DEWESoft®

AEROSPACE SOLUTIONS

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

7 YEAR WARRANTY

DEWESoft®

V24-1

TOTAL SOLUTION
Dewesoft hardware and software forms a total solution for all test and measurement applications.

MODULAR AND EXPANDABLE
Systems can be gradually expanded from one to thousands of channels for any measurement challenge.

NO HIDDEN COSTS
Free lifetime software upgrades, no maintenance fees.

AWARD WINNING DEWESOFTX
One software for all measurement applications. Fast learning curve, no programming needed.

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

PLUG AND PLAY
Any device, sensor or signal.

DEEP IN FUNCTIONALITY
Used in the most advanced research labs around the world.

FREE ONLINE COURSES
Learn how to measure and process data with Pro Training.

MEASURE SYNCHRONISED
Analog, digital, vehicle buses, navigation, video, data bus systems, outputs...

STORE EVERYTHING
High performance storing >500MB/sec, instant file loading, triggering, networked acquisition and cloud storage.

VISUALISE
Extensive visual control library, flexible displays, optimized graphics.

PROCESS AND ANALYZE
Extreme fast data review, advanced math libraries, power analysis, vehicle analysis, machinery diagnostics, acoustic.

REPORTING AND EXPORT
Inbuilt PDF and paper reporting tool, wide variety of export format, screen video export.

EXTEND
Sequencer, inbuilt C++ scripting, open interfaces for plugins, visual controls, export, DCOM, open network interface.

SIRIUS® HIGH-END DAQ SYSTEMS

SIRIUS® MODULAR

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

SIRIUS® SBOX

Synchronized, highly reliable data logger and powerful data processing computer.

SIRIUS® R4/R4rt/R4-HUB

Integrated solution with 4 SIRIUS slices and powerful SBOX computer or USB hub in one unit with real-time EtherCAT® slave interface.

SIRIUS® XHS

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

ANALOG OUTPUTS

SIRIUS slices can be configured with 8 analog outputs and function as a multi-channel function generator, can also do real-time signal conditioning, analog replay of data in analysis, and perform manual or automated control output with output voltage levels of up to +/- 10V.

HYBRID ADC TECHNOLOGY

Offers everything you ever wanted out of a high-end data acquisition system. High bandwidth and high dynamic mode available in parallel, software selectable per channel.

ISOLATED CAN BUS INTERFACE

High-speed CAN 2.0b channels with 1 Mbit/s data throughput with additional support for CCP, OBDII, J1939, and CAN output.

Our data acquisition systems are versatile, modular, easy to use and can work with any sensor with the highest precision imaginable. Input channel configurations are flexible and the input channel count can vary from 1 to 1000's of channels. Our measurement systems are flexible and can grow with you at any time in your measurement process.

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® R1DB/R2DB

Small-size instrument with embedded computer, 12″ display and batteries.

SIRIUS® R3

Up to 3 SIRIUS slices in a rack mounted lab unit with standard easy-to-upgrade computer.

HIGH ISOLATION

High channel-channel and channel-ground isolation prevents ground loops and damage to the system from excessive voltage.

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.

SENSOR POWER SUPPLY

Amplifiers provide channel-independent, programmable power supply for sensor excitation.

UNIVERSAL ANALOG INPUTS

A wide variety of universal and analog amplifiers that accept voltage and full/half/quarter bridge signals natively as well charge and IEPE accelerometers, thermocouple and RTD temperature sensors, current, resistance, and even LVDT sensors, with the use of DSI adapters.

DIGITAL/COUNTER/ENCODER INPUTS

Each counter channel is capable of 3x digital inputs, 1x event counter, encoder, period, pulse-width, duty-cycle, and precise frequency and angle measurement using patented SuperCounter® technology.

KRYPTON® RUGGED SYSTEMS

KRYPTON®

Ultra rugged and distributable data acquisition devices from -40 to +85 °C operating range.

KRYPTON® CPU

Compact, highly portable logger for data recording in harsh environments from -40 to +70 °C operating range.

KRYPTON® 1 SERIES

Distribute your measurements down to a single channel.

Rugged DAQ system that can be distributed down to a single channel and placed close to sensors. All DAQ systems offer IP67 degree of protection and are thus waterproof, dustproof, shock resistant up to 100 g, and can withstand a temperature range up to -40°C to 85°C.

MADE TO BE EXTREME

IP67, dust proof, waterproof, 100 g shock and vibration resistant, wide temperature operating range.

SINGLE CABLE

With up to 100 m between devices for power, data and synchronization.

DISTRIBUTABLE DEVICES

Locate your data acquisition hardware close to the sensors.

RUGGED SYSTEMS SIRIUS® AND SBOX

SBOXwe

Ultra rugged and powerful
data logger from -40 to +50 °C.

SIRIUS®iwe

High-end signal conditioning
in rugged form factor
from -40 to +60 °C.

Extremely rugged (IP67 degree of protection) and fully isolated data acquisition system for the most demanding testing in harsh environments. High-precision, high-dynamic, and high-bandwidth for all types of analog signals from IEPE to strain gages.

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® DAQ TECHNOLOGY

DualCoreADC®, high dynamic range 160 dB, high isolation, SuperCounter®.

MADE TO BE IP67 EXTREME

Dust-proof, water-proof, 100 g shock and vibration resistant, wide temperature operating range.

DATA ACQUISITION AND CONTROL DEVICES

OBSIDIAN® R8

Embedded data acquisition system based on a low power ARM processor with Linux-based open architecture. OBSIDIAN device can act as a standalone data logger, real-time control system, and signal conditioning front-end - all at the same time.

IOLITE®R8/R8r

SIRIUS form chassis with up to eight slots, dual EtherCAT® interface and redundant power supply - also available in rugged chassis.

IOLITE®R12

19" rack version with up to twelve slots, dual EtherCAT® interface and redundant power supply.

REMOTE OVERVIEW

Simple indicating system (LED light) or usage of the advanced mobile application provides and easy overview of health and status of the device.

STAND-ALONE DATA RECORDER

OBSIDIAN can autonomously store analog, digital and positional data from virtually any object for months on either internal storage, removable SDHC card with up to TB capacity or USB-C external disc.

REDUNDANT POWER SUPPLY

Together with dual EtherCAT® interface provides maximum system reliability.

GREAT SIGNAL CONDITIONING

High-quality IOLITE amplifiers compatible with IOLITE or OBSIDIAN device, offer great signal quality and up to 20 kHz sampling rate.

DUAL EtherCAT®

IOLITE and OBSIDIAN devices use two EtherCAT® buses in parallel. The EtherCAT® primary bus is used for full speed buffered data acquisition to a computer. The EtherCAT® secondary bus is mainly used for real-time data to any 3rd party control system.

Our data acquisition devices are capable of storing hundreds of analog and digital channels at full speed while allowing parallel data to be sent out in real-time to any 3rd party EtherCAT® master controller. We have brought the worlds of data acquisition and real-time control closer together - this will save you time and money in a big way.

IOLITE®

Standalone, distributed, and cost-effective data acquisition device with high-end signal conditioning for monitoring and industrial applications.

IOLITE®

Distributed, cost-effective single channel data acquisition device with high-end signal conditioning.

SIRIUS® R8DB/R8rt

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

GREAT PRICE/PERFORMANCE

IOLITE and OBSIDIAN offer great price/performance ratio and is suitable for test-bed and industrial applications.

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.

WIDE OPERATING TEMPERATURE RANGE

While IOLITE and OBSIDIAN DAQ systems are labelled to run at -10°C.. 50°C, certain configurations can operate in the -40°C .. +85°C temperature range.

MULTIPLE CHASSIS OPTION

IOLITE can be configured in the 19-inch cabinet compatible chassis or in more rugged SIRIUS-like compatible chassis (SIRIUS R8rt, SIRIUS R4rt, SIRIUS R2rt).

DUAL MODE

The EtherCAT® slave interface can be used to provide real-time data to a 3rd party control system, while the internal bus allows full-speed recording via DewesoftX software in parallel. Finally, the worlds of data acquisition and control have come together in one system!

INSTRUMENTS AND ADAPTERS

DS-CAM

High-speed and rugged video cameras with full synchronization capability and real-time picture compression.

MINITAURs

Versatile mixed signal data acquisition instrument and multichannel data logger with cutting edge technology at an attractive price.

DEWE-43A

Award winning versatile data acquisition device with unmatched price/ performance ratio..

SIRIUS® MINI

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

CURRENT CLAMPS

High-accuracy sensors for AC and DC current measurement. From current clamps, Rogowski coils to high-precision zero flux current transducers.

ACCELEROMETERS

Single axis, triaxial accelerometers and impulse hammers for vibration measurement and structural modal analysis.

DSI ADAPTERS

Will turn your channel in truly universal amplifier for 200V, thermocouple, RTD, IEPE, charge, current or LVDT.

DS-BP2I, DS-BP4I

Hot-swappable Li-ion battery solutions with the best weight-to-energy ratio (90 Wh for BP2i, and 180 Wh for BP4i).

DS-DISP12

Rugged, high brightness and resolution LED display for mobile, in-vehicle test and measurement applications.

CAN(FD) INTERFACES

Multichannel USB and single channel EtherCAT® CAN BUS. Software with support for OBDII, J1939, XCP/CCP, CAN transmit, DBC and AUTOSAR XML files.

SIRIUS® PCM FS2

A small, single-source hardware package that combines PCM frame sync/decomm with PCM encoder capabilities in a small, lightweight, powerful package changing the game in PCM hardware and capabilities.

