

Company Profile



About Us



Noise and Vibration problems?

We will make it *sound* better!



SV IDEAS is an independent NVH testing and consultancy company based in Bengaluru- India, providing engineering service globally. We are a flexible, self-motivated, result-oriented and customer-focused team. With an industrial experience of over 18 years in the wide domain such as **Automotive, Railways, Marine, Energy, Construction and Mechanical industry**, we can serve OEMs, component manufacturers, part suppliers, institutions, and commodity manufacturers.

We use proven state-of-the-art technology, instrumentation and software. Our focus is on providing deliverables with utmost care right from the selection of sensors & instrumentation, mounting of sensors, good measurement method, accurate acquisition of data, scientific analysis, and viable solution. We strive to provide authenticate and unbiased results those are easily accepted by our customer's customers or end-users.

We aim to provide top class service and solutions to our customers which improve the competitiveness of a product. We want to be part of the success with our clients, as a partner rather than a contractor!



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About Us

JOINT VENTURE IN INDIA



Hong Kong
(Founded in 2005)



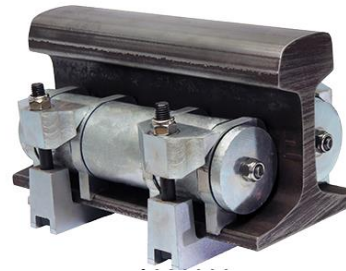
India

Services

- ☐ Railways Noise & Vibration Control
- ☐ Trackform Vibration Isolation
- ☐ Construction Noise and Vibration
- ☐ PA (Public Address) & VA (Voice Alarm) system Acoustic Design
- ☐ Architectural Acoustic Design
- ☐ Building Acoustics
- ☐ Machinery Vibration Analysis
- ☐ Environmental Noise Assessment
- ☐ Finite Element Analysis (Dynamics & Fatigue)

Products

- ☐ Tuned Mass Damper
- ☐ SilentUp Noise Barrier
- ☐ SilentCUBE Noise Enclosure



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Our Scope

SET

- Estimate
- Benchmark
- Simulate
- Target Cascade
- NV Plan/Design

MEASURE

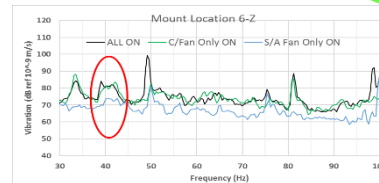
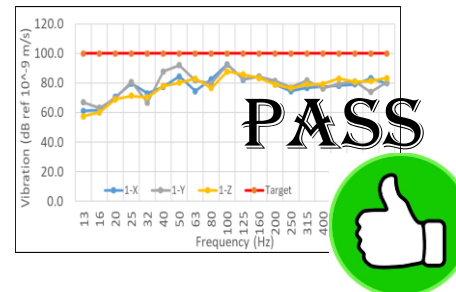
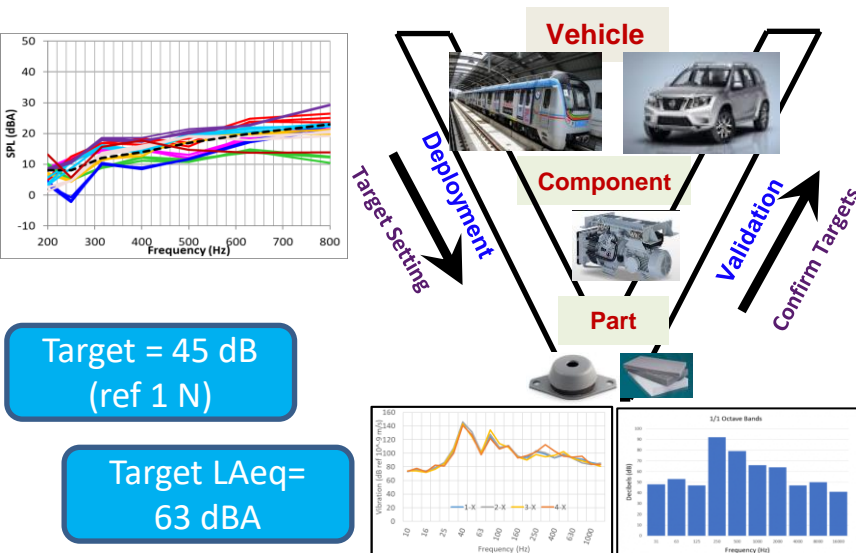
- Measure
 - Sound
 - Vibration
 - Force
 - FRF.....

