Adapt|||Ve

ADVANCING AUTOMATED DRIVING //
AUTOMATED DRIVING APPLICATIONS AND TECHNOLOGIES FOR INTELLIGENT VEHICLES

AdaptIVe targets an ideal interaction between drivers and automated systems by using advanced sensors, cooperative vehicle technologies and integrated strategies. The level of automation dynamically adapts to the situation and driver status. To make automated driving a reality, AdaptIVe will not only address technological and ergonomic aspects, but also important legal issues that might impact successful market introduction.
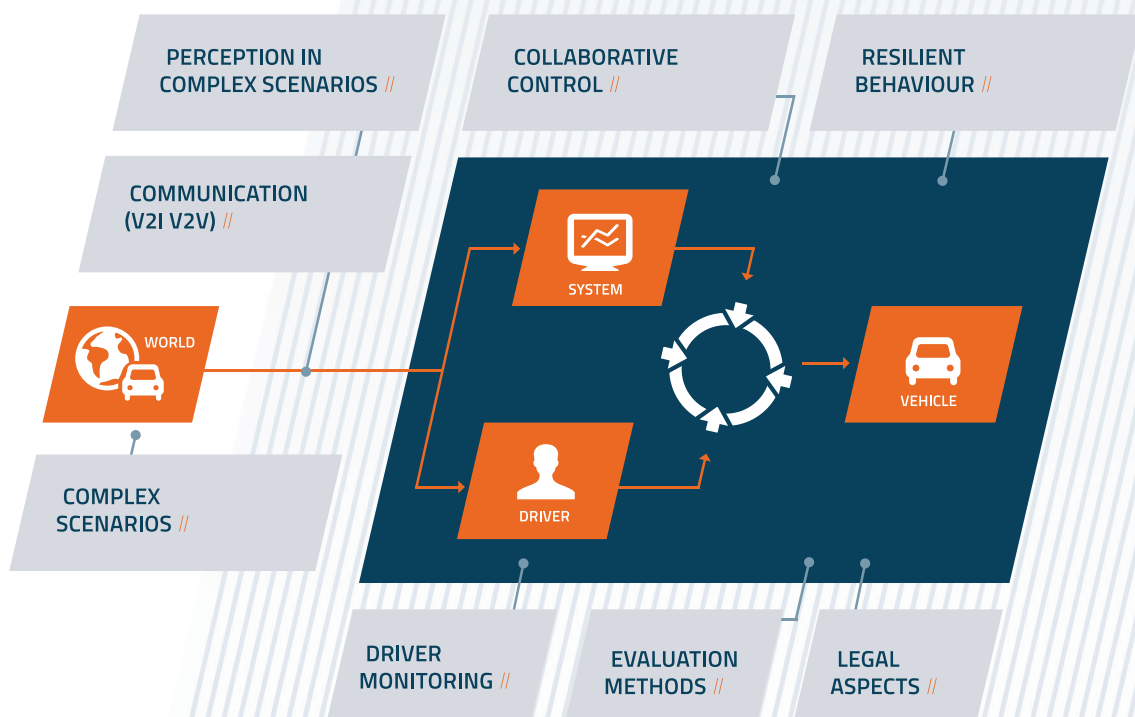
THE EUROPEAN RESEARCH PROJECT ADAPTIVE AIMS TO ACHIEVE MAJOR BREAKTHROUGHS LEADING TO MORE EFFICIENT AND SAFER AUTOMATED DRIVING.

To bring automated driving further, product liability and road traffic laws will also be considered.
Based on the various needs of complex traffic environments, AdaptIVe will demonstrate various automated functions in seven cars and one truck. These applications are related to different driving scenarios, from highways, to urban traffic, and to specific close-distance manoeuvres. The progressive implementation of automated driving will enhance traffic safety and ensure optimal driving conditions. Automated driving will have a major impact on traffic flow and the environment.

FACTS // ADAPTIVE

Duration	January 1, 2014 - June 30, 2017
Coordinator	Volkswagen Group Research
Consortium	28 partners from 8 countries – France, Germany, Greece, Italy, Spain, Sweden, The Netherlands, United Kingdom; including 10 OEMs, 4 suppliers, 11 research institutes and universities, and 3 SMEs
Research Budget	EUR 25 million
Funding	Co-funded by the European Commission as part of the Seventh Framework Programme with EUR 14.3 million. Supported by the European Council for Automotive R&D, EUCAR

PERCEPTION IN COMPLEX SCENARIOS //

COLLABORATIVE CONTROL //

RESILIENT BEHAVIOUR //

COMMUNICATION (V2I V2V) //

WORLD

SYSTEM

VEHICLE

DRIVER

COMPLEX SCENARIOS //

DRIVER MONITORING //

EVALUATION METHODS //

LEGAL ASPECTS //

INNOVATE AUTOMATED DRIVING APPLICATIONS //

EXPAND THE RANGE OF POSSIBLE SITUATIONS FOR THE APPLICATION OF AUTOMATED DRIVING
- Focus on supervised automated driving in highway scenarios, urban traffic and close-distance manoeuvres.

ENHANCE PERCEPTION AND COMMUNICATION CAPABILITIES
- Implement features concerning the sensor platform, communication with other vehicles or with nearby infrastructure.
- Improve safety in potentially dangerous situations via cooperative manoeuvres.

DEVELOP SOLUTIONS FOR COOPERATIVE CONTROL ADDRESSING DRIVER NEEDS
- Ensure continuous interaction between human and automation.
- Create and evaluate guidelines for implementation.

DESIGN AND DEMONSTRATE RESILIENT BEHAVIOUR FOR THE APPLICATIONS
- Develop fail-safe architecture and an automated function to bring the vehicle to a halt.
- Implement support functions according to the infrastructure and driver capabilities.

IMPROVE THE SAFETY AND ADAPTABILITY OF AUTOMATED DRIVING
- Integrate solutions for driver-status monitoring.

DEVELOP AND APPLY SPECIFIC EVALUATION METHODS
- Develop new methods for the technical and user-related assessments.
- Generate new methods to analyse safety and environmental impacts at the European level.

ANALYSE LEGAL ASPECTS
- Examine legal conditions and identfiy possible barriers for a market introduction of partially and highly automated systems.
- Establish requirements for safety validation and specify qualifications for system availability.

The research will be divided into three parts. Starting with the analysis of scenarios and the definition of specific use cases, consortium will in turn finalise the system architecture as well as define technical specifications. The demo vehicles – seven passenger cars and one truck – will be outfitted during the development phase with consideration of the strategies for system-driver interactions. Finally, automated driving applications are evaluated and demonstrated in realistic driving manoeuvres.

CONSORTIUM // ADAPTIVE

VOLKSWAGEN AKTIENGESELLSCHAFT · BMW GROUP · MINI · CRF · DAIMLER · Ford · Opel Wir leben Autos. · PSA GROUPE

RENAULT · VOLVO · VOLVO · BOSCH · Continental · DELPHI · LUND UNIVERSITY · bast

CTAG Centro Tecnológico de Automoción de Galicia · CHALMERS · DLR Deutsches Zentrum für Luft- und Raumfahrt German Aerospace Center · ika RWTH AACHEN UNIVERS INSTITUT FÜR KRAFTFAHRZE · TNO · UNIVERSITY OF LEEDS · UNIVERSITY OF TRENTO - Italy

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