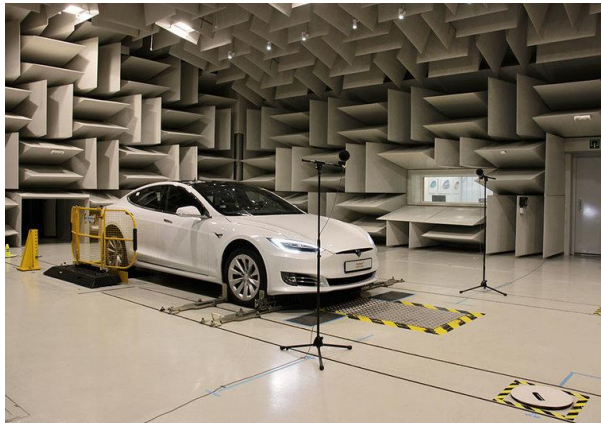


# NVH vehicle development

Applus IDIADA is an independent partner for the automotive industry with extensive capacity for the management and resolution of NVH development projects.



## DESCRIPTION

Applus IDIADA is an independent partner for the automotive industry with extensive capacity for management and resolution of NVH development projects. Tools for testing and simulation, a highly experienced team, integration within a whole-vehicle performance department and management network for global development projects provide us with unique characteristics to carry out successfully global NVH projects.

Applus IDIADA offers a wide range of activities that allow taking into account the NVH performance at any stage of the vehicle development project:

- Vehicle concept and target definition
  - Benchmark measurement programs
  - Establishment of project targets – Target book
  - Analysis of design concepts
- Development and testing
  - Design validation plans
  - Subjective assessments
  - Measurements and troubleshooting for the full-vehicle NVH performance
    - Interior noise and vibration measurements:
    - Road noise
    - Wind noise
    - Powertrain noise and vibration

- Squeak and rattle
- Exterior noise measurements:
  - Regulation fulfilment
  - Source contribution analysis
- Measurements and troubleshooting for the system and sub-system NVH performance
  - Combustion noise
  - Intake and exhaust noise and vibration measurements
  - Door slam
  - Brake noise - squeal and judder
  - Tire noise
  - Noise from HVAC units, etc.
- Measurements to support to CAE development and correlation:
  - Body-in-white and trimmed body modal analysis
  - NTF and dynamic stiffness measurements
  - Noise and vibration isolation measurements
  - Structural acoustic cavity modes
- NVH target validation
- Troubleshooting and tuning
- Component validation
- Exterior noise development