

Automotive





# Trusted Solutions For Automotive



Driving a safer,  
cleaner and more  
efficient industry



A wide range of  
automotive services  
during the entire  
lifecycle of the  
product



Extensive expertise  
in automotive testing  
and global laboratory  
testing capabilities

# Product Categories We Cover



## Raw materials

Polymers & plastics  
composites  
Metal  
Paintings and coatings  
Rubber  
Glass



## Trim & décor

Handle  
Seat  
Armrest  
Door trim  
Seat trim  
Dashboards materials  
Paintings



## Mechanical systems

Steering wheel  
Gear box  
Steering column  
Airbag  
Seat belt  
Clutch



## On-board electronics

Led/lighting  
Converter  
Car Key  
Tactile screen  
Sensor  
Camera, Radar & Lidar  
Intelligent antenna

# Services We Offer

## MATERIALS TESTING

- UV photoaging (xenon arc, fluorescent lamp, carbon arc)
- Corrosion (humid cycled or constant)
- Climatic aging (hot, cold and humid conditions, exposure to sunlight)
- Mechanical testing
- Appearance testing (e.g. abrasion, scratching, fluid impact)
- Thermal analysis (e.g. DMA, TMA, DSC, TGA, ash content)
- Flammability testing (FMVSS302)
- Interior emissions (VOC/Formaldehyde testing, odor, fogging)
- Chemical analyses (e.g. GC-MS, HPLC, GC-FID, FTIR, ICP)
- Cleanliness of components
- Pressure testing
- Failure and damage analysis

## TESTING - DYNAMICS

- Seat endurance
- Chassis part fatigue
- Armrest force test
- Electric rear mirror adjust test
- Window regulator test
- Door handle/grip test
- Side door key life test
- Open/close inside/outside
- Hood fatigue endurance test
- Electric/manual tailgate fatigue
- Airbag
- Seat belt testing



# Services We Offer

## ON-BOARD ELECTRONICS TESTING

- Gas corrosion
- Vibration & shocks
- IP (Ingress of Protection, dust & rain)
- Climatic tests (temperature & humidity, constant & cycled, thermal shock, altitude, splash water)
- Abuse testing and life cycle
- Electrical measurements (resistivity, insulation, & contact resistance, ESD, micro-cut, dielectric strength)
- Failure and damage analysis (whisker test by SEM-EDX, surface analysis by ToF-SIMS, XPS, AES)
- HALT & HASS
- Restricted substances (e.g. RoHS, Reach & GADSL, WEEE, ELV)
- EMC
- Wireless testing
- Test item with AI solution
- Software validation and functional safety (ISO 26262)

## HOMOLOGATION

- Testing services
- Submission of approvals (E1 Germany, E4 Netherlands, E5 Sweden, E24 Ireland, Taiwan)
- Interpretation of test standards
- Investigation of requirements for target markets
- Preparation of manufacturer's documents
- Trainings / Audits (e.g. ISO 17020, ISO17025, ISO 9001)
- Conformity of Production (COP)



# Services We Offer

## POWERTRAIN TESTING

- Engine & vehicle testing:
  - Portable Emissions Measurement System (PEMS)
  - IUVP & vehicle procurement
  - Mileage accumulation
- Powertrain component testing:
  - Catalyst aging
  - Fuel systems testing
  - High flow servo-hydraulic testing
  - Low and high load electrodynamic vibration
- Electrified propulsion testing:
  - Electric drivetrain testing
  - Data acquisition software and post test analytics