ANALYZE

- Pass/ Fail
- Certification
- Compare
- Study
- Root Cause

SOLVE

- Feasibility
- QCT
- Countermeasure idea & Solution
- Conclusion



<Issue> : Vibration levels at 40 Hz did not meet the target

<Root Cause> : Fan bracket resonance excited at 22 Hz

<Mechanism> : Resonance phenomenon occurring during fan operation

<Countermeasure> : Use of damper sheet to reduce the Vibi

Solution

Fig. Root Cause Investigation



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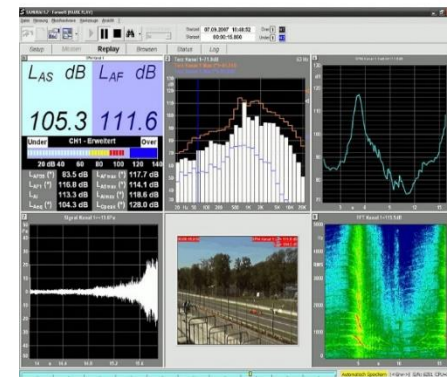
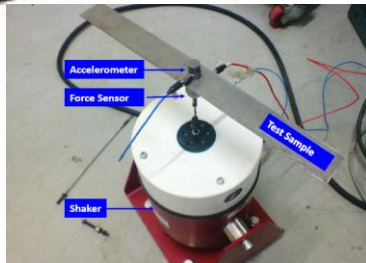
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Resources

- ❖ Sound Level Meter
- ❖ Multi-channel Data Acquisition System
- ❖ Accelerometers, Microphones
- ❖ Sound Intensity Probe
- ❖ Impact Hammer, Force sensors

Third party

- ❖ Vibration & Shock tables
- ❖ Impedance Tube, Damping Test Rig
- ❖ Anechoic Room, Reverberation Chamber

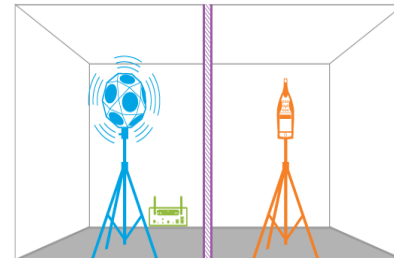


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Our Market

- ❖ Railways & Components
- ❖ Automotive & Components
- ❖ Farm equipment
- ❖ Construction
- ❖ Machinery
- ❖ White Goods
- ❖ Community Rooms
- ❖ Special rooms



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Our Services

- ✓ **Acoustics & Vibration measurements & Simulation**
- ✓ **Finite Element Analysis (Dynamics & Fatigue)**
- ✓ **NV Data processing and Analysis**
- ✓ **Machine Diagnostics- Noise & Vibration measurement & Analysis**
- ✓ **Root cause study and countermeasures proposals on NVH problems**
- ✓ **Noise & Vibration performance estimation, and component level target cascading**
- ✓ **Noise & Vibration Test and Certification as per various Standards (MIL/ISO, etc)**
- ✓ **Structure Borne & Airborne Noise measurements**
- ✓ **Sound Power Measurements (Standard ISO 9614, etc)**
- ✓ **Shock & Vibration Tests (Standard IEC 61373, etc)**
- ✓ **Acoustic Material Testing: Sound Absorption, Transmission Loss, Damping**
- ✓ **Modal Analysis**
- ✓ **Training on Noise and Vibration**



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Our Experience

Segment	Specialization	Main task/ Results
Railways & Component suppliers	Testing & Evaluation- Train level & equipment level	<ul style="list-style-type: none">- Train Exterior & Interior Noise- Track decay rate measurement, & Rail roughness measurement- Structure-borne Noise & Vibration, Equipment Contribution Analysis- Sound Power, Sound Pressure, Mobility, Induced Vibration & Force, Vibration Isolation, Shock & Vibration of equipment, Endurance test
Automotive-OEM	NVH- Performance Engg: Trimmed Body/ Vehicle NVH	<ul style="list-style-type: none">- Vehicle & Component level performance- Acceleration Noise, Booming Noise, Idle Noise & Vibration, Road Noise, NTF, VTF, Inertance, Sound Isolation- Benchmarking, Performance Estimation- Source Path Contribution- Quality improvements, Advanced Engineering
Automotive-Tier-1	Part & Component level NVH evaluation	<ul style="list-style-type: none">- Test & Evaluation of Acoustic Materials- Sound Absorption, Transmission Loss, Damping Loss factor, Insertion Loss, BIOT parameters
Marine, Energy, Construction, Machinery, White-goods, & Others	Noise & Vibration Testing and Certification, Countermeasure & Solution	<ul style="list-style-type: none">- Sound Power, Sound Pressure, Structure-borne & Air-borne Noise- Condition Monitoring- FFT, CPB, Modal Analysis- Onsite Test & Validation- Training on NVH Engineering