ANGLE SENSORS

A range of tacho and tape angle sensors can be used in applications like order tracking, rotational and torsional vibrations.

SIRIUS® PCM FS2

A small, single-source hardware package that combines PCM frame sync/decomm with PCM encoder capabilities in a small, lightweight, powerful package changing the game in PCM hardware and capabilities.

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.

PCM OUTPUT

One channel can be used as an output for use as a PCM simulator, Chapter 10 playback, and PCM encoder allowing troubleshooting or a front-end solution.

EXPANDABILITY

Multiple units can be easily connected creating higher channel counts.

FLEXIBILITY

2xPCM is system agnostic. Adding the 2xPCM can be added to other systems via the software.

DUAL-CHANNEL PCM INTERFACE

Each 2xPCM is capable of receiving two channels of clock and data on a single-ended or differential input. Speeds up to 40 Mbps input are set allowing data, video, and audio bandwidth inputs. If additional input channels are required, the 2xPCM can be connected with additional 2xPCM units providing the inputs required. The stackable design allows quick, secure connections.

STANDALONE OR FULL GROUND STATION

Additional Dewesoft hardware is not required for the 2xPCM. If you have an existing PCM stream, you can flow that data through the 2xPCM and the Dewesoft hardware package with the PCM plugin. Combine that with analog ins, chp 10, PCM, 1553/429, iNet, serial, GPS, video, digital, and even CAN data. You will have a single source for all information within a code-free software environment.

PCM OUTPUT

Channel 1 can be set from an input to an output which allows the 2xPCM to be used as a PCM simulator or encoder. This output signal can be simulated via software allowing the user to simulate the PCM stream or playback a Chapter 10 recording.

All collected Dewesoft parameters within the software can be transmitted as well for the 2xPCM to be a true encoder in any application. Pair this with the IRIG 108 Chapter 10 plugin capabilities, you now have a small addition to the Dewesoft suite that will now broadcast and receive PCM meeting the needs of your testing requirements.

COMPACT SIZE FOR ANY APPLICATION

Weighing in at less than 2 pounds and with the dimensions of 5.5 in X 5.5 in X 2.5 in. This small, lightweight PCM hardware can be used in all settings such as on aircraft or inside a control room with a very little footprint or weight. When used on aircraft, the 2xPCM can be placed in unconventional areas and is not constrained to standard mounting conventions. In a control room, the 2xPCM can easily fit on top of, or behind a tower-based CPU and within a 19" rack with the low intrusion. The design is also small enough to take with a small windows based tablet and perform ramp/ launchpad test and checkouts with no additional power required as the power source are the tablet. The design was based on multiple usage cases. Take the 2xPCM out on the ramp, then throw that same unit in the control room without the worries of durability.

SYSTEM GROWTH

2xPCM can be added to any and all existing Dewesoft equipment which adds PCM hardware and software in single-time sync'd location to new or existing systems.

INPUT SPEED

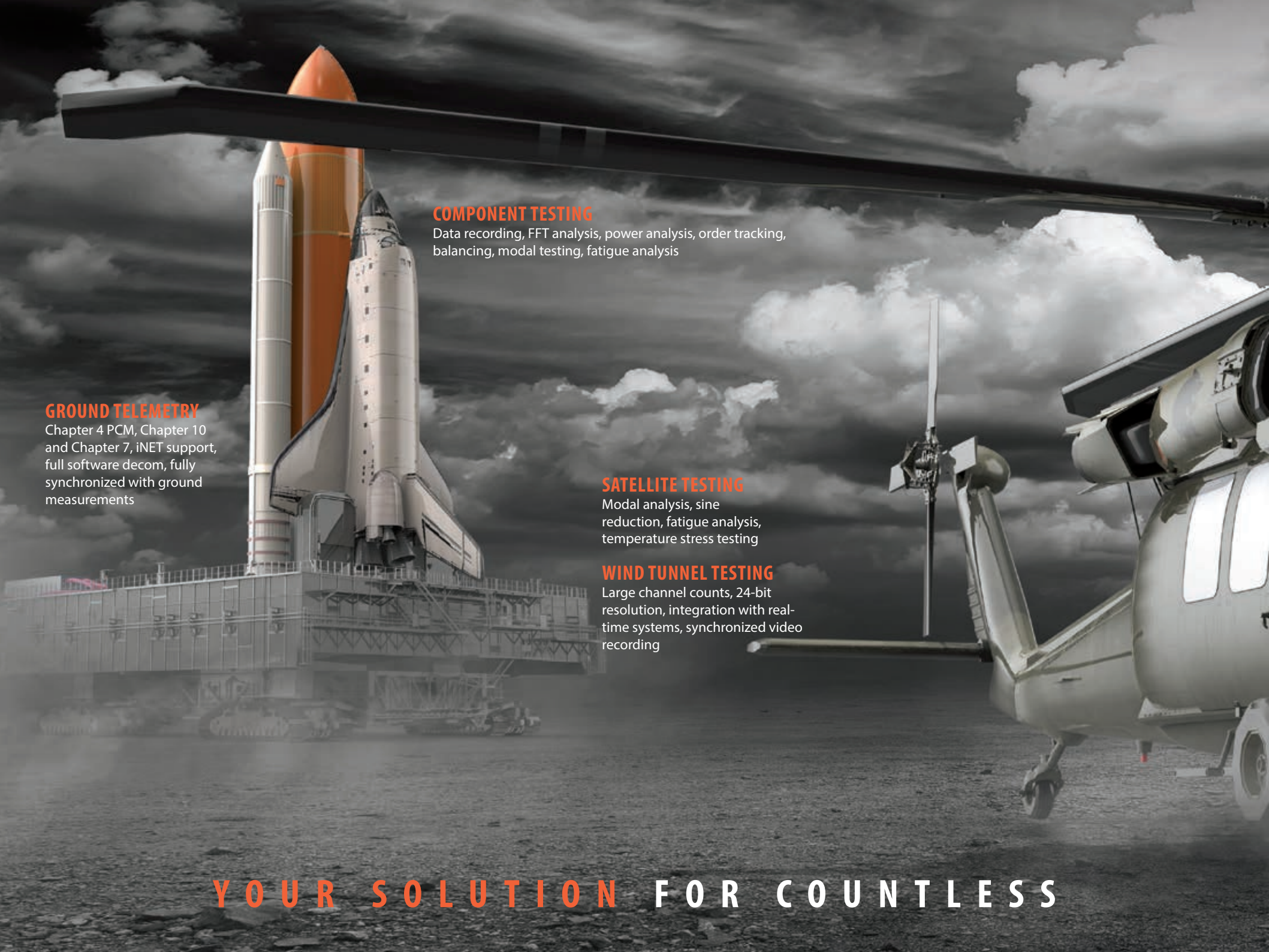
Capable of receiving two independent streams of 40 Mbps clock and data streams into a platform-independent solution.

COMPACT SIZE

The small size with its super lightweight allows its use in applications such as backpacks, test and checkout carts, even onboard the test article.

USB DEVICE

Communication is done via USB. IRIG time can be passthrough or inputted via IRIG BNC ports. Dewesoft sync ports allow time sync connections between all capable equipment for ease of time sync capability. 2x single-ended and Diff connection are on the front plate for each of the two channels.



COMPONENT TESTING

Data recording, FFT analysis, power analysis, order tracking, balancing, modal testing, fatigue analysis

GROUND TELEMETRY

Chapter 4 PCM, Chapter 10 and Chapter 7, iNET support, full software decom, fully synchronized with ground measurements

SATELLITE TESTING

Modal analysis, sine reduction, fatigue analysis, temperature stress testing

WIND TUNNEL TESTING

Large channel counts, 24-bit resolution, integration with real-time systems, synchronized video recording

YOUR SOLUTION FOR COUNTLESS

ENGINE TESTING

Large number of channels >1000, extreme storing speeds, real time data for test bed control systems

EXPERIMENTAL FLIGHT TESTING

Data recording, multiple vehicle tracking, Arinc 429, MIL-STD 1553, vibration analysis, PCM output

LAUNCH PAD INSTRUMENTATION

Rugged systems for extreme environment, distributed data acquisition, perfect synchronization

AEROSPACE APPLICATIONS

TELEMETRY IRIG CHAPTER 4 PCM

INDUSTRY STANDARD

Dewesoft Decom is widely used in most advanced telemetry labs around the world working closely together with major vendors of flight recorders and ground equipment.

PCM TELEMETRY FRAME SYNC

The SIRIUS PCM-FS2 instrument is a dual frame sync IRIG Class II decommutator with up to 40 MBit/s data rates.

