BETAVIB
VIBRATION SOLUTIONS

CONDITION MONITORING SOLUTIONS

- PERMANENT ONLINE MONITORING
- RELIABILITY MANAGEMENT TOOLS
- MULTI-CHANNEL ANALYZER
- VIBRATION COLLECTOR
- VIBRATION BALANCER

Why BETAVIB?

At BETAVIB, we do one thing and we do it well. We don't sell boxes, we provide solutions. Our message is simple, and our vision is reflected through all our products: don't adapt yourself to our way of doing, let the software learn how to do it your way!

We are aware that we are bringing several new features with no equivalent on the market. We are certain that these tools will help you enhance efficiency in all your daily tasks, increase assets uptime, and most importantly, get the best ROI of your PdM program, do not hesitate to reach our Engineering team for assistance to see how we can help.

Adopting a new technology, a new vision, a new approach is not that easy; but when you know that our solutions will LITERALLY work for you, it becomes a lot easier: we will create databases "for you", we will configure measurement parameters "for you", we will adjust alarms levels "for you" ... AUTOMATICALLY. Tasks that used to take weeks and months can now be done in minutes.

Have peace of mind knowing that a BETAVIB engineer is always one click away from you, to assist you DIRECTLY on your collector with Vibration expertise, software updates, setup of special applications. Our instantaneous remote support is available from the device and embedded to all our products.

Our message is simple, BETAVIB has what it takes to improve your program, make your diagnosis more reliable and provide you with free time for more valuable tasks.

So Keep Calm and Call a BETAVIB Engineer.

Bechir BADRI (Ph.D; M.Ing;)
BETAVIB President

CONTENTS

MISSION

Provide reliability supervisors, engineers and technicians with products and tools that fulfill their needs. Our professional, motivated and always available staff is one click away from you.

VISION

Let us do the work, you only focus on what really matters: YOUR EXPERTISE. All useful information (exceptions) is brought to you to make informed decisions.

VALUE

At BETAVIB, we deliver five-star technical support, with a highly qualified team. We remain close to our customers as well as their concerns and we listen to their recommendations.

"A new experience in collecting data and vibration analysis. Now I can spend more time doing highly valuable tasks and less time collecting data. Instantaneous Online Support on my collector anywhere in the world.
Bravo to all the Team !"

-Louis Lavallée,
Delom Services

"BETAVIB was able to fulfil our needs in vibration analysis in a short time frame. Their vision and the independence of the hardware are light-years away from what can be found on the market."

-Jean-Philippe Comier,
Alcoa

VibWorks™

THE ONLY TOOL YOU NEED

VibWorks COLLECTOR ANALYZER is BETAVIB's portable solution for assets health monitoring. Featuring several software modules, VibWorks allows you to perform reliable diagnosis and monitoring on rotating machines, in less time with less effort.

- Improve Reliability
- Enhance Condition Monitoring
- Extend Machine Uptime
- Boost Components Efficiency

We exceed your expectations

Within the same Rugged hardware platform, VibWorks COLLECTOR is fully compatible with VibWorks Balancer, Vibworks Analyzer and Supervisor to reach higher levels of performances in your industry.

How fast we are

5 seconds per point (3 Axis) are enough to analyze machines running at conventional speeds (Around 1800 CPM).

U.H.D.M Workstations

Increase Efficiency

Ultra HD Monitoring is a unique feature offering simultaneously the widest range of tools. On 40" to 60" 4K (4096px) display for unmatched monitoring efficiency.

Gain Productivity

Thanks to its revolutionary acquisition process. Route acquisition is 5 to 10 times faster than any other conventional collector WITHOUT ANY LOSS of Data.

Improve Performance

Create databases for your assets, kinematic parameters, assign analysis configurations, machines and routes, take readings, perform a complete analysis and generate reports. Using our ClickOnce™ technology.

Time Traveler

After taking measurements you can change your analysis configuration, VibWorks will reprocess old vibration data and reconstruct machine history, you have the right to make mistakes and/or change your mind.

VibWorks KNIGHT

- 1 Channel Vibration acquisition
- Machines state monitoring
- Machines Creation
- Extended Bearing Database
- Analysis report generation
- Basic/Advanced signal processing
- Long Time waveform collector
- Automated Fault Frequencies
- Multi Channels Analyzer
- Run-Up and Coast down
- Impact Testing

KNIGHT

VibWorks KING

- 3 Axis Vibration acquisition
- Machines state monitoring
- Machines Creation
- Extended Bearing Database
- Analysis report generation
- Basic/Advanced signal processing
- Long Time waveform collector
- Automated Fault Frequencies
- Multi Channels Analyzer
- Run-Up and Coast down
- Impact Testing
- Anomalies Report Generation
- Automatic Database creation (Excel)
- S.A.M Smart Alarms Module
- History Reprocess
- Balancing Module
- Ultra HD Monitoring (4K Analysis)
- Interactive Color-Coded Dashboard
- Direct Bluetooth Audio from sensor

KING

VibWorks ROOK

- 3 Axis Vibration acquisition
- Machines state monitoring
- Machines Creation
- Extended Bearing Database
- Analysis report generation
- Basic/Advanced signal processing
- Long Time waveform collector
- Automated Fault Frequencies
- Multi Channels Analyzer
- Run-Up and Coast down
- Impact Testing
- Anomalies Report Generation
- Automatic Database creation (Excel)
- S.A.M Smart Alarms Module
- History Reprocess
- Balancing Module

ROOK

Engineered to Perfection

TIME TRAVELER
- Change analysis parameters on past measurements and reconstruct your history
- Change parametrization with no consequences on your historical data
- Re-Process machines, departments, plants and routes.

