Vibtek Ltd

Reliability Engineering

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ONEPROD MVX

MULTI CHANNEL REAL TIME MONITORING

ONEPROD MVX

Condition-based maintenance for critical machines

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The reliability of critical machines is an essential factor for all industrial companies. The slightest unexpected shutdown results in direct production losses, and the associated maintenance issues (logistics, spare parts, etc.) can be significant. **ONEPROD MVX** is a multi-channel real-time monitoring system that enables the onset of faults to be detected early, thus providing peace of mind for industrial operators.

ONEPROD **MVX**

Monitoring and diagnostics for critical machinery

SMART MONITORING

The smart measurement and processing functions built into ONEPROD **MVX** are used to collect the highly qualified information required to monitor and diagnose your most critical machinery.

With ONEPROD **MVX**, kinematic complexity and the variability of operating conditions are no longer an issue.

SMART DESIGN

With 8 to 32 channels within the same sized instrument, ONEPROD **MVX** can receive vibration, electrical, oil or process information, and adapt to your mode of condition-based maintenance.

The system can be extended virtually to several hundred channels via communication interfaces with PLCs.

MIGHTY AND POWERFUL FOR COMPLEX MACHINES

A RESPONSE TO ANY CHALLENGE

ONEPROD **MVX** can detect and capture transient sub-millisecond phenomena over 100% of the signal.
Time signals are recorded using a «pre-trigger» on all relevant channels so that the event can be analyzed retrospectively.
Its real-time processing capabilities make it possible to:

- capture and record a transient phenomenon on a turbine for subsequent analysis
- control a rolling mill based on its vibration behavior.

