DEWESoft®

DYNAMIC SIGNAL ANALYSIS & NVH SOLUTIONS

WELCOME TO THE DEWESOFT EXPERIENCE. ONE SOFTWARE, ONE HARDWARE, ONE SOLUTION.

7 YEAR WARRANTY

V23-2

ULTIMATE ALL-IN-ONE TOOL FOR ANY NVH CHALLENGE

EASY TO USE AND VERSATILE
Get your measurements in 30 seconds.

DEEP IN FUNCTIONALITY
With an amazing set of features, Dewesoft instruments are used in most advanced research labs around the world; all functions are available at the same time in one software.

DUAL CORE HIGH DYNAMIC
Dewesoft Sirius increases signal dynamic to 160 dB by using two ADC converter per channel with different gains. Both - time domain and frequency domain data have an amazing dynamic signal performance.

SuperCounter®
Patented Supercounter technology provides perfect angle and angular speed information which is a base to align data from time to angle domain.

FULLY SYNCHRONISED
Data from various sources are perfectly aligned: Analog, Digital, Counter, Vehicle buses, Video, ...

DEWESOFT 7-YEAR WARRANTY
Our warranty covers that the instruments function as promised for a period of 7 years from the day of the delivery.

SIRIUS® R1DB/R2DB
Small-size instrument with embedded computer, 12" display and batteries.

SIRIUS® R8DB/R8RT
Integrated instrument with 8 SIRIUS slices, powerful SBOX computer, optional 19" display (R8D) and batteries (R8DB) and real-time EtherCAT® slave interface (R8rt).

SIRIUS® XHS
High-speed data acquisition system (15 MS/sec) with the new Hybrid ADC technology capable of high-bandwidth transient recording and very high-dynamic, alias-free data acquisition.

ALL-IN-ONE

Dewesoft hardware can perform a wide variety of measurement tasks. Every function is available in a single Dewesoft X software package.

MODULAR AND EXPANDABLE

Can you imagine FFT analyzer with thousands of channels? We can... Systems can be gradually expanded from one to unlimited number of channels.

TOTAL SOLUTION

Combine your NVH measurements with data recording, electrical power, combustion, vehicle dynamic and other powerful Dewesoft tools.

NO HIDDEN COSTS

Software license is included in every system. Free lifetime software upgrades included. No yearly maintenance or upgrade fees, free online training courses.

PLUG AND PLAY

Any device, sensor or signal. Smart sensors with TEDS are recognized automatically.

SIRIUS® MODULAR

Most flexible and distributable single slices with USB and EtherCAT® interface.

SIRIUS® MINI

Small and highly portable, USB powered data acquisition system ideal for acoustic, vibration, and rotating machinery analysis.

ACCELEROMETERS

	I1T-50G-1	I3TI-50G-1	I1TI-50G-2	C1T-100G-1	I1TI-500G-1	I1AI-500G-1	I3T-50G-1
Number of axis	1	3	1	1	1	1	3
Sensitivity	100 mV/g	100 mV/g	100 mV/g	50 pC/g	10 mV/g	10 mV/g	100 mV/g
Range	50 g	50 g	50 g	100 g	500 g	500 g	50 g
Type	IEPE	IEPE	IEPE	Charge	IEPE	IEPE	IEPE
Frequency range	+/- 5 %: 0.3 to 5000 Hz	+/- 10 %: 2 to 5000 Hz	+/- 10 %: 0.3 to 10 000 Hz	+/- 8 %: up to 5000 Hz	+/- 10 %: 1 to 10 000 Hz	+/- 10 %: 1.1 to 10 000 Hz	+/- 10 %: 0.3 bis 10 000 Hz
TEDS	yes	yes	no	no	yes	yes	yes
Features	Miniature size	Case isolated, triaxial	Case isolated, industrial	High temperature	Case isolated, modal	Ultra-miniature	Low noise, triaxial
Dimensions	10.2 x 10.2 x 10.2 mm	1 5.5 x 15 x 15 mm	17.5 x 42.2 mm	12.7 x 24.4 mm	19.4 x 12.7 x 16.1 mm	9 x 6 mm	12 x 12 x 11 mm
Weight	4.3 g	10 g	44 g	25 g	10 g	2 g	5.6 g
Temperature range	-51 °C … +85 °C	-51 °C … +85 °C	-51 °C … +121 °C	-51 °C … +191 °C	-40 °C … +85 °C	-51 °C … +121 °C	-51 °C … +82 °C

ANGLE SENSORS

	DS-TACHO2	DS-TACHO3	DS-TACHO4
Light source	LED	Laser (red class 2)	LED
Housing	Stainless steel	Stainless steel	Stainless steel
Cable length	2.5m cable	2.5m cable	5m optical fiber and trigger box
Frequency range	Up to 4kHz	Up to 4kHz	up to 1MHz
Distance to object	Up to 1m	Up to 7.5m	from 1-10 mm
Power supply	3-15VDC, 45mA	3-15VDC, 45mA	10-30VDC
Operating temperature	-10°C to +70°C	-10°C to +70°C	-10°C to +70°C
Dimensions	73mm length, 16mm diameter	73mm length, 16mm diameter	M6 x 20mm with 2.5m cable
Connector	L1B7m connector for SIRIUS and DEWE-43 counter input	L1B7m connector for SIRIUS and DEWE-43 counter input	L1B7m connector for SIRIUS and DEWE-43 counter input
Accessories	30cm reflector band	30 cm reflector band	1m reflector band with 2mm black/white grid

DS-TACHO1 - tacho level adapter	
Description	Converts analog tacho signal to digital signal with adjustable trigger level
Trigger/re-trigger level	±10 mV … ±2 V (adjustable with screwdriver)
Max input voltage	±50 Vdc, ±100 Vac
Power supply output	5VDC (max current depending on used Dewesoft device: e.g. DEWE-43:max 800 mA)

