



## VEHICLE ANALYSIS SOLUTIONS

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





# ULTIMATE ALL-IN-ONE TOOL FOR ANY 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, ...



## PERFECT VEHICLE CONNECTIVITY

Connection to any vehicle by using either CAN, CAN FD, J1939, OBDII, XCP, CCP, LIN, FlexRay.





### **ALL-IN-ONE**

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

### **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.

### **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.

### **PRECISE POSITIONING**

Dewesoft VGPS-HS can provide 2cm accuracy with 100Hz GPS output rate.



### **TOTAL SOLUTION**

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

### **PLUG AND PLAY**

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

# GPS AND IMU DEVICES

## INTERFACES & SENSORS

HIGH ACCURACY 100HZ GPS RECEIVERS AND INERTIAL MEASUREMENT UNITS (IMU) WITH REAL-TIME KINEMATICS (RTK) SUPPORT FOR THE MOST PRECISE POSITION BASED TEST AND MEASUREMENT APPLICATIONS.

	DS-GPS-CLOCK	DS-VGPS-HS/HSC	DS-IMU1	DS-IMU2	DS-GYRO
NAVIGATION					
Standalone/SBAS/RTK (horizontal positioning)	2.5 / 1 / - m	1.2 / 0.8 / 0.02 m	2 / - / 0.02 m	1.2 / 0.5 / 0.01 m	-
Velocity accuracy	0.05 m/s	0.02 m/s	0.05 m/s	0.007 m/s	-
Roll & Pitch accuracy (dynamic)	-	-	0.1 °	0.1 °	0.6 °
Heading accuracy (dynamic with GNSS)	-	-	0.2 °	0.1 °	1.0 °
Slip angle accuracy	-	-	0.3 °	0.1 °	-
Output data rate	10 Hz	100 Hz	100 Hz	500 Hz	500 Hz
GNSS					
Supported navigation systems	GPS L1, GLONASS L1	GPS L1, L2* GLONASS L1, L2*	GPS L1, GLONASS L1, GALILEO E1, BeiDou L1	GPS L1, L2*, L5* GLONASS L1, L2*, GALILEO E1, E5, BeiDou B1, B2	-
Supported SBAS systems	SBAS L1	WAAS, EGNOS, MSAS, GAGAN, QZSS	-	WAAS, EGNOS, MSAS, GAGAN, QZSS, Omnistar HP/XP/B2, Trimble RTX	-
ADDITIONAL FEATURES					
Dual antenna heading	-	-	-	✓	-
RTK positioning	-	✓	✓	✓	-
HARDWARE					
Operating voltage	5 V *USB powered	9 to 36 V	5 to 36 V *USB powered	9 to 36 V	5 to 36 V *USB powered
Operating temperatures	-5 °C to 75 °C	0 °C to 60 °C	-40 °C to 85 °C	-40 °C to 85 °C	-40 °C to 85 °C
INERTIAL SENSORS					
			Accelerometer	Gyroscope	Magnetometer
Range (dynamic)	-	-	2g, 4g, 16g	250 °/s, 500 °/s, 2000 °/s	2g, 4g, 8g
Noise density	-	-	150 µg/√Hz	0.009 °/s/√Hz	210 µg/√Hz
Non-linearity	-	-	< 0.05 %	< 0.05 %	< 0.05 %
Bias stability	-	-	60 µg	3 °/hr	-



### RTK 2 CM ACCURACY

Optional RTK upgrade of all GPS and IMU units, improving positioning accuracy down to 2 cm.

### USB, CAN, RS232

GPS instruments offer various data connection interfaces from USB, CAN and RS232.

### INERTIAL MEASUREMENT UNITS

Very rugged IMU units which in addition to GPS receivers have an integrated 3-axis accelerometer and 3-axis gyroscope to improve dead reckoning and offer IP67 degree of protection.

# CAN INTERFACES

INTERFACES & SENSORS

MULTICHANNEL USB AND SINGLE CHANNEL ETHERCAT® CAN BUS.  
SOFTWARE WITH SUPPORT FOR OBDII, J1939, XCP/CCP, CAN TRANSMIT AND DBC FILES.



## HIGH-SPEED ISOLATED CAN

Each CAN port on any CAN device is isolated and utilizes high speed CAN 2.0B standard.

## 1, 2, 4 OR 9 CAN PORTS

Multiple CAN devices can be connected together to expand to more CAN ports.

## OBDII AND J1939 SUPPORT

CAN interfaces have XCP/CCP, OBDII, J1939 and other standard support.

## FANLESS CHASSIS AVAILABLE

2 and 4 port CAN port are fanless by default, and even the 9 port CAN device can also be built into a fanless aluminium chassis with IP50 degree of protection for worry-free CAN acquisition in harsh, dusty environments.

## PLUG-AND-PLAY CAN INTERFACES

Robust and easy to use interfaces. Connect your CAN device to the USB port of any laptop or PC, or to any SBOX or KRYPTON CPU computer. The device will be recognized automatically, and be ready to use in a moment.

## RAW DATA ANALYZER

Graphical interface for easy CAN decoding and finding signals without a CAN DBC.

## DBC AND ARXML FILE SUPPORT

Included Dewesoft X software enables import of DBC or ARXML files which will automatically set the CAN channel list.