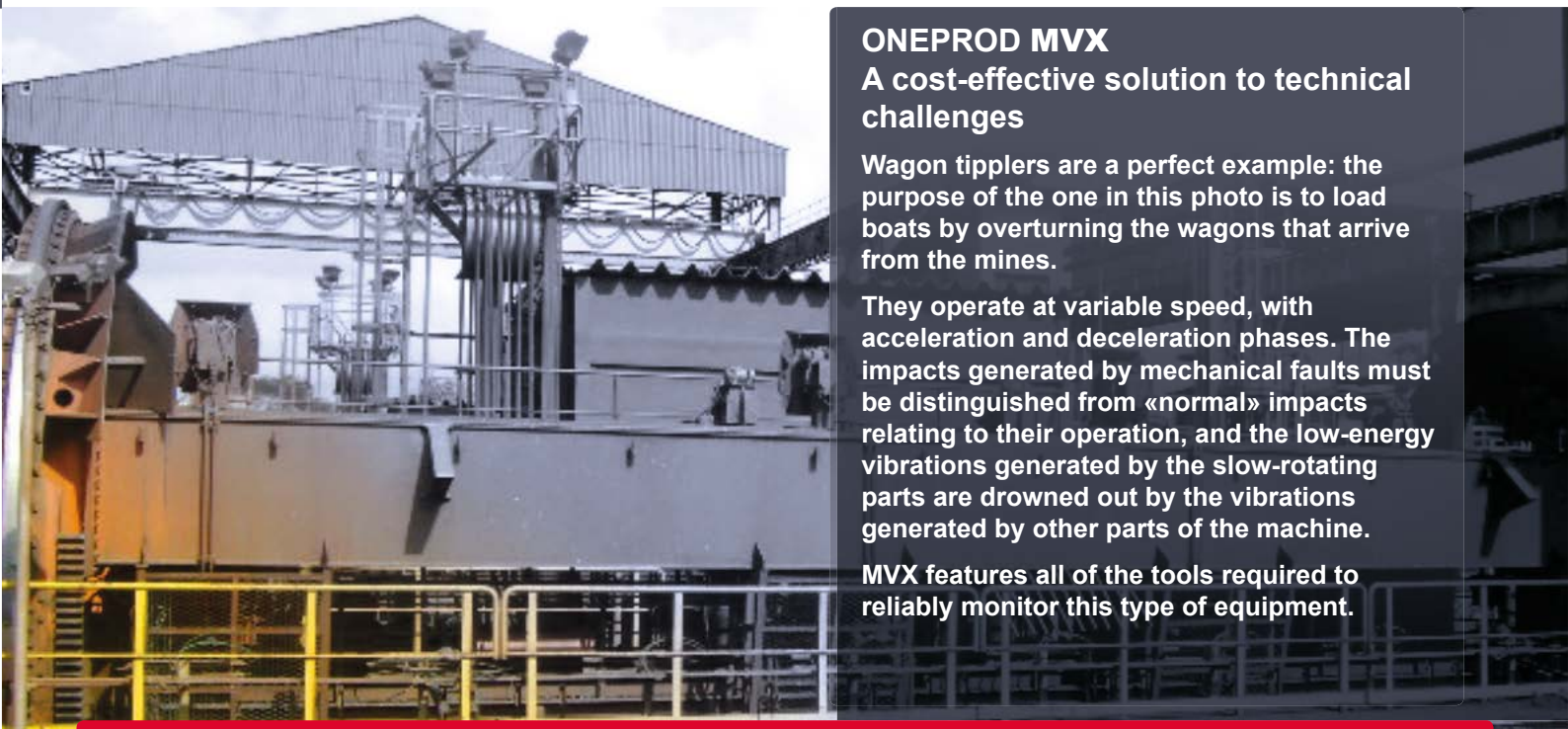
MONITORING OF LOW SPEED SHAFTS

ONEPROD **MVX** offers an unrivaled solution for the monitoring of low speed shafts with a smart Shock Finder indicator.
Abnormal impacts on shafts turning at very low speeds (from just a few rpm) are detected early and fully automatically.
Real-time management of variable operating conditions enables ONEPROD **MVX** to escalate data required for analysis and allowing comparison over time.

ANALYSIS PRODUCTIVITY

ONEPROD **MVX** will notify you in real time of any event requiring your intervention, by e-mail, text message or digital output.
The stored data, associated with operating conditions, is highly qualified: no false alarms!

« Reports are accessible in just a few clicks, navigating from a map of the world to a detailed view of a machine. »



ONEPROD MVX
A cost-effective solution to technical challenges

Wagon tipplers are a perfect example: the purpose of the one in this photo is to load boats by overturning the wagons that arrive from the mines.

They operate at variable speed, with acceleration and deceleration phases. The impacts generated by mechanical faults must be distinguished from «normal» impacts relating to their operation, and the low-energy vibrations generated by the slow-rotating parts are drowned out by the vibrations generated by other parts of the machine.

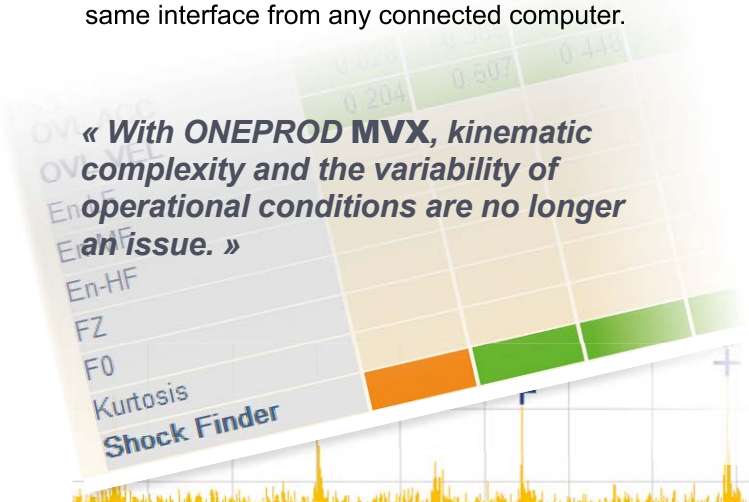
MVX features all of the tools required to reliably monitor this type of equipment.