▲ MICROPHONES

	46BC 1/4" CCP Multifield Microphone Set, High Sensitivity	46AE - 1/2" CCP Free-field Standard Microphone Set	146AE - 1/2" CCP Free-field Rugged Microphone Set IP67	46BE 1/4" CCP Free-field Standard Microphone Set w/o cable	46DE 1/8" CCP Pressure Standard Microphone Set
Frequency range (±1 dB)	10 Hz-10 kHz	5 Hz-10 kHz	5 Hz-10 kHz	10 Hz-40 kHz	10 Hz-25 kHz
Frequency range (±2 dB)	4 Hz-20kHz	3.15 Hz-20 kHz	3.15 Hz-20 kHz	4 Hz-80 kHz	6.5 Hz-70 kHz
Dynamic range lower limit with GRAS preamplifier	Max 24 dB(A) Typical 23.5 dB(A)	17 dB(A)	18 dB(A)	35 dB(A)	52 dB(A)
Dynamic range upper limit with GRAS CCP preamplifier	142 dB RMS 145 dB Peak	138 dB	138 dB	160 dB(A)	174 dB
Set sensitivity @ 250 Hz (±2 dB)	20 mV/Pa	50 mv/Pa	50 mV/Pa	3.6 mV/Pa	/
Set sensitivity @ 250 Hz (±3 dB)	/	/	/	/	0.8 mV/Pa
IEC 61094-4 Compliance	WS3F	WS2F	WS2F	WS3F	manufactured within same tolerances
Temperature range, operation	-20 to 80 °C	-30 to 85 °C	-40 to 125 °C	-30 to 85°C	-30 to 70°C
Temperature range, storage	-40 to 85 °C	-40 to 85 °C	-40 to 85 °C	-40 to 85°C	-40 to 85°C
TEDS	yes	yes	yes	yes	yes
Weight	8 g	33 g	35 g	8 g	7 g

50GI-R CCP Intensity Probe with Remote Control	
Sound-intensity microphone pair 40GK, phase-matched	½" Free-field
Preamplifiers 26CB	Phase-matched
Frequency response and phase-matching	IEC 61043 class 1
Frequency range (±2 dB)	IEC 61043 Class 1
Frequency range with 100 mm spacer	30 Hz – 1 kHz
Frequency range with 50 mm spacer	80 Hz – 1.5 kHz
Frequency range: with 25 mm spacer	120 Hz – 5 kHz
Frequency range: with 12 mm spacer	200 Hz – 10 kHz
TEDS	yes
Weight	400g

IH-440N-1 MODAL HAMMER	
Number of axis	1
Sensitivity	50 mV/lbf (=11,24 mV/N)
Range	100 lbf (=444,82 N)
Type	IEPE
Frequency range	75 kHz resonance frequency
TEDS	yes
Features	modal hammer with TEDS
Dimensions	221 x 71 mm
Weight	100 g (head)
Temperature range	-40 °C … +65 °C

VIBRATION SHAKERS

Permanent Magnet Shaker			
	DS-PM-20	DS-PM-100	DS-PM-250	DS-PM-440
Output Force (Sinus)	20 N	100 N	250 N	440 N
Frequency range	0 - 12 kHz	0 – 7,5 kHz	0 – 5 kHz	0 – 5 kHz
Displacement (Pk-Pk)	5 mm	10 mm	25 mm	25 mm
Max Acceleration	30 g	45 g	80 g	80 g
Amplifier (Integrated, External)	I	I	E	E

Modal Shakers			
	DS-MS-20	DS-MS-100	DS-MS-250	DS-MS-440
Output Force (Sinus)	20 N	100 N	250 N	440 N
Frequency range	0 – 12 kHz	0 – 7,5 kHz	0 – 5 kHz	0 – 5 kHz
Displacement (Pk-Pk)	5 mm	10 mm	25 mm	25 mm
Max Acceleration	40 g	60 g	100 g	100 g
Amplifier (Integrated, External)	I	I	E	E

Inertial Shaker			
	DS-IS-5	DS-IS-10	DS-IS-20	DS-IS-40
Output Force (Sinus)	5 N	10 N	20 N	40 N
Frequency range	10-1000Hz	10-3000 Hz	10-3000 Hz	10-3000 Hz
Displacement (Pk-Pk)	1 mm	5 mm	8 mm	8 mm
Shaker mass	0,06 kg	0.21 kg	0.28 kg	0.5 kg
Amplifier (Integrated, External)	E	E	E	E

- Embedded power amplifier and sine generator for PM-20 and PM-100
- Lightweight, durable, portable and easy to use
- Adjustable trunnion base provides high degree of flexibility
- Broad frequency range

- Embedded power amplifier and sine generator for MS-20 and MS-100
- Modal stinger can be easily adjusted by the through-hole armature
- Lightweight, durable, portable and easy to use
- Adjustable trunnion base provides high flexibility
- Up to 25mm stroke and broad frequency range

- Compact and lightweight design
- Superior low-frequency performance
- Any angle mounting
- Low friction bearing guided

◭ ORBIT ANALYSIS

INDUSTRIES
Complete solution that improves the operating efficiency, lower wear, and prevent any potential critical failures of rotating machinery. Applied in a variety of industries, e.g. automotive, chemical,oil and gas, metals, HVAC or mining and in the majority of different power plants: Hydroelectric, Nuclear, Thermal, Gas, Coal, Biomass.

APPLICATIONS
Turbo machinery provides kinetic energy to operations enabling movement - a function that is widely used in industrial processes to move solids, liquids or gases through drivers, driven components and transmissions such as: Compressors, Drills, Generators, Turbines, Engines, Pumps, Blowers, Gearboxes.

**KEYPHASOR /
TACHO SENSOR**

◭ **DEWESoft® X**
SOFTWARE

Y PROBE

X PROBE

POWERFUL ANALYSIS
Complete set of functionalities and displays for turbomachinery monitoring: Raw, averaged and harmonic orbits, Time trends and Waveform, Bode plot, Polar plot, Full motion graph, Waterfalls, clearance circle, runout compensation, reference orbit and many more.

With fully-fledged and wholesome turbo machinery analysis, easy setup, intuitive presentation of measured data and industry leading measurement expandability orbit analysis measurement is reimagined the Dewesoft way.

DEDICATED ADVANCED PACKAGES
Dewesoft Orbit Analysis can be combined with Order Tracking and Advanced FFT with cursors to cover further analysis needs.

