Simcenter Testing Solutions

Driving innovation and productivity in test-based engineering

Realize innovation.

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Challenges for test & validation teams

Enable product innovation	Deliver on brand promise	Balance performance	Handle uncertainty
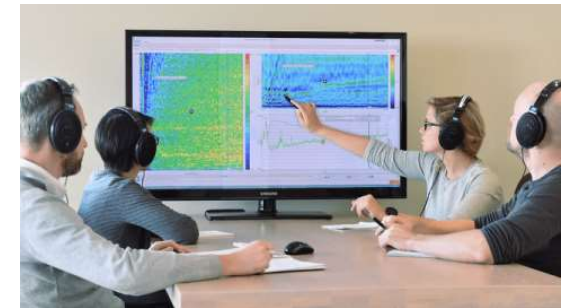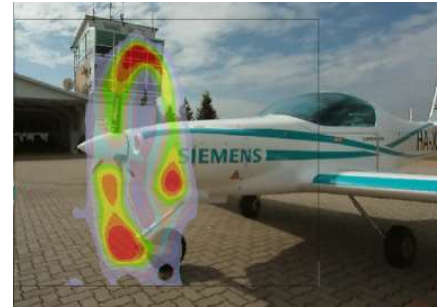
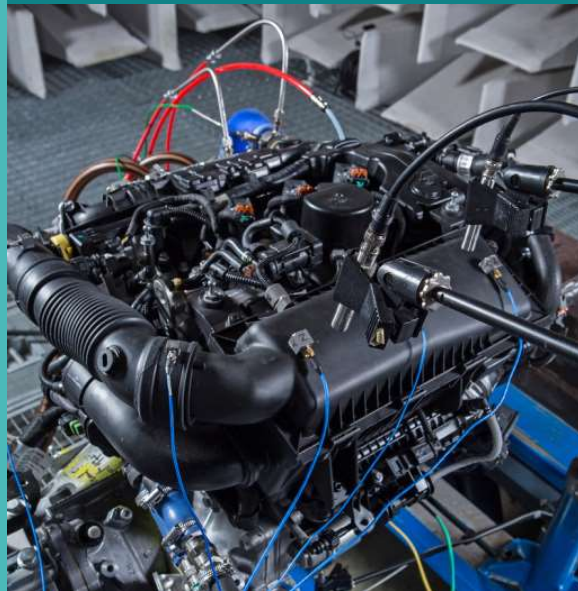| Support process efficiency	Reduce time to market	Eliminate inefficiencies	Enable globalization

Under the constraints of

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Increasing test complexity

Growing product diversity

Shortened test schedules

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Enable product innovation in test-based engineering

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Deliver critical insights

- Diagnose problems quickly
- Analyze the root cause
- Perform 'what-if' iterations
- Understand complex designs

Unify testing and analysis

- Combine separate tests into single campaign
- Perform multi-disciplinary analysis
- Balance key performance attributes

Combine test & simulation

- Verify and validate models
- Correlate test and simulation
- Complete models with test data
- Embed simulation into testing

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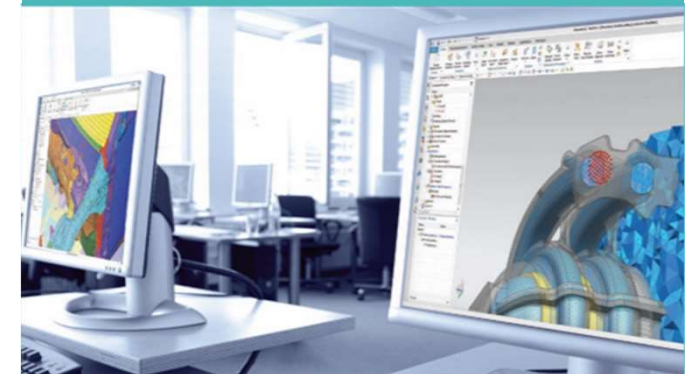
Support process efficiency in test-based engineering

Focus on productivity

- Accelerate test preparation
- Automate test execution
- Validate on the spot
- Streamline repetitive analysis
- Speed up reporting