INTEGRATED AND CONNECTED

A CENTRALIZED SYSTEM

The data acquired by ONEPROD **MVX** is automatically stored in the ONEPROD **NEST** software platform. Analysis of and access to the condition of production sites is simple: reports are accessible in just a few clicks, navigating from a map of the world to a detailed view of a machine. Wherever measurements have come from (a **FALCON** portable instrument, an **EAGLE** online wireless sensor, or an **MVX** online cabled monitoring system), the data is accessible via the same interface from any connected computer.

« With ONEPROD MVX, kinematic complexity and the variability of operational conditions are no longer an issue. »

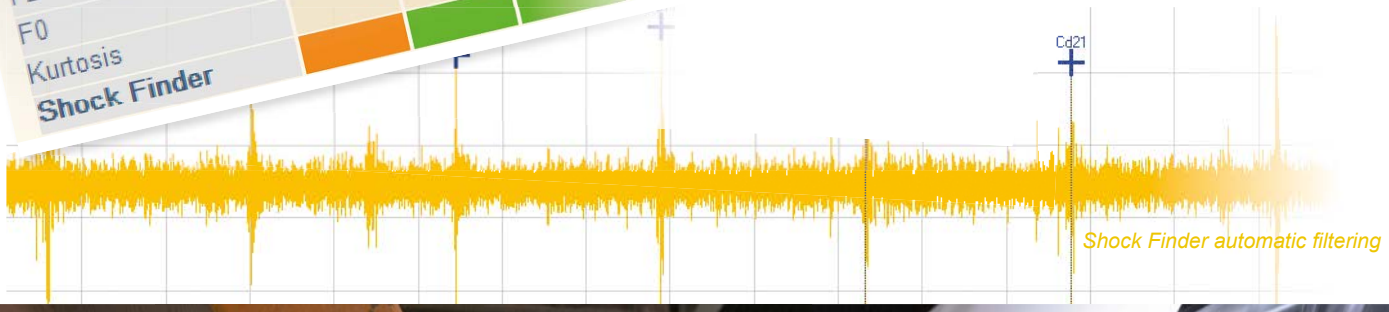


EASY TO DEPLOY

ONEPROD **MVX** communicates and transfers its results in automatically and reliably to the ONEPROD **NEST** software via a secure Ethernet link.
Operators can choose to use the local cabled network, a Wi-Fi network, or over the Internet via a 3G link, for example.

INTEGRATED INTO YOUR ENVIRONMENT

ONEPROD **MVX** can be fully integrated into your environment. Process information is retrieved directly from the PLCs, eliminating any duplication of data. The advanced indicators defined can be transmitted in order improve process management, and maintenance management is optimized thanks to an interface with the CMMS system.



Shock Finder automatic filtering

A UNIQUE SYSTEM WITH INFINITE CAPABILITIES

SMART MONITORING

- Real-time monitoring of one or more machines
- Storage of measurements required for analysis: the right information at the right time.
- Easy analysis of complex machines through management of operating conditions
- Early detection of faults on slow shafts with Shock Finder

COMMUNICATION

- Two-way communication with PLCs
- Alerts by e-mail / logic outputs
- Management of sub-optimal communication conditions (3G) for isolated machines

FLEXIBLE

- All types of sensor
- 8 to 32 channels
- Number of channels can be extended for process information using Modbus and OPC interfaces
- Option: portable version for temporary monitoring (VMS)

ALL IN ONE

- Monitoring of vibrations
- Monitoring of oil (quality, particle count)
- Correlations with process information

NEST Software suite - Technical datasheet

MONITORING AND DIAGNOSIS OF ROTATING MACHINES

Predictive maintenance is a powerful leverage of competitiveness for all industrialists. As its benefits are now undeniable, it is involving different people within a same company, working together on the same data, but at different steps of the process.