SOFTWARE INCLUDED
Award-winning DewesoftX software with powerful math and extensive analysis options included free of charge: mathematical analysis with visualization, sequencing and data export to a multitude of formats.

MULTI FUNCTIONALITY
Maximum measurement capabilities - functions with any Dewesoft DAQ system and sensors can be added to simultaneously capture temperature, vibration, video, strain, etc. in the same SW and perfectly synchronized.

ORBIT ANALYSIS

POST ANALYSIS
Offline calculation using raw signals from proximity probes.

TEDS SUPPORT
Plug-and-play with proximity probes that support TEDs.

MULTI-BRAND PROXIMITY PROBE SUPPORT
Dewesoft LV input on SIRIUS covers the needed ranges and supplies excitation to the majority of proximity probes.

Out of the box, Dewesoft Orbit Analysis packs the entire set of industry-proven analysis metrics, supporting calculation and graphical representation of: Time trends, Raw/Direct orbit, Orbit Waveform, Averaged orbit, Filtered orbit, Subharmonic orbit, maximum orbit dimensions, Polar plot, Bode plot, shaft centerline, full-motion graph, clearance circle, runout compensation, reference orbit, full spectrum, and a complete set of cascade plots and waterfalls.

MACHINE TRAIN SUPPORT
Simply add the number of desired bearings to the analysis.

MONITORING CAPABILITIES
Orbits (raw, averaged, H1, H2 etc.), FFTs, cascade plots, Bode plots and polar plots can be uploaded to our Historian database for long term condition monitoring.

EASY SETUP
Only a few steps from connecting the sensors to having stored all data. Post analysis: Offline calculation using raw signals from proximity probes.

HIGH ACQUISITION RATE
200kS/s sample rate enabling analysis of high speed rotors.

UNLIMITED CHANNEL COUNT
Catering any R&D measurement need, regardless of the number of bearings analyzed and/or proximity probes used.

HIGH DYNAMIC CAPABILITIES
Dual ADC converter technology, seamlessly covering 160dB dynamic range out-of-the box.

FFT ANALYZER

MULTIPLE MARKERS
Maximum marker, free marker, zoom marker, sideband marker, harmonic marker, RMS marker. Linked marker technology enable easy cuts from 3D to 2D graph, export and further analysis. Any edits on each of the graphs automatically applies it to the other as well. Including a dedicated marker table.

AVERAGING
Overall and block history averaged FFT with linear, energy, energy exponential and maximum averaging are available. Including different amplitudes settings: Linear, ASD, PSD, Power, ESD are available in Peak, RMS or Peak-Peak scaling.

ANY LINE RESOLUTION
The frequency resolution can be set freely with no module limitations, or selected to a value from a pre-defined list.

FFT analysis is one of the most used analysis tools across all application domains when it comes to identification and specification of content in measured data.

The FFT analyzer in Dewesoft has it all: top performance, advanced cursor functions, high freely selectable line resolution, flexible averaging as well as advanced functions for in-depth analysis.

CURSOR VALUE ESTIMATE
Innovative window interpolation technique allows precise amplitude and frequency estimation.

ADVANCED MATH
Auto-power spectrum, cross-power spectrum, complex spectrum, waterfall spectrum, cepstrum (for bearing faults, speech processing), full FFT (for rotor whirl analysis), STFT (for non stationary signals), envelope detection (for bearing fault analysis). Including direct integration & derivation of input parameters.

OCTAVE ANALYZER

SEAMLESS ACOUSTIC SUITE INTEGRATION
The Octave analysis module is perfectly integrated with sound level, sound power, sound intensity and other modules for advanced sound analysis.

FREQUENCY SOUND WEIGHTING
Standard frequency weighting curves (A, B, C, D and Z) can be applied directly in frequency domain for analysis of sound.

AVERAGING
Linear, peak and exponential averaging or block-based calculation.

RESOLUTION UP TO 1/24 OCTAVE
For deep analysis of data very narrow band analysis up to 1/24th octave.

Octave analysis is an indispensable tool for sound measurement as well as predictive monitoring. Dewesoft octave analysis solution meets all of the IEC and ANSI Class I specifications for octave filters.

SYNTHESIZED OCTAVE ANALYSIS
Extremely fast calculation based on the narrow band FFT. Offering the same high level of accuracy with optimal speed - especially useful with high channel count systems where performance is crucial.

TRUE OCTAVE ANALYSIS
True octave filters exactly represent the filter sets defined by the IEC 61260 standards and offer the user a real time response for vivid live visualization of data, crucial for advanced acoustic analysis.

⚠ ORDER TRACKING

PROXIMITY PROBES

RPM SENSOR

RICH VISUALIZATION
Frequency and order 3D waterfall plots provide a great tool to determine machine condition. Nyquist, Bode and Campbell plots are available for presentation of the data. Orbit analysis with raw or order view is an efficient tool for turbo-machinery analysis.

TIME, FREQUENCY AND ORDER DO-MAIN - AT THE SAME TIME
Due to high sampling rate (support) and advanced alias free resampling mechanism, data are available in all three domains (time, frequency and order), everything at the same time in one screen and data file, perfectly synchronized.

Determine the operation condition of rotating machines (resonances, stable operation points, determining causes of vibrations). even more powerful in combination with other math modules like torsional analysis, combustion or power analysis - the true EKG for machines.

ANGLE SENSOR SUPPORT
All angle sensors from tacho, encoder, geartooth, geartooth with missing or double teeth, tape sensors and others are supported to determine angle and rotational speed with 10nsec resolution using SuperCounter® technology.

ADVANCED MATH
Any order and time-domain harmonics can be easily extracted with amplitude and phase, available versus rotational speed or time in run-up or coast down modes.

ROTATIONAL AND TORSIONAL VIBRATIONS ◭

ANGLE SENSORS

EASY SENSOR SETUP
The Math module supports any type of sensor output, and the sensor type can be totally different at each end of the rotor. SuperCounter® technology provides 10ns resolution in determining rotational angle and speed.

ORDER TRACKING INTEGRATION
Closely combined with order tracking, advanced data analysis is available based on the same angle sensors as the source of frequency.