SIGNAL PROCESSING
- Real time or Post Processing
- Basic and Advanced Tools
- Customizable for each Point
- OverAll Levels, Filters, Narrow and wide Bands, Envelop Spectrum,Octaves, STFT, Orbits...
- Spectral lines > 1.000.000

FASTER ACQUISITION
- All parameters are measured in the same time
- TRUE embedded Simultaneous Triax capabilities
- Vibration measurements –raw data and analysis- in 3 axes in a true simultaneous sampling

Valuable Tools, At your Disposal.

VibWorks Collector features revolutionary embedded technologies, allowing faster route acquisition, faster diagnosis and more effective monitoring.

EMBEDDED DATABASE
- All historical Data Available on the field
- No need for an Analysis Desktop
- Create, Configure, Analyze on the Collector
- Data Always safe with sync roots

INNOVATIVE
- RealTime Audio from vibration Sensors
- Embedded digital Camera
- Manual process trending parameters
- Machine recognition with Bar code reader
- Direct Real time Audio from sensors

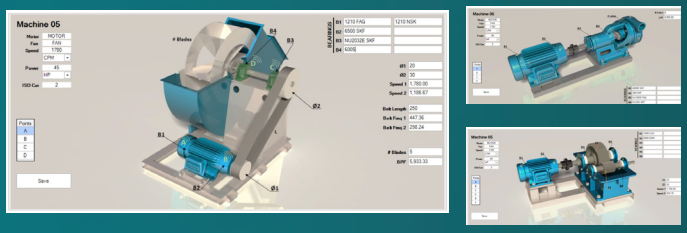
AUTOMATED REPORTS
- ClickOnce™ Technology
- Reports generated in a single click (Word®, PDF®)
- Available Reports: Kinematics, Analysis, Anomalies, superposed Spectra, Over All parameters, Trends...

AUTO SYNC/SERVER
- Share all Data between VibWorks Collectors
- Centralization and/or backup operations
- Sync your Data with Network or Cloud Server (Provided by BETAVIB)
- Keep your data safe

FROM DREAM TO REALITY

Building a new database for your assets is one of the most time-consuming and challenging tasks. That's why BETAVIB developed special tools in order to help you achieve full deployment.

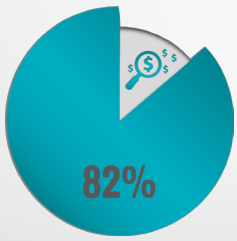
Optimized and user-friendly machine definition interfaces, allow you to interact with all parameters of your assets (Components names, Points names, Nominal Speed, Local points speeds, Bearing faults frequencies, Speed Ratios, Harmonic Events) in ONE single screen thanks to our ClickOnce™ technology.



"We are also able to deliver your system with your Database already loaded and ready to measure from day 1."

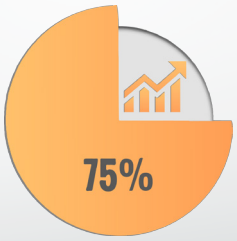
VIBWORKS: THE FACTS

Our solution will boost your efficiency, will help you save time for more valuable tasks, ensure reliable diagnosis and increase your machine uptime.



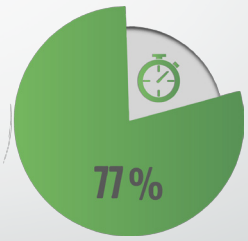
START UP COST

Save more than 82% of start-up Costs, thanks to our quick deploy tools.



EFFICIENCY

U.H.D.M Workstation is 75% more efficient than conventional HD Analysis methods.

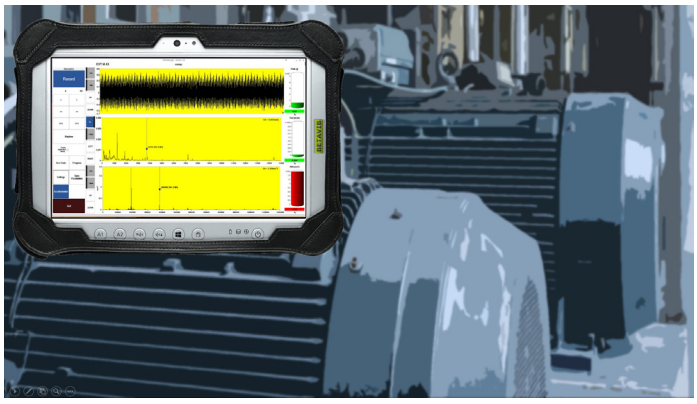


SPEED

VibWorks Collector is 77% faster than all conventional collectors on the market.

VibWorks DAQ Lite

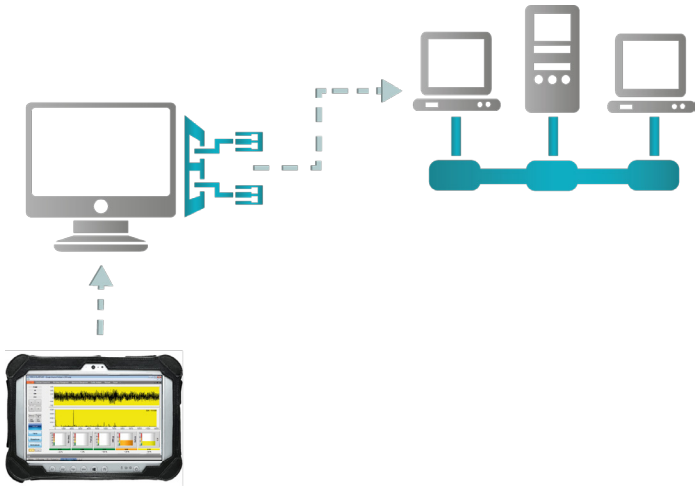
DAQ Lite is Betavib's high end collector module, designed to do more jobs in less time with less efforts, thanks to its advanced integrated features. DAQ Lite enables Comfortable vibration measurements, on a stunning FullHD Touchscreen with gloves, on direct sunlight.