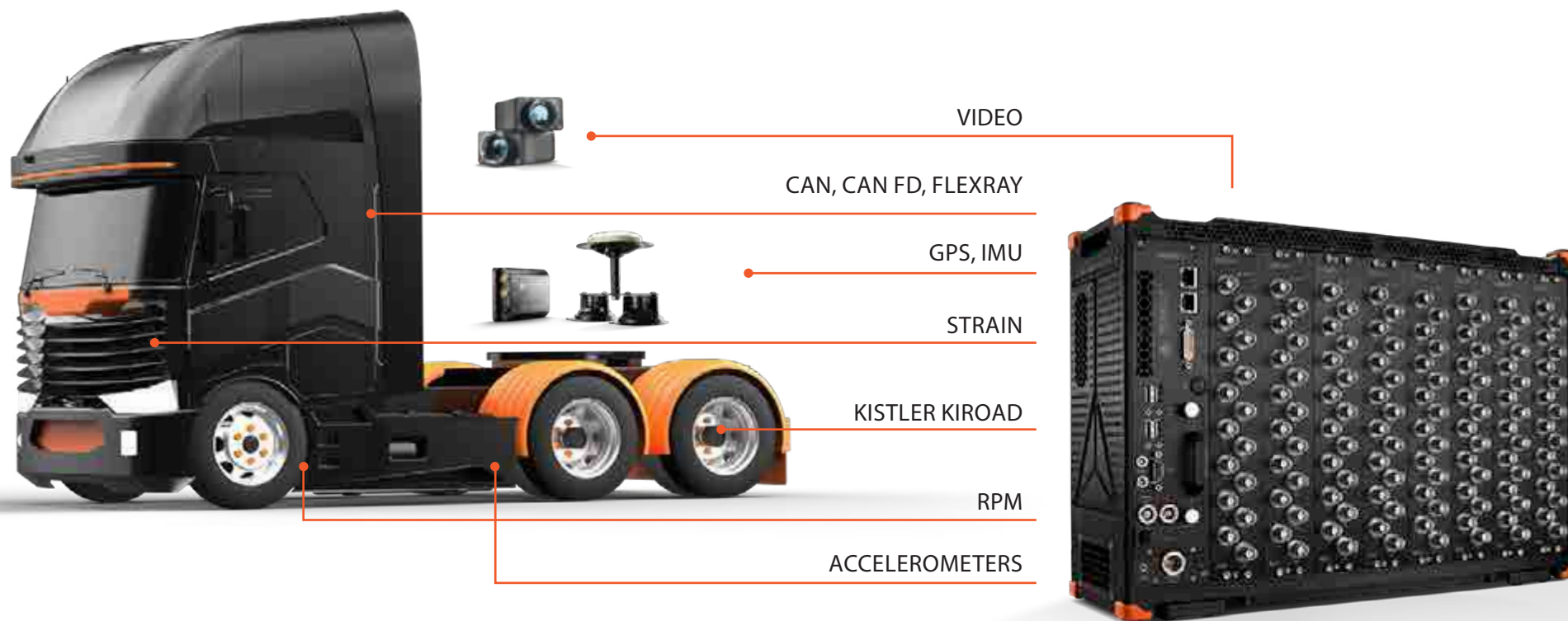
## CAN FD, XCP, FLEXRAY AND LIN

Using third party hardware, additional interfaces are supported.



# ROAD LOAD DATA ANALYSIS

DURABILITY MEASUREMENTS DURING ACTUAL TEST DRIVES OR ON TEST BEDS, EITHER FOR ENTIRE VEHICLE OR CERTAIN COMPONENTS. VARIOUS SMART TECHNOLOGIES ELIMINATE RE-TESTING, AND DRAMATICALLY SHORTEN TEST TIME.



## RPCIII EXPORT

Data analysis and replay data can be directly exported to standard RPCIII format.

## IN VEHICLE DATA COLLECTION

Virtually any analog, counter, and digital sensor can be connected to the system. Measure vibration, strain & stress, acceleration, forces, wheel speed.

## PERFECT SYNCHRONIZATION

Acquired data from various sources are synchronized with microseconds accuracy.

## ADDITIONAL ANALYSIS

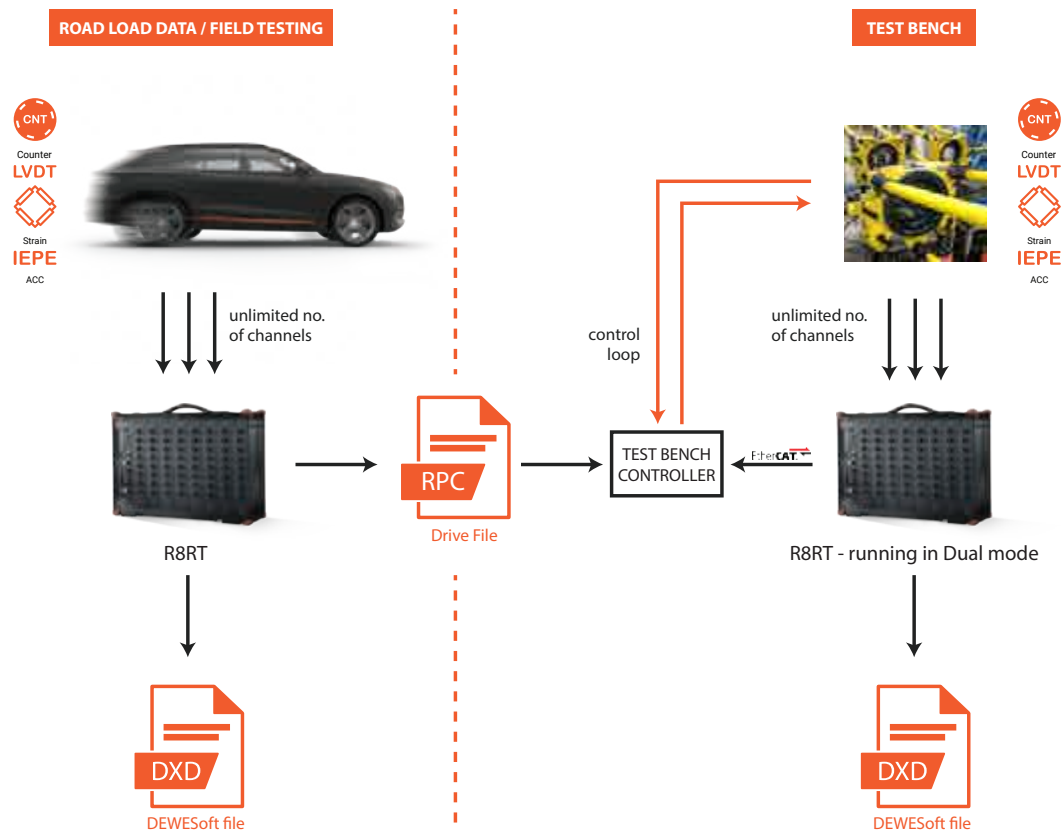
Combine different applications and analysis with the same system. Vehicle dynamics, combustion analysis, vibration, etc. can be combined in one synchronized data file.

## OTHER DATA SOURCES

Additional synchronized acquisition of other sources is possible within the same system – Kistler RoaDyn, Kistler Kiroad wheel force transducers, GPS, inertial sensors, CAN, CAN FD, OBDII, J1939, LIN, FlexRay, XCP/CCP, Video, etc.