SOFTWARE DECOM

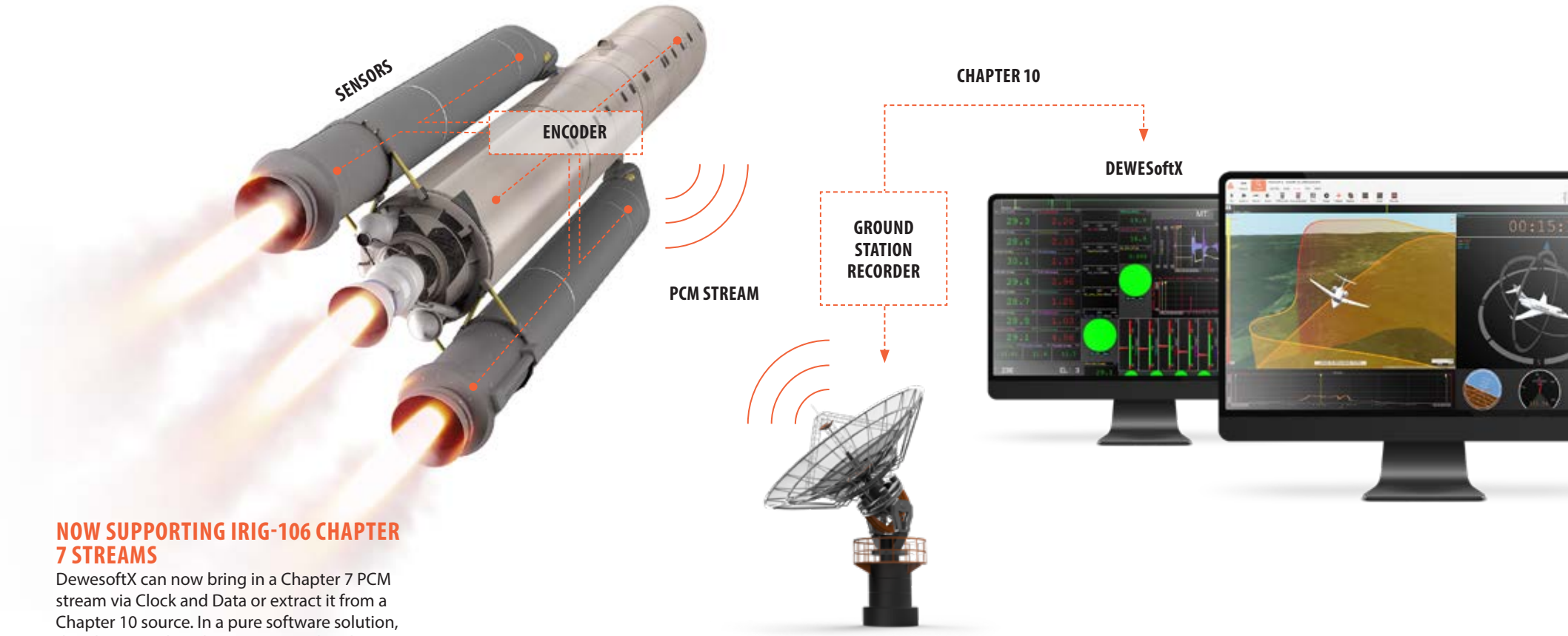
Our software decommutator offers full range of decoding for normal commutated, super and sub commutated parameters, embedded frames, and fast switching.

Decode and visualize data from telemetry IRIG Chapter 4 PCM compliant data interfaces.

PCM ENCODER

Dual PCM output up to 40 MBit/s in real time from Dewesoft analog data, Chapter 10, simulated data and other sources.

IRIG CHAPTER 10 AND INET TELEMETRY



NOW SUPPORTING IRIG-106 CHAPTER 7 STREAMS

DewesoftX can now bring in a Chapter 7 PCM stream via Clock and Data or extract it from a Chapter 10 source. In a pure software solution, the Chapter 7 decoder can extract the Chapter 10 packets from a PCM carrier to be processed in real time by Dewesoft's total telemetry solution.

ONE SYSTEM SOLUTION

A single system solution with integrated digital receiver and PCM processing.

ONLINE AND OFFLINE MODE

DewesoftX can read and process stored CH10 files as well as connect live to an Ethernet CH10 stream during the mission.

Complete IRIG-106 Chapter 10 acquisition and analysis solution for every kind of data source used today.

iNET

Data decoding from up-to-date telemetry standards.

IRIG-106 CHAPTER 10

DewesoftX can fully decode, visualize and analyze Chapter 10 data from PCM, analog, video, MIL-STD-1553, ARINC-429, serial, Ethernet, CAN and GPS streams inside the CH10.

RAW DATA

Raw data are always stored - providing optimal possibilities for offline data processing.

SYNCHRONIZED ACQUISITION

All data sources are synchronized down to microsecond accuracy using GPS or IRIG time.

TELEMETRY REAL-TIME FLIGHT DISPLAYS

NET OPTION INTERFACE

Client/Server configuration to allow an unlimited number of workstations to connect to one server.

STANDARD VISUAL DISPLAYS

Real time horizontal and vertical recorders, scopes, FFT, Digital Meter, Analog meter, bar graphs, XY Plots, Overload indicators.

ADVANCED AEROSPACE WIDGETS

Attitude indicator, Discrete text displays, Discrete and static image displays, 3D model and terrain mapping, video, gps 2D mapping and telemetry video displays.

Real-time displays in Dewesoft for all data coming into mission workstations.

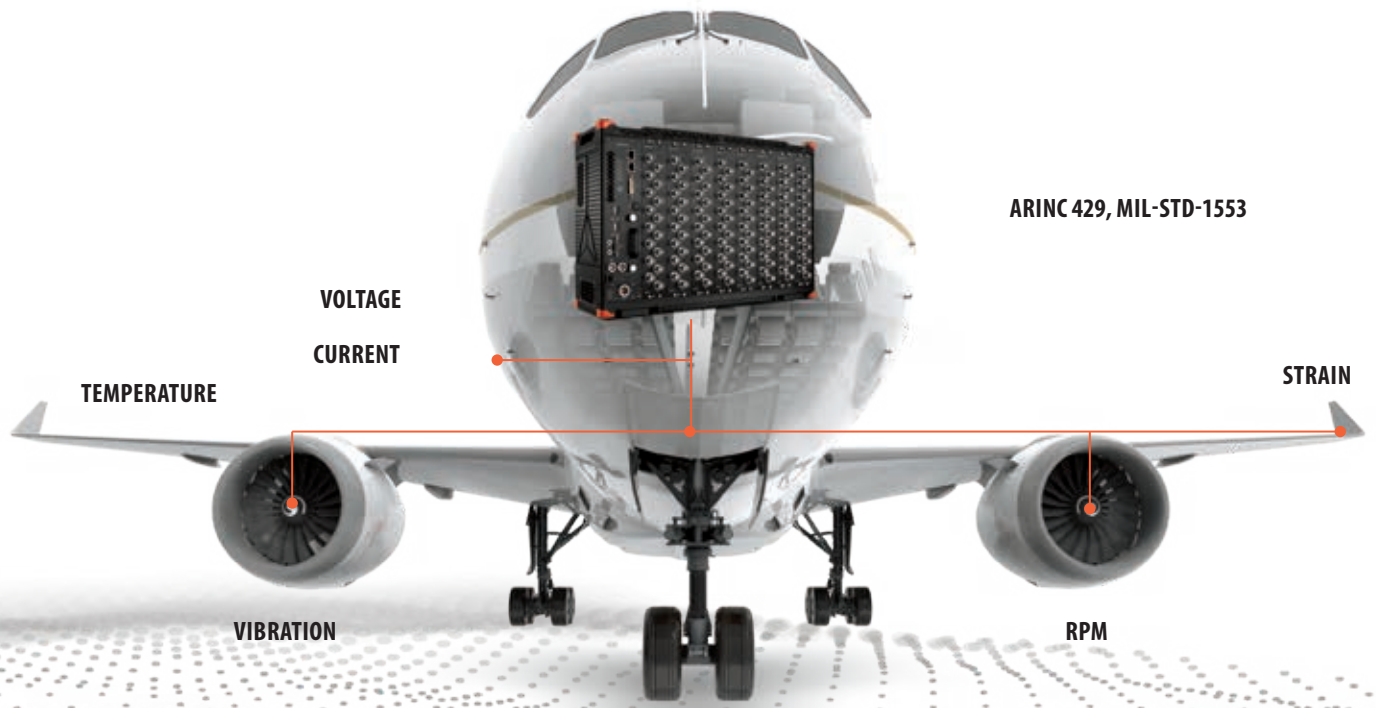
ONLINE AND OFFLINE MODE

DewesoftX allows for same display capabilities in real time and post analysis.

GROUND STATION DISPLAYS

Single computer can run multiple monitors, multiple view clients can visualise the data.

EXPERIMENTAL FLIGHT AND GROUND TESTING



REAL TIME ANALYSIS

A wide variety of data analysis tools provide real-time and post-mission capabilities. Among other applications, Dewesoft offers human body vibration analysis according to ISO 5349, ISO 8041, ISO 2631-1 and ISO 2631-5.

VERSATILE HARDWARE

Synchronous acquisition of analog voltage, strain, acceleration, temperature, digital, counter, video, 2 cm RTK GPS and IMU sensor, ARINC-429 and MIL-STD-1553, CAN and many others – fully synchronized.

Dewesoft offers hardware and software for to test any vehicle.

AVIONICS AND 3D MAP TOOL

Extremely powerful map and vehicle visualization tool supports mapping with satellite and height maps, vehicle visualization with yaw, pitch and row, different view angles and path tracking.