- ***Easier Visualization*** of machinery state with Real-time over-all indicators color-coded tanks according to alarms
- ***Advanced Analysis*** Ability to perform real-time analysis on raw data coming from the Sensor.
- ***Higher accuracy*** with real-time waveform, customizable velocity and acceleration spectrum.

VibWorks Server

VibWorks Server responds to the need of Reliability engineers, supervisors, maintenance staff to share valuable and up-to-date information enterprise wide.



VibWorks Server Transforms your Collector into an OCA (Occasionally Connected App.), Allowing you to access all the databases while off-line, on the field and sync the data with a central DB and/or with other users while on-line. This means you can generate reports, analyze data and perform all your daily tasks even when you are off-fline, and as soon as a connection to the server becomes available, all your data will be synchronized to the server and immediately become visible to supervisors/reliability leaders/higher enterprise management.

VibWorks ANALYZER

Multichannels functions will provide you with a better understanding of your machines' dynamic behaviour, deflection modes can be deducted using cross channel phase analysis. Orbits can be obtained from all kinds of sensors (proximity probes, accelerometers...).

REAL TIME ANALYZER

Perform simultaneous Frequency Response functions on up to 32 channels, coherence calculation and properly averaged FRF's. Export Data to Universal Files, Excel, Matlab...Analyze FRF in bode Diagram, Nyquist Diagram, Real and Imaginary diagram. 100% Me'scope compatible.

IMPACT TESTING

Load Run-up or Coast Down Signal and the Analyzer will guide you to obtain speed profile with special algorithms applied on trigger signal. Extract Time Waveform for specific or multiple orders, analyze and save the extracted Data.

ORDER ANALYSIS EXTRACTION

Multichannel Data Logger, customizable by channel to take Long Time readings with iterative specific delay, The system acts as a temporary online system.

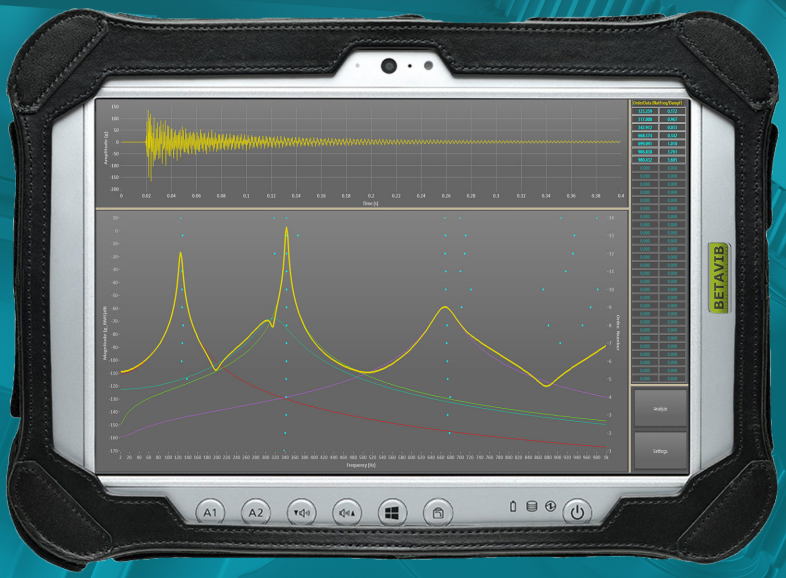
PROGRAMMABLE DATA LOGGER

MAKE A DIFFERENCE

Designed for Expertise Jobs, VibWorks ANALYZER comes in 4, 8, 16 or 32 Channels, with less machine shutdowns.

A.R.M.A

Auto Regressive Moving Averages is an advanced signal processing technique used to perform Frequency Response Functions (FRF) without an impact hammer. Unlike simple FFT function, this method does not simply point potential natural frequencies, but goes further by decomposing all the components of the transfer function, including stability coefficients, leading to a cleaner FRF, and more importantly, providing values of Natural frequencies AND correspondent damping ratio.



APPLICATIONS

- VibWorks Multi-channel analyzer is the perfect example to emphasize how BETAVIB's vision is reflected on our solutions interfaces: interaction is clean and simple while providing more power on demand whenever it's needed.
- VibWorks is able to detect the slightest changes in the vibration signature of your machines, but sometimes you may require multichannel functions to analyze more in-depth their dynamic behaviour, like Cross Phase analysis and deduce the operational deflection shapes, FRF with or without hammer and Run up-Coast down algorithms in order to get the natural frequencies and the damping ratios, or even a quick acceptance test to generate a vibration .
- VibWorks Multi-channel analyzer also comes with an amazing channel count spreading from 4 channels (standard) up to 32 Channels. Your imagination is the only limitation when it comes to its Scope of application since it's built to accommodate a wide variety of sensors (Accelerometers, Impact Hammers, current clamps, Tachometers, Voltage, 4-20mA sensors, microphones…).

OPTIMAL EXPERTISE JOBS

VibWorks ANALYZER provides you with all needed expertise tools and scalable according to your needs. The product is fully compatible with BETAVIB SUITE Hardware.

