



22 May 2014

European
Commission

Adapt//Ve
Automated Driving

AdaptIVE develops and demonstrates new functions on cars and trucks for automated driving. The research covers several scenarios, including motorways, cities, and close-distance manoeuvres. In parallel, the project defines specific evaluation methodologies and addresses the legal framework.

// At a Glance

Project acronym:

AdaptIVE

Project type:

Integrated Project (IP)

Programme:

7th EU Framework Programme

Project coordinator:

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Project partners:

Vehicle Manufacturers: Volkswagen AG, BMW Group, Centro Ricerche Fiat, Daimler AG, Ford R&A Europe, Adam Opel AG, Peugeot Citroën Automobiles, Renault, Volvo Cars Corporation, Volvo Group

Suppliers: Robert Bosch GmbH, Continental, Delphi Deutschland GmbH

Research Institutes: BAST, CTAG, Chalmers, DLR, ICCS, IKA, TNO, University of Leeds, Lund University, University of Trento, Julius-Maximilians Universität Würzburg

SMEs: Alcor, EICT, WIVW

Duration:

42 months (01/01/2014 - 30/06/2017)

Total cost:

25 M€

EU funding:

14.3 M€

Project website: www.AdaptIVE-ip.eu

// What are the targets?

AdaptIVE designs, implements and evaluates a number of integrated applications for automated driving. The approach is based on a concept of shared control, assuring proper collaboration between the driver and the automation system in all circumstances.

The project will:

- Demonstrate automated driving in complex traffic environments.
- Focus on communication capabilities to enhance the performance of automated systems.
- Provide guidelines for the implementation of cooperative controls involving both the human and the automation.
- Define and validate new specific evaluation methodologies.
- Assess the impact of automated driving on the European road transport.
- Propose a legal framework overcoming the existing barriers to implementation.

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// How will AdaptiVe be implemented?

The project consists of six technical areas of work:

- Legal framework.
- Human-vehicle integration.
- Applications for close-distance manoeuvring.
- Applications for urban scenarios.
- Applications for highway scenarios.
- Evaluation.

The work will be performed following three phases.

1. Analysis:

In the first phase, the target scenarios will be identified. For each of these scenarios, the partners will define specific use cases and derive functional and operational requirements. This in turn will allow the partners to finalise the system architecture and technical specifications, leading to the design of the final solutions.

2. Development:

The second phase will address the implementation of applications in the demonstrator vehicles, with a focus on perception technologies, communication with the infrastructure and other vehicles, and control strategies. The development of appropriate driver-system interactions will benefit from parallel studies and tests using driving simulators. After iterative improvements and a final validation, the systems will be ready for extensive testing. The result of this second phase is a complete and concise concept for intelligent vehicles offering advanced solutions for supervised automated driving.

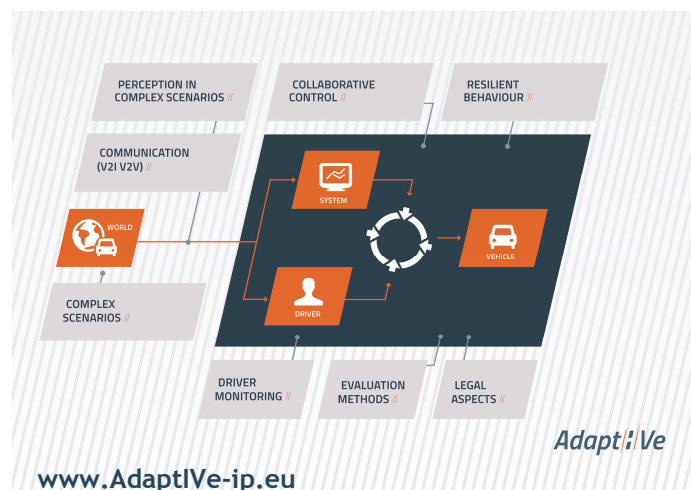
3. Evaluation:

In the final phase, the AdaptiVe demonstrator vehicles will be tested using a common evaluation framework. In particular, realistic manoeuvre situations will be reproduced in controlled environments.

The evaluation will cover technical aspects, user-related aspects, and real-life interaction. The final step will concentrate on the analysis of the future benefits with respect to safety and environmental aspects, which can be achieved by means of automated driving applications. The research will also extensively consider legal aspects and provide guidelines for the future deployment and regulation of systems in the market.

// What will AdaptiVe deliver?

- A classification of automated systems from a legal perspective.
- A proposal for a legal framework regarding automated driving.
- Enhancement of continuous driver support applications towards automated functions.
- Eight advanced demonstrator vehicles: seven passenger cars and one truck.
- Strategies for system-driver interaction.
- Evaluation methods and tools.
- Improved understanding of the impacts of automated driving on road safety, traffic and the environment.



For further information:

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