Standardize on one platform

- End-to-end integrating all tasks
- Cover standard tests as well as advanced engineering
- Perform lab, mobile, and autonomous testing

Support collaboration

- Capture and automate corporate testing procedures
- Support testing teams worldwide
- Manage test data and integrate with PLM

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1 Multi-physics data acquisition hardware

2 Software suite for data collection analytics modeling

3 Multi-disciplinary test-based performance engineering

2019-11-07

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Simcenter SCADAS
Multi-physics data acquisition hardware

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Sheer measurement productivity

- Condition a wide range of analog and digital sensors
- One single system covering multi-physics testing
- Capacity of hundreds of channels at once

Flexibility fitting industry needs

- Handheld, mobile, autonomous and laboratory solutions
- Universal modules to optimize investment
- Mix-and-match mobile and laboratory configurations

Superior precision and data quality

- State-of-the-art signal-to-noise and dynamic range
- Ultra-low noise floor and highly precise phase match
- Precise time-synchronized data in any configuration

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Simcenter Testlab
Data collection, analytics and modeling software suite

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Speed up data collection
- Accelerate test preparation
- Introduce standardized tests in advanced engineering
- Validate acquired data immediately and reduce costly testing time

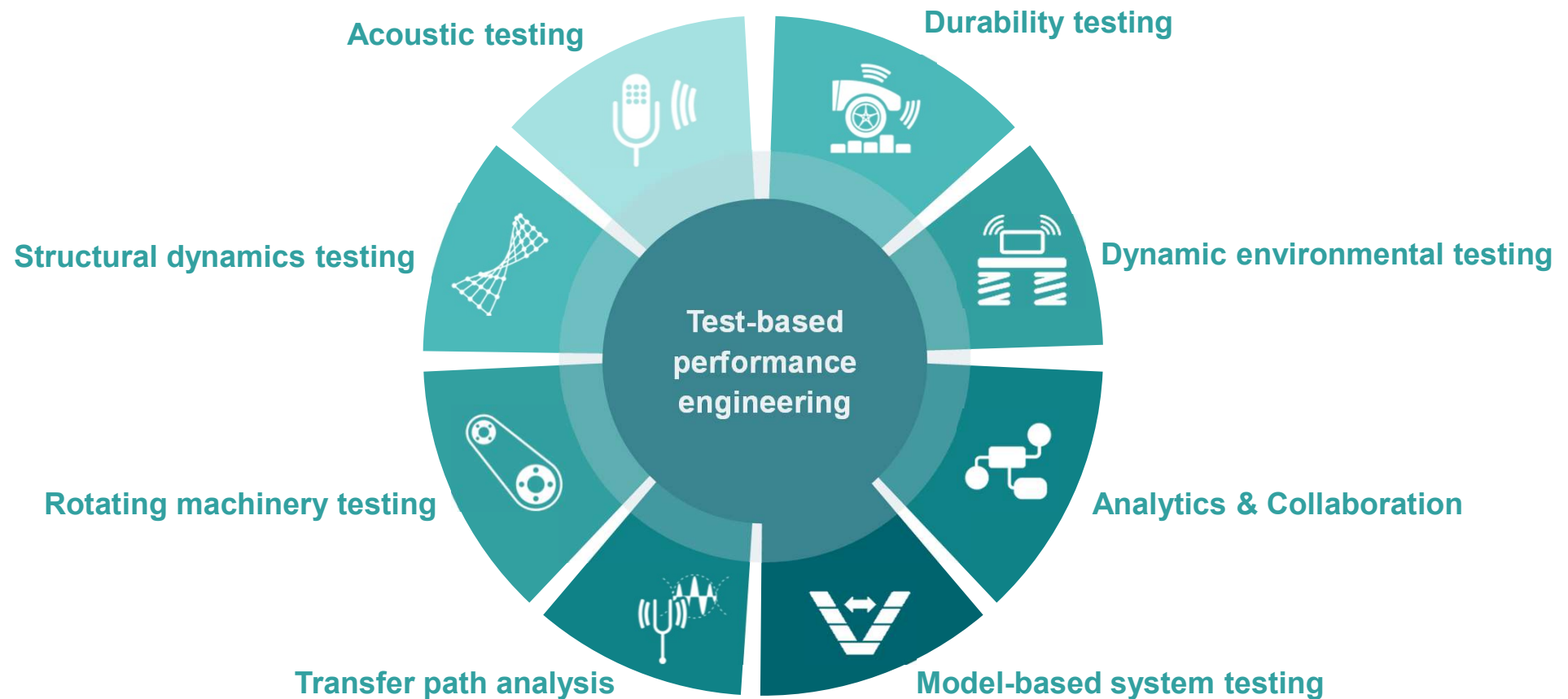### Convert measurements to insights
- Carry out interactive and automated multi-disciplinary analytics
- Identify the root cause and compare two datasets promptly
- Share your insights and reports easily