Rotational and torsional vibration module along with order tracking are a strong tool to troubleshoot shafts in automotive, industrial or power-generation applications.

ADVANCED MATH
Different input filters and rotational DC filters are available as well as the option to enter rotational speed ratio for gearbox analysis.

ACCESS TO ALL DATA
All data, such as reference angle, individual sensor rotational angle, speed and acceleration, torsional angle and velocity are readily available for advanced analysis.

◭ BALANCING

ACCELEROMETERS

RPM
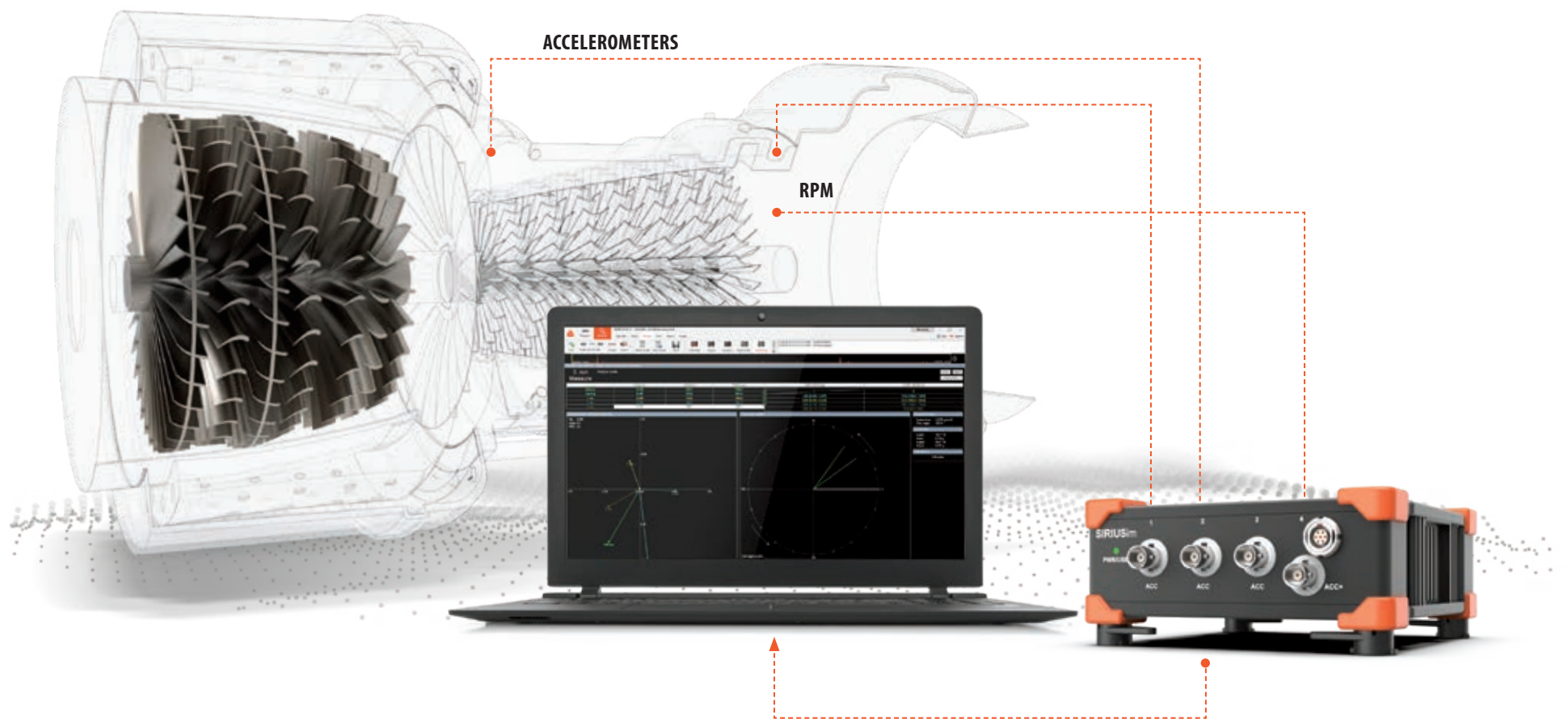
SINGLE OR DUAL PLANE BALANCING ON SITE

Perform single plane (narrow disc) or dual plane (long shaft) balancing.

WEIGHT SPLITTING

Adds the possibility to split needed balancing weight into equidistantly spaced points, for example holes on the rotor.

SIMPLE STEP-BY-STEP PROCEDURE

You are guided through the balancing steps for flawless operation including setup of angle sensor with live preview. Multiple modules can be combined for multi-axis balancing to save time and improve the quality of balancing.

Balanced rotors are essential for smooth operation of rotating machinery. Imbalance will create high vibrations, reducing machine life, causing material defects and down times. The balancing module is the tool to eliminate imbalance on site.

RICH VISUALIZATION

Results from all runs are displayed in order to ease a decision for the next steps and to evaluate the stability of the measurement. RPM display has color indicator to determine in-out range.

STORAGE OF INFLUENCE VECTOR

Influence vectors can be stored so that additional test runs are not needed for repetitive balancing of the same machine.

SHOCK RESPONSE SPECTRUM (SRS) ▲

SUPPORTED STANDARD
Shock response spectrum calculation according to **ISO 18431-4**.

DATA EXPORT
Data can be exported in virtually any data format used for NVH analysis.

SELECTABLE FREQUENCY SPAN
Freely definable calculation range for the frequency spectrum.

ADVANCED MATH
All relevant mathematics (positive max., negative max., maximax in either primary, residual or composite) are calculated. Results in frequency domain spectrum can be shown as acceleration, velocity or displacement. Support for pseudo-velocity and static acceleration determination.

EASY SETUP & USE
The setup of sensors and the system is fast and simple; automatic shock detection based on the threshold method.

DAMPING/QUALITY FACTOR
The selection of the damping ratio or quality factor is easily updated.

Mechanical shock pulses are often analyzed in terms of the shock response spectrum. The SRS assumes that the shock pulse is applied as a base input to an array of independent single-degree-of-freedom systems.