# DURABILITY TEST BED INTEGRATION

ANALOG SIGNAL TRANSFER IS A THING OF THE PAST WITH DEWESOFT'S ALL-IN-ONE DURABILITY TEST SOLUTION. SAVE TIME AND MONEY BY USING THE SAME SYSTEM FOR ACQUISITION AND DRIVING THE TEST BED - USING A SINGLE EtherCAT® CABLE.



## ONE SYSTEM FOR ROAD AND LAB TESTING

Save your money! A single Dewesoft system can be used to record data on real or proving ground roads - and also in the lab, to replay the recorded data into the road load simulator.

## REDUCED COMPLEXITY

Compared to traditional sensor input -> analog out -> analog in the conditioned data is sent digitally and therefore greatly reduces complexity of the system.

## PORTABLE SETUP FILES

Dewesoft allows easy transfer of the channel setup to MTS test bed reducing setup time and risk of error.

## ANALOG OUTPUT

The Dewesoft R8 with optional rear analog outputs is the perfect solution for replaying recorded data, and transmitting analog signals to control the test bed.

## TEST BED INTEGRATION

The EtherCAT® slave port on the R8RT and R4RT can feed the data to any EtherCAT® master controller in real time. This solution offers easy integration with MTS road load simulators, with just one cable.

# BRAKE NOISE

DETECT AND TRACK BRAKE NOISE EVENTS FROM MICROPHONE AND ACCELEROMETER MEASUREMENTS.



## EASY PAIR DEFINITION

Detects squeal events from pairs of microphone and accelerometer measurements. Pairs generated automatically from specified accelerometer and microphone channels.

## CALCULATION SETTINGS

Squeals are detected from amplitudes of sound and mechanical vibration. Fourier transformation settings are integrated. Only direct time domain measurements are needed to detect squeal events.



## VDA 303

Software is developed according to VDA 303 guideline.

## FLEXIBLE CONFIGURATION

The number of microphone and accelerometer channels is not limited by the software.

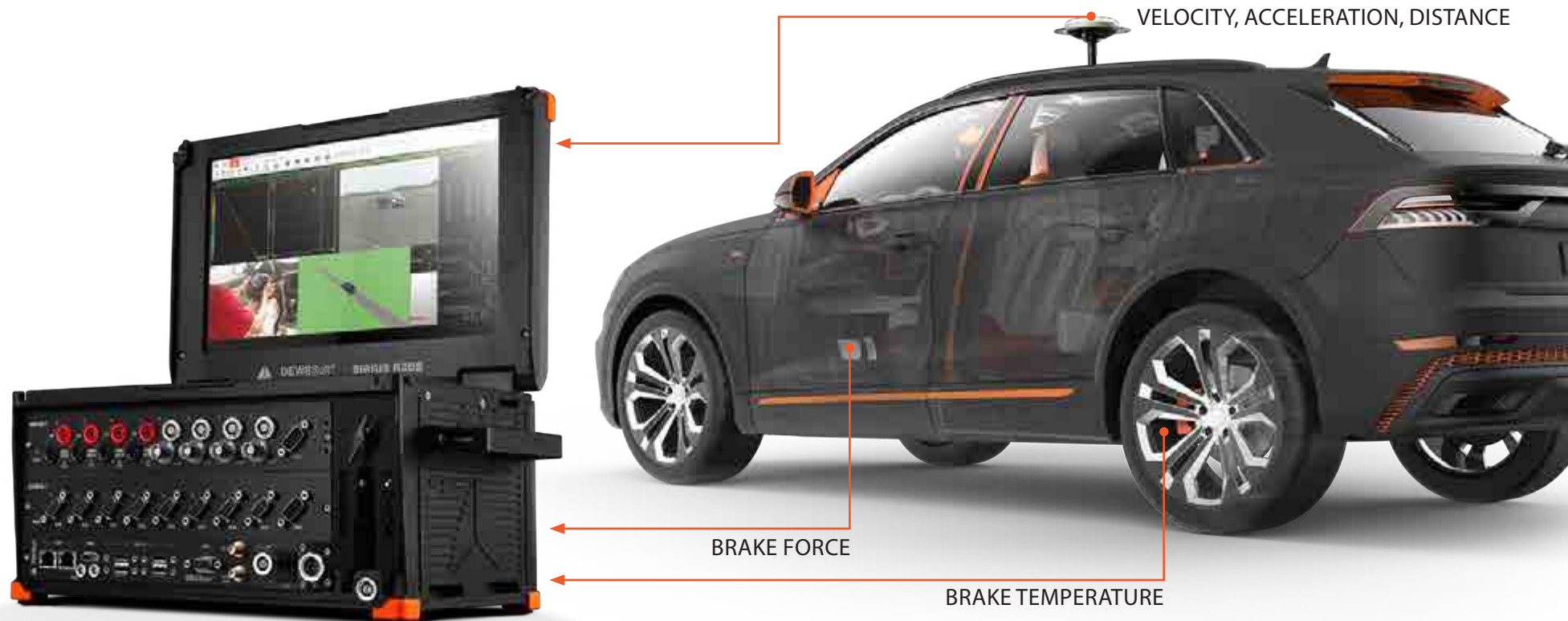
## SQUEAL TRACKING

Each detected squeal is tracked. During the squeal event, statistic on squeal parameters and other Dewesoft X channels (temperatures, RPMs, vehicle speed...) can be calculated.



# BRAKE TESTING

THE BRAKE TEST SYSTEM FROM DEWESOFT IS VERY FLEXIBLE AND COVERS ALL KIND OF BRAKE TESTS, BRAKING COMFORT AND TESTING VEHICLES WITH REGENERATIVE BRAKING.



## WIDE RANGE OF APPLICATIONS

Built-in analysis of standard brake tests, plus ABS testing, braking comfort, and brake squeal allow for additional test standards or maneuvers to be performed, such as tire, acceleration, handling, and/or fuel consumption tests.

## AUTOMATED WORKFLOW AND REPORTS

Automated testing procedures and reporting.

## BRAKE PEDAL SENSOR

Direct brake pedal force, travel, and pressure sensor inputs via analog or CAN interface.

## BRAKE TEMPERATURE

Measures and logs multiple brake temperature and pressure channels.

## REAL-TIME RESULTS

Results validated and visualized in real-time during the test allow an easy check if the tests are successful.

