STRONG PARTNERS

VIBES has partnerships with leading companies in both the NVH measurement and the NVH simulation industries, ensuring compatibility and seamless integrations.

ASAM

ANSYS

VIBES.technology

PAK MÜLLER-BBM VibroAkustik Systeme

MathWorks

MSC Software

HOW TO IMPLEMENT?

Depending on your needs, select one of the following ways to make use of DIRAC and implement the technology.

IN–HOUSE

DIRAC is designed to be intuitive and self-explanatory. If you are planning to structurally implement the technology into your R&D processes, this is the right choice.

OUTSOURCE TO VIBES

For single projects, tighter deadlines or teams without the capacity to pick up more work VIBES can offer all-in projects.

WORK TOGETHER

Experience the full potential of experimental modeling without investing a lot of time? Work together with VIBES engineers in a joint project to discover the possibilities for your products.

LEARN MORE ABOUT DIRAC? VISIT OUR WEBSITE

WWW.VIBESTECHNOLOGY.COM/SOFTWARE

ABOUT VIBES

VIBES.technology is founded with a mission to make advanced Experimental Substructuring techniques available for the engineering community. Every engineer should be able to do these complex analyses *first time right*. To make this possible, we develop intuitive and user-friendly applications and help build this competence in your company.

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VIBES SOFTWARE: DIRAC

BUILD EXPERIMENTAL FRF MODELS COMPATIBLE WITH FE SIMULATIONS

DIRAC is the first software of its kind that enables engineers to build accurate FRF models from measurements. Prepare, perform and analyse measurements with DIRAC to create FRF models compatible with Finite Element simulation through 6 DoF nodes and increase the quality and speed of your sound & vibration design process.

VIBES New Tech Program
Pre-register now for the DIRAC pilot at
www.vibestechnology.com/newtech

VIBES.technology

EXPERIMENTAL MODELING WORFLOW

1

Define the interfaces
Identify the interfaces or coupling points of the subsystem of interest to its neighbouring substructures. At each interface a Virtual Point can be defined: a 6-DoF 'node' that allows to couple the experimental model to another experimental model or a numerical FE model.

2

Prepare the measurement
Use the CAD-based measurement preparation in DIRAC to design the experiment. The Virtual Points are typically not accessible for measurement themselves; therefore sensors and (force) inputs are placed close to the Virtual Points. DIRAC will transform all the data as if it were measured at the Virtual Point. The sensor types, positioning and specifications are all set in DIRAC to make the actual measurement *plug & play*.

3

Perform the measurement
First, set up the hardware according to the prepared experiment. During the measurement DIRAC will share live feedback about the model quality, using the sensor specifications, the geometry of your experiment and smart background checks. The 3D viewer guides the process.

4

Evaluate the measurement
Switch to the *Analyze* mode to see how your experimental model is generated from the measurement data. The advanced browser allows to quickly view the measurement results as a whole or zoom in on a single FRF.