⚠ MODAL TEST / ANALYSIS

ACCELEROMETERS

FORCE SENSORS

MODAL SHAKER MS-250

ANALOG OUT

ODS

Operating Deflection Shapes (ODS) is a simple way to do dynamic analysis and see how a machine or a structure moves within its operational conditions. ODS tests are fully supported in Dewesoft X.

RICH VISUALIZATION

Sophisticated animation of measured structure with interpolation in all three axes is available - both during and after the measurement. Complete integration with the Modal Test & Modal Analysis modules allows for trivial selection of transfer functions or mode shapes to animate.

Structures can easily be created with a dedicated geometry editor that supports everything from individual points, up to simple objects, in both Cartesian and cylindrical coordinate systems. Alternatively, geometry can also be imported from an UNV file.

The Modal Circle tool determines the exact resonance and calculates the viscous or structural damping factor.

FINE-TUNING OF MEASURED DATA

With its rich displays, Dewesoft X allows for real-time quality control of the measurement, as well as the ability to repeat the measurement of any point, all during acquisition. Additionally, all the time-domain data is stored into a datafile, which allows for offline recalculation with different parameters.

Multiple measurements done on a large structure can easily be combined into a single datafile, to analyze the entire structure at once.
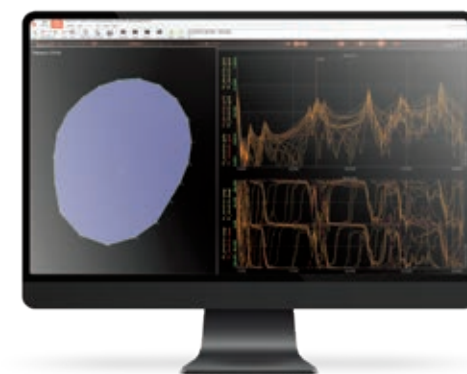
ADVANCED MODAL ANALYSIS

With the help of CMIF (complex mode indicator function) and LSCF curve fitting, finding the modes on the stabilization diagram is easy. Selected modes can be used to calculate mode frequencies, damping ratios, mode shapes, complexity, participation factors, synthesize FRFs, …

Calculated mode shapes can be animated on a modal geometry widget. AutoMAC matrix can be displayed on a 3D bar graph to ensure the modes are well selected.

UNV EXPORT

All data, from raw time domain signals and FRFs, to all the advanced outputs from Modal analysis, can be exported into a standard UNV file.

IMPACT HAMMER TEST (SIMO/MISO)

Hammer testing has never been easier than with Dewesoft X. Grouping, rejecting and remeasuring of measurement points is fully supported. Ability to move excitation and/or response points (roving hammer or responses) allows for full flexibility when performing measurements.

In addition to frequency response functions, coherence, (cross) PSD and MIF can also be calculated.

SHAKER TEST (MIMO)

To analyse the most complex structures, Dewesoft X supports tests with any number of shakers. Externally driven shakers are supported, as is controlling the shakers via AO using Dewesoft's function generator (burst random, continuous random, sine sweep, step sine tests).

H1 or H2 estimators are supported for calculating the FRFs. Multiple coherence (MCOH) can be calculated to help with the setup and measurement when using multiple shakers.

Modal test is an indispensable tool to determine the natural frequencies and mode shapes of any structure - offers easy to use operation with fast setup while providing rich visualization and animation of results.

SINE PROCESSING ▲

ACCELEROMETERS

SHAKER

DEVICE UNDER TEST

COLA

VIBRATION CONTROLLER
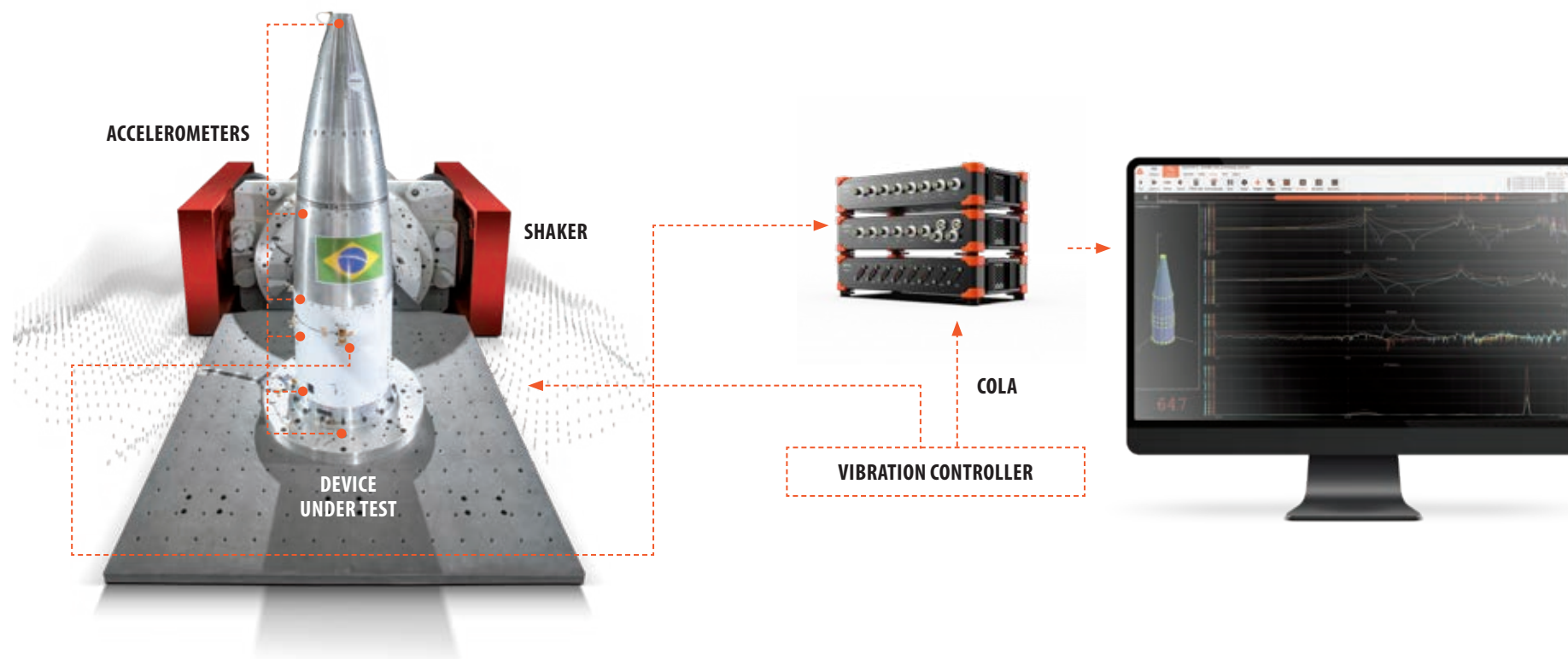
REAL-TIME CALCULATION
Peak, RMS, THD, phase, transfer functions for each available point in real-time and post-analysis.