## ONLINE CALCULATIONS

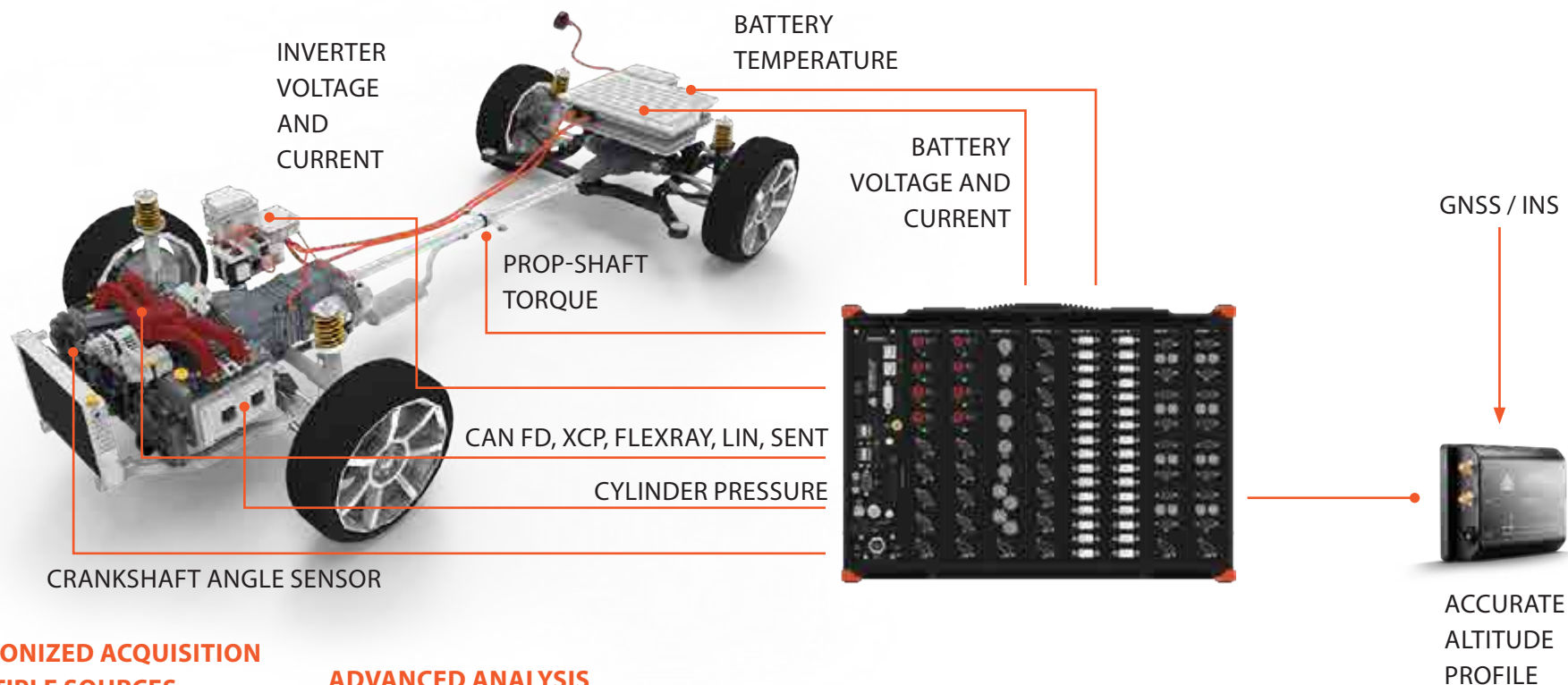
Instant calculation of outputs like MFDD, start speed, stopping time, corrected brake distance, brake deceleration, maximum deceleration and custom outputs.

## SUPPORTS STANDARDS

Brake tests according to several international standards like ECE13H, FMVSS 135, etc.

# ALL-IN-ONE HYBRID ENGINE ANALYZER

HIGH-ACCURACY COMBUSTION ANALYZER SYSTEM FOR ENGINE RESEARCH, DEVELOPMENT AND OPTIMIZATION AS WELL AS TESTING OF IGNITION SYSTEMS, EXHAUST SYSTEMS, AND VALVE CONTROL GEAR.



## SYNCHRONIZED ACQUISITION OF MULTIPLE SOURCES

Synchronized acquisition of other sources, like CAN, OBDII, LIN, J1939, FlexRay, XCP/CCP, Video, etc., is possible within the same system.

## FLEXIBLE HIGH SPEED ANALOG INPUTS

Analog inputs with 1 MS/sec sampling rate and sensor supply. Any sensor and signal type - Charge, IEPE, High voltage, Current, Strain, Torque, Temperature...

## ADVANCED ANALYSIS

The same system can be used to perform simultaneous online analysis of torsional and rotational vibration, order tracking, combustion noise, sound power and more...

## TEST-BED AND INCA® INTEGRATION

The system can send combustion analysis results to the testbed via AK-protocol or to ETAS INCA® and similar systems via CAN or XCP.

