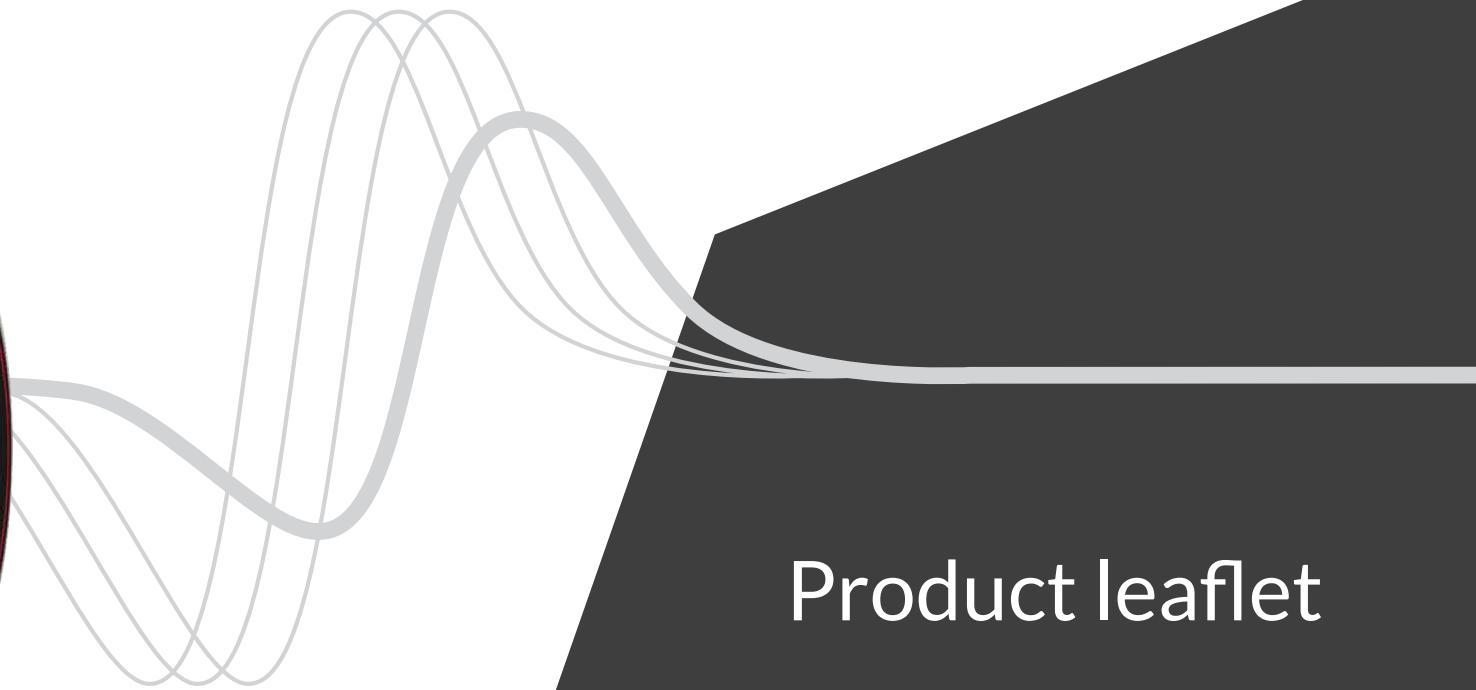


VOYAGER

SOUND ANALYZER & MOBILE DATA ACQUISITION



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Sound analyzer & mobile data acquisition

VOYAGER AT A GLANCE

Voyager is a portable multi-channel sound analyzer that merges multiple functional units into one device. Data acquisition, signal conditioning and storage are combined into a powerful tablet unit suitable for sound and vibration data recording, NVH testing, acoustic troubleshooting and noise control.