CENTRALIZED INFORMATION

NEST offers a unique presentation of a factory or multisite overview, centralizing data coming from different systems (portable, online), and multi physical information.

COLLABORATIVE PLATFORM

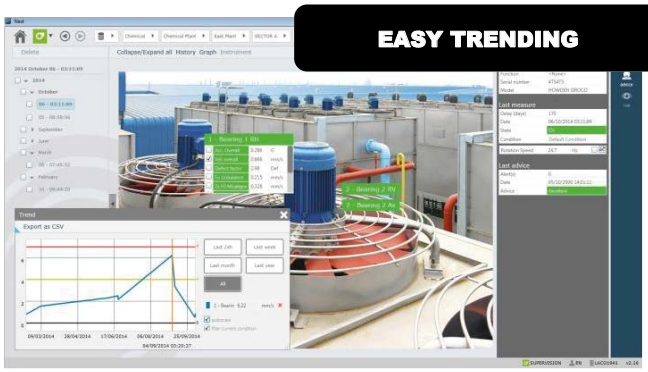
ONEPROD NEST is a modular software suite providing easy access to highly qualified information to all user profiles: Condition monitoring experts, Data collection personnel, Maintenance Supervisor, Reliability engineers, Instrumentalists… While working on the same data, they all benefit from the dedicated features available within ONEPROD NEST, thus providing them with the most productive condition monitoring tool of the market.

INTEGRATED INTO THE EXISTING INFORMATION SYSTEM

Providing all required interfaces, ONEPROD NEST allows factories to benefit from all that condition monitoring has to offer. Advanced qualified information can easily be shared through various interfaces or displayed in the control room.

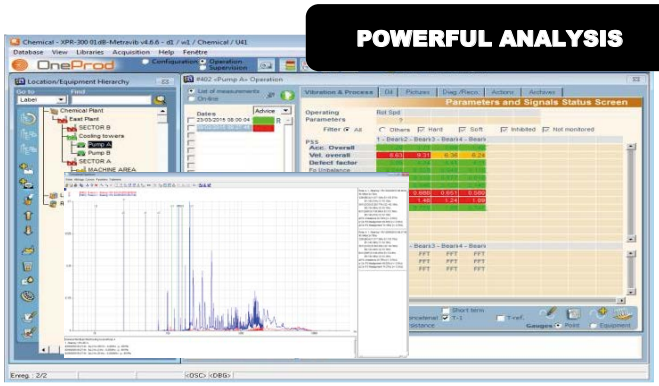
INTUITIVE ACCESS

EASY TRENDING



INSTANT REPORTING

POWERFUL ANALYSIS



General Specifications

Main modules	MACHINE SUPERVISION	Supervision is a native Web interface providing a very easy access to the condition monitoring information, switching in a few clicks from the top site view to the detailed reports. Supervision can be used from any computer connected to the local network of the ONEPROD NEST application server.
	MACHINE SETUP	Organize the data according to locations, sublocations, and easily define machines through the drag & drop tool that can be used according to 2 options (monitoring or automatic diagnosis)
		Monitoring mode: fast measurement generation using predefined templates delivered with the different instruments or customized by the user.
		Automatic diagnosis mode: automatic generation of the measurements required to perform automatic diagnosis with the FALCON portable data collector
	ANALYST	Powerful analysis module, with Easy, Advanced or Premium Automatic post-processing features
	COLLECT / COLLECTIONS	Define the routes, download them onto FALCON data collector, and upload them once the measurements are completed
	INSTRUMENT	MVX Online instrument fleet supervision from anywhere
	ADMINISTRATION	Manage the different user profiles and customize their access rights (functions and data)
		Manage virtual segmentation of the databases to provide an organized management of the global data and easy access
Centralized database	Multi source	Portable (FALCON, MVP-2EX), Online (EAGLE wireless sensor, MVX)
	Multi physical	Vibration, Process, Electrical, Oil, Thermography, Air gap / Magnetic Flux
Architecture	Local database version	A single database is installed on each computer.
	Intranet database version	A central database is hosted on an application server connected to the network. All users are directly working on the same data.
International application	Languages	English, French, Simplified Chinese, Korean, Russian, Portuguese, Spanish
	Units	Management of metric and imperial units
User assistance	Tooltip	Tooltips are displayed to provide more information on functions or buttons according to the modules
	Help menu	The help menu automatically presents to the user the detailed description of the function in use, as referred in the user manual.