## STOCK CRANK-ANGLE SENSOR SUPPORT

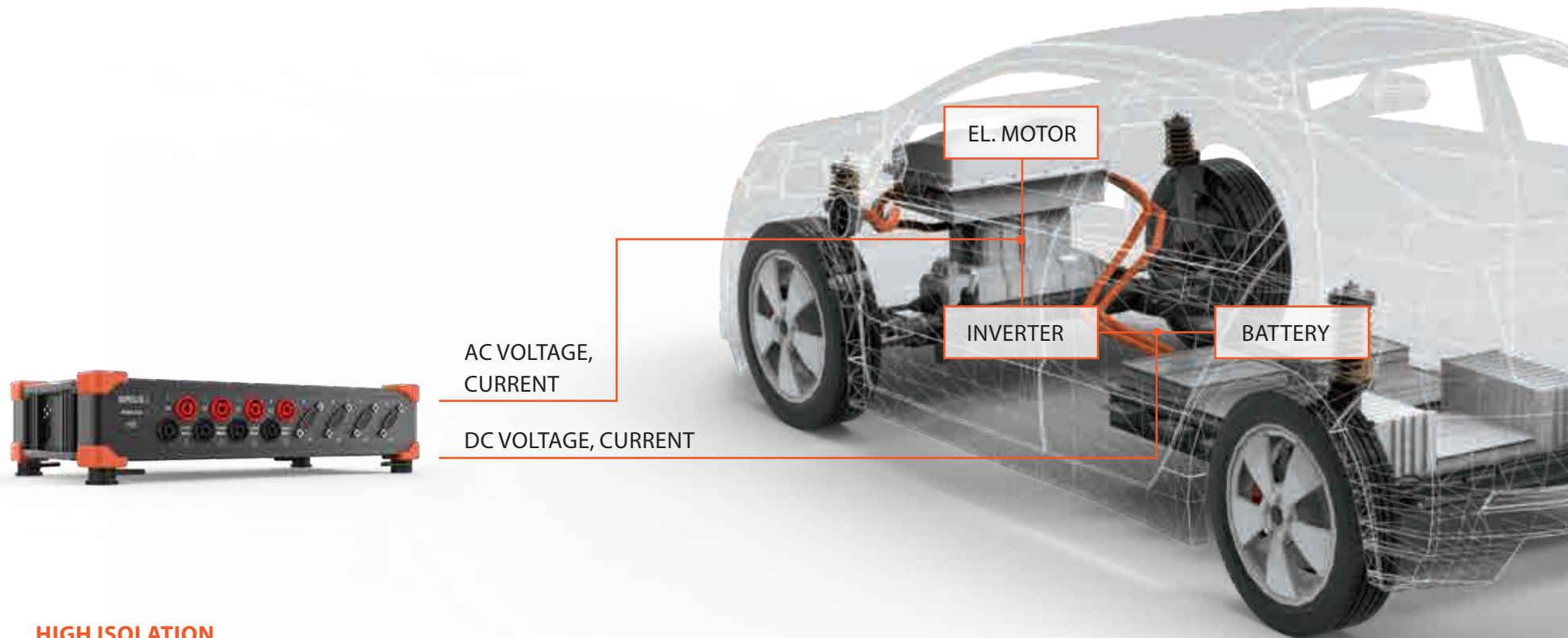
The system allows direct connection of any gear-tooth sensor. From one gap to multiple gaps, with any number of missing teeth and asymmetric number of teeth between gaps.

## HYBRID TESTING

With fully synchronized acquisition and processing of built-in power analyzer, Dewesoft is a perfect tool for testing of hybrid vehicles.

# ELECTRIC VEHICLE TESTING

ADVANCED YET EASY TO USE SOLUTIONS FOR COMPLETE ELECTRIC AND HYBRID VEHICLE DEVELOPMENT, VALIDATION AND PRODUCTION. THE ELECTRIC MOTOR AND INVERTER TESTING, BATTERY AND BATTERY CHARGE TESTING, COMBUSTION ANALYSIS, HYDROGEN TESTING AND MORE.



## HIGH ISOLATION

Specially designed amplifiers allow for the measurement of voltages and temperatures of up to 1.6 kV DC.

## MOTOR & INVERTER

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

## DRIVETRAIN

A modular DAQ system allows measuring the power (AC or DC) at multiple points perfectly synchronized. This unique feature allows comprehensive analysis for all types of electric drivetrains: single motor, motor and generator, 2-4x in-wheel-motors.

## CHARGING

Power Quality Analysis, Energy & Efficiency and Troubleshooting of EV Charging stations complement the features for EV testing.

## WINTER & SUMMER TESTS

This is made possible by the wide temperature operating range of our instruments.

## BATTERY

As the central element of the electrical powertrain, the battery requires extensive testing. For dynamic tests (Misuse tests, Overcharge, Short-Circuit etc.) the HS series with 1 MS/s is the perfect fit, while the flexible and scalable IOLITE and KRYPTON series is ideal for static tests (voltage, current, temperature, monitoring etc.).



# POLYGON AND GPS SOLUTIONS

THE DEWESOFT POLYGON OPTION IS THE MOST VERSATILE AND WIDELY USED TOOL FOR PERFORMANCE TESTS. ALONG WITH THE NEW MAPS WIDGET, IT MAKES THE PERFECT VEHICLE TESTING SUITE.



## ANY GPS DATA SOURCE

GPS data from various sources can be used for measurement, and as inputs for the Polygon module. CAN, Ethernet or RS232 data can be read directly from 3rd party devices.

## PARAMETER OUTPUTS

Each calculated parameter like distance, position, angle or gate crossing are available as output channels.

## PERFECT HARDWARE

Synchronous acquisition of 2 cm RTK GPS and IMU sensor with additional analog, digital and vehicle bus channels.

## MULTIPLE VEHICLES

Support of multiple vehicles, cars, trucks and pedestrians in the same polygon.

## 3D VISUALIZATION

Freely definable view angles gives a perfect view of the maneuver.

## UNIVERSAL

Suitable for ground, air (high G testing, performance testing) or sea (handling tests, pass by noise, obstacle avoidance test) applications.

## NEW MAP WIDGET

Uses a tile server hosted by Dewesoft (OpenStreetMap). Online or offline (pre-downloaded) map usage possible. Multiple traces can be displayed at once with channel based color tracing.

The diagram illustrates a vehicle-to-vehicle (V2V) communication system architecture. A central orange car, labeled "MASTER VEHICLE", is shown with various sensors and communication capabilities. It is connected via GPS, WIFI, and LIDAR/CAMERA to a central processing unit (Master Vehicle). This unit is also connected to a Slave Vehicle 1..n via WIFI and GPS. The Slave Vehicle 1..n is also equipped with GPS and WIFI. The diagram illustrates the flow of data and communication between the vehicles and the central processing unit.

**Master Vehicle Sensors and Functions:**

- BLIND SPOT DETECTION
- ACC (Adaptive Cruise Control)
- EMERGENCY BRAKING
- COLLISION AVOIDANCE
- PEDESTRIAN DETECTION

**Communication and Data Flow:**

- GPS SYNCHRONIZED:** Two red arrows at the top indicate GPS synchronization between the Master Vehicle and the Slave Vehicle 1..n.
- WIFI:** Lines connect the Master Vehicle's central unit to the Slave Vehicle 1..n's central unit.
- LIDAR, CAMERA:** Lines connect the Master Vehicle's sensors to its central unit.
- GPS:** A line connects the Master Vehicle's central unit to its GPS sensor.

**Slave Vehicle 1..n:**

- Equipped with GPS and WIFI.
- Central processing unit and display.