Voyager is set to transform the NVH testing industry as the frontrunner in on-site measurements. Gain an acoustic impression of a sound event by listening to the sensor signal in real-time. Benefit from the superior advantages of the Microflown particle velocity sensor, in terms of background noise cancellation and signal-to-noise boost, for locating sound sources. The embedded touch-controlled software offers the ability to run targeted vibro-acoustic analysis intuitively on the pot, monitor soundscapes and locate sound sources reliably over with

quick scans. Use the analysis tool like octave bands, FFT, spectrogram or loudness, both real-time or recorded data. Visualize, analyze and record data by means, of just a single handheld device, making the Voyager an indispensable portable NVH testing tool. The Voyager partners up perfectly with software platform Velo. Data recorded with the Voyager can be imported directly to Velo for comprehensive analysis such as creating a sound power ranking table. Voyager is the new standard as a portable frontend to interface with your Velo applications.

Key features

- Portable multi-channel sound analyzer
- Triple modes: standalone, portable front-end & portable recorder
- Built-in battery and internal storage capacity
- Embedded touch controlled software
- Octave Bands, FFT, Spectrogram & Loudness
- Real time audio filters, for analysis and listening
- Compatibility with all Microflown probes
- Compatible with up to 2 additional (IEPE) sensors
- Comprehensive data compatibility

Key applications

- Portable data recorder
- Mobile data acquisition
- Quality and End-of-Line Control
- Acoustic analysis
- NVH Testing
- Noise source identification & mapping
- Buzz, Squeak & Rattle noise localization
- Acoustic leakage detection
- Sound Intensity
- Sound Power

Intuitive quick access toolbar

Overview of different modes on quick access toolbar allows switching between operation modes

Interactive visual representation

Range of tools to analyze the graphical data representation. Go ahead: pinch, zoom or take a snapshot



A touch of software ingenuity

The device interface is intuitive to operate and the modular applications enable easy usage by NVH experts and technicians alike. Inspired by the workflow operation, as daily used on mobile devices such as smartphones and tablets, a target was set to bring a similar approach and experience to the Voyager. All operations are easily done, fully configurable in a matter of seconds. The touch controlled interactive icons provides ready access to different modes & settings: you can listen to the

signal in real-time, switch to playback or analysis mode with just a single touch operation icon. All settings and options are directly accessible and directly visible, leading to easy and fast operation.

Intuitive toggles provide single touch activation or deactivation of many features. The icon based menus leave a clear & large space open to display all your analysis data, offer the perfect balance between intuitive usage and visual display.



Measuring made easy



Modular firmware licenses MAKING THE RIGHT TOOLS AVAILABLE

One device with modular firmware licenses enabling a scalable platform, making the right tools available for your measurement campaign. Scale up at any moment by upgrading your firmware licenses.



LISTEN & VISUALIZE

Gain an acoustic impression of a sound event by listening to the sensor signal in real-time. Benefit from the superior advantages of the Microflow particle velocity sensor, in terms of background noise cancellation and signal-to-noise boost, for locating sound sources. Offering a variety of tools for visualizing and analyzing your data recordings or even in real-time, display spectrum, octave bands, spectrogram or loudness.

RECORD & PLAYBACK

The Voyager sets another milestone for portable recording. Capture data on the spot to analyze directly on your voyager, import your recordings in Velo for comprehensive processing and analysis or use the captures in your software of choice. Moreover, it is your portable recorder in the field for Scan&Paint 2D. Capturing Scan&Paint 2D data for your high-resolution sound maps, even down to 20Hz, has never been easier and more intuitive.

DATA ANALYSIS

All recorded data in the project can be selected for playback and comprehensive analysis. The intuitive software offers ready access to the analysis settings in the form of an all-in-one overview, with just a single touch command.

TARGETED BAND FILTERING

Implementation of real-time filters provides deeper insight into the analyzed data. Manage multiple IIR filters up to 20 orders for low, band-pass, band-stop or high pass filter on a single or all the channels interactively. The phase and magnitude response of the filters can be set individually in the dedicated settings pane.

