

ADAS/AD Functions

We offer complete end-to-end solutions for the design, development, testing and verification of advanced driver assistance systems (ADAS) and autonomous driving (AD) functions — combining vehicle sensors, map data, telematics, and navigation guidance using machine learning and data fusion techniques. This enables our clients to not only manage the challenge of developing, (virtual) validating, homologating, improving and continuously updating ADAS and AD vehicle functionality, but to also differentiate through enhanced AD/ADAS capabilities.

The challenge

Where automakers once sought to stand out with driving experiences, now it's crucial to provide enhanced driver and passenger experiences. At the same time, improving vehicle occupant safety, comfort and convenience have become increasingly software-defined and interlinked with autonomous and assisted driving functions. Moreover, as the industry strives to reach and exceed Level 3 automation, automakers must take new, practical, cost-effective and maintainable approaches. We help automakers and their key partners with challenges that include:

- Developing autonomous capabilities beyond Level 2 under high cost and time pressures
- Taking over full responsibility for software maintenance of your existing assets including collaboration with other third-party suppliers
- Accessing various and very specific IT skills — from public/private cloud and DevOps to embedded in-vehicle software
- Using scalable software simulation, and testing skills and services
- Reducing the costs and complexity associated with evolving self-driving car functionality
- Complying with increasing legal requirements and ensuring the safety of vehicle functionality
- Building reusable software components that can be deployed on central HPCs to reduce the number of ECUs coupled to vehicle hardware components

Our solution

Our ADAS and AD Functions solution incorporates the design of autonomous driving systems, in-vehicle embedded software development, and software testing of self-driving car functionality. Moreover, we ensure managing data to continuously verify the self-driving vehicle functionality. Our solution includes perception software for camera, lidar, radar, and ultrasonic sensors, along with sensor fusion, environment model, localization, positioning, driving planning and control. In addition, we combine specific skills from different IT disciplines to solve the challenge of continuous improvement and cost-efficient verification at scale to ensure meeting requirements within every release.

Why work with us?

- Proven expertise with ADAS/AD system, sensor and software knowledge and the dependencies to provide vehicle functionality
- Proven expertise in developing future-proof and state-of-the-art ADAS and AD functionality at scale, with speed, agility, and at good value for money
- Proven experience in processing data of all required sensor types (camera, radar, lidar, ultrasonic) as well as computer vision, AI, and sensor fusion capabilities
- Proven experience in verifying ADAS/AD software and functionality at scale in private and public cloud environments
- Agile SCRUM/LeSS/SAFe methodology combined with ASPICE, TISAX, and ISO 26262 automotive processes and knowledge of customer-specific tools and processes
- The ability to build sustainable software assets for the software-defined vehicle
- A basis for improved maintainability and the freedom to upgrade and update ECUs with additional functionalities
- Robust and verified solutions tested across multiple environments and scenarios to minimize the risks associated with autonomous driving software

What makes us different?

- We're leaders in the development of automated driving software solutions, data engineering, and data science, with access to AD vehicle software development experts
- Our ADAS/AD experts have an end-to-end understanding of the sensors, system and software implementing the required user functionality
- All our solutions are delivered in accordance with ASPICE, functional safety, SOTIF and cyber security
- Our experts are available from the best cost locations in customer location time zones to work side-by-side with your teams for AD development across in-vehicle and cloud
- We deliver services to our clients that enable them to design, simulate, and test sensors and software through scalable simulations
- We have successfully delivered AD/ADAS applications with OEMs, meaning we can provide reliable functionality faster than others and at lower risk

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