**IN-CAR MEASUREMENT:**

- Both the Master Vehicle and Slave Vehicle 1..n have a section labeled "IN-CAR MEASUREMENT" containing a central processing unit and a display.

Rugged and reliable miniature GPS aided inertial navigation system with high dynamic, 500 Hz update rate and static initialization. High-accuracy GPS or IMU with optional RTK support, offering 2 cm positioning accuracy.

Math functions to place several moving and static objects and calculations of real time positions, distances and angles from any object to another as well as collision calculations.

The Dewesoft X Sequencer function allows you to automate your test sequences.

Powerful 3D visualization of moving and static objects at any position.

Collision avoidance testing, blind spot detection, adaptive cruise control testing, autonomous vehicles testing, lane departure warning, and lane assist system testing.

# VEHICLE DYNAMICS - VTS

THE VEHICLE TESTING SUITE (VTS) IS A SUITE OF AUTOMATED TEST WORKFLOWS AND STANDARD TEST MANEUVERS FOR VEHICLE DYNAMICS AND QUICK PASS/FAIL EVALUATION FOR THE DRIVER.



## AUTOMATED WORKFLOW

Pre-defined testing maneuvers and easy-on screen controls for the operator to configure and run the tests.

## REAL-TIME RESULTS

Results are visualized and validated in real time as the test is running, allowing instant verification of test success or failure.

## INS/GNSS FOR AUTOMOTIVE TESTING

DS-IMU devices with single or dual antenna GPS provide accurate positioning and on-device calculations of slip angle, velocities, distances...

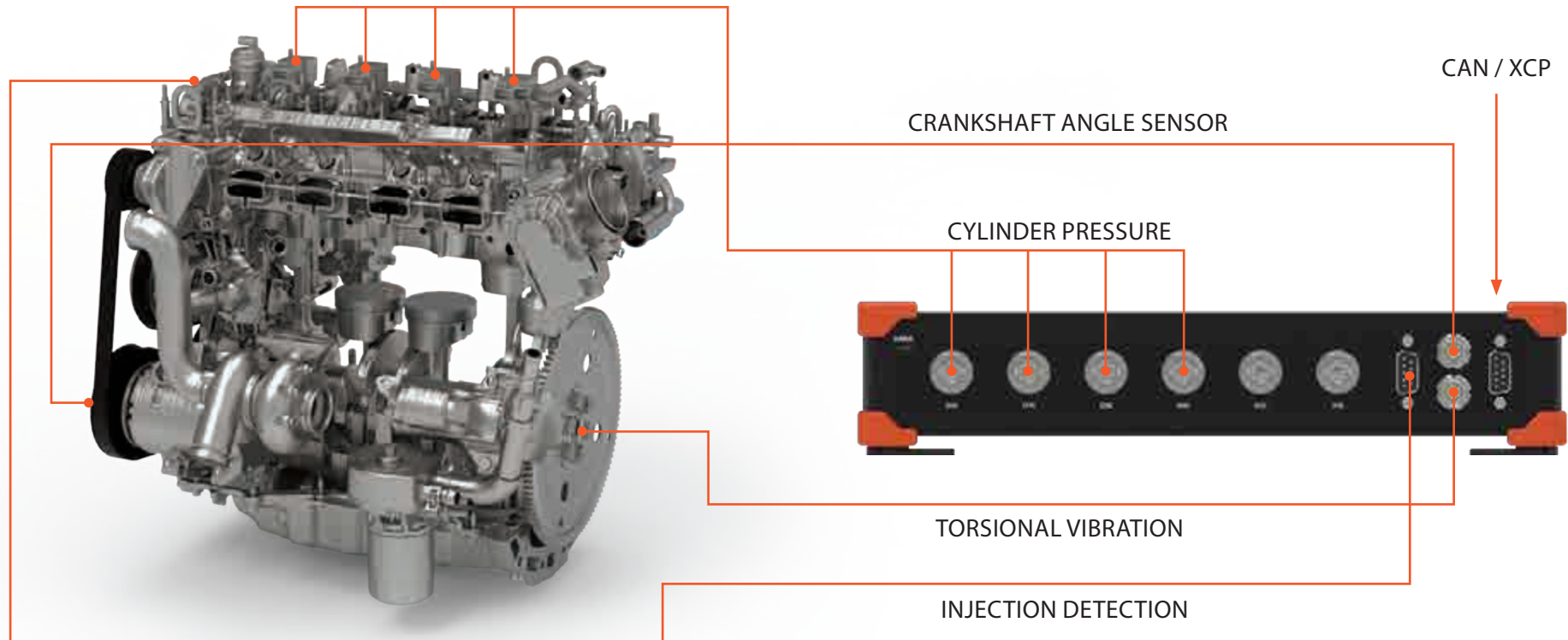
## AUTOMATED RESULTS AND STATISTICS

Summary table with statistics and overlay results from a batch of test runs provides quick analysis of results.



# COMBUSTION ANALYSIS

COMPLEX MEASUREMENTS MADE EASY WITH OUR NEW COMBUSTION ANALYZER. FROM THE SMALLEST SINGLE CYLINDER ENGINES TO THE LARGEST MULTI-CYLINDER ONES. SIMULTANEOUS USE OF THE COMBUSTION ANALYZER WITH THE POWER MODULE MAKES THE PERFECT SOLUTION FOR HYBRID ENGINE TEST!



## STANDARD OUTPUTS

Maximum pressure, MEP, power, work, torque, temperature, average outputs...

## HIGHEST ACCURACY

Angle resolution from  $2^\circ$  to  $0.025^\circ$  crank angle.

## PERFECT INTEGRATION

Interface to testbed via AK-protocol for laboratory use, CAN or XCP output for mobile use.

## READY FOR ANY ENGINE

Cylinder deactivation, variable compression ratio, dual polytropic coefficient with automatic detection and input.

## ADVANCED CALCULATIONS

Knock detection, thermodynamics, polytropic coefficient, compression curve...