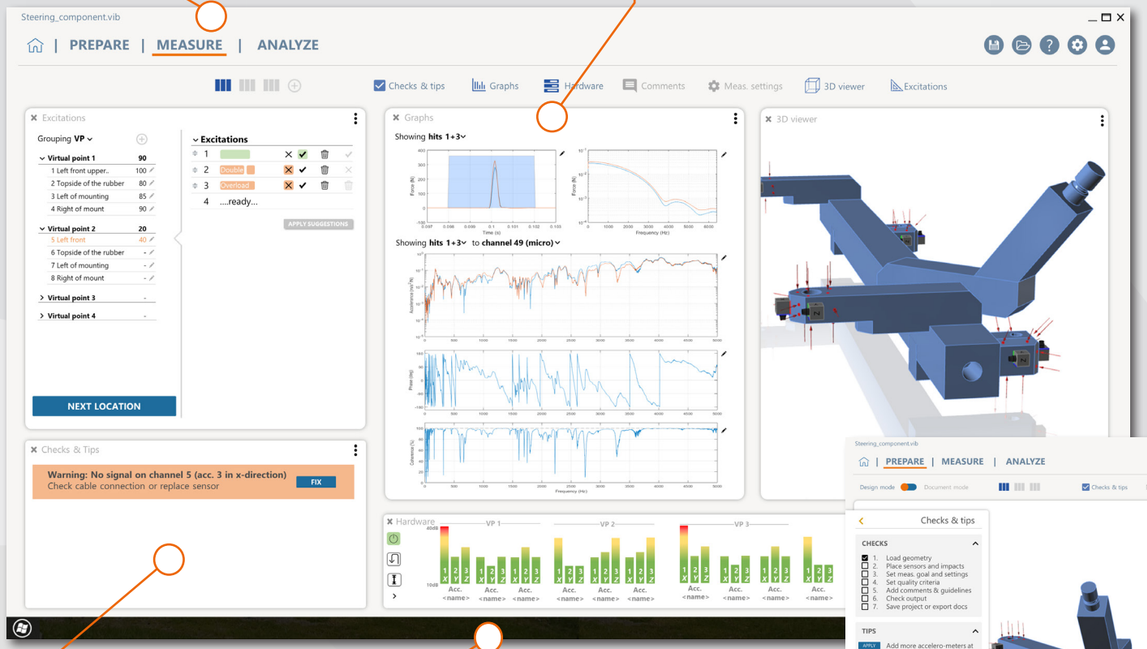
5

Export the model
Use the FRF model in MATLAB or simulation packages as MSC Nastran or Ansys for further analysis, or couple multiple FRF models to create a full system.

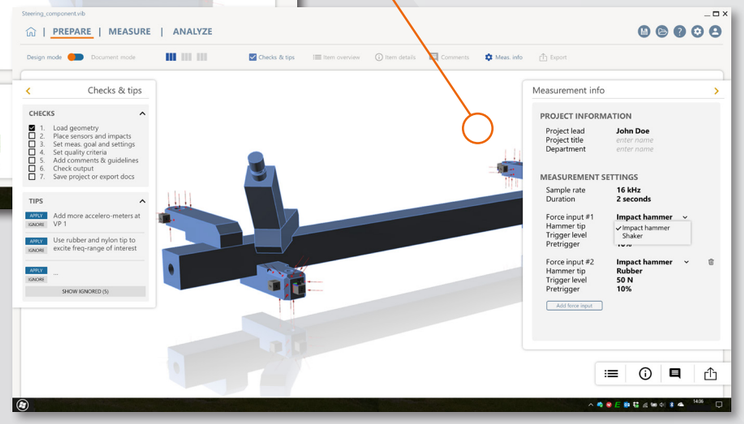
Prepare. Measure. Analyze.
Three distinct steps guide you to high-quality measurements – with dedicated tools and layout, optimized for the job.

2D results presentation
Of course, the graphs you already now are there. But, we added some graphs you'll never want to work without again: evaluate your measurement as a whole, check impact and sensor consistency per Virtual Point and more.

VIBES SOFTWARE: DIRAC
High quality FRF models, created through an intuitive workflow with clear indication of the model's quality. Seamless use of Virtual Points, allowing for a new level of compatibility, rotational DoF and quality assurance. Based on Open Standards, so the model can be used for further analysis in standard measurement and simulation packages or MATLAB.



CAD based navigation
The positioning info on sensors and excitations is based on CAD files. Sensor orientations are automatically transformed to global coordinate systems, Virtual Points are automatically calculated. Supported file formats include .stl, .step, .dwg and .iges.



Checks guide the process
Checks and tips are included in the software to ensure all necessary steps are taken towards a high quality model.

Live feedback
Connect with data acquisition hardware for live feedback while measuring. Works with Müller-BBM MKII (generation 2) systems.