ADVANCED SIGNAL PROCESSING

All the tools required to investigate structural dynamic behaviour are embedded within VibWorks ANALYZER as well as Long-time data Logger for post-processing.

ANALYSIS FEATURES

EMBEDDED ISO STANDARD

- Tachometer processing speed profile
- Overall levels combined with bandpass Filter

SPECTRAL PHASE ANALYSIS

RUN UP COAST DOWN

ORBIT PLOT

MULTICHANNEL IMPACT TESTING

ALL THE NEEDED TOOLS

We made sure to include multiple features required to the investigation of structural dynamics

QUICK ACCEPTANCE REPORTS

SOUND LEVEL WEIGHTNENING FILTERS

VibWorks SUPERVISOR

When you have the right tools at your disposal you can increase assets uptime, protect your investments and maintain economic operations.

Aware that reliability leaders and plant managers have different needs than vibration analysts, BETAVIB developed a revolutionary solution designed to provide reliability staff with statistical data describing the GLOBAL health of the monitored assets.

VibWorks Supervisor is available as a network application, uses up to date vibration data from your servers -available plant wide- to help you in several tasks:

- ✓ Criticality Classification
- ✓ Failure Analysis
- ✓ Assets Overview
- ✓ Vibration management

VIBRATION MANAGEMENT

VibWorks Supervisor contains a wide range of v tools, to help you make informed decision, and q impact on your assets health.

Take your PdM to the next level by adopting f classification, Failure distributions, Failure cost Assets Health Overview...

Precise Analysis

You have the opportunity to see detailed analysis over departments, machine types, criticality and date

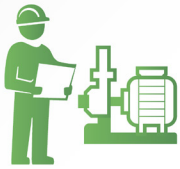
Global Overview

Make informed decisions thanks to the enterprise wide access to the data offered by VibWorks Supervisor.

Action's impact

Quantify the result of your management actions and choices and measure the impact of your strategies based on up-to date information.

Vibration is stored in the local database located in your collector. Data can be accessed locally to analyze machine behavior, review historical data even on the field -if required- without the need to download your data to a PC or to upload routes to a collector...



Step 01

Reliability staff can have hundreds of machines and equipment's under their responsibilities. All the assets do not have the same importance from a reliability point of view, a special treatment is always reserved to the most Critical equipments.

VW Supervisor contains an extended Criticality Classification Module, using risk assessment matrices, you will be able to count for impact on production, impact on health and environment, spare parts availability, repair time ...

We are aware that machinery reliability is a major concern to industry from both an economic and productivity standpoint. Failure analysis insures a proper management of the assets as supervisors.

Back to the office, data can be analyzed on our U.H.D.M workstation, locally from your collector. You can also sync your collector to central database, on your server. Data are moved from your collector to the network and are accessible enterprise wide. Thus, valuable information is shared through the company.

Step 02

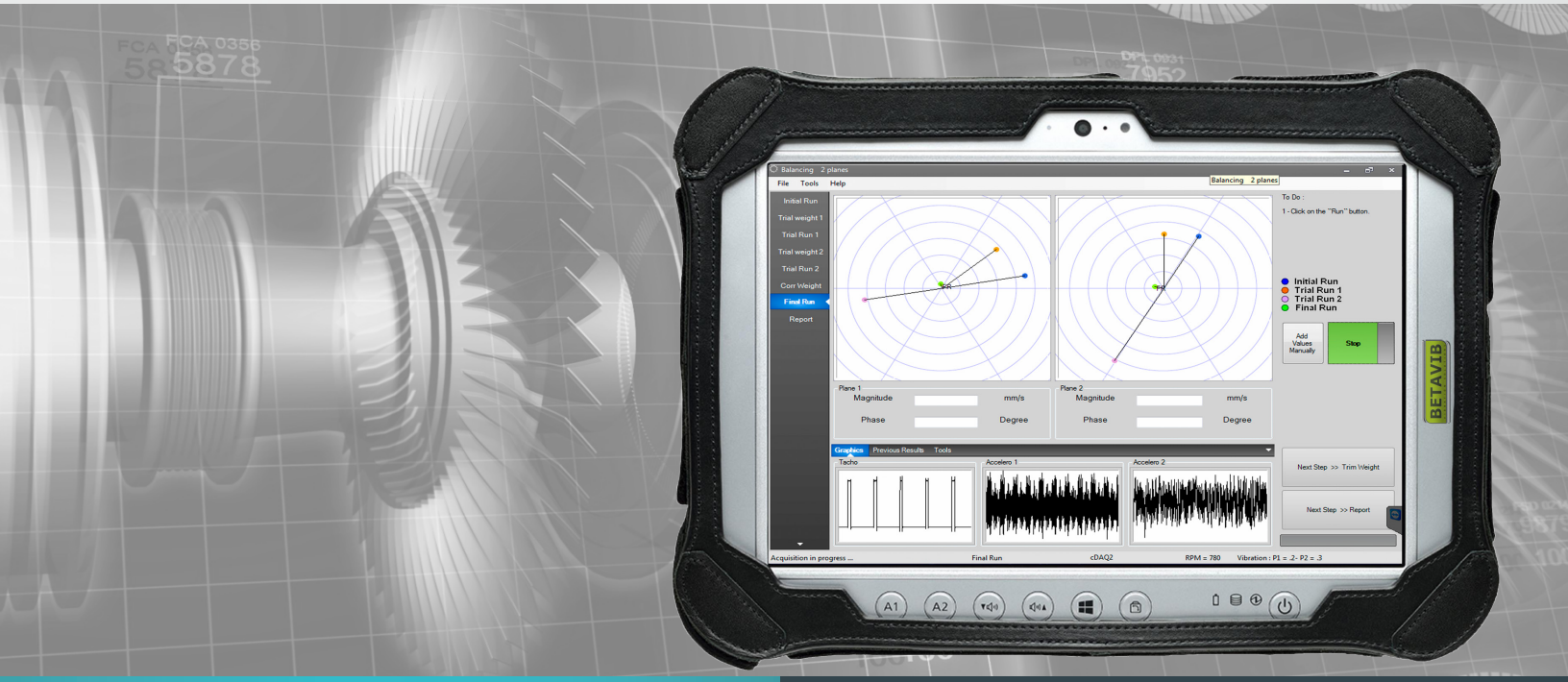
VibWorks Supervisor is an application running on any device connected to your network, this can be a reliability leader PC, a projector in a meeting room, or even a screen showing vibration as a KPI to the plant personnel. Reliability Staff can ,then, make informed decisions based on valuable trends and indicators, and quantify the impact of their decisions on the health of their assets.