FUTURE-PROOF APPLICATION
Lifetime free upgrades and support.

STORE AUTOMATICALLY
Automatic storing on desired trigger conditions.

TEDS SUPPORT
Save time by using TEDS accelerometers which are supported by DewesoftX and all Dewesoft hardware.

DATA EXPORT
Data can be exported in virtually any data format used for NVH analysis.

ONLINE AND OFFLINE ANIMATION
Determine the quality of results - animation of structure in all three directions with different projections during (and after) measurement.

> Structural dynamics characterization, durability and fatigue testing, design validation and qualification.

UNLIMITED NUMBER OF CHANNELS
Supports real-time calculation of an unlimited number of channels.

COMPLETE SINE PROCESSING TESTS
Directly integrates with your existing shaker and controller, needing only the COLA signal to sync perfectly.

EASY TO SET UP AND USE
Simply connect the accelerometers and COLA signal, assign the correct channels and start measuring.

DIFFERENT MODES OF FREQUENCY DETECTION
Zero crossing and Hilbert transform for detecting the exact frequency of the sweep produced by the shaker controller and driving the shaker through an amplifier.

UNMATCHED POWER OF CALCULATION
Runs octave and FFTs simultaneously on all channels and all in real-time.

DEWESOFT QUALITY AND FLEXIBILITY
Add additional parameters to the same measurement system and expand your measurement chain in seconds.

▲ SOUND LEVEL METER

UNMATCHED FLEXIBILITY
SLM supports sound measurements in both air or water, and can be combined with all other physical measurement parameters, vehicle bus systems, video, GPS and other math to build a thorough image of circumstances.

RICH VISUALIZATION
Flexible displays offering digital meters, analog bars, time domain recorders, narrow band FFT and octave analyzers can be freely combined to show your SLM data in real-time as well as in post-processing.

SUPPORTED STANDARD
IEC 61672 Class 1 sound level meter

ADVANCED MATHEMATICS - ALL AT THE SAME TIME
Predefined standard frequency weighting (A, B, C, D, and Z), time weighting (Fast, Slow or Impulse), sound pressure level, equivalent, peak, minimum & maximum sound pressure levels, sound energy, impulsivity of sound, statistical noise level (LAF1, 5, 10, 50, 90, 95 and 99 % classes of values) are all available at the same time.

Compliance with international standards. Maximum accuracy and high dynamic range have been re-imagined with the Dewesoft approach. Regardless of the acoustics measurement, SLM plugin is always at the heart of it.

HIGH DYNAMIC RANGE
Our top-of-the-class data acquisition hardware with 160 dB dynamic range in the time and frequency domain allows direct input of IEPE compatible microphones. Supports automatic recognition of microphones with TEDS. Dewesoft data acquisition systems can be scaled for any number of microphones which can be effortlessly calibrated with a calibrator.

SOUND POWER

SUPPORTED STANDARDS

Fully compliant with relevant sound power standards **ISO 3741,ISO 3743-1, 3743-2, ISO 3744, ISO 3745, ISO 6393, ISO 6394, ISO 6395 and ISO 6396.**

RAPID REAL-TIME AND OFFLINE CALCULATION

All calculated parameters are available during measurement as well as offline; rapid calculation of correction factors K1 (background noise measurement), K2 (room correction with integrated RT60 module), C1, C2 and C3 (deviations due to meteorological reasons - temperature and barometric pressure); support for raw time domain data storing and offline sound power calculation.

HEAVY MACHINERY

Includes measurement procedures for testing heavy machinery.

PREDEFINED REPORT

After testing, present your results using our pre-defined and yet flexible report templates.

GUIDED STEP-BY-STEP PROCEDURE

You will be guided step by step through the entire measurement procedure, with our clear and comprehensive user interface.

REVERBERATION TIME RT60

Expand your measurement with RT60 and perform room ratings yourself, using the same software interface. Template for absorption coefficient included!
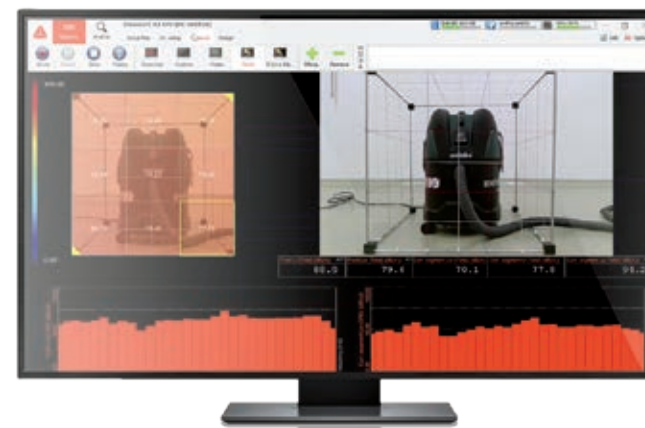
RT60 plugin sold separately.

