



**ALTRAN IN
AUTOMOTIVE ELECTRIFICATION**

alTran

Altran positioning in Automotive Electrification

Automotive division supports car makers and Tier 1 through a whole product development offer portfolio, from style to industrialization. Local laboratories and international network enable innovative solutions for the most advanced electric and electronic systems, for new generation powertrain up to the complete vehicle development.

Altran Italia provides customer-oriented solutions from micro hybrid to full electric powertrain.



Our offering:

FEASIBILITY STUDY

- Driving performance and range
- Driving conditions
- Use cases and special requirements

PERFORMANCE SIMULATION FOR DIFFERENT ARCHITECTURE CONFIGURATIONS

- Energy consumption
- Cost appraisal (TCO)
- Charging possibilities

SYSTEMS ENGINEERING ACTIVITIES

- Requirements specification
- Standards compliance
- System and subsystem design

FUNCTIONAL SAFETY - ISO26262 APPLICATION

- Process design
- Safety case design
- Architectural design

RELIABILITY ANALYSIS ON HYBRID VEHICLES

- Benchmarking and target setting
- Product reliability optimization (FMEA)
- Industrialization and production optimization

SOFTWARE & CONTROLS

- Control design for e-machine, battery management, AC/DC
- Model-based software development
- Software validation MIL / SIL / HIL

HW & POWER ELECTRONICS DC/DC

- Power electronics feasibility and design
- Digital control boards design
- Prototyping and manufacturing

EM ANALYSIS & SIMULATION

- Powertrain EMC design
- E/E architecture and harness
- EMI assessment

SIMULATIONS & VIRTUAL VALIDATION

- Battery and thermal management
- Comfort and NVH analysis
- Passive safety analysis

ELECTRICAL POWERTRAIN ADVANCED TESTING

- Test bench development
- Electrical components simulation
- Test automation framework