Step 03

VibWorks BALANCER

Simple, Powerful

VibWorks Balancer is an add-on module to the BETAVIB Suite. Running on the same hardware platform as VibWorks Collector and Analyzer.



EASE OF USE, Guaranteed!

Like all BETAVIB products, VW Balancer comes with user-friendly interface, simple yet powerful. Thanks to the 4 available physical channels, balancing jobs are performed faster thanks to simultaneous acquisition.

Single Shot

VibWorks Balancer will save shaft sensitivities coefficients, future balancing of machinery are made with a single shot measurement without a trial runs.

Dynamic Vectors

Real-time phase stability is indicated on polar graphs during measurements, to ensure proper balancing conditions.

Report Generation

Balancing reports are generated automatically and available in several universal formats (PDF, Doc, HTML...).

Proximity Probes

Balancing very low speed can be achieved with a better precision when using displacement sensor instead of accelerometers (using velocity). Vibworks can use proximity probes to help you achieve better balancing results for particular applications.

Phase Stability

In some particular cases, balancing conditions are not gathered to do the job properly, phase stability is the key factor for a quick and precise balancing. VibWorks Balancer comes with real time phase indication with dynamic vectors on polar graphs. Phase is calculated with high precision using cross correlation algorithms.

1/2 Planes Balancing

VibWorks balancer uses 4 simultaneous channels and allows you to perform 1 plan and 2 plans balancing, with all the tools needed: balancing grades, weights split.

Normalized Balancing

VibWorks Balancer is written according to ISO 1940 Standard, residual unbalance, trial weight suggestion, balancing grades and balancing reports are embedded to help you do an optimal balancing job.

Efficiency: not just a Motto!

Using our One-shot Balancing, we offer you the opportunity to enhance your efficiency, reduce your costs and save time. Using one-Shot, balancing a machine can take only one single run (one machine start). One shot uses previous balancing results and saves shaft sensitivities, future balancing are just trim runs of the last balancing, and correction weights can be adjusted in every periodic shut down to achieve optimal operating conditions.

SPECIFICATION TABLE

INPUT SIGNAL	
Range	± 5V Standard, Optional ±30V
IEPE	Software Selectable On/Off, 0mA or 2.1mA optional 4.1mA
Channels	4 Channels,Simultaneous sampling software handled Accel. or Volt
Accelerometer input	50g / optional 300g (with a 100mV/g sensor)
Dynamic Signals	4 channels,
FREQUENCY ANALYSIS	
A/D conververter	24 Bits
Sampling Frequency	51.2 Khz (Optional 102.4 Khz)
Frequency Units	Hz, CPM
Fmax	20 Khz or optional 102.4 Khz
Dynamic Range	-103 dB
Number of averages	Up to 10240
Resolution	200 lines to 104200 lines
Fault Frequencies	Overlay fault frequencies cursors on spectra
Kinematics	Smart definition of transmissions, bearing frequencies, pulley belt,
Customized Freq Event	Function of Rotational Speeds
Variable Speed	OneClick Kinematics Update of all frequencies for variable speed equipment
Cursors Spectrum	Unlimited harmonics and side bands cursors, Magnet cursors
High Pass Frequency	User defined from DC to 100 Hz
Scaling	Linear/Logarithmic
Window Functions	14 embedded window Types
Data Storage Capacity	
Internal memory	SSD 256 Go, 500Go standard
Physical Dimensions	
Dimensions	10.8" (L) X 10.6" (W) X2.3" (H)
Weight	2.5 lbs/(1.1 kg)
Display	
Screen	10.1" X GA sunlight-viewable LED 1920x1200, Dual touch (touch-scrren and digitizer) TransflectivePlus and Panasonic Circulumin ™ technology with up to 6000 nits under direct sunlight
Docking station	2 USB, Ethernet, Power Supply, Charger Slots for spare Battery
Digital Camera	Integrated 3 Mpx Digital camera
Environmental	
Operating Temperature	-20°F to 140 °F (based on MIL-STD-810G)
Ruggued Features	MIL-STD-810G and Ip65 certified 6 foot drop rating Magnesium alloy chassis with shock-mounted flex connect hard drive Fanless, sealed design reinforced locking port covers
Battery and Charging	
Battery Type	2x Li-Ion Hot Swappable, virtually unlimited autonomy Lithium ion battery pack (10.65V, 5700mAh) AC adapter: AC 100V-240V 50/60Hz, autosensing/switching worldwide power supply
Communication	
Wireless	Intel®centrino® Advanced-(N 6205 802.11a/b/g/n Bluetooth® class 1) Optional integrated 4G LTE mobile broadband Optional integrated 3G Gobi ™ mobile broadband, Optional GPS receiver