## DIRECT SENSOR SUPPORT

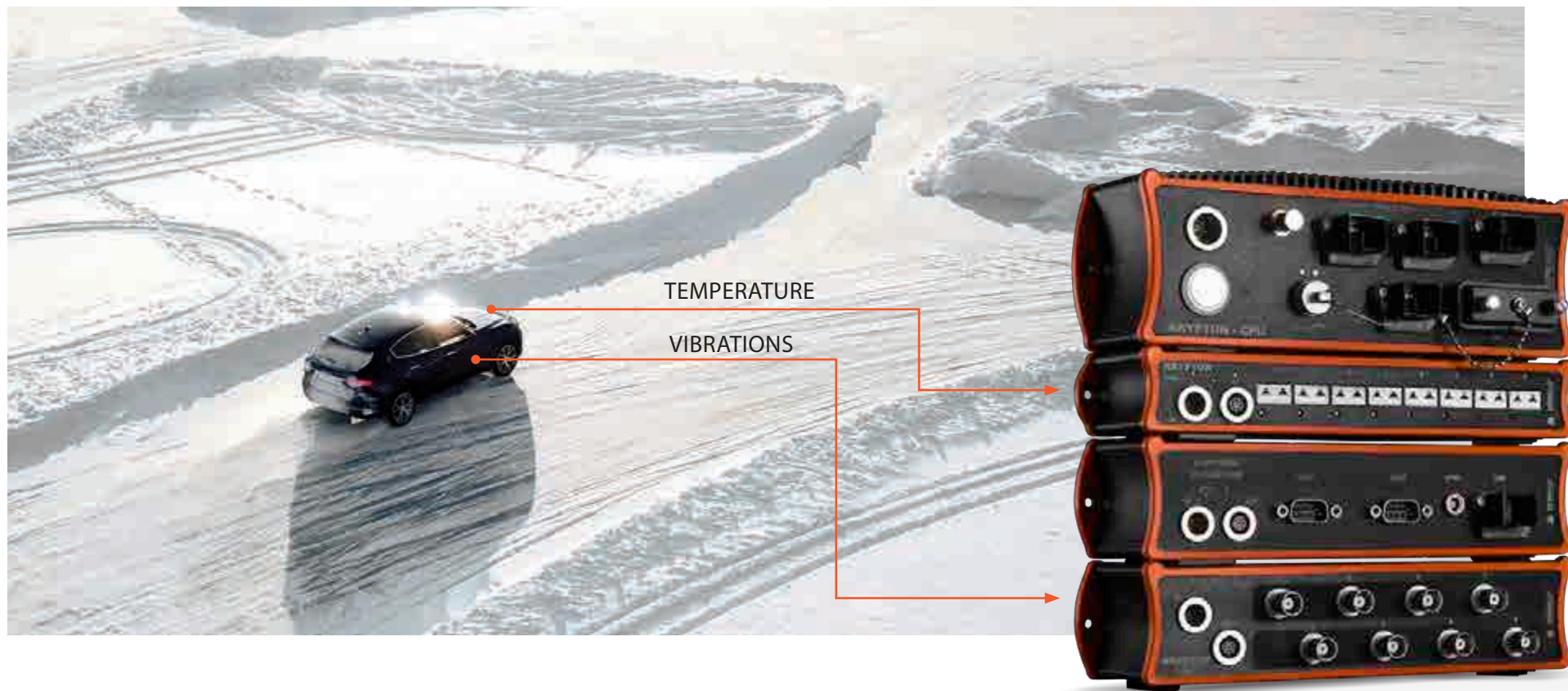
Integrated charge type amplifier for cylinder pressure sensors and direct connection of any RPM sensor (stock - 60-2, encoder, CDM+trig).

## MULTIPLE DATA INTERFACE

CAN, CAN FD, J1939, XCP, CCP, LIN, SENT, ModBus, OPC UA, Flexray, Ethernet, GPS, Video,...

# HARSH ENVIRONMENT TESTING

ROBUST DAQ SYSTEMS WITH IP67 DEGREE OF PROTECTION, OPERATING TEMPERATURE BETWEEN  $-40^{\circ}\text{C}$  AND  $+85^{\circ}\text{C}$  AND HIGH SHOCK PROTECTION PROVIDE A RELIABLE SOLUTION FOR TESTING IN EXTREME AND HARSH ENVIRONMENTS.



## LOW POWER CONSUMPTION

Ideal for air-conditioning testing.

## $-40^{\circ}\text{C}$ TO $85^{\circ}\text{C}$

### TEMPERATURE RANGE

The SIRIUS waterproof and KRYPTON lines of DAQ system offer a wide temperature range from  $-40^{\circ}\text{C}$  up to  $85^{\circ}\text{C}$  suited for the harshest environments on Earth.

## > 100 G SHOCK RATING

Instruments offer high 100G shock rating.

### DUST, SHOCK, MUD AND WATER PROOF

IP67 degree of protection from water, dust, mud and high shock. Instruments are tested in highly sophisticated labs to ensure quality and maximum reliability.

## ADDITIONAL SYNCHRONIZED SOURCES

Acquisition of additional data sources like GPS, inertial platforms, gyros, CAN, CAN FD, LIN, XCP/CCP, FlexRay, video, high-speed video with perfect synchronization.

## THOUSANDS OF CHANNELS

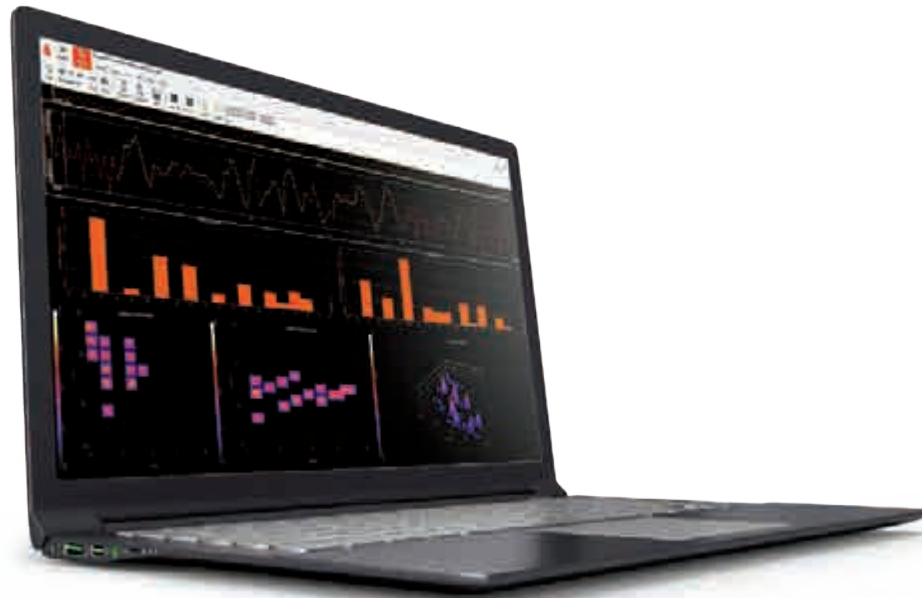
Systems can be expanded from 1 to thousands of channels.