Interfaces & Data exchange

ONEPROD NEST provides various standard interfaces, making the outputs of predictive maintenance easy to share with third systems (PLC, analytics systems…).

OPC Server (option)	Parameter information	All parameter-related information can be published in the standard OPC format: - Parameter value (stored from instrument or post-processed from the software) with timestamp - Parameter threshold value
	Machine information	Machine-related information can be published in the standard OPC format: - Machine global alarm status - Machine expert advice
Data exchange	Import / Export	Easily share data between several ONEPROD NEST databases within the same or different factories.

Automatic reporting capabilities

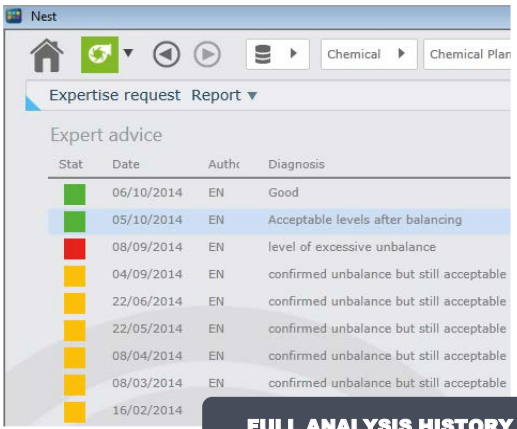
To improve maintenance planning and operations, one needs to be able to display in a very easy way:

- what has been detected through predictive maintenance technologies
- what has to be done
- when it should be done

ONEPROD NEST provides full reporting capabilities, automatically illustrated and easily accessible.

Analysis reports	Automatic reporting	Reports are automatically generated just in a touch of a button. They are available at any time, for a single machine, a multiple selection, a predefined list of machines, or a whole factory.
	Format	HTML, PDF, or WORD compatible format (RTF).
	Automatic picture insertion (option)	Machine pictures, pictures attached in appendix (analysis, thermographic) or taken with FALCON data collector, are automatically printed out in the reports.
	Hide / display parameter	Advanced parameters can be hidden automatically and not be printed out in the reports. They remain fully available in the ANALYST module for the expert users.
Web interface	SUPERVISION Module	The expert advice and recommendations are accessible through the simplified ADVICE view of NEST SUPERVISION module in read-only mode. Reports can be exported in HMTL, PDF or WORD compatible format
Customization	Content	Selectable content : Synthesis Information, Measurement Setup, Diagnosis & Recommendation, Analysis, Measurement History, Maintenance History, list of machines with status
	Report profiles	Several report profiles can be memorized according to the content selection
	Layout	Customizable layout, including the possibility to add your own logos
	Template customization	All templates of prelisted report types can be modified to manage the content automatically extracted from the database.
	Logo	Templates customisation includes the modification of the logo printed out on the report.
Statistics	Automatic statistical reports	Measurement and analysis activity
		List of equipment with expertise summary and access to full expertise report (possible sorting by advice)
		Statistics on defects detected per equipment (possible sorting by anomaly level)
		Status by equipment type
		Status by equipment function
		Statistics on equipment defects
		Monitoring of the number of defects
		Statistics on experts' advice
		Monitoring of experts' advice
		Statistics on alarm status
		Monitoring of alarm status / equipment

ACCESSIBLE FROM ANY COMPUTER CONNECTED TO THE NETWORK



FULL ANALYSIS HISTORY

HTML, PDF, WORD