CAMERA ICON

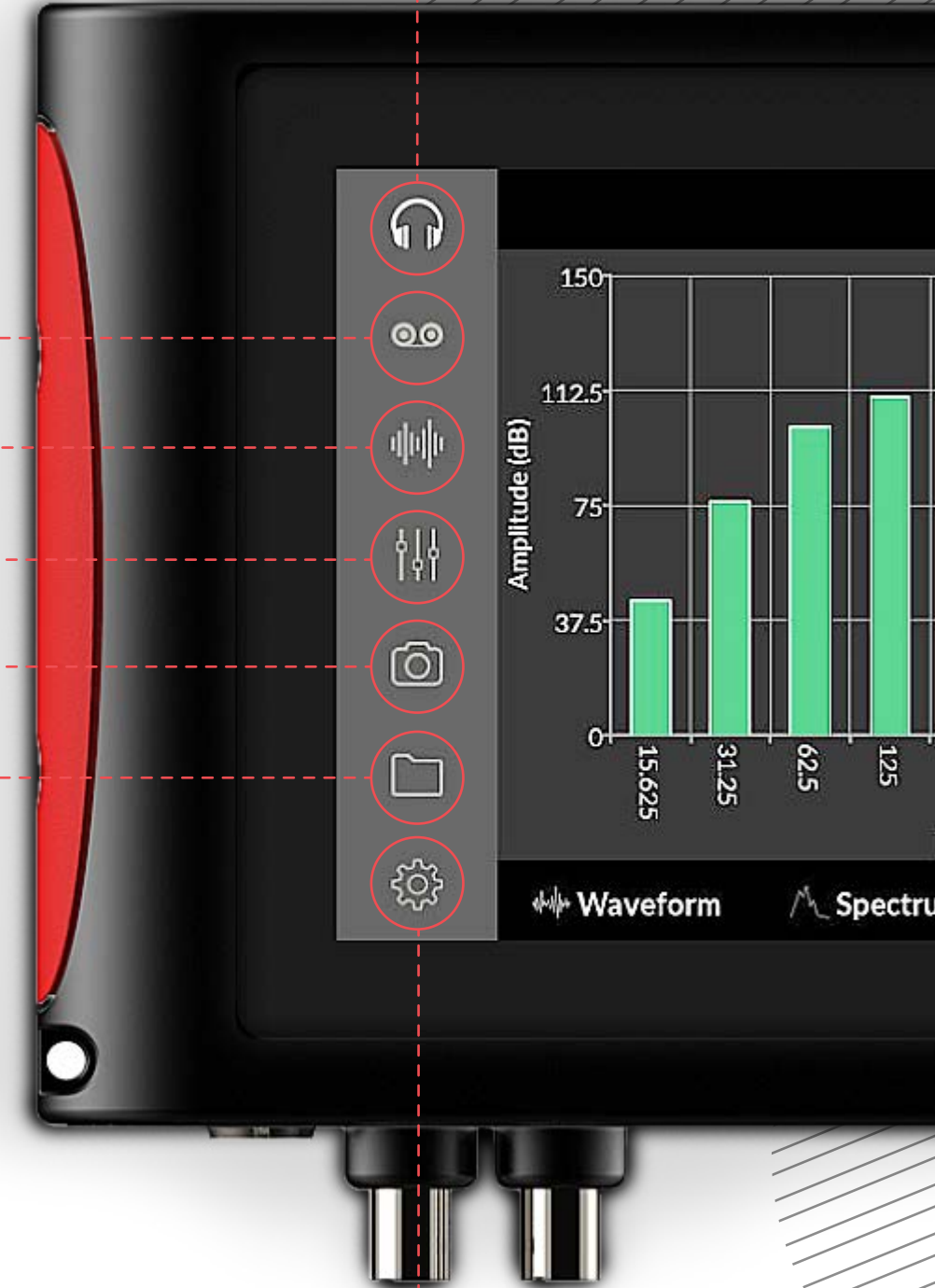
Store an optical reference linked to your acoustic measurement data by taking a picture with the the build-in camera.

