

Body Performance

Applus IDIADA has more than 30 years' experience in body performance, providing comprehensive simulation services for all functionalities in all vehicle types. We support customers in their projects, from concept phase to start of production.

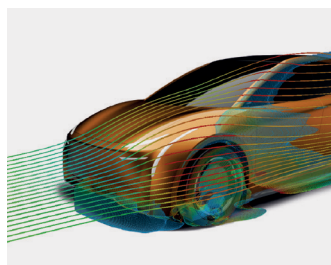
At IDIADA, we provide seamless integration between simulation and testing engineering which assures a high correlation level. Moreover, we are experts in the areas of active and passive safety, strength and fatigue, NVH and CFD.

In the pursuit of offering the best service to clients, our approach is flexible and adapts to clients' requirements. Our multidisciplinary team is involved in R&D EU funded projects and international consortiums, such as, the EuroNCAP working groups for virtual homologation and HBM to provide world-leading innovative solutions.

HIGHLIGHTS

- Long & broad experience in simulation
- Capacity to manage complete projects
- Seamless integration between CAE and testing
- Strong investment in R&D to provide best-in-class simulation services
- Multidisciplinary international team of more than 350 experienced engineers and project managers
- Worldwide international presence and collaboration with over 200 clients
- Extensive experience in a variety of vehicle types

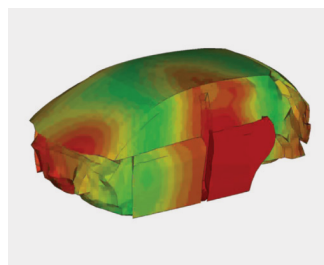
INTEGRATED TESTING



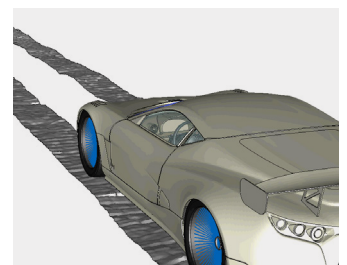
AERODYNAMICS & CFD



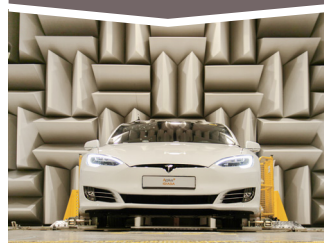
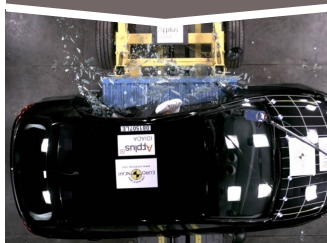
PASSIVE SAFETY



NVH



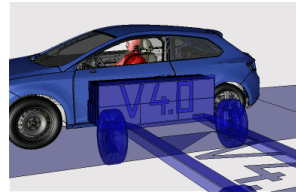
STRENGTH & FATIGUE



CAPABILITIES

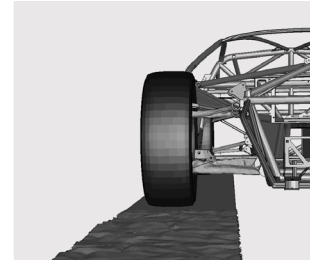
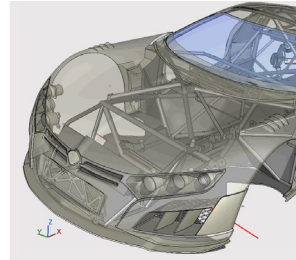
PASSIVE SAFETY

- Crashworthiness
- Occupant protection
- Pedestrian protection



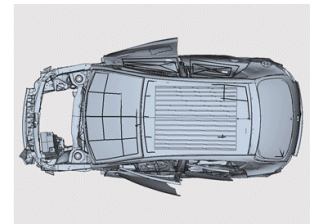
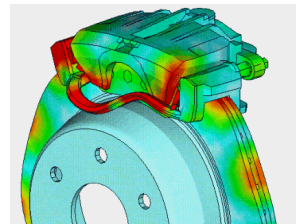
STRENGTH AND FATIGUE

- Static and dynamic stiffness analysis
- Fatigue analysis: Load history from test or simulation data, static and dynamic simulation of stresses and thermo-mechanical fatigue life prediction
- Thermal analysis



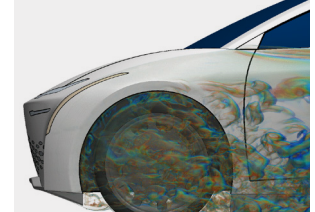
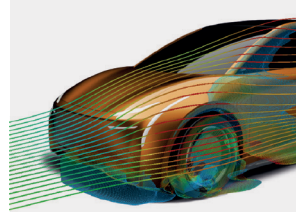
NOISE VIBRATION AND HARSHNESS

- Trimmed body vibrations
- Interior noise prediction
- Panel contribution & sensitivity analysis
- Brake noise phenomena



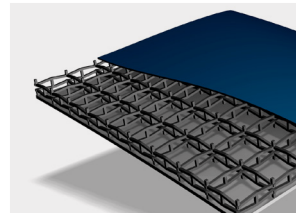
FLUID ENGINEERING

- Aerodynamics
- Thermal management
- HVAC systems
- Aero-acoustics
- Brake cooling
- Multiphase simulation



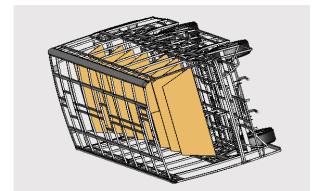
MATERIALS ENGINEERING

- Multi-material body solutions
- Dynamic building-block approach
- Performance-driven material characterization & Material cards generation



COMMERCIAL VEHICLES

- ECE R66 Roll Over Resistance
- All previous capacities are also available and adapted for commercial vehicles



SOFTWARE

- **SOLVERS:** MSC Nastran, Abaqus, FE-Safe, Adams, VPS (Pam-Crash), Radioss, LS-Dyna, Madymo, Powerflow, Star-CCM+, Ansys Fluent, Openfoam, Hyperform, Primer
- **PRE & POSTPROCESSOR:** Ansa / Meta, Hyperworks, Animator, Generator

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