

Predictive Maintenance Solution

Maintenance and reliability professionals today have adopted modern online condition monitoring and protection technologies for monitoring critical machinery assets. A connected and fully-integrated plant-wide condition monitoring system offers a holistic view of the entire plant, enabling powerful predictive analytics. The unparalleled amount of data collected by such a system empowers reliability managers and proactive maintenance teams to make smarter decisions. NESTi4.0 is the next evolution in predictive maintenance strategy, helping the transition to agile and accurate real-time condition monitoring of an entire industrial facility.

NESTi4.0 Software Platform provides clear, concise and easy to understand information, for everyone involved in maintaining industrial machinery in operational conditions. NESTi4.0 is the most productive vibration analysis software available in the market. In addition to the full range of conventional analysis tools, the user is literally guided through his analysis with the help of a set of innovative tools, like: intuitive machine setup, guided analysis, and ease of access to the automated reports.

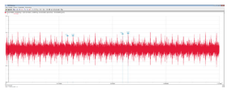
Embrace the future of condition monitoring with NESTi4.0 and its revolutionary artificial intelligence to support predictive maintenance in your digital factory.



The only predictive maintenance and diagnostic tool you will ever need

- Easy Access To Big Data
- Intuitive Machine Builder
- Guided Analysis
- Automatic Reporting

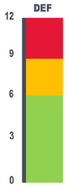
Shock Finder™ Index



- Easy shock identification and diagnostic
- Qualifies shocks automatically in the time waveform

Bearing Defect™ Factor

- Evaluates the roller/ball bearing health automatically
- Continously grows during the bearing life cycle
- Early fault detection



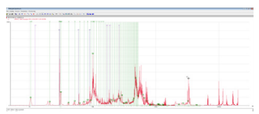
Accurex™

Automatic machinery diagnostics

- The color of the machine (Green, Yellow, Red) corresponds to the first level diagonostic and shows the urgency of the analysis
- Results of faults identified are pre-filled and can be modified by the user



HarmoniX™ Index



- Full frequency highresolution merged spectrum
- Quantifies harmonic families in spectra automatically

Planetary Gearbox calculation

Planetary Gearbox calculator.

- Automatic calculation of speed ratios and fault frequencies, from setup to spectrum analysis