DATA MANAGEMENT

The project based on-board data storage offers a reliable solution to structure and manage data. Raw data, filtered data, analyzed data, pictures and snapshots are saved and seamlessly export across multiple platforms, including the Microflow Velo software platform. Convert data to (time)corrected wav files including dynamic range settings for third party software compatibility.

CONFIGURATIONS

All the configuration settings of voyager are available in the configuration tab. Both global and project dependent settings can be adjusted intuitively. It contains three subtabs that can be easily accessed at the bottom of the screen: Sensors, Settings and Firmware.



MAKING THE RIGHT CONNECTIONS

Voyager, the next generation hardware platform. Be ready for a bright Microflown future together with voyager. The voyager will set the new standard as portable frontend for Microflown based measurements and solutions.

The voyager is a portable NVH testing device that merges multiple functional units like data acquisition, signal conditioning, battery, and storage into a powerful tablet device. A powerful tool as a standalone device, enabled by the many features and possibilities embedded in the firmware. Furthermore, a state of art interface to our Velo 64bit software platform and its unique solutions as mobile

data acquisition. We'll further build on the Voyager, by both adding modules and capabilities to its embedded firmware and growing the amount of Velo applications.

PLUG & PLAY HARDWARE WITH 6 INPUT CHANNELS"

BNC AUXILIARY CHANNELS 5&6

Two multipurpose BNC input channels, either analogue or IEPE enabled, can be used with a variety of common sensors e.g. microphones or accelerometers. The signals could be used for example to capture relative phase information or transfer functions.

MICRO-USB | OTG

Multi-purpose port. Connect and flash the latest firmware to your Voyager device. Secondly, it offers a way to easy access the internal memory and transfer data to your computer. Last but not least, this port can be used to interface the Voyager as mobile DAQ with Velo

ETHERNET

Enable network features, such as remote control, data transfer and using the Voyager as network data acquisition.

CONTROL SWITCH

The device can be launched by short pressing this button. While the software is running, this control can be used to switch the screen ON and OFF with a short press.

LEMO INPUT CHANNELS 1-4

The input for the main sensor and compatible with all Microflown sensors. Naturally including the new robust PU Voyager probe, enabling new applications and bringing particle velocity to a broader world

HEADPHONES | 3,5 MM JACK

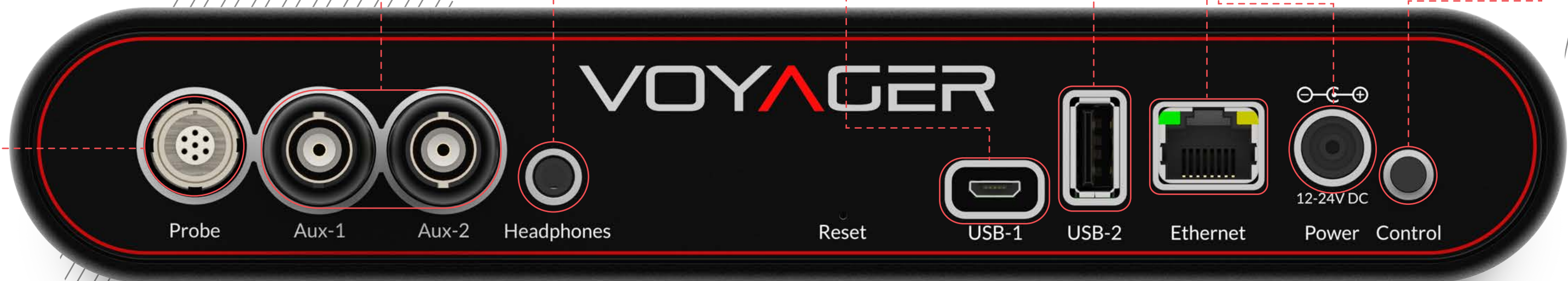
Connect the headphones for real time listening or audio playback, with or without filtering applied. Utilising the superior advantages of the Microflown, in terms of back ground noise reduction and signal-to-noise boost.