Widely established sound power measurements with familiar, distinctive user interface and industry unmatched flexibility. Rating and comparison of different noise sources with ease and exactness while simultaneously monitoring any number of additional process parameters.
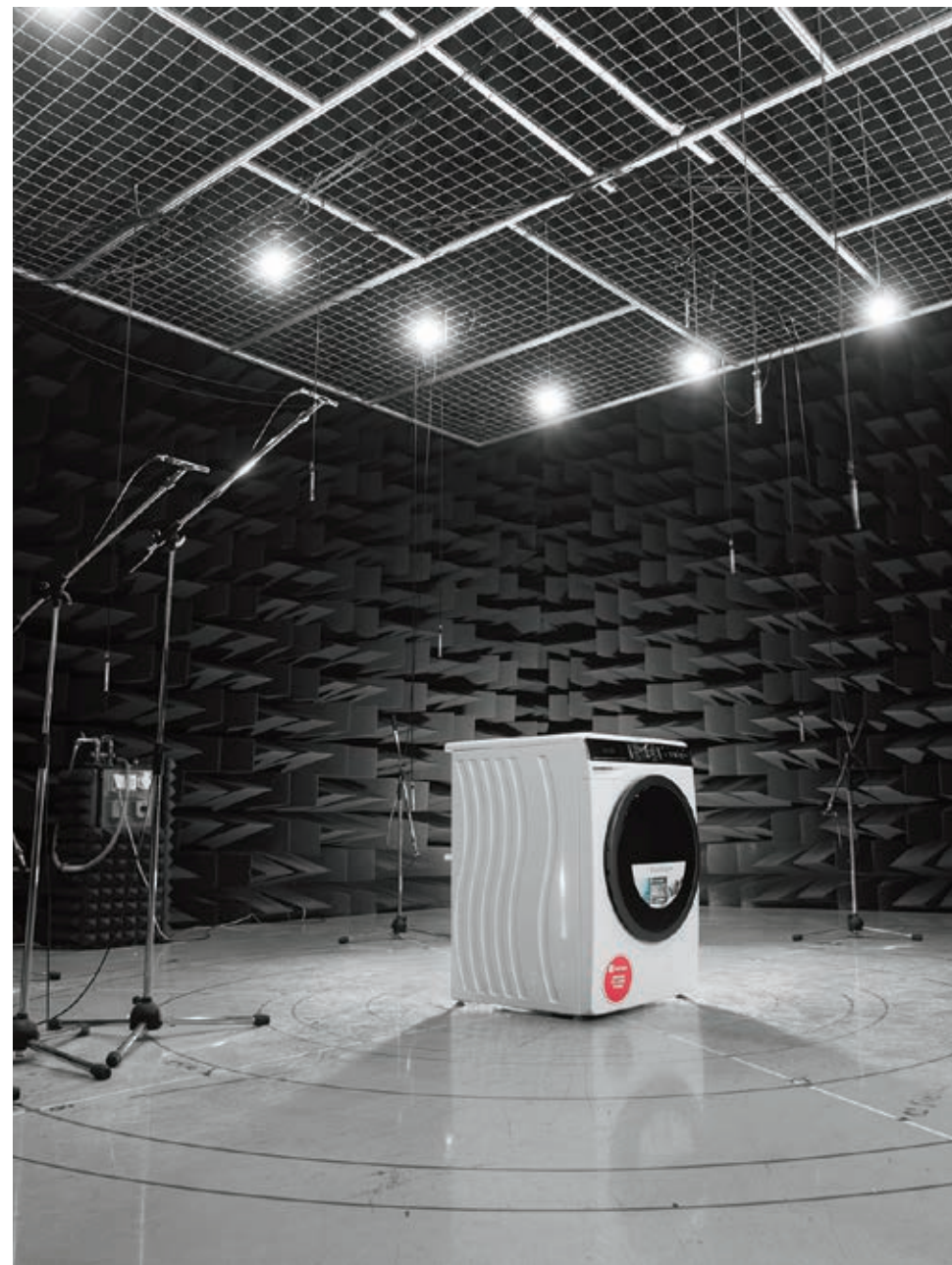
▲ SOUND INTENSITY

SUPPORTED STANDARDS
Complies to Sound Intensity-based Sound Power calculation - **Discrete points method (ISO 9614-1)** and **Scanning method (ISO 9614-2).**

IEC 61260 & IEC 61672
Using octave filters in compliance with IEC 61260 and complete measurement chain in compliance with IEC 61672 - worldwide valid calibrations can be ordered together with the system or done in your local calibration lab.

Noise source determination brought to an entirely new level. Sound intensity measurements in a simple and intuitive way with precision and flexibility unmached in the industry. For example: measuring process parameters and recording video in parallel.

ADAPTED FOR INDUSTRY
No need for a special environment - perfect for measuring on big chillers, transformers and other large-scale industrial applications.

SUPPORTED HARDWARE
Plug and play support for different intensity probes from all major manufacturers, integrating full remote control functionality.

UNMATCHED FLEXIBILITY
Measurement of additional process parameters like vibration, video and others, everything perfectly synchronized.

PHASE CALIBRATION
Straightforward, automated phase calibration and correction with a single button click. Evaluation of PRI index and all the standard indicators including the dedicated table for output of results and needed actions.

QUICK SOUND SOURCE IDENTIFICATION
Identify noise sources smoothly with an easy-to-use interface, perform rapid investigation with Logged intensity and a camera - automatically sinchronized

SOUND QUALITY

PROMINENCE RATIO
Calculation according to **ISO 7779**, freely definable frequency range and desired resolution.

LOUDNESS & SHARPNESS
Calculation according to **ISO 532-1** and **ISO 532-2.**

POWERFUL METRICS
Articulation index, speech intelligibility, noise rating and criterion.

MONAURAL AND BINAURAL ANALYSIS
Select desired measurement method before measuring or measure both at the same time.

FUTURE-PROOF APPLICATION
Lifetime free upgrades and support - our solutions are constantly being improved.

REAL-TIME AND POST ANALYSIS
Calculation of metrics is supported in real-time as well as in post-analysis.

TIME-VARYING AND STATIONARY SIGNALS SUPPORT
No limits when it comes to different use cases.