## DISTRIBUTED

DAQ systems can be distributed down to a single channel - keeping costs of sensor cabling low while ensuring high signal quality.

# FATIGUE

SAFETY IS AN IMPORTANT ASPECT IN DESIGNING AUTOMOTIVE COMPONENTS. FATIGUE ANALYSIS IS A DEWESOFT X SOFTWARE EXTENSION FOR PREDICTING FATIGUE DAMAGES BASED ON MEASURED STRAIN AND STRESS.



## PREPROCESSING

Direct pre-processing or local extreme detection, counting methods with algorithm settings, rainflow filtering, discretization, visualisation and analysis software support.

## STANDARD COUNTING ALGORITHMS

Standard counting algorithms like ASTM and Markov counting are implemented.

## POST PROCESSING MADE EASY

Export to many different file formats and analysis of huge data files is also possible with Dewesoft X.

## INSTANT RESULTS

Temporary fatigue results available online including additional math channels.



# NVH SOLUTIONS

ALL NVH SOLUTIONS AVAILABLE IN A SINGLE SOFTWARE PACKAGE, USING THE SAME HARDWARE.

## FFT ANALYZER

Top performance, advanced cursor functions, very high freely selectable line resolution, flexible averaging as well as many advanced functions for in-depth analysis.

## SOUND LEVEL METER

IEC 61672 Class 1 sound level meter supports measurements in either 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 your entire measurement.

## SOUND INTENSITY

Complies to Sound Intensity-based Sound Power calculation - Discrete points method (9614-1) and Scanning method (9614-2). Complete measurement chain of sound intensity solution can be calibrated according to IEC 61672.

## ORDER TRACKING

Due to a high sampling and advanced alias free re-sampling mechanism, data is available in all three domains (time, frequency and order), everything at the same time in one screen and data file, perfectly synchronized. All angle sensors from tacho, encoder, geartooth, geartooth with missing or double teeth, tape sensors and others are supported to perfectly determine angle and rotational speed with 10 nsec resolution using Supercounter technology.

## OCTAVE ANALYZER

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.

## SOUND POWER

Fully compliant with relevant sound power standards ISO 3741, ISO 3743-1, 3743-2, ISO 3744, ISO 3745, ISO 639-3, ISO 639-4, ISO 639-5 and ISO 639-6.

## MODAL ANALYSIS

In combination with in-built function generator module, the system allows any type of excitation from fixed sine with 1 mHz resolution, sweep sine, random, step sine, chirp, burst and others. Operating deflection shapes (ODS), mode indicator functions (MIF), COLA analysis are fully implemented while operational modal analysis (OMA) and time domain ODS are available with close integration in connection to external software package.

## BEARING FAULT (ENVELOPE)

Easily identify the bearing fault frequencies with the help of automatic markers in the spectrum. Defects on the cage, rolling element, outer or inner race (FT, BSF, BPFO, BPFI) and also their harmonics can be seen. Large database is available where the manufacturer and bearing number can be selected.

## BALANCING

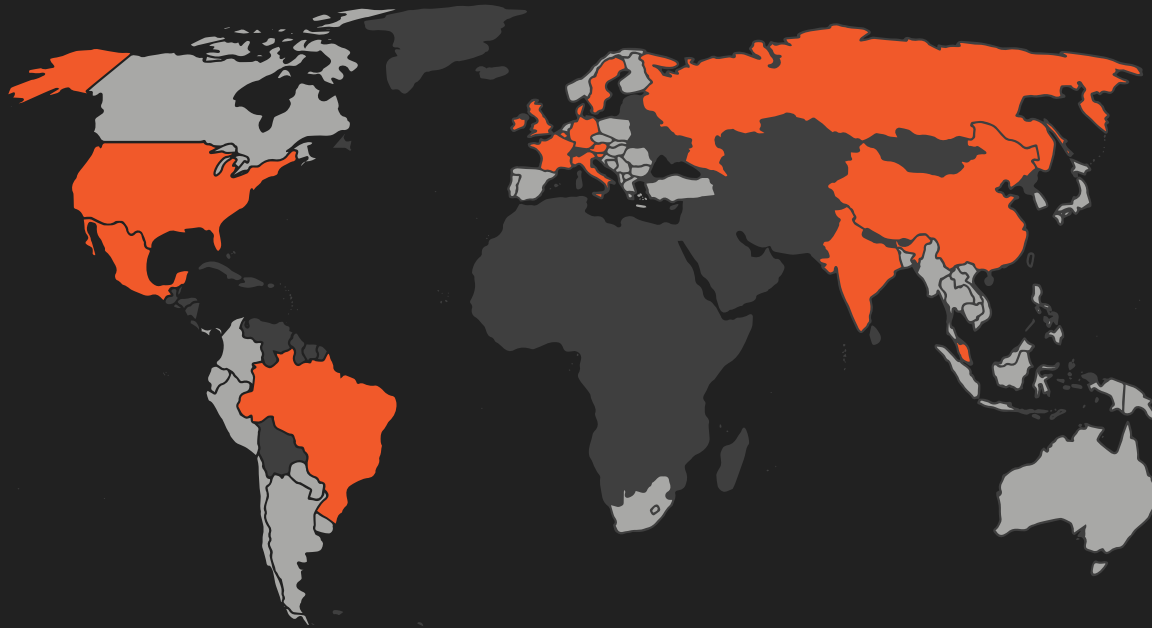
Single plane (narrow disc) or dual plane (long shaft) balancing. Users are guided through the balancing steps for flawless operation including easy setup of angle sensor with live preview. Multiple modules can be combined for multi axis balancing to save time and greatly improve the quality of balancing.

## ROTATIONAL AND TORSIONAL VIBRATIONS

Rotational and torsional vibration module along with order tracking are a strong tool to troubleshoot such issues in automotive, industrial or power-generation applications. Math module support any type of sensors. Sensors type can be totally different for both ends of the rotor.







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

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