

EARPA Partners Meeting 2009

eVALUE – Testing and Evaluation Methods for ICT-based Safety Systems

Brussels, 4 March 2009

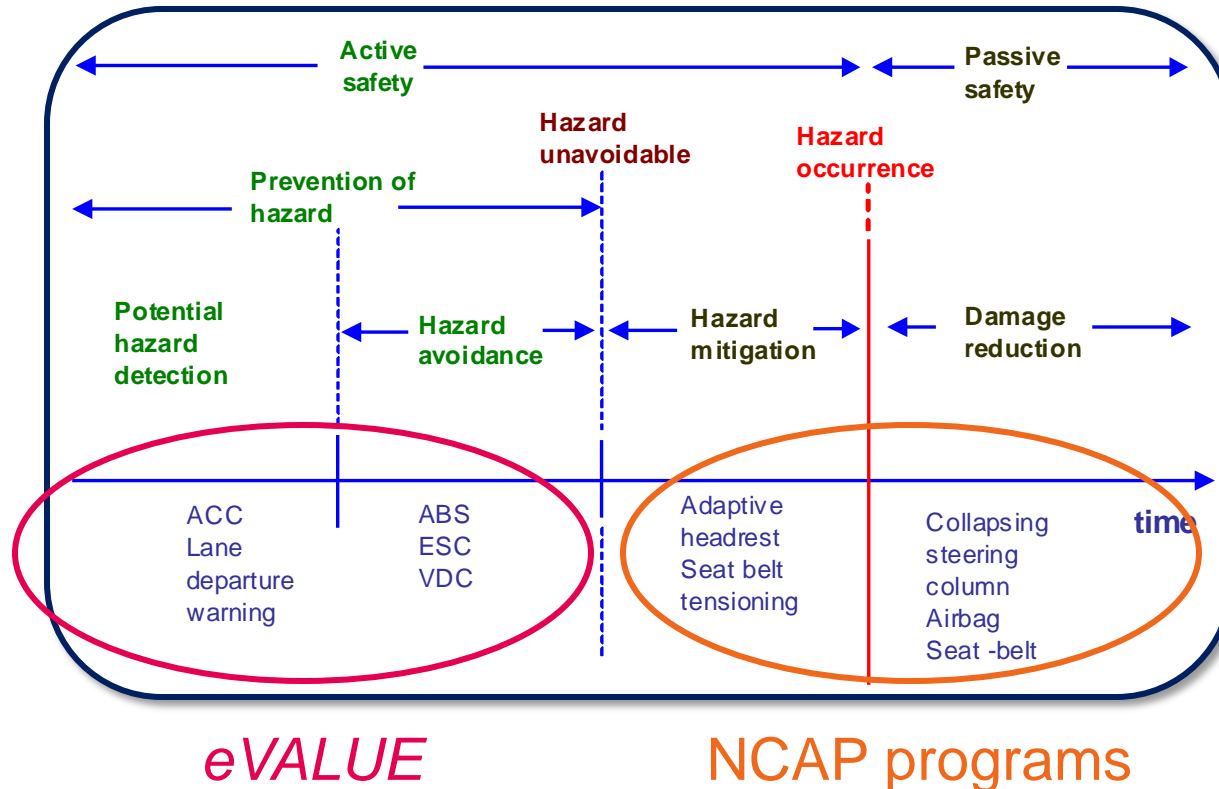
Micha Lesemann, IKA



The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n. 215607.

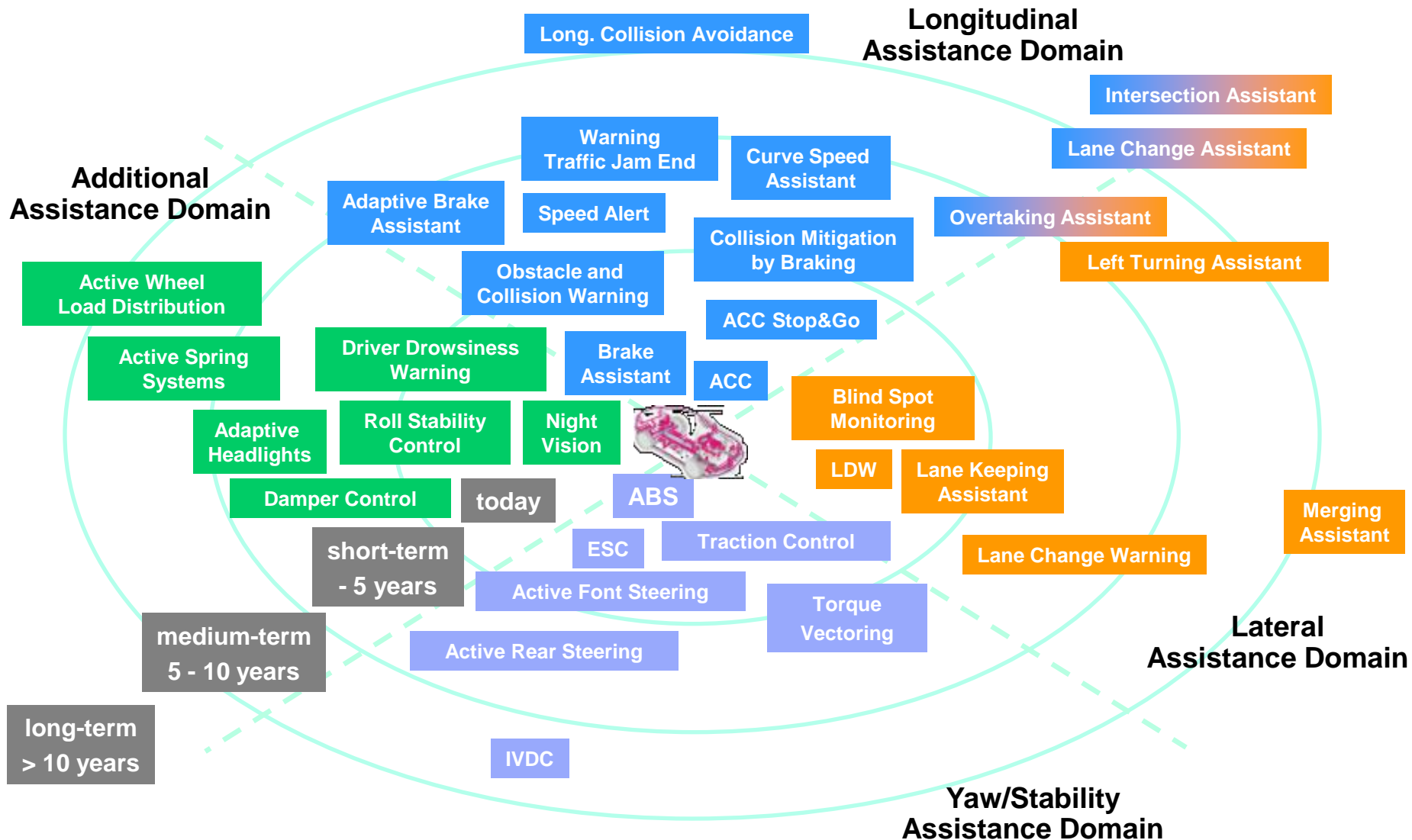
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Project Scope



eVALUE has a similar goal like NCAP programs, namely the objective and easy-to-understand assessment of safety systems.

Roadmap for ICT-based Safety Systems



Research Objectives