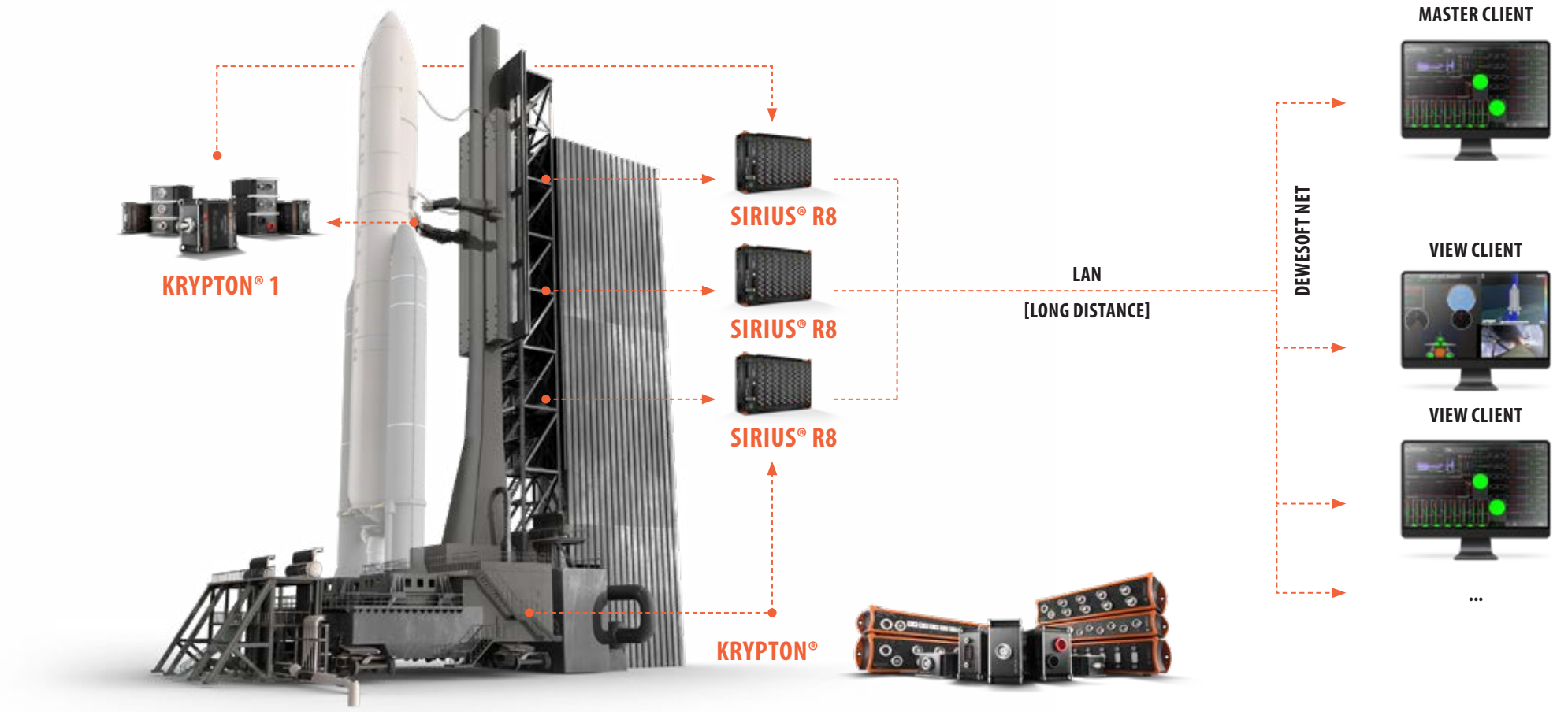
UNIVERSAL

Suitable for ground and experimental air (high G testing, performance testing) applications.

POLYGON

Easy definition of test with math analysis polygon with multiple vehicles, track, cones, gates and other static objects for all kinds of handling and flight dynamic testing.

HIGH CHANNEL COUNT DATA RECORDING



UNLIMITED CHANNEL COUNT

Dewesoft systems can acquire data from thousands of channels from any combination of sensors – even at extremely high sample rates.

RUGGED SYSTEMS

Dewesoft systems are qualified to be used in the most rugged conditions with high temperature, shock and vibration.

REAL TIME VIEW CLIENTS

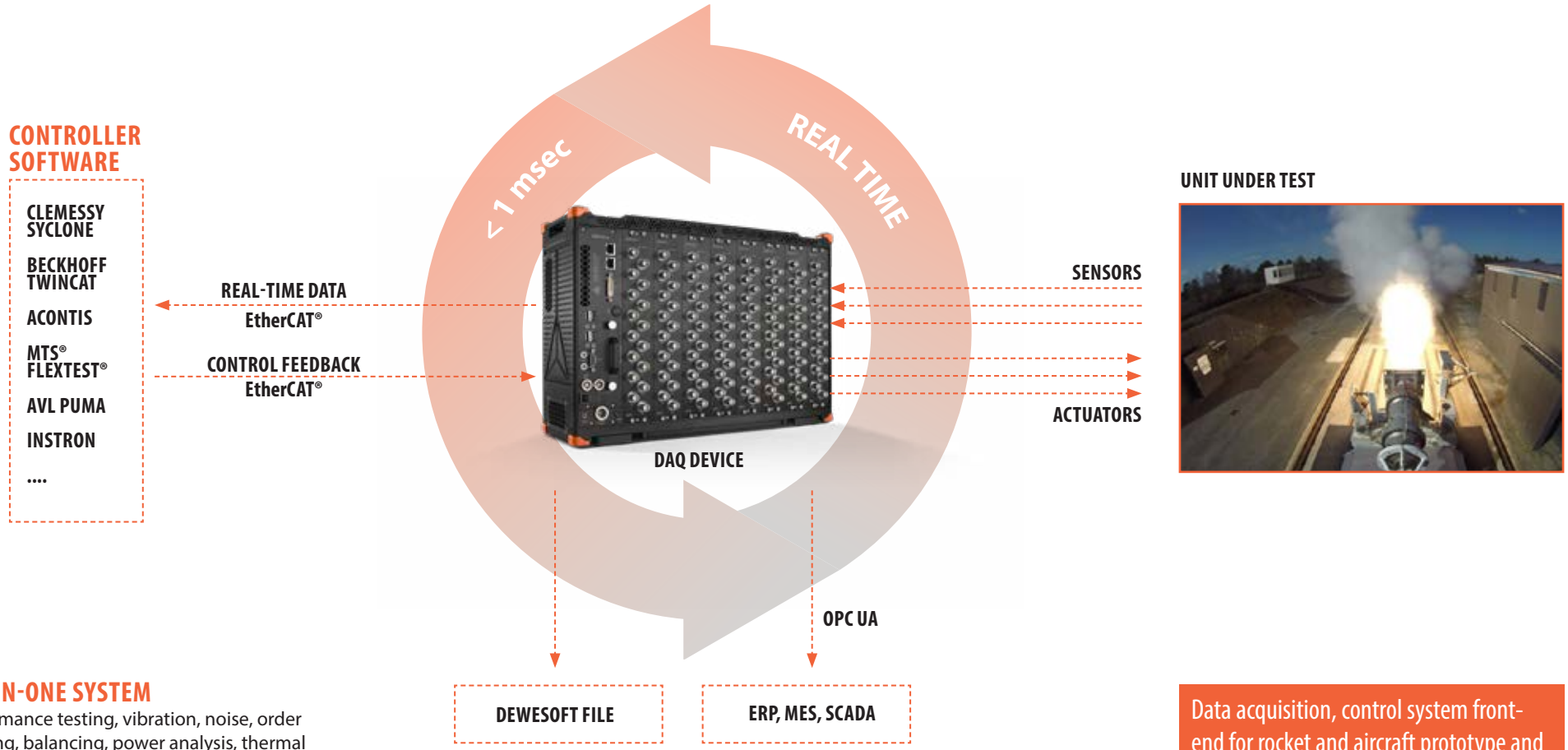
Data can be observed in real-time by any number of view clients, located anywhere on the network.

Dewesoft system are widely used for data acquisition for launch platforms all around the world.

DISTRIBUTED DATA RECORDING

Virtually unlimited number of channels, synchronized to any external time source. Example: install systems with small or large channel counts at different locations (launch gantry, control room, etc.) and stream data in real-time to a central client. Data are also stored locally in case of network fault, and can be re-synchronized with the central data.

REAL-TIME CONTROL SYSTEM FRONT-END



ALL-IN-ONE SYSTEM

Performance testing, vibration, noise, order tracking, balancing, power analysis, thermal and stress testing – these are just a few Dewesoft application areas.

TIME SAVING

By using one system for data acquisition and control, the time required to setup the test bench is reduced typically by 40%.

DATA MONITORING

Test operators can monitor the tests from a safe distance using Dewesoft NET distributed technology.

REAL TIME OUTPUT

Measured data can be transmitted in real-time to test bench control systems (such as the Syclone from Clemessy) with latencies below 1 ms using a second EtherCAT® output, fully parallel with the data acquisition. This greatly reduces system complexity and costs - and improves results.

COST SAVING

Conditioned data are sent digitally, reducing complexity and eliminating conversion and re-conversion errors and inefficiencies.

FLEXIBLE CONFIGURATION

More than 1000 simultaneous channels – and extreme storage speeds.

Data acquisition, control system front-end for rocket and aircraft prototype and production testing.

FFT / OCTAVE ANALYZER

ADVANCED MATH
Autospectrum, cross spectrum, complex spectrum, waterfall spectrum, cepstrum (for bearing faults, speech processing), two sided full FFT (for rotor whirl analysis), STFT (for non-stationary signals), envelope detection with bearing database (for bearing fault analysis).

RESOLUTION UP TO 1/24 OCTAVE
For deep analysis of data, we provide narrow band analysis down to 1/24th octave.

FFT WITH ANY LINE RESOLUTION
Selectable line resolution up to 64,000 lines for most demanding tasks.

