



## Connected and Automated Vehicle Engineering Services

Applus IDIADA is a leading development partner for ADAS and Connected and Automated Vehicle (CAV); offering both high-value services and state-of-the-art testing facilities worldwide. Our holistic approach enables us to support clients throughout all stages of vehicle development, from concept to final validation.

### Worldwide Engineering Services

IDIADA has the capability to cover all existing ADAS functionalities for safety and comfort. Moreover, IDIADA is developing criteria, procedures and tools for the development and deployment of higher levels of automation.

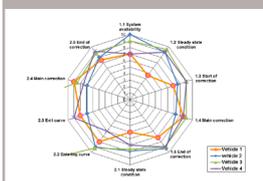
#### BENCHMARK



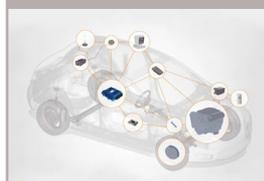
#### VALIDATION



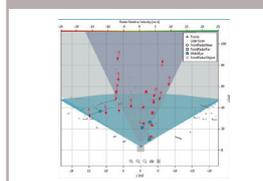
#### TARGET SETTINGS



#### INTEGRATION



#### APPLICATION



#### TRACK TESTING



#### FIELD OPERATIONAL TESTS



### Key features

- Extensive experience in turnkey development and application projects
- Expert know-how through the whole development cycle, from concept to final validation
- Dedicated team for hardware and software development according to automotive standards, including expertise in functional safety, safety of the intended function (SOTIF) and cyber security
- Multidisciplinary teams with expertise in combining virtual and physical testing
- Comprehensive participation in working groups, European Commission projects and in leading industry consortia for innovation projects

## Virtual Validation Services

To facilitate synergies between physical and virtual testing, IDIADA has implemented a virtual validation environment that permits the development and validation of CAV and ADAS systems. This includes:

### TWO DRIVING SIMULATORS WITH CAPABILITY FOR:

- Human factors evaluation
- Tuning of longitudinal and lateral control strategies
- Steering feel evaluation
- Naive and professional driver usability
- Failure mode analysis
- System algorithms validation

### IDIADA VIRTUAL PROVING GROUND:

- Virtual files representing IDIADA Spain Proving Ground are available to correlate models in optimal context



## Worldwide Testing Capabilities

IDIADA has purpose-built CAV testing and validation facilities in multiple locations, covering Europe and Asia. These facilities are complete with all the required test tools, the capability to perform all existing ADAS functionalities and the support of experienced engineers and technicians.

Main ADAS functionalities:

### PARTIAL AUTOMATION

- Active Cruise Control (ACC)
- Lane Centering systems (LC)
- Traffic Jam Assist / Pilot Assist / Highway Assist

### FRONTAL DETECTION

- Autonomous Emergency Braking (AEB)
- Forward Collision Warning (FCW)

### TRANSVERSAL DETECTION

- Pedestrian and Cyclist Detection (AEB VRU)
- Intersection Assistance

### LATERAL DETECTION

- Blind Spot Detection (BSD)
- Lane Change Assistance (LCA)
- Lane Departure Warning (LDW)
- Lane Keeping Assistance (LKA)
- Emergency Lane Keeping (ELK)

### OTHERS

- Driver Drowsiness Detection
- Door Opening Alert
- Park Assist
- Rear Collision Warning
- Intelligent Speed Adaptation

## CAV FACILITIES FOR TESTING

### MAIN CENTRES FOR ENGINEERING AND TESTING



#### China

- Project Managers in Shanghai
- Test tracks in Zhaoyuan

#### Spain

- Project Managers, engineering and test track testing in Barcelona

#### USA

- Project Management and Engineering in California
- Testing team across the USA

### BASES FOR FIELD OPERATIONAL TESTS

Australia • Brazil • China • Czech Republic • France • Germany • India • Italy • Malaysia • Mexico • Morocco • Spain • Saudi Arabia  
• South Africa • Sweden • Thailand • Turkey • UK • USA

### CONTACT INFORMATION

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