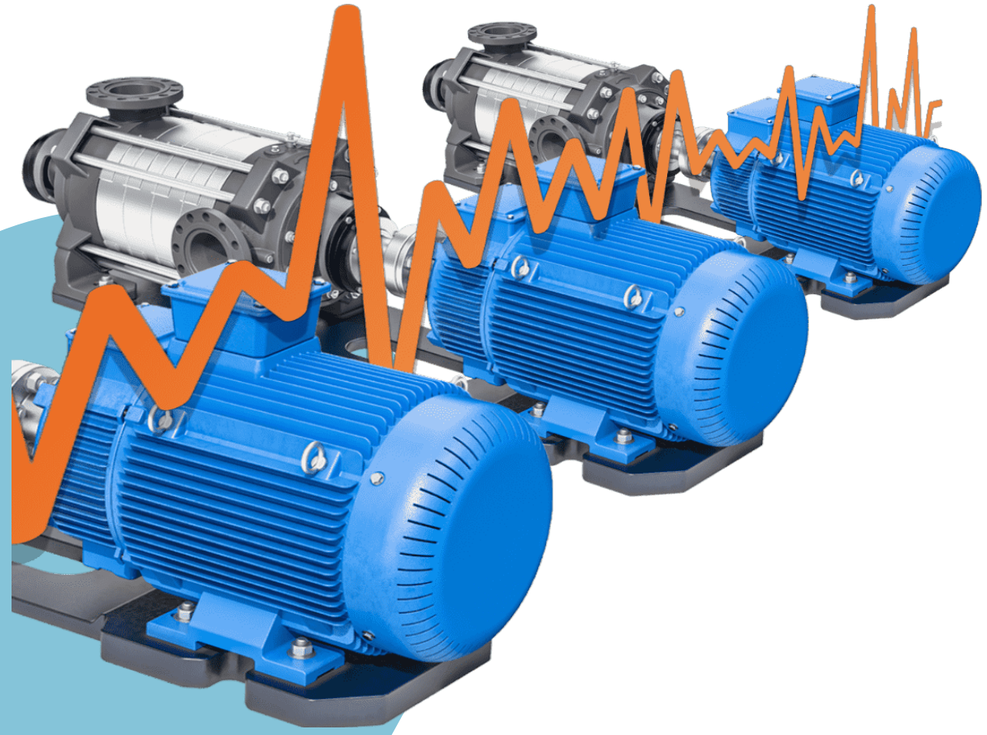
Open Data Platform

Easily connect your asset's health information to your ecosystem

- Automatically publish all measurements and diagnostics results availablefrom the matrix
- Standard OPC UA and CSV export formats

Nest i4.0 Integrates Your Entire Monitoring Program

- **Fast visual insight:** A view into potential machinery health issues
- **Secure worldwide access:** Insight into your program's data set
- **Software augmented diagnostic and predictive analysis:** AI powered and based on ACOEM's 50+ years of expertise in predictive maintenance technology
- **Wireless monitoring and diagnostic:** Using the Machine Defender app, FALCON analyzer, the EAGLE wireless monitoring solution, or the MV-x real time monitoring units
- **Open data platform:** Standard format publication allowing easy integration in your digital factory
- **Multitechnological integration:** Vibration, laser alignment reports and trends, thermographic pictures.



Machine Health Matrix

Fast, easy identification of the health of your machines.

- Analyze a machine's health on just one screen
- Overview of all parameters and easy drill-down to each individual parameter and point
- Manage and access data for even the largest machines
- Full reporting capability
- Add and customize parameters in no time
- Direct access to waveforms and spectra
- Easily locate and identify possible defects.



NEST i4.0 is powerful and productive tool to manage the predictive maintenance program

It can be managed even without specific vibration knowledge as it includes an automatic setup based on machine kinematic description.

In addition, ACOEM ACCUREX™ analysis method offers the possibility to get automatic diagnosis. For the vibration analyst, it is a way to save a lot of time as he/she can focus on machines which really needs to be looked at in details. This analysis is also speed up with dedicated functions:

- The Health Matrix
- SFx & HMx Indexes
- Merged Spectrum
- Shock Finder Filter

"With NESTi4.0 machine builder, it is possible to create a full reliable machine setup with a hundred of parameters in less than a minute, without any vibration expertise required"

Accurex™ Diagnostic Matrix

Machine diagnosis at a glance

Access machine diagnostics at a glance:

- Know what the defects are
- Know where the defects are located
- Know how important they are
- Know the confidence level.

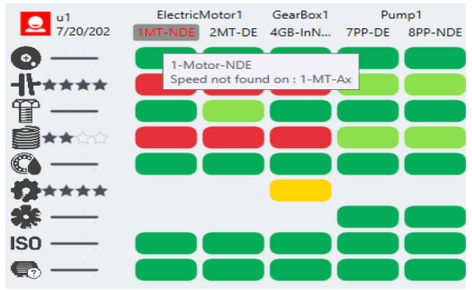
Accurex™ Matrix available for any machine

- Smart display of the Accurex™ automatic diagnostic
- Smart display of the real expert diagnostic.

Expert productivity boosted by Accurex AI

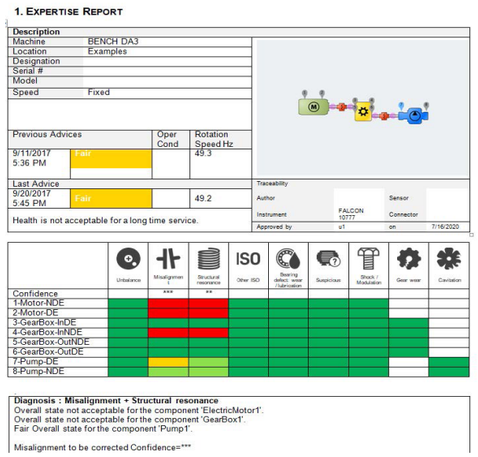
- Save additional time in your periodical analysis thanks to the automatic consideration of your previous diagnostic.