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

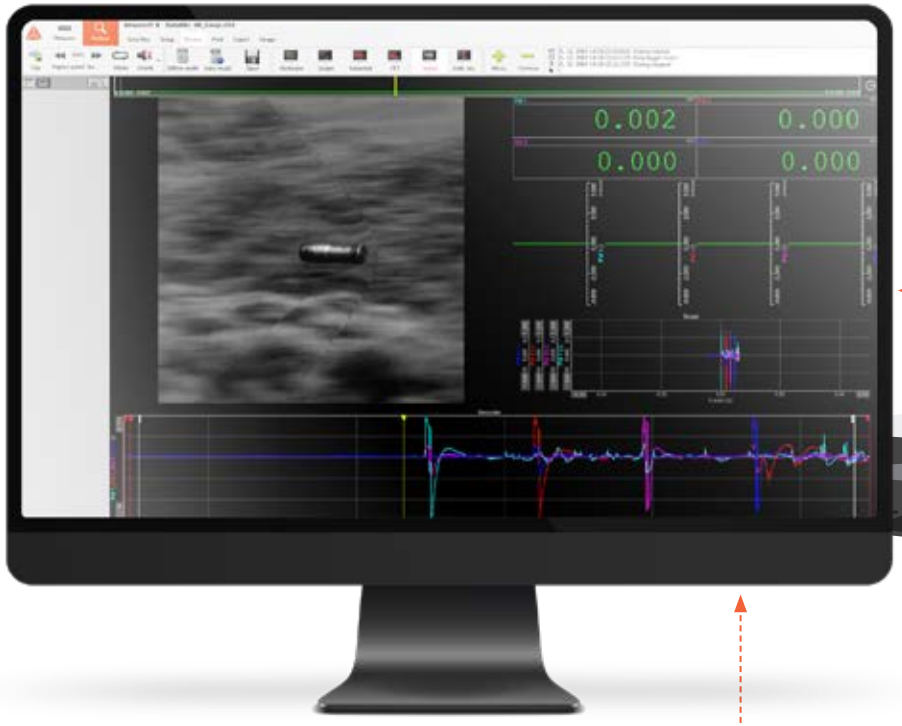
FFT CURSORS AND MARKERS
Dewesoft FFT display includes maximum marker, free marker, zoom marker, sideband marker, and harmonic marker.

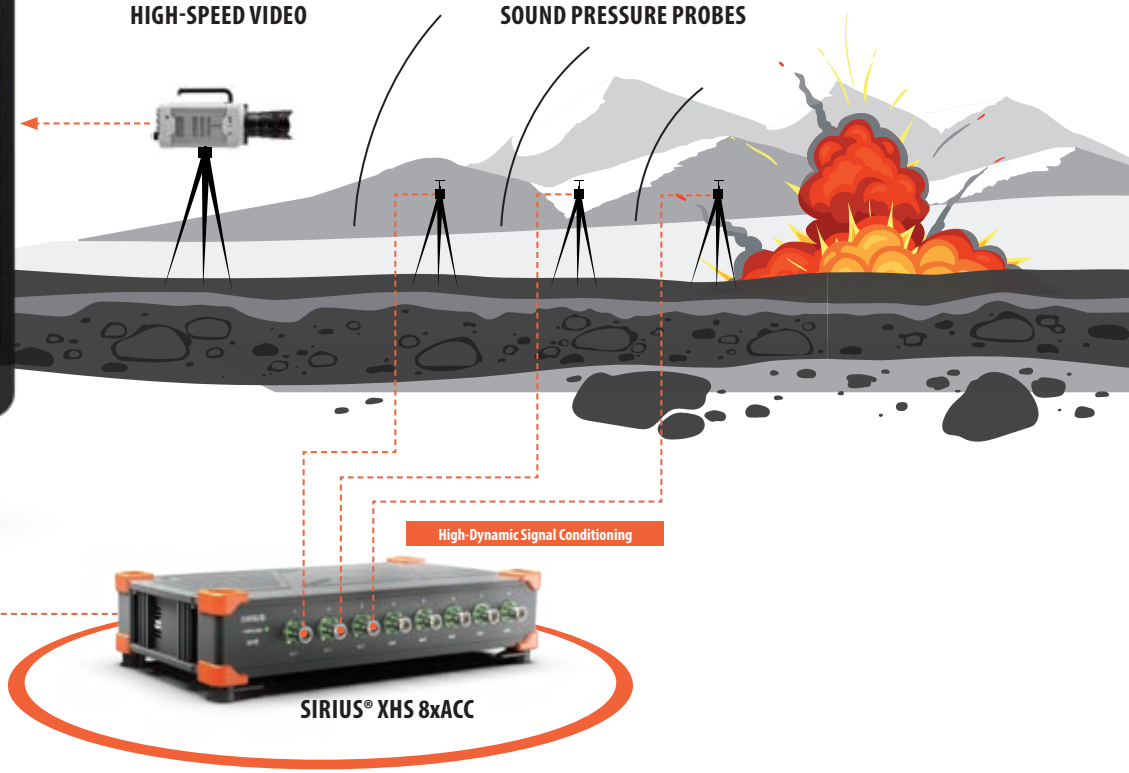
Frequency and octave analysis is the basis of any NVH task. The FFT and octave analyzer in Dewesoft software is the ideal tool for predictive maintenance, structural analysis, and sound & vibration analysis

FREQUENCY AVERAGING
Block history with linear, peak, exponential averaging or overall calculation is available.

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

HIGH-SPEED AND TRANSIENT RECORDING





VARIOUS SOURCES

Dewesoft can acquire high-speed video and other data sources with perfect synchronization.

ROBUST, ISOLATED CONDITIONING

Dewesoft signal conditioners acquire voltage, IEPE, charge, strain, high voltage or current signals – and all fully isolated from other channels and ground.

TRANSIENT RECORDING

Advanced triggering capabilities in all Dewesoft systems allow you to capture any event.

STREAMING

When there's no way to predict the trigger event in advance, data can be streamed continuously to disk, at speeds up to and beyond 500 MB/sec! This is also ideal for unrepeatable events like spacecraft launch, or destructive tests.

Dewesoft can acquire high-speed data from transient events including lightning, power supply interruption, blast and explosion testing.

BALLISTICS AND MUNITIONS TESTING

These applications typically require synchronization of a variety of data sources, including pressure sensors, and other sensors distributed at the impact site. Dewesoft can synchronize remote and local measurements, and even integrate high-speed video with the data.

COMPONENT AND WIND TUNNEL TESTING

PORTABLE, RACK AND HIGH SHOCK SYSTEMS
Built to last, Dewesoft hardware works where other systems simply don't.

ONE SYSTEM FOR FIELD AND LAB TESTING
The same system can be used in your test bench AND for troubleshooting in the field. No one else offers this kind of flexibility in the same instrument.

BUS SYSTEM TESTS
Analysis of data from vehicle bus systems (ARINC, etc.).

MECHANICAL PARAMETERS
Measurements of deformation, fatigue, vibration, torque, RPM, displacement, and much more.

Dewesoft offers wide variety of solutions for component testing.

ADVANCED PROCESSING
NVH, Sound analysis, Rotating machinery analysis, Structural dynamics, Power analysis and much more.

WIND TUNNEL TESTING
large channel count systems perfectly synchronized, applications in subsonic, transonic, supersonic and hypersonic applications

ELECTRICAL PARAMETERS
Measurement of high voltage, current, resistance, power, energy, efficiency.

TEST BED INTEGRATION
The EtherCAT® slave port can feed the data to any EtherCAT® master controller in real-time. Dewesoft offers very easy integration with any control system using a single Ethernet interface.

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

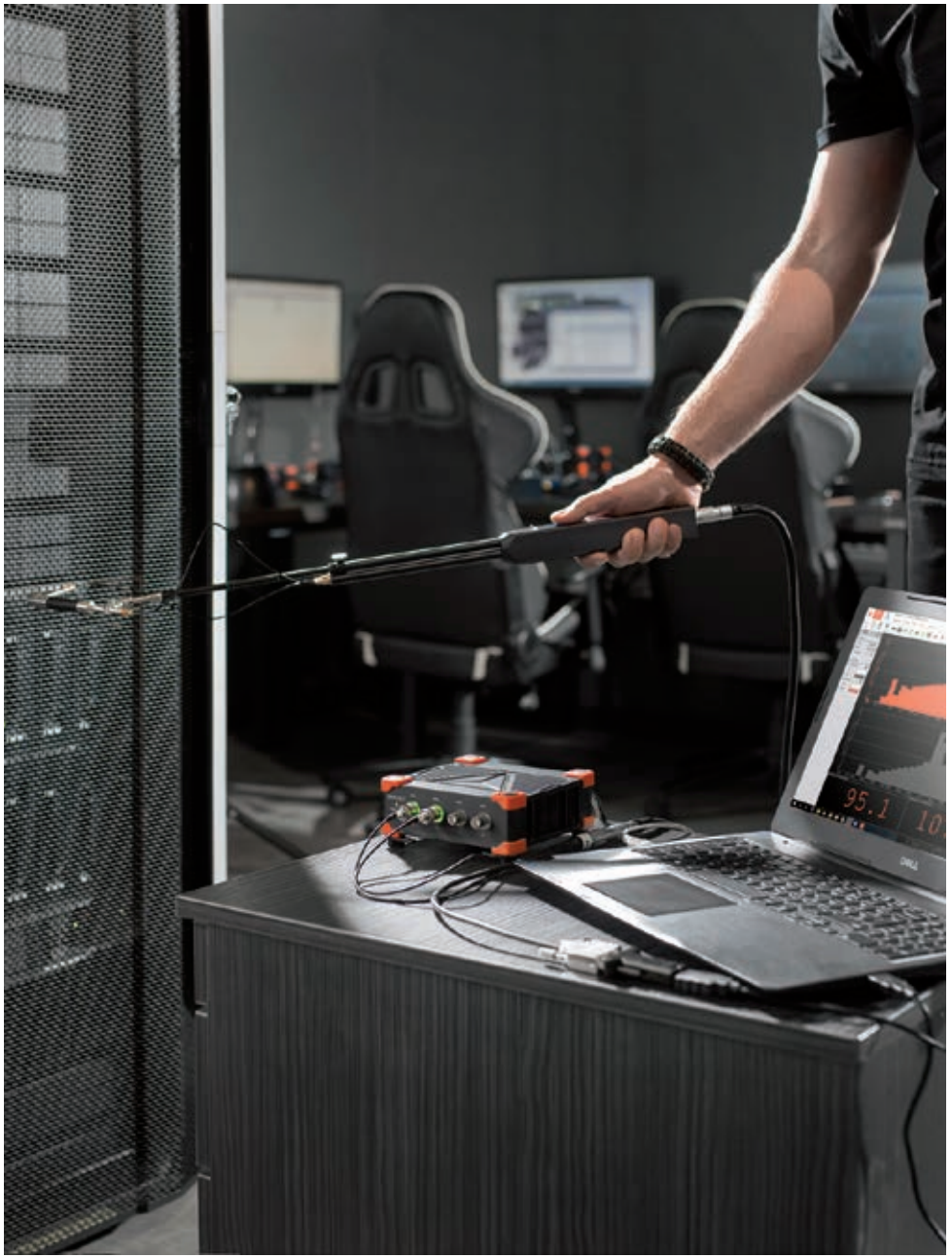
Standardized acoustic weighting filters (A, B, C, D, and Z), time weighting (Fast, Slow or Impulse), sound pressure level, equivalent, peak, minimum & maximum sound pressure levels, sound energy, impulsivity of sound, statistical noise level (LAF1, 5, 10, 50, 90, 95 and 99 % classes of values) are all available at the same time.