SPECIFICATION TABLE

COLLECTOR FEATURES

Data Acquisition	Single Axis and Triax route measurement Long Time recorder BlueTooth Real Time Audio from Accelerometers Real Time Color Coded Alarm Levels Embedded Camera RealTime Velocity Spectrum, Acc, Spec., 5 OverAll levels and Time Waveform
Kinematics	OneClick Fault frequencies calculation/update for variable speed equipments Smart Harmonic and lateral Cursors Bearings Faults cursors Variable Speed Machinery Analysis Gear mesh cursors Harmonic Events Cursor
DataBase	8 Levels Database Architecture Color coded Treeview Efficient Machines definition (cloning process) Embedded Bearing Database ClickOnce Machines definition by templates
Signal Processing	OverAll Time Indicators (Peak, RMS, Kurtosis, Crest Factor, Velocity) Spectrum, Spectrum Env.,Narrow Bands, Octaves, Filters, Cepstra, Hilbert... Time frequency spectrogram Spectrum superposition (Waterfall,3D, 2D) , by point or by machine) High Pass, Low Pass, Band Pass, and Band Stop Filters Customizable Analysis configurations
Alarm Properties	Narrow Band Alarms Baseline, Pre-Alarm, Alarm & Danger parameters Self-Adaptative Alarm settings by Machine/Department/Plant/Site
Other Features	Units conversion (Hz-CPM, ISO metric-Imperial) Integrated ISO standards UltraHDMonitoring analysis on 4K screen Interactive Color coded Dashboard Custom Report Generation : Analysis, Kinematic, Anomalies by Machine/Plant Backup and restore modules Remote Synchronization to other VibWorks Units Trending Forecast by curve fitting Polynomial and linear Trending Forecast ClickOnce Alarm definition (Site/Plant/Department/Machine/Comp) Server Mode Reprocess History data per machine or per plant

BALANCING FEATURES

Units	ISO or Imperial
Planes	1 and 2 Planes, simultaneous acquisition
Speed	120 RPM to 300 000 RPM
Split Wheights	3 to 50 Points
Rotor Parameters	Sensitivity Calculation and Storage,
ISO Standard	Embedded ISO 1940
Residual Unbalance	According to ISO 1940 with trial Weight calculation
Balancing report	Generated automatically with Email sending
Indication	Real Time Polar Diagram with Vector Indication
Phase	Cross Correlation based method
A/D Converter	24 Bits
Sampling Frequency	51.2 Khz (Optional 102.4 Khz)
Frequency Units	Hz, CPM

ANALYSIS FEATURES

Trigger range	Up to 25 feet (Class 3R Visible Laser)
Trigger	TTL Pulse output
Speed	5 RPM to 200 000 RPM
RT Analyzer	Cross Spectrum, Magnitude Phase, Overall Level With Filter
Impact Texting	FRF by impact testing, Bode Diagram, Nyquist Diagram, Export to Excel...
Phase	Cross Correlation Based Method
A/D Converter	24 Bits
Sampling Frequency	51.2 Khz (optional 102.4 Khz)
Frequency Units	Hz, CPM
Fmax	20 Khz (optional 102.4 Khz)
Orbits	Using proximity probes and accelerometers
Order Extraction	Harmonic and non harmonic Order analysis and extraction
Test Bench mode	Intuitive Pass Fail setup

CORTEX MONITORING SYSTEM

CORTEX MONITORING SYSTEM (CMS) is a cost-effective and scalable solution, dedicated to the prediction of asset failure and the prevention from catastrophic and costly repairs. As an innovative system, our solution will help you optimize your performance by monitoring the condition of your valuable assets thanks to accurate diagnostic tools.

HIGHER ACCURACY

Manual measurements and recorded data increase the possibility of data errors and missed events, with CORTEX MONITORING SYSTEM you can ensure high data accuracy thanks to a continuous data collection

OPTIMIZED PERFORMANCES

On-line condition monitoring can help you ensure an optimized distribution of a limited reliability staff to perform the highest value tasks required for maintenance and to properly manage priorities.

THOROUGH DIAGNOSIS

CORTEX MONITORING SYSTEM provides you with unique tools to improve assets monitoring, guarantee consistent analysis based on stored historical baseline data and minimize the need of equipment specialists

ACHIEVE PERMANENT HEALTH MONITORING OF YOUR CRITICAL EQUIPMENTS WITH A UNIQUE AND SCALABLE TURNKEY SOLUTION, DEVELOPED TO FIT YOUR NEEDS.

NEW TECHNOLOGY

CMS is the first Online system that allows you to turn your permanent sensor into a Real-Time Analyzer in order to remotely investigate any abnormal vibration behavior. It comes in a rugged industrial form factor, with extended operating temperature range.

SIGNAL PROCESSING

The System comes with embedded signal processing tools running on-board, ensuring maximum autonomy.. In case of network failure, the controller will store data locally for weeks. Data streaming is performed as soon as a connection is re-established

DATA STORAGE

The SQL Server database allows a maximum security on your network. The database is filled with raw data from your sensors, triggered by the user/with customizable time event/Alarm level crossing. Raw Data are processed and stored in the database for trending and diagnosis.

THE TOOL YOU NEED

Our product runs on a core solution that enables custom health monitoring on any type of machine and follow any measurable parameter (details in the following figure).
The product is scalable to fit your needs toward channels count and sensors type.