Running speed detection alerts



Enhanced reporting productivity

- Save up to 50% on reporting time
- Automatic text generation from the matrix
- Can be modified manually if needed
- Accurex™ Matrix included in report


1. EXPERTISE REPORT

Description	
Machine	BENCH DA3
Location	Examples
Designation	
Serial #	
Model	
Speed	Fixed

Previous Advices		Oper Cond	Rotation Speed Hz
9/11/2017 5:36 PM	Fair		49.3
Last Advice			
9/20/2017 5:45 PM	Fair		49.2

Health is not acceptable for a long time service.

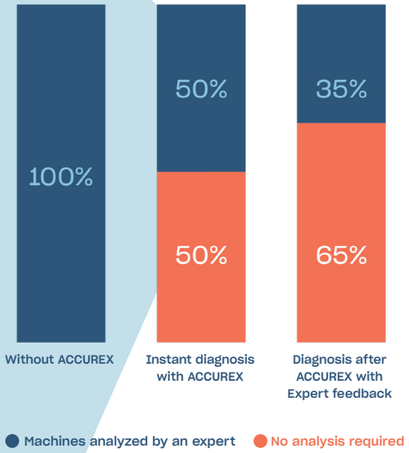
Traceability
Author
Instrument FALCON 10777
Sensor
Connector
Approved by u1 on 7/16/2020

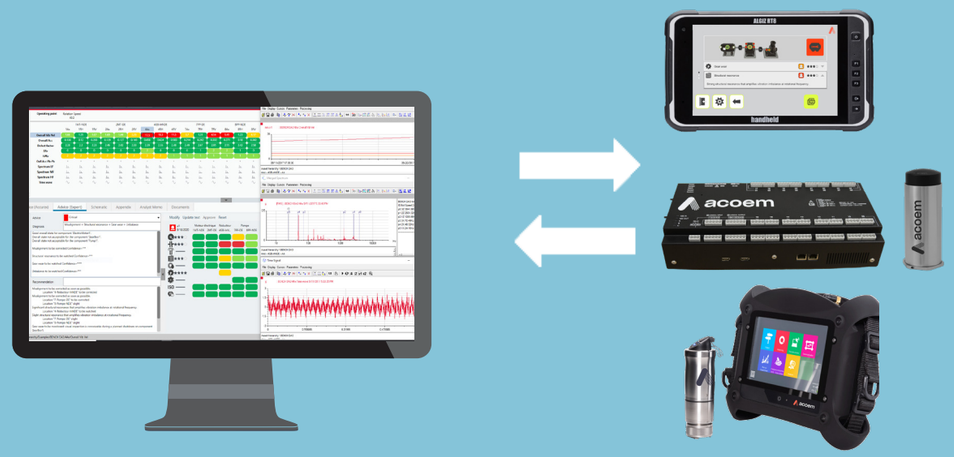
	Confidence
1-Motor-NDE	***
2-Motor-DE	
3-GearBox-InDE	
4-GearBox-InNDE	**
5-GearBox-OutNDE	
6-GearBox-OutDE	
7-Pump-DE	
8-Pump-NDE	

Diagnosis : Misalignment + Structural resonance
Overall state not acceptable for the component 'ElectricMotor1'.
Overall state not acceptable for the component 'GearBox1'.
Fair Overall state for the component 'Pump1'.

Misalignment to be corrected Confidence=***

Intensify your efficiency!