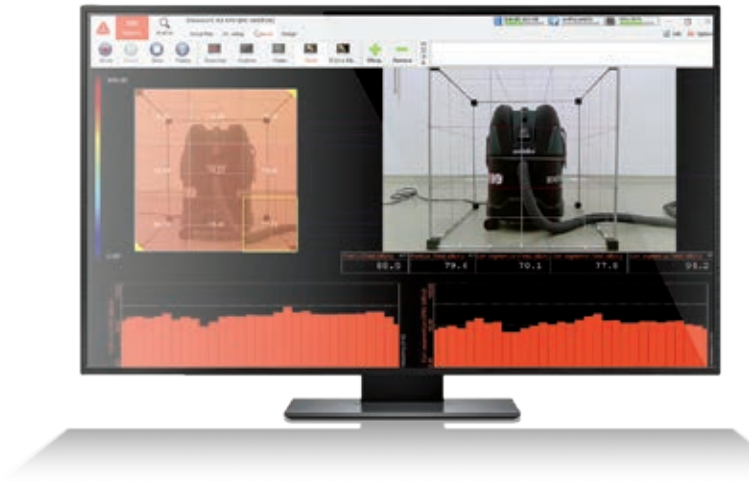
Compliance with international standards. Maximum accuracy and high dynamic range have been re-imagined with the Dewesoft approach. Regardless of the acoustics measurement, SLM plugin is always at the heart of it.

HIGH DYNAMIC RANGE

Our top-class data acquisition hardware with 160 dB dynamic range supports all types of microphones no matter if the they require 200 V polarization or constant current (IEPE).
If the microphones has TEDS information then it will automatically be used for the measurements. Dewesoft data acquisition systems can be scaled for any number of microphones which can be effortlessly calibrated with a calibrator.

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. External triggers, selectable probe movement for measurement automation.

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.

SOUND POWER

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

HEAVY MACHINERY
Includes measurement procedures for testing heavy machinery.

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.

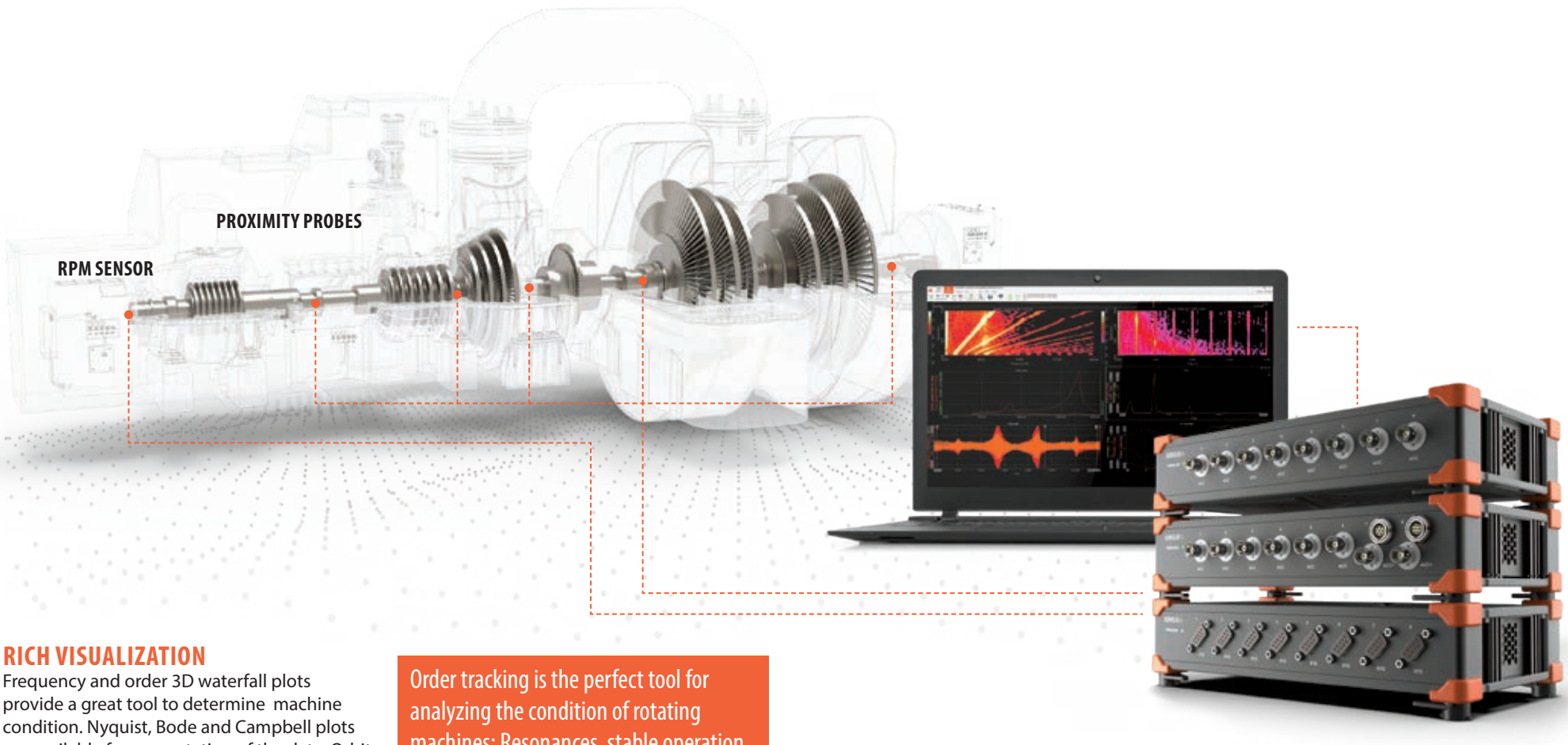
GUIDED STEP-BY-STEP PROCEDURE
You will be guided step by step through the entire measurement procedure, with our clear and comprehensive user interface.

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.

ORDER TRACKING/ TORSIONAL VIBRATION



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 DOMAIN - 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.

Order tracking is the perfect tool for analyzing the condition of rotating machines: Resonances, stable operation points, determining cause of vibrations – it does it all. You can combine order tracking with our powerful torsional vibration module, as well as other math modules such as our engine combustion analyzer and our electrical power analyzer

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.