USB 2.0

The USB 2.0 is for general usage and connect compatible external devices.

POWER INPUT

Charge the build-in battery.



Hardware **FULL(Y) SPEC(KED)**

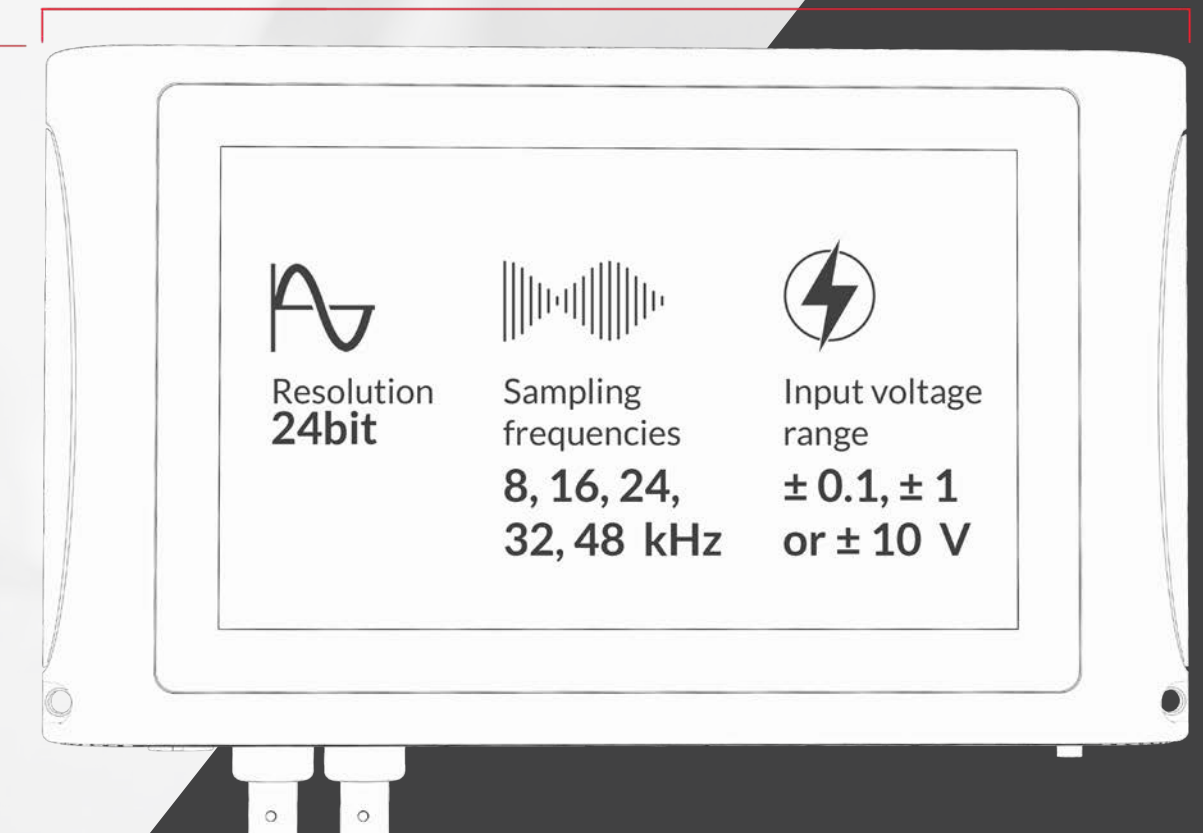
The voyager is fully packed with the latest technology. The 24bit resolution offering a wide dynamic range, set your sample frequency starting from 8 ranging up to 48 kHz. The choice input ranges give you the range you need. Fast processing is possible thanks to the fast quad core processor and with 32GB of internal storage you can take on any project. The 6 hours of battery life are ready to support you in the field.