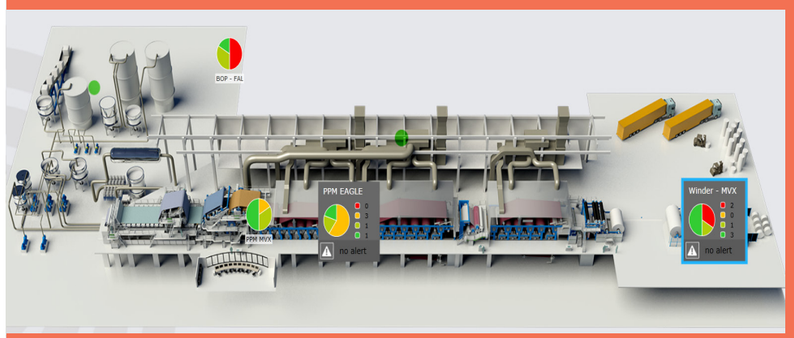




"Accurex™ Artificial Intelligence offers unrivalled instant automatic diagnostic capabilties. It is the result of the modelization of our 50+ years of experience through a Bayesian network, additionnally powered by machine learning on our long history of qualified diagnostics."

A secure solution, approved by customers of nuclear and military applications:

- SSL communication encryption
- LDAP user Authentification
- Communication with the software initiated by the IoT (Eagle, MVx)
- Data integrity and backup tools.



Easy Access To Big Data

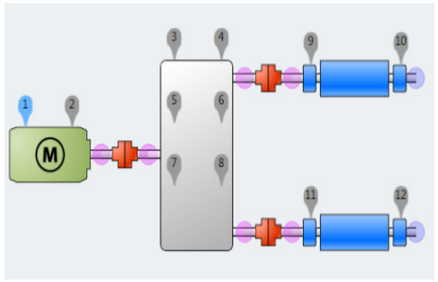
NESTi4.0 Software provides exactly that, for everyone involved in maintaining industrial machinery in operational conditions.

Intuitive and resolutely visual, it makes the assets' health condition available to staff at all responsibility levels, regardless of prior expertise. Reports are instantly accessible from anywhere around the world, via an ordinary internet connection.

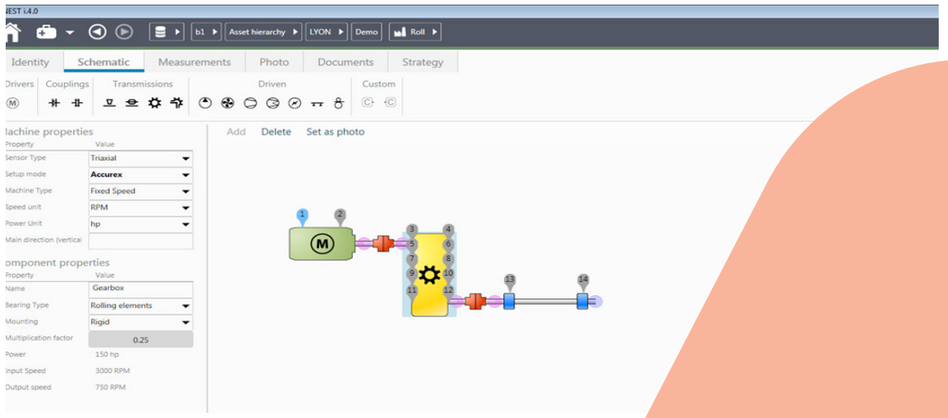
Machine Builder

Quick and intuitive set up: drag and drop

- Build complex machines with hundreds of vibration parameters in just minutes
- Create virtually any machine using built-in or customized templates
- Compatible with Accurex™ automatic diagnostics
- Accessible to all staff levels
- Build what you will see during the analysis
- Easily add or modify a parameter or signal on one of several measurement points at the same time
- Create custom complex machines with the use of the custom component
- Customizable: number of bearings, 1 or 2 shaft outputs, speed ratio for each shaft
- Free component labelling.







NEST Vision

Keeping an eye on every asset.



