FROM RESEARCH TO INDUSTRY

cea tech

CEA TECH SERVICES FOR GROUND TRANSPORTATION

Technology for tomorrow's ground-transportation challenges

CHALLENGES FOR GROUND TRANSPORTATION

User experience
Interior air quality, ergonomics, audio and video interfaces, assembly details and quality, driver monitoring, self-driving vehicles

Infrastructure
Smart roads, multi-modal transportation, charging stations and network connectivity, tolls, weather stations, signage, traffic management

Safety and reliability
Braking assistance, embedded systems reliability, wear monitoring, driver assistance

Green transportation
Lightweight vehicles, energy efficiency, waste treatment, recycling, traction and energy-recovery systems

E-services
Internet connectivity, vehicle-to-vehicle connectivity, secure communications

Manufacturing and maintenance
Production line ergonomics, training, process optimization/flexibility/control, in-operation monitoring and maintenance of infrastructures and equipment

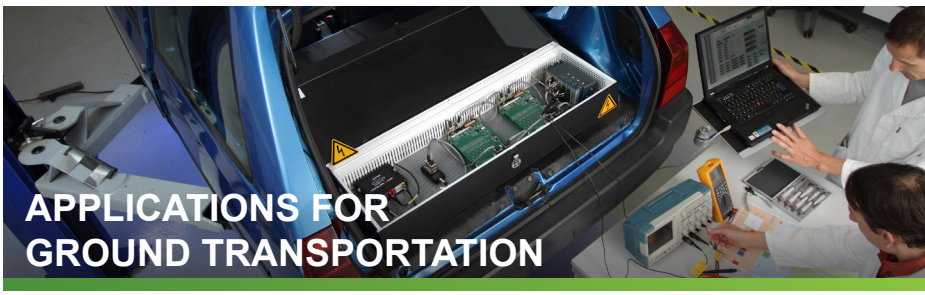
CEA Tech technology

- Reliability
- Electronics architecture, battery management systems
- Vision and lighting systems
- Materials, assembly, and characterization
- Sensor systems and integration
- Carbon-free energy production
- Storage systems
- Software

CEA Tech can help the following businesses:

- Automotive component manufacturers and subcontractors
- Car manufacturers
- Network manufacturers and operators
- Digital technology companies

Here are some of the ways CEA Tech can support your development:



Cabling diagnostics	Embedded diagnostics, cable network maintenance, electrical fault and electric arc detection
Sensor systems	Air quality, VOC detection, airbag systems, safety systems, skid prevention, seating comfort
HMI (virtual and augmented reality, touch screens)	Dashboard instrumentation, texture feedback, functionalization of glass surfaces (projected GPS, soundproofing), displays
On-board vision systems	Night vision for safety, geolocation, detection of pedestrians and obstacles, rear-view cameras, distance measurement
Materials and assembly	Lightweight structures, deformable materials, enhanced molds for manufacturing, magnets for motors
Energy (batteries, fuel cells, organic photovoltaics)	Electric traction systems, battery management systems, energy recovery, auxiliary consumption reduction, organic photovoltaics, vehicle-network and vehicle-home charging
Power electronics	GaN-based component manufacturing and circuit design
Advanced manufacturing	Workstation ergonomics, training, automated loading, maintenance
Software and communication	Vehicle-to-vehicle and machine-to-machine communication, smart tolls, internet connectivity
Software and embedded systems design	Software development tools (software robustness and reliability, error detection); electronic components
Non-destructive testing	Material defect detection, characterization of composite materials, predictive maintenance
Data analysis	Optimized vehicle range for each route, information and multimedia
Recycling	Materials recycling (metals, plastics), lifecycle analysis, waste-to-biomass
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