BUILT-IN CAMERA

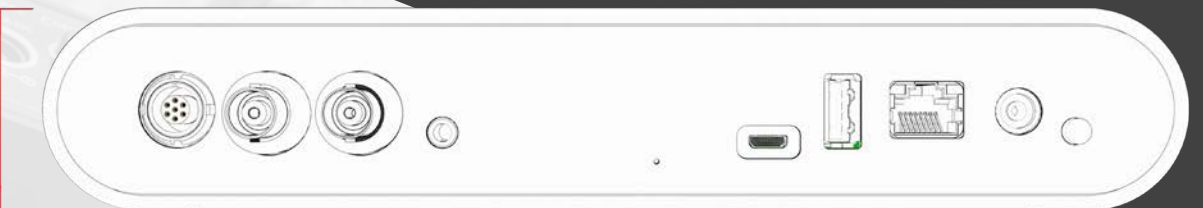
The built-in camera enables you to store an optical reference linked to your acoustic measurement data by taking a picture. Furthermore, the option to synchronize video with measurement data enables the use of the device as a portable recorder for Scan&Paint 2D.

135 mm

225 mm



40 mm



Weight
1300 g

CPU
Quad Core 1 Ghz

Internal Storage
32 GB

Lithium-ion
6 Hours 4800 mAh

Operating Temp
0 to 40 °C

Storage Temp
-20 to 50 °C

Portable recording, anywhere



flexible & versatile VOYAGER THE BEST TOOL FOR IN THE FIELD

Comprehensive exporting and support options

More flexible & versatile than ever before. Voyager offers comprehensive integrated exporting options. Directly convert the stored hd5 files to Wav format, in either of 32 or 16 bit, including an option to set dynamic range settings, enhancing compatibility with third-party software. Furthermore, there is documentation and API for integrating voyager as portable data acquisition with third-party or your in-house developed applications. Also, a Public GitHub repository is accessible as a tool for developers.

Field calibration with a sound calibrator

We are excited to introduce a real novelty for Microflow and its sensors. Our latest addition to the sensor family, the so-called PU Voyager, will be the first of Microflow sensors to be compatible with a standard sound calibrator for performing field calibration. This field calibration can be performed before or after your measurements as quality check to ensure good functioning of the sensor. It works as follow, a sound calibrator is used to validate the sensor against a known level, for example alt a level of 94dB at a frequency of 1kHz. To accomplish this our team of expert designed a special adapter suited for the PU Voyager probe and compatible with standard in the market available one-inch sound calibrators. On the Voyager device the new firmware offers an intuitive embedded, tool to execute fast and easy a field calibration. After performing

the field calibration, the tool allows with one finger touch to update and introduce the new sensitives for the sensors in to the device.



CHARTING SOUND FIELDS

Remote access and control with your smartphone, tablet or laptop!

Simply connect your voyager to the same network as your device and you can fully access and control the voyager remotely. Start your recordings or check the FFT in real time. Transfer files and folders easily to your device or enable a network based connection using voyager as portable frontend for Velo 64 bit.



Microflown's software platform **PARTNER UP WITH VELO**

Voyager is a perfect match with our PC-based software platform called Velo. Setting a new hardware platform to offer you a more intuitive, plug & play experience with the Velo software applications. Providing more flexibility and easiness to measure anywhere and anytime.



Voyager file import

Go mobile and capture your vibro-acoustic data with your small battery-operated Voyager device and your Microflown probe. Easily transfer data by either USB or through a network drive to your PC for comprehensive data analysis in Velo. The recorded files can be imported directly into your Velo application to for example create a sound power ranking table or transmission loss calculation.