TWO CORTEX

Because each Application is different

CMS-Ox16 / CMS-Ox32

Standard, off the shelf permanent monitoring solution allowing multiplexed measurements from accelerometers and proximity probes.

Vibration is routed in real time to a dynamic Dashboard from the sensors and local signal processing is performed (on the controller) to insure proper and safe operating conditions. A Real time assets viewer will help locate the status of each monitored point.

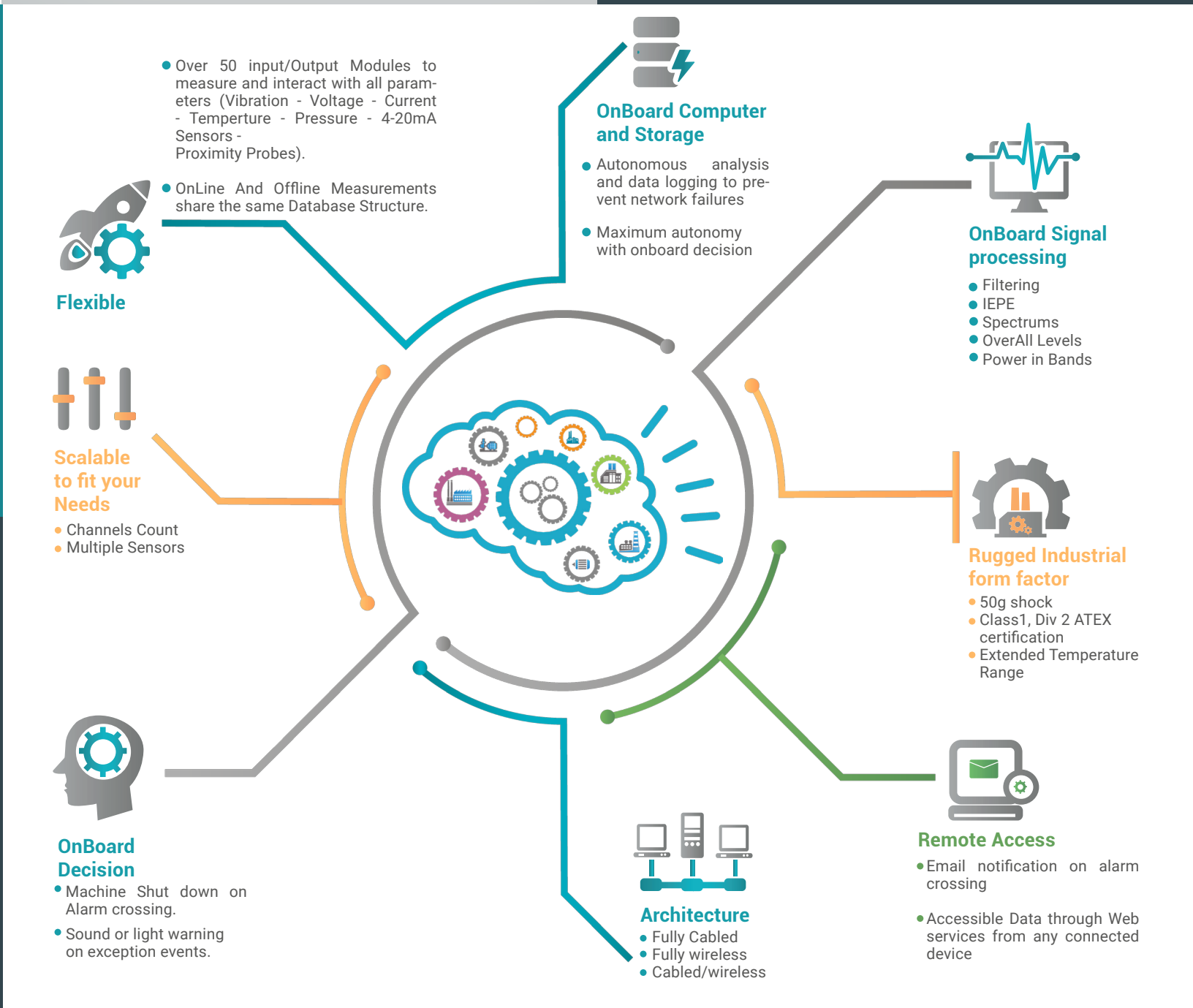
Recording can be triggered with programmable timers, and/or with RPM counters (2 counters available). 8 output voltage Channels are available to share valuable information like alarm crossing/network malfunction … with other systems or simply signal them to the staff.