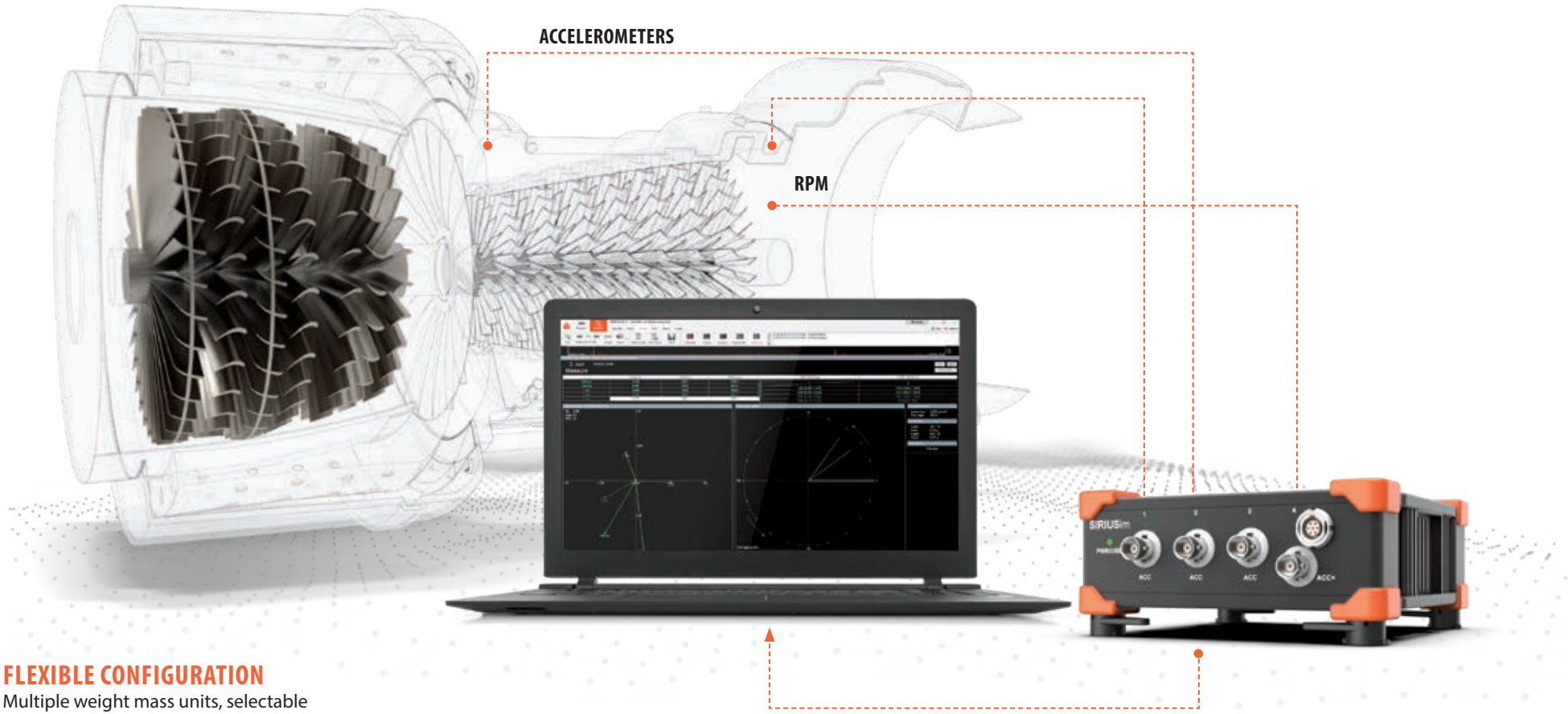
TORSIONAL VIBRATION INTEGRATED

Reference angles, individual sensor rotational angles, speeds and acceleration, torsional angle and velocity are readily available for advanced analysis.

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.

BALANCING



FLEXIBLE CONFIGURATION
Multiple weight mass units, selectable direction of rotation and mass position reference from trial mass or tacho position.

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.

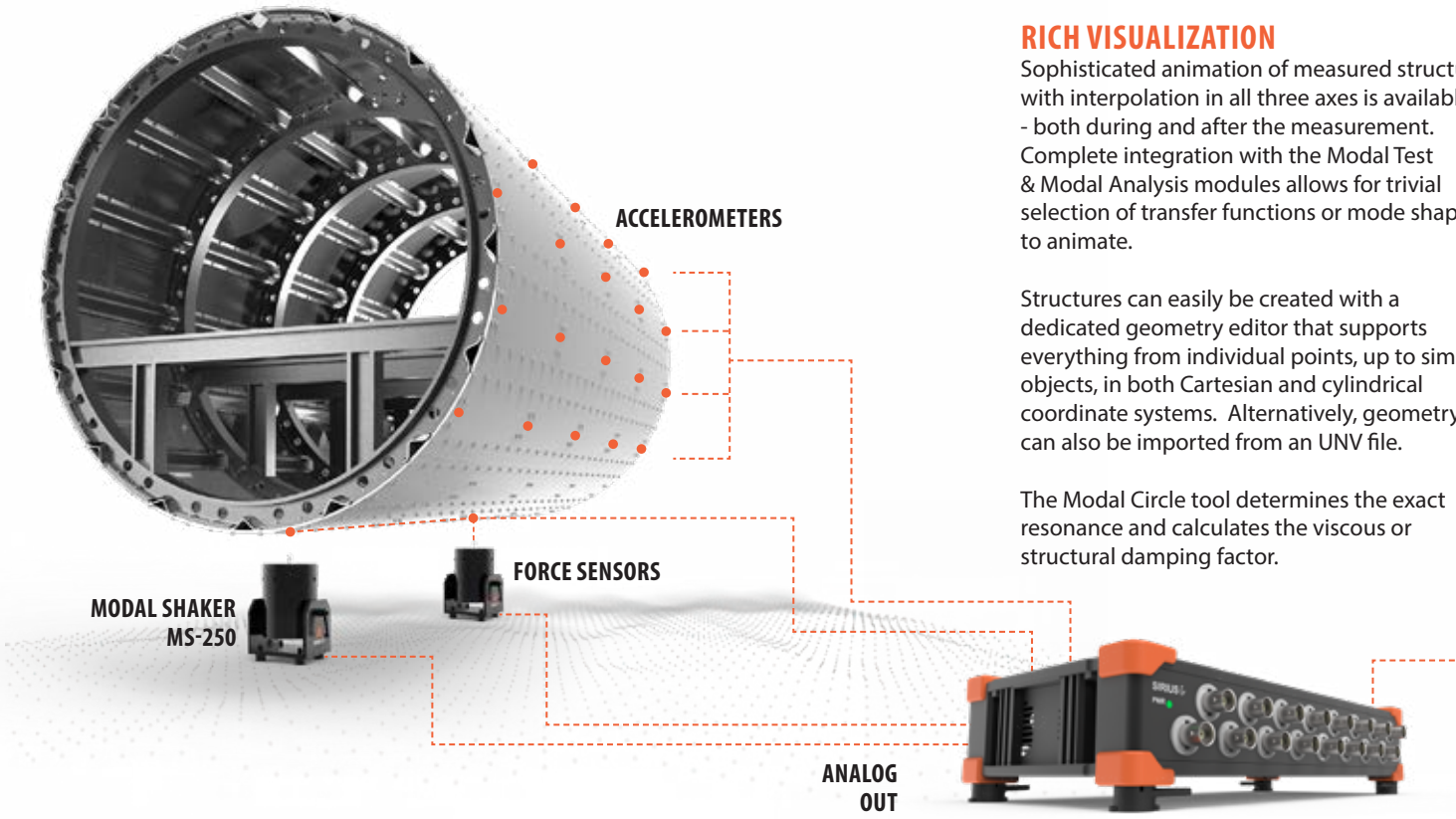
SIMPLE STEP-BY-STEP PROCEDURE
You are guided through the balancing steps for flawless operation including setup of angle sensor with live preview. Multiple modules can be combined for multi-axis balancing to save time and improve the quality of balancing.

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.

MODAL TEST / ANALYSIS



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.

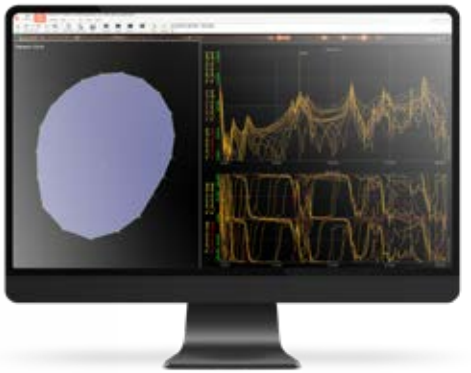
Structures can easily be created with a dedicated geometry editor that supports everything from individual points, up to simple objects, in both Cartesian and cylindrical coordinate systems. Alternatively, geometry can also be imported from an UNV file.

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.

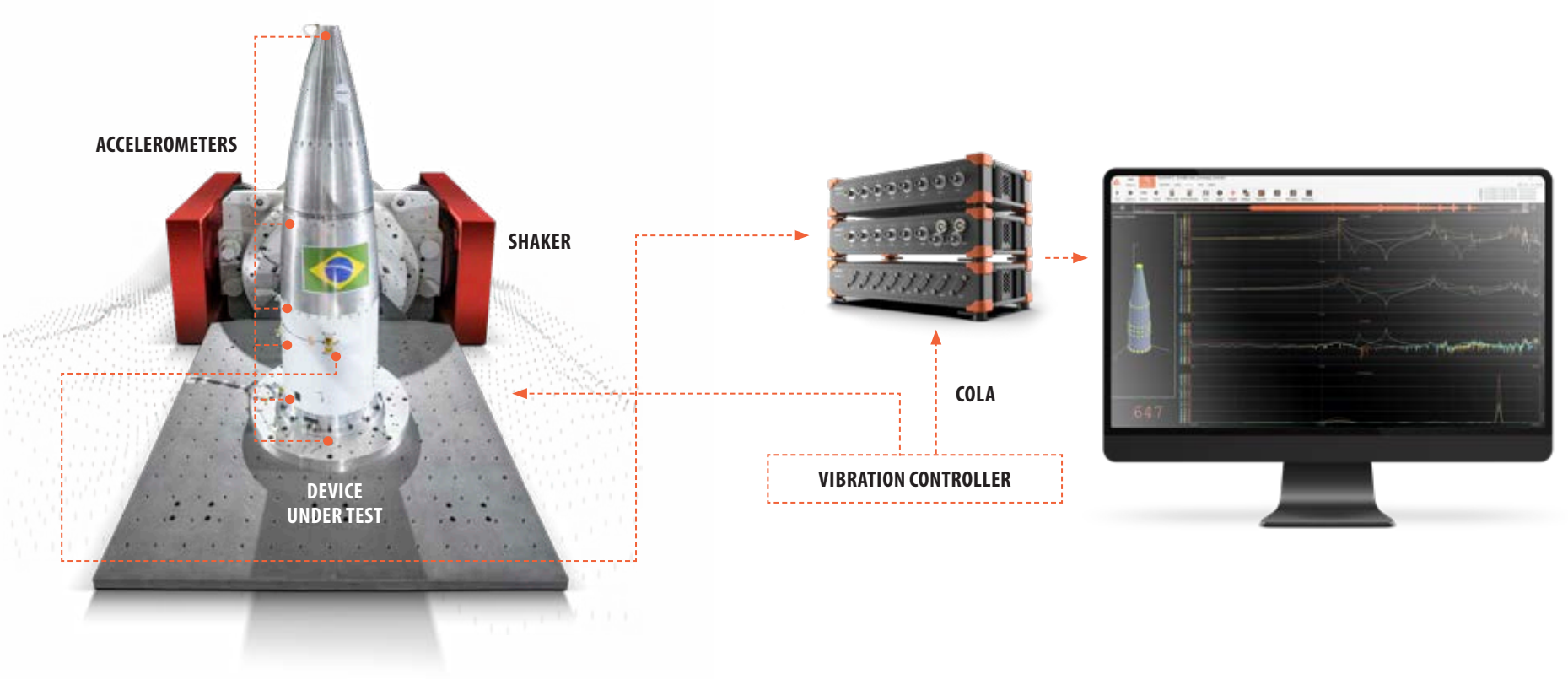
SHAKER TEST (MIMO)

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 and analysis arean 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



REAL-TIME CALCULATION
Harmonic estimator, 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.