MEASUREMENT EXPANDABILITY
Bundled with award-winning DewesoftX Professional - advanced and easy-to-use data acquisition and analysis software.
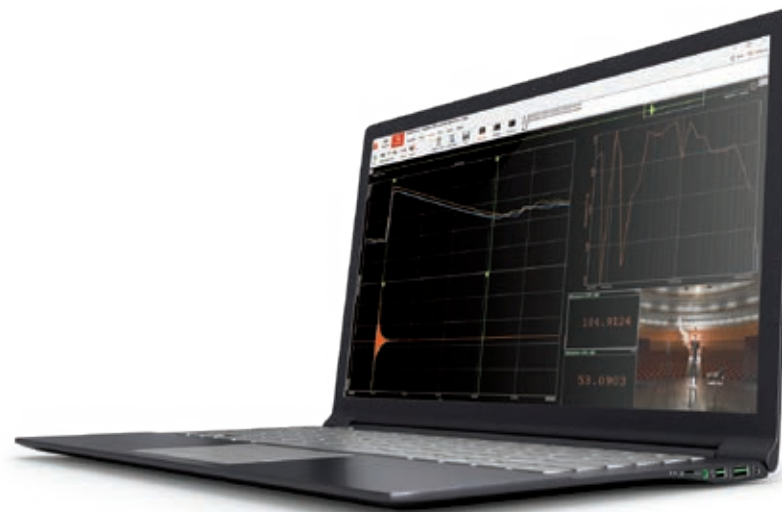
POWERFUL DAQ SYSTEM
Bundled with renowned SIRIUS DAQ system supporting sampling rates of 200kHz.

Product sound engineering Analysis and characterization of product sound. The indispensable tool for sound engineering - make your product sound right.

◭ REVERBERATION TIME RT60

PARAMETER ESTIMATION
Estimation of modal decay parameters from noise measurements of reverberant and reso-nating systems using **Lundeby method.**

When room acoustics properties are the issue, RT60 solution represents an essential tool. Easy setup enables reliable measurement for effective modifica-tion of room parameters and achieving desired reverberation time.

ABSORPTION COEFFICIENT CALCULATION
Calculate absorption coefficient and make a report with provided template.

EVALUATION RANGES
Different evaluation ranges for reverberation of time estimation are supported (T10, T15, T20, T30 & T60).

SUPPORTED STANDARDS
Fully complies with the **ISO 354** standard using integrated response method.

DIRECT MICROPHONE INPUT
Our data acquisition hardware with 160 dB dynamic range allows direct input of IEPE com-patible microphones with support for TEDS recognition. Data acquisition system can be scaled for any number of microphones.

HUMAN BODY VIBRATION ◭

HAND VIBRATION

SEAT VIBRATION

Measure the effect of vibration on the body of a human being. The extracted parameters allow the judgment of risks for workers exposed to vibration. Whole-body and hand-arm measurement is supported according to international standards.

HAND-ARM VIBRATION
Sensors are installed using special adapters for fixing on a handle or between fingers and dedicated hand-arm calculations are available including risk assessment of vascular disorders.

WHOLE-BODY VIBRATION
Applicable to motions transmitted from workplace machines and vehicles to a person's body through a supporting surface.

SUPPORTED STANDARDS
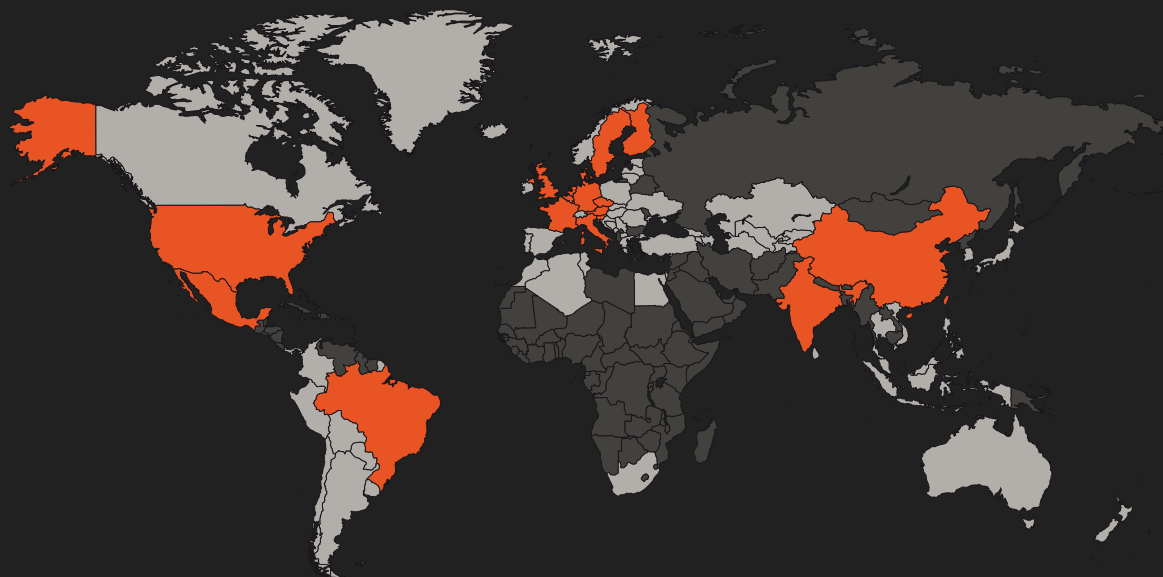Calculation in accordance with latest revisions of **ISO 5349, ISO 8041, ISO 2631-1, ISO 2631-5** and **ISO/TR 18570.**

ADVANCED MATH
All data like RMS, Peak, Crest, VDV, MSDV, MTVV, Weighted raw, al (ISO 2631-5), al and D (ISO 2631-5) are available.

DATA ANALYSIS
With its deep data analysis functionality. DewesoftX is the basis for R&D work related to the reduction of vibration.

DEWESOFT® WORLDWIDE: SLOVENIA, Austria, Belgium, Brazil, Czech, China, Denmark, Finland, France, Germany, Hong Kong, India, Italy, Mexico, Singapore, Sweden, UK, USA and PARTNERS IN MORE THAN 50 COUNTRIES

HEADQUARTERS
DEWESOFT SLOVENIA
Gabrsko 11A, 1420 Trbovlje, Slovenia
+386 356 25 300

www.dewesoft.com
support@dewesoft.com
sales@dewesoft.com

NVH-Brochure V23-2