CMS-OC

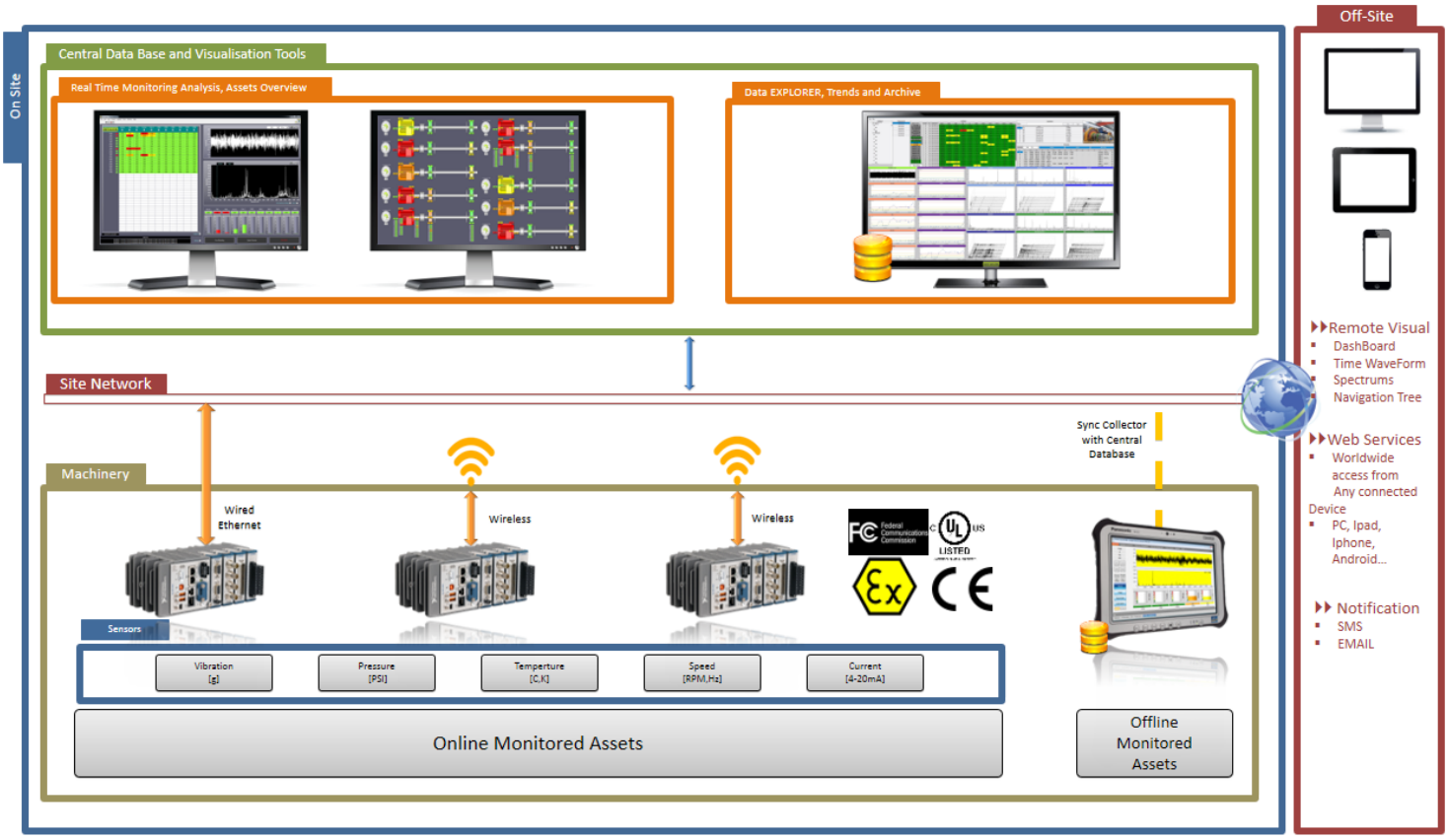
High end Online monitoring solution allowing simultaneous measurements from ANY type of sensor (Vibration, Voltage, current Temperature, Pressure, Prox, 4-20mA sensors…).

Cortex Monitoring System OC is a Custom built solution that will fit exactly your application: exact number of sensors, trigger handling, recording parameters, communications, environment…

No matter how complex is your application (parameters-channel count-variable operating conditions), we can build a Custom solution that fits exactly your machine. You will be able to monitor the dynamic signature of your assets but also relate their behavior to the process variables



CORTEX ARCHITECTURE AND SPECIFICATIONS



System	
Processor Capacity	667 MHz dual-core ARM Cortex-A9
Non-volatile storage	512 MB
System memory	256 MB DDR 3
Ethernet port	1 (1024MB/s rate)
Serial Ports	Yes
Hi-Speed USB Port	1 (can be used for external storage)
Architecture	Cabled/wireless (as an option)
Operating Temperature	-20 °C - 55 °C (Optional -40°C to 70°C)
Storage temperature	-40 °C - 85 °C
Operating Relative Humidity	10 % - 90 %
Operational Shock	50 g

Power Requirements	
Voltage input range	9 VDC to 30 VDC
Reverse voltage protection	30 VDC maximum
Maximum power input	18 W

Digital and Switch Outputs	
Measurement Type	Digital
Isolation type	Ch-Earth Ground Isolation
Output channels	8 (up to 32)
Logic levels	24 V (>24 Requires External Power Supply)
Output Type	Sourcing
Current drive single	0.75 A
Current drive all	6 A
Maximum Voltage range	6V-30V
Switch duration	100 us

Human-Interface (HMI)	
Real time Dash Board	Yes
Custom System Overview	Option
Long time raw data display	Option

Analog Inputs	
Measurement Type	Accelerometer/Proximity Probes
Sampling rate	Up to 51.2 KHz (Fmax=20 KHz)
Differential Channels	16 or 32
Coupling	AC/DC
Smart TEDS sensor compatibility	Yes
Analog Input Resolution	24 bit
Maximum Voltage Range	-5V 5V
Excitation Current (IEPE)	2 mA/ 4 mA
Dynamic Range	102 dB
Maximum Bandwidth	23.04 KHz
Input Impedance	305 K Ohm
Signal conditioning	Anti-aliasing filter current excitation

On board Decision and signal	
Filtering	Lowpass/Highpass/In band
Number of lines	400 up to 102400 lines
Overall levels and indicators	RMS, Peak, CF, KU, Velocity
Power in bands	6 frequency bands per channel
Time waveforms/FFT and envelop spectra/Speed data logging	Yes
Alarms Customizable or Automated	Set adaptive according to historical Data
Exceptions warning (sound or light)	Yes
Autonomous analysis-data logging	Yes (system storage or external storage

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