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.

HUMAN BODY VIBRATION

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.

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.

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.

POWER ANALYSIS SYSTEM TESTING

AIRCRAFT POWER ANALYZER

The Aircraft Power module calculates the voltage, current and power characteristics of AC 1-phase and 3-phase 400 Hz systems, and for DC supply systems.

STANDARDIZED AIRCRAFT POWER RESULTS

Related standards for aircraft power measurements are listed below:

- **MIL-STD-704F**
- **GJB181x-xxxx**
- **GJB 5558-2006**
- **ISO 12384:2010**
- **ISO 1540:2006**

With the compliance to such standards the full set of aircraft power grid parameters can be determined, such as unbalance, modulation amplitude, phase difference, steady-state frequency, distortion factor, ripple amplitude and many more.

AIRCRAFT SYSTEM ANALYSIS

Aircraft are usually operated at 400 Hz or 800 Hz and have standard 50 Hz and DC systems. PQ (power quality) Analysis with Harmonic Measurement up to 150 kHz according to ABD or EUROCAE standards, Fault and Transient Recording and Generator testing, are a few of the applications that Dewesoft supports.

Dewesoft Power Analyzers are used in a wide range of applications. Any kind of electrical equipment can be tested.

0,03 % ACCURACY

Dewesoft makes high accuracy amplifiers and sensors for voltage and current measurement, with accuracy down to 0.03%.

FULLY ISOLATED

We provide isolation on the sensor side (channel-to-ground), as well as channel-to-channel isolation, and even isolated sensor excitation.

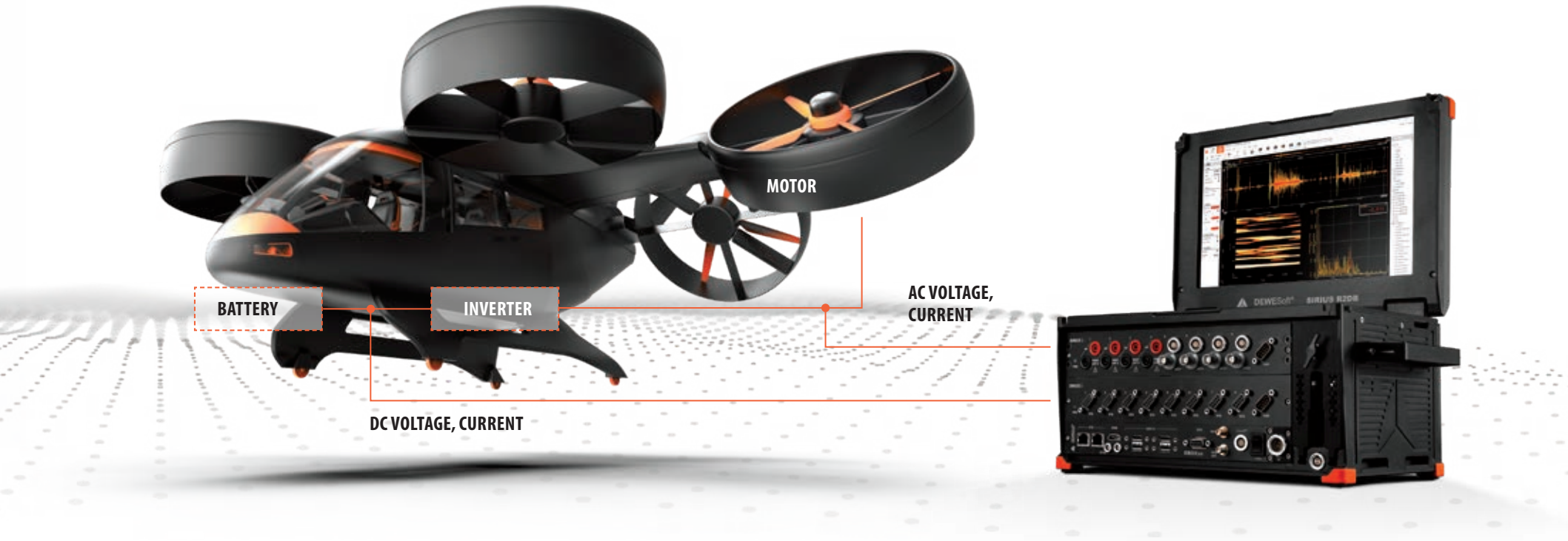
1600 V DC /CAT II 1000 V/CAT III 600 V

Direct input and acquisition of high voltage signals is one of our strengths.

CURRENT SENSORS

We offer high accuracy current sensors such as zero-flux current transducers, AC/DC current clamps, Rogowsky coils and shunts with the power supply out of the box, are available.

ELECTRIC/HYBRID ENGINE ANALYSIS POWER ANALYSIS



BATTERY TEST

As the central element in the electrical powertrain, the battery needs extensive testing. For dynamic tests (misuse tests, overcharge, short-circuit...) our HS series modules with 1 MS/s sampling are the perfect fit. For static tests (voltage, current, temperature, monitoring...) our flexible and scalable IOLITE and Krypton series are ideal.

MOTOR & INVERTER

Any kind of motor (1 to 12 phase AC) and any kind of inverter (DC-AC, AC-AC, switching frequencies up to some 100 kHz), are measured and analyzed with the power module.

Advanced and easy-to-use solutions for complete electric and hybrid vehicle development, validation and production - plus electric motor and inverter testing, battery and battery charge testing, combustion analysis, hydrogen testing and more.

SYNCHRONIZED ACQUISITION OF MULTIPLE SOURCES

Additional synchronized acquisition of other time sources is possible within the same Dewesoft system, including ARINC 429, MIL-STD-1553, CAN, video, inertial systems, and more.

HIGH ISOLATION

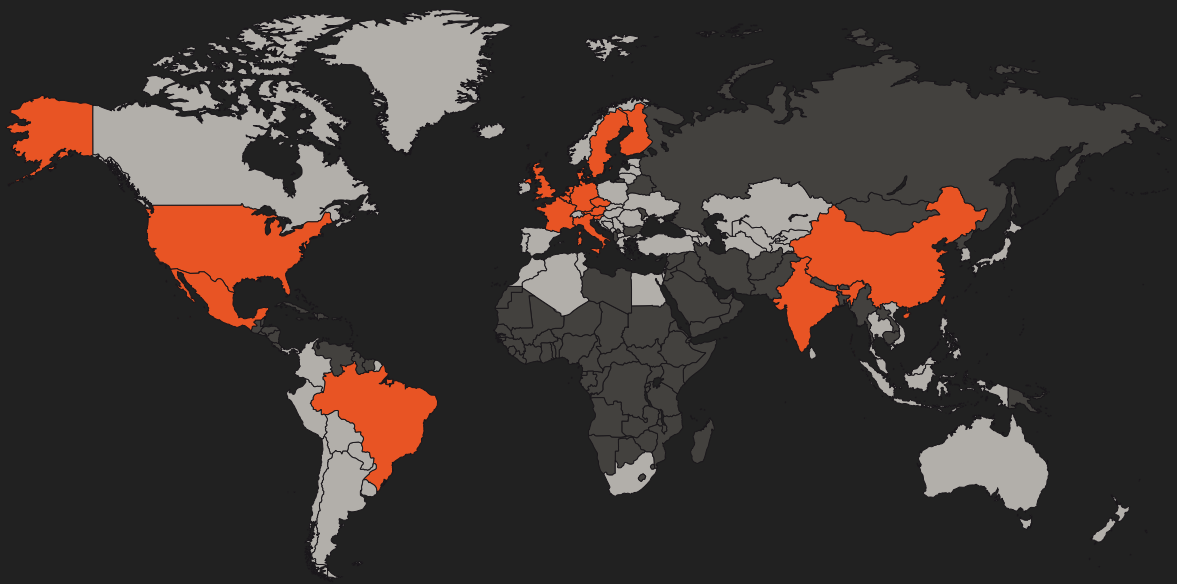
Specially designed Dewesoft signal conditioning amplifiers allow you to measure voltages and temperatures at high potentials up to 1.6kV DC.

TOTAL POWERTRAIN TESTING SOLUTION

Vibration analysis, torsional analysis, order tracking, combustion noise and many other modules can be used simultaneously with the combustion and power analyzer.

COMBUSTION AND ELECTRIC POWER IN ONE SINGLE SYSTEM

A single Dewesoft system performs both combustion and electrical power analysis – at the same time, perfectly synchronized.



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