Connect to simulation
- Provide simulation with real-life loads and models
- Correlate simulation and test results on the spot
- Embed simulation models in the test setup

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Multi-disciplinary test-based performance engineering

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Acoustic testing

Durability testing

Structural dynamics testing

Dynamic environmental testing

Test-based performance engineering

Rotating machinery testing

Analytics & Collaboration

Transfer path analysis

Model-based system testing

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Aerospace & Defense
Applications tailored to Aviation and Space Systems

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Ground vibration testing

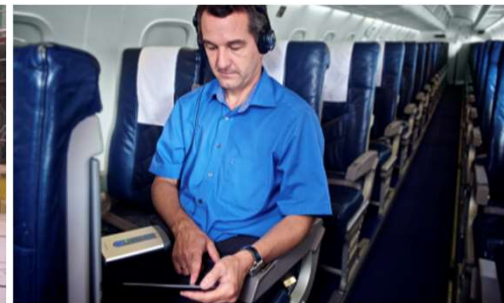**Dynamic environmental testing**

Closed-loop acoustic control
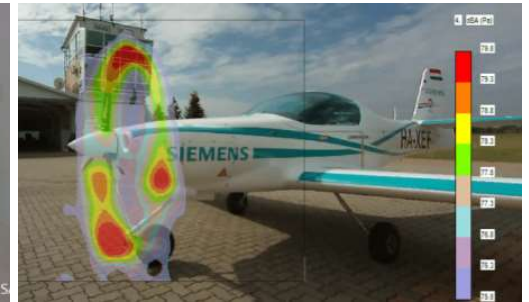
Sound source localization

Experimental modal analysis

Jet engine testing

In-flight testing

… many more

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Automotive & Transportation
Applications tailored to Automotive OEMs and Suppliers

Road load data acquisition

Experimental modal analysis

Pass-by noise engineering

Accelerated life testing

(H)EV powertrain testing

Transfer path analysis
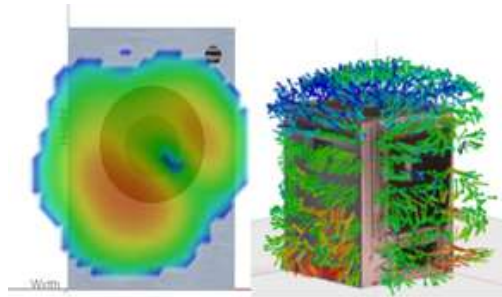

Sound quality engineering

… many more

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Consumer Products and Retail
Applications tailored to Home Appliances & Tools

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Sound power testing

Sound source localization
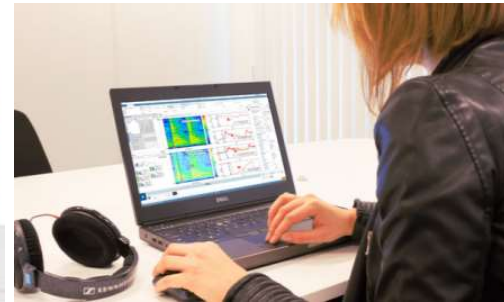
Sound quality engineering
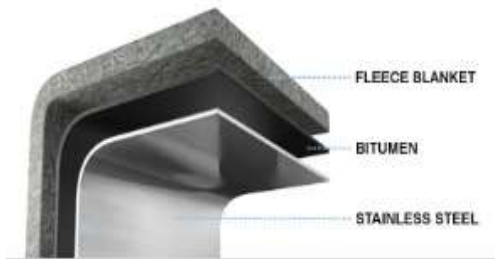
Acoustic material testing