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Project Experience

- 49 CFR § 229.129 - Locomotive horn, Sound Pressure Level test, and Endurance Tests
- Testing and Evaluation of Acoustic Control System for DG Set
- Testing and Evaluation of Cooling Fan
- Consultancy work on noise reduction of a Transformer Yard
- Training on NVH Theory and Application to Automotive Shock Absorber Company
- IS 12180 - Method for noise measurement of agricultural tractors : Bureau of Indian Standards
- IS 12180-1 & 2: Tractors and Machinery for Agriculture and Forestry - Noise Measurement - Method of Test, Part 1: Noise at The Operator's Position - Survey Method, Part 2: Noise Emitted When in Motion.
- IS 9935: Power Tiller - Test Code : Bureau of Indian Standards
- Measurement of Air-borne Noise, Structure-borne Vibration, and Floor Vibrations on Building structure
- BS EN 14750-2:2006 Railway applications —Air conditioning for urban and suburban rolling stock — Part 2: Type tests



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Professional Experience

- ISO 3095: 2013 Acoustics — Railway applications — Measurement of noise emitted by Railbound vehicles
- ISO 3381: 2005 Acoustics – Measurement of noise inside rail bound vehicles
- DIN EN 15461:2011, Railway applications - Noise emission - Characterization of the Dynamic Properties of Track Sections for Pass By Noise Measurements
- BS EN 15610:2009- Railway applications - Noise emission - Rail roughness measurement related to rolling noise generation



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- ISO 9611:1996-08; Acoustics - Measurements of velocity at the contact points of machinery when resiliently mounted
- DIN 52221: 2006; Test in building acoustics- Measurements of structure-borne sound produced by technical appliances in buildings
- ISO 7626-5: 1994 Vibration and shock – Experimental determination of mechanical mobility - Part 5: Measurements using impact excitation with an exciter which is not attached to the structure
- ISO 7626 Parts 1&2 Experimental determination of mechanical mobility
- Dynamic Force measurements of Railway equipment on the mounting structure
- ISO 9614-2 : 1996, Determination of sound power levels of noise sources using sound intensity -- Part 2: Measurement by scanning
- ANSI/AHRI STANDARD 220, Reverberation Room Qualification And Testing Procedure For Determining Sound Power of HVAC Equipment
- ANSI/AHRI Standard 230, Sound Intensity Testing Procedures for Determining Sound Power of HVAC Equipment
- ISO 3744, Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane
- ISO 3747, Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering/survey methods for use in situ in a reverberant environment
- ISO 3741, Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Precision methods for reverberation test rooms



Professional Experience

- BS EN IEC 61373 Railway applications – Rolling stock equipment – Shock and vibration tests
- IEC 60068-2-6, Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)
- IEC 60068-2-27, Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock
- Customized specifications E.g., Random vibration tests for extended frequency range of 5~1200 Hz, Shock tests for shorter or longer impulses
- **Marine valves Type Tests:** Noise Emission Tests as per MIL-STD-1474D, Military Standard and Structure-borne Vibratory Acceleration Measurements MIL-STD-740/2
- **Oil Separator Machines:** Air-borne Noise tests as per ISO 3744, and Structure-borne Vibratory Acceleration Measurements MIL-STD-740/2
- **Pump Type Tests:** Noise Emission Tests as per MIL-STD-1474D, Military Standard And Structure-borne Vibratory Acceleration Measurements MIL-STD-740/2
- Acoustic Testing Inside **Locomotive Cab** According to Standard EN ISO 3381:2005
- Noise & Vibration Testing on **bridge and girders** at Airport Metro Express Line
- Cranking Noise measurements in the passenger vehicles and Noise measurements of the **Starter Motors**
- Acoustic Testing and Vibration tests on **RO plants**
- Noise and Vibration measurements in the **passenger vehicle**
- Vibration measurements on **Roof of the building-** Study of vibration transfer from Blowers
- Noise and Vibration measurements on **Gear Box Motor**
- Structure-borne & Air-borne Noise measurements on **D.G. Set**
- Noise Performance Benchmarking, Testing, Product Development and Performance Evaluation of Dash Insulator & Vibration Dampers for Passenger Vehicles
- Physical Lot Vehicle NVH Development and Confirmation, and Design Reviews
- NVH Performance Analysis and Countermeasure Plans for Quality Score Improvement for a car
- NV Performance Planning to Achieve Acceleration Noise, Booming Noise & Idle Vibration Targets for a Vehicle



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THANK YOU

