

# ADAS and Automated Vehicles



## DESCRIPTION

Applus+ IDIADA offers complete services for ADAS and automated vehicles through the entire development cycle, from concept phase to final validation. These services include complete support for functions implementation, combining functional requirements expertise, software development processes, hardware integration experience and state-of-the-art simulation and testing tools.

We provide comprehensive experience for all systems on the market:

<p>Partial automation</p> <ul style="list-style-type: none"> <li>• Active Cruise Control (ACC)</li> <li>• Lane Centering systems</li> <li>• Traffic Jam / Pilot / Highway Assist (L2 / L3)</li> <li>• Automated Parking</li> </ul>	<p>Transversal detection</p> <ul style="list-style-type: none"> <li>• Crossing targets, including pedestrians, cyclists and powered two wheelers (AEB VRU)</li> <li>• Intersection assistant</li> </ul>
<p>Frontal detection</p> <ul style="list-style-type: none"> <li>• Autonomous Emergency Braking (AEB)</li> <li>• Forward Collision Warning (FCW)</li> </ul>	<p>Lateral Detection</p> <ul style="list-style-type: none"> <li>• Lane Departure Warning (LDW)</li> <li>• Lane Keeping Assistance (LKA)</li> <li>• BlindSpot Detection (BSD)</li> <li>• Lane Change Assistance (LCA)</li> </ul>

Full support addressing the whole development cycle:

- Benchmarking for vehicle and system evaluation
  - Complete vehicle level
  - Sensor and data fusion level
- Function specification and system requirements
  - User, functional and performance requirements
  - HW / SW specification
  - Targets setting
  - Traceability tools according to automotive standards
- Function and system development
  - Data fusion and control logic development
  - Prototype and production level SW
  - Functional safety and cybersecurity concept
  - Small series / customized functions
- Physical testing
  - State-of-the-art proving grounds and test tools
  - Objective and subjective evaluation
  - Real driver evaluation on proving ground and in driving simulator
  - Field operational tests worldwide
- Virtual testing
  - MiL / SiL / HiL / DiL / ViL
  - Open and modular architecture for customized setups throughout the development cycle
- System integration
  - System application / system calibration
  - Market-specific tuning
  - Electrical and electronics integration
- Complete vehicle, function and system validation
  - Combined proving grounds and field operational tests worldwide
  - In-house and market-specific validation catalogues
  - Official Euro NCAP test house
- Homologation
  - Official homologation capabilities recognized in all markets worldwide
  - Future homologation requirements related to ADAS and automated vehicles