FLEECE BLANKET
BITUMEN
STAINLESS STEEL

Human body vibration

Experimental modal analysis

Vibration qualification testing

Handheld data acquisition

Siemens Digital Industries Software
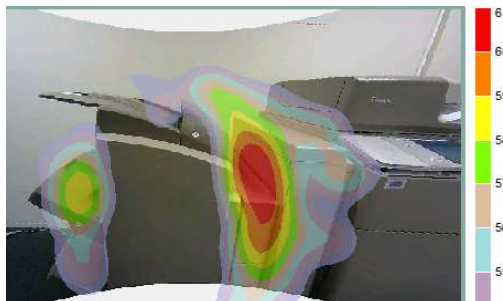
Electronics & Semiconductor
Applications tailored to Consumer & Industrial Electronics

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Sound power testing

Sound source localization

Sound quality engineering

Vibration troubleshooting

Vibration qualification testing

Handheld data acquisition

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Energy & Utilities
Applications tailored to Equipment Manufacturers

Operational modal analysis
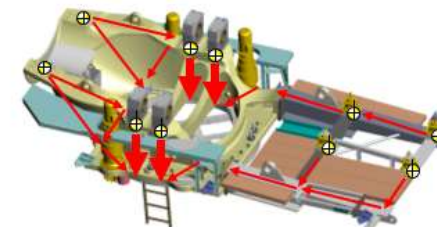
Sound power testing

Sound intensity testing

Handheld data acquisition

Vibration troubleshooting

Durability testing

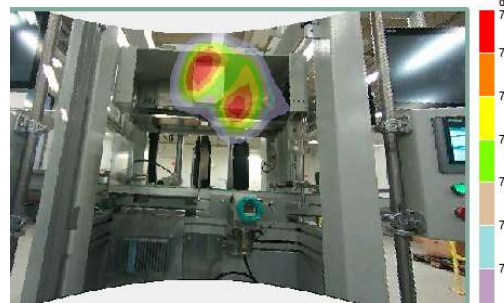VIBRATION TRANSFER PATH
BEDPLATE & HUB

Transfer path analysis

Rotating machinery testing

Industrial Machinery & Heavy Equipment
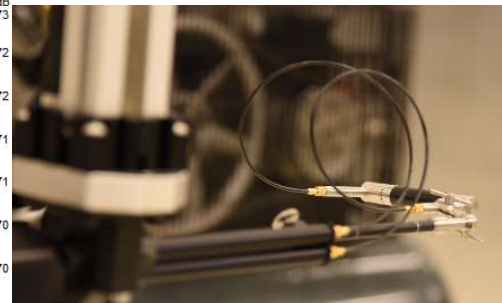## Applications tailored to Industrial Machinery

Experimental modal analysis

Sound source localization
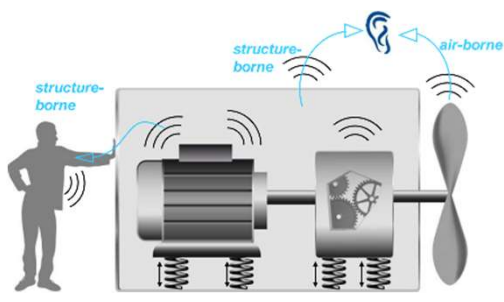
Sound intensity testing