NEST Vision offers a unified view of all monitored rotating assets and Acoem solutions. This advanced platform provides seamless access to data from all Acoem signature devices through an intuitive web interface.

The NEST Vision delivers all-in-one centralized view of multi sites health, greater access to all users, enables actionable data at a fingertip, highlights assets of interests and provides a highly flexible architecture (cloud or on premise).

Access machine diagnostic history in few clicks



Expand access to more users

- Providing the right level of information to the right people with user profile managment
- Responsive display to best fit to mobile devices (smartphones, tablet)
- Native cloud technology, also deployable on premise



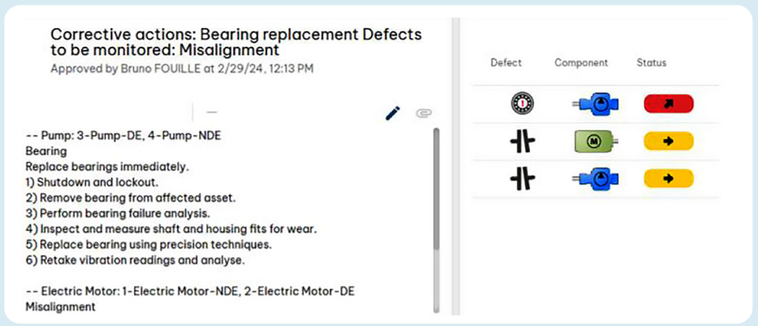
All the important info needed for decision making



- Machine lifeline: Comprehensive machine history including recommendations, maintenance actions, notes, and feedback
- Access actionable corporate-level data for immediate decision-making beyond basic alarms and trends
- Utilize multisite view for centralized management and global reliability enhancements, available 24/7
- Incorporate multiple technologies and customizable views for comprehensive information aggregation.

Clear and actionable data accessible 24/7

- Accessible from any web browser & from any device.
- Keep up-to-date actionable information always at hand.

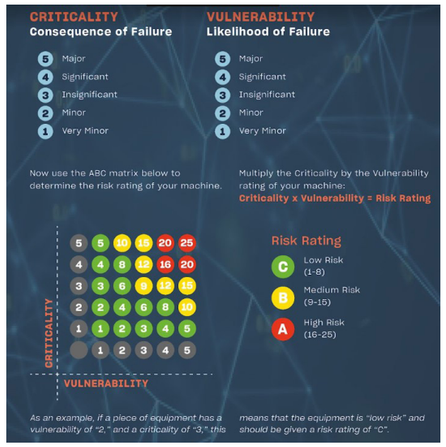


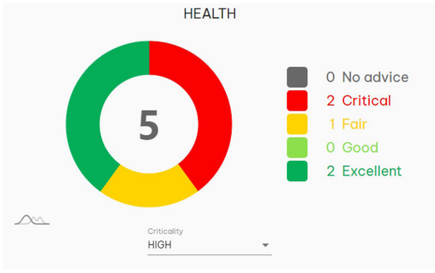
Accelerate reactivity



- Live alarm management from real time condition monitoring systems
- 24/7 access to live data trending coming from real time monitoring systems.

Streamline management & optimize maintenance





- Access to machine criticality information, allowing user to focus his attention on the machines which are the most critical to his process
- Instant link towards other systems such as CMMS, by sharing the Machine home page in a simple URL: no IT development required to easily connect systems access to the machine diagnostic history available in NESTi4.0



About Acoem

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 1000 employees work across 30 offices, 6 manufacturing facilities and 5 R&D centres in 10 countries, to provide trusted, holistic data solutions for customers worldwide.

Acoem links possibilities with protection.

For more information visit acoem.com

acoem
CREATING ENVIRONMENTS OF POSSIBILITY

Specifications subject to change without notice. All images used are for illustrative purposes only. All trademarks and registered trademarks are the property of their respective owners. ©2025 Acoem and all related entities. All rights reserved. 20251003