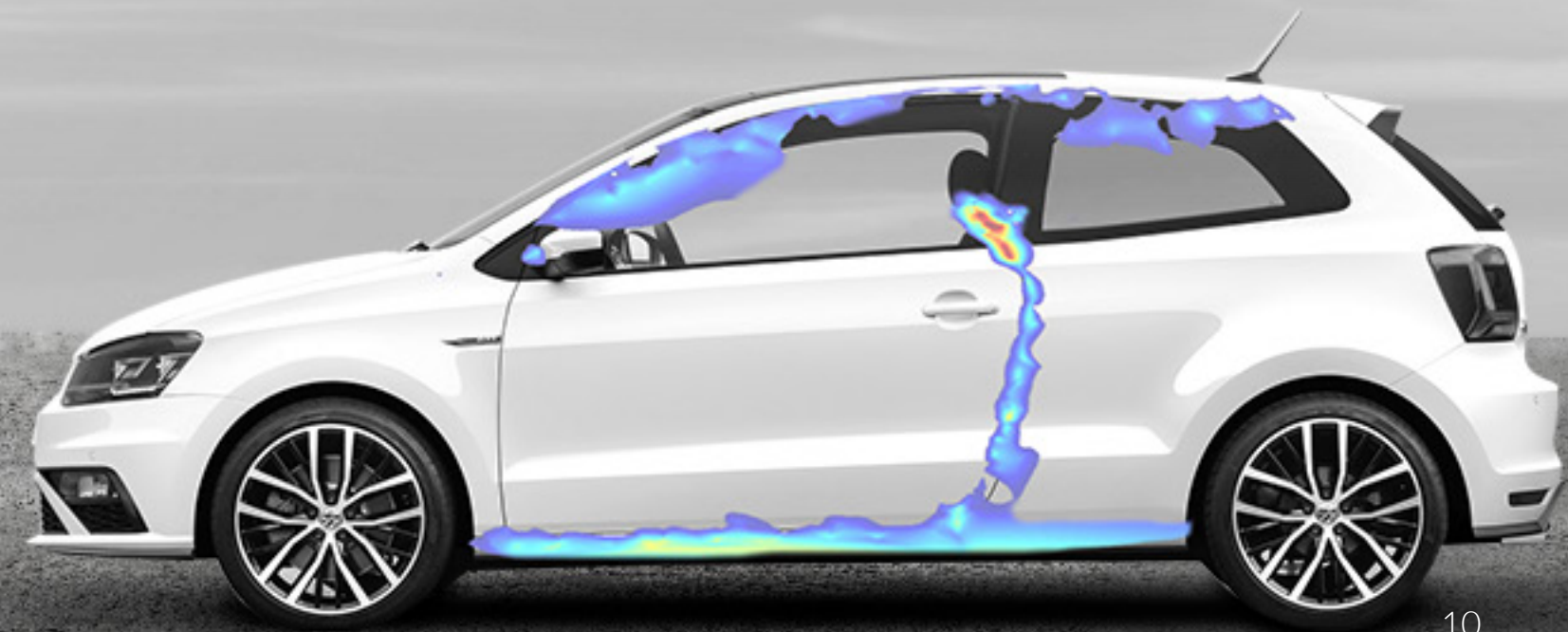
Mobile multi-channel data acquisition system

A new way to interface our sensors and probes with our Velo applications, voyager sets the new standard as a portable multi-channel data acquisition. Bringing your analog Microflown Microflown sensor & probe signals in the digital domain into Velo. Start your measurement campaigns either by making a direct connection with your PC by using the Micro USB or connect voyager into the same network as your PC. Enabling to remotely connect to voyager as your Velo data acquisition system.

Portable recorder Scan&Paint 2D

Capturing Scan&Paint 2D data for your high-resolution sound maps, even down to 20Hz, has never been easier and more intuitive. Directly capture data at the measurement location with your Voyager device. With one simple toggle you can enable this recording mode and enable Voyager as your portable recorder for Scan&Paint 2D. Simplify your testing times and get ready to measure without a PC or laptop. Localize your sound sources in a matter of minutes.

[video ▶](#)





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