Rotating machinery testing

Transfer path analysis

Handheld data acquisition

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Industrial Machinery & Heavy Equipment
Applications tailored to Heavy Equipment
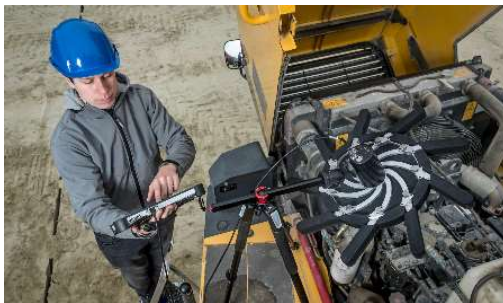
In-field rugged acquisition

Operational NVH testing

Pass-by noise engineering

Load & fatigue analysis

Combustion engine testing
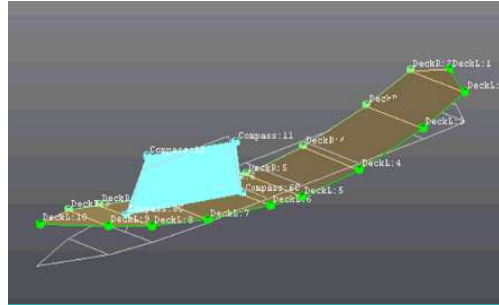
Experimental modal analysis

Transfer path analysis

… many more

Pictures in corporation with VDAB competence center

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Marine
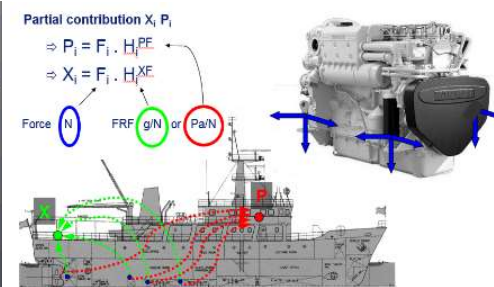## Applications tailored to Shipbuilding

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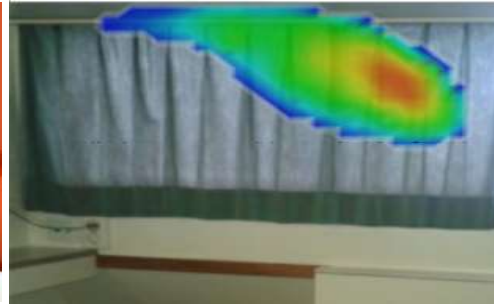**Handheld data acquisition**

Operational modal analysis

Transfer path analysis

Human body vibration

Rotating machinery testing
Torsional vibration testing

Sound source localization

Medical Devices & Pharmaceuticals
Applications tailored to Medical Devices

SIEMENS
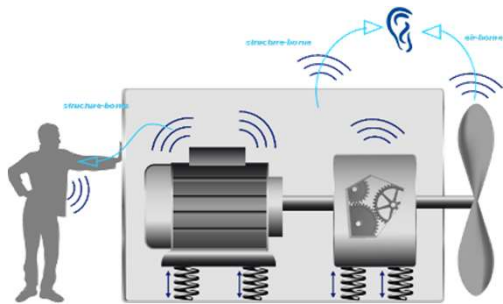*Ingenuity for life*

Vibration troubleshooting

Experimental modal analysis

Sound power testing

Transfer path analysis

Vibration qualification testing

Handheld data acquisition

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Testing teams around the world

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"Efficiently conduct tests that achieve precise results."

UTAC Ceram

"The excellent quality is really appreciated by our technicians who use it every day."

Airbus Defense & Space

Copyright Airbus Defence and Space

"Simcenter Testing Solutions play an important role in the early design stages to confirm the simulation results."

Moventas

Unlike traditional test solutions our solutions

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Provide scalability

- From simple tests to advanced engineering
- From component-based to system-level
- At the concept, laboratory and field stage

Based on platform strategy

- Lowering cost of ownership
- Increasing interoperability
- Maximize team collaboration

Fit for the future

- Close the loop with simulation
- Adaptable to changing role of testing
- Integral part of Digital Twin approach

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Simcenter Testing Solutions

Designed for testing teams worldwide, Simcenter Testing Solutions deliver critical insights to innovate smart products under tight schedules.

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Simcenter Testing Solutions, part of Simcenter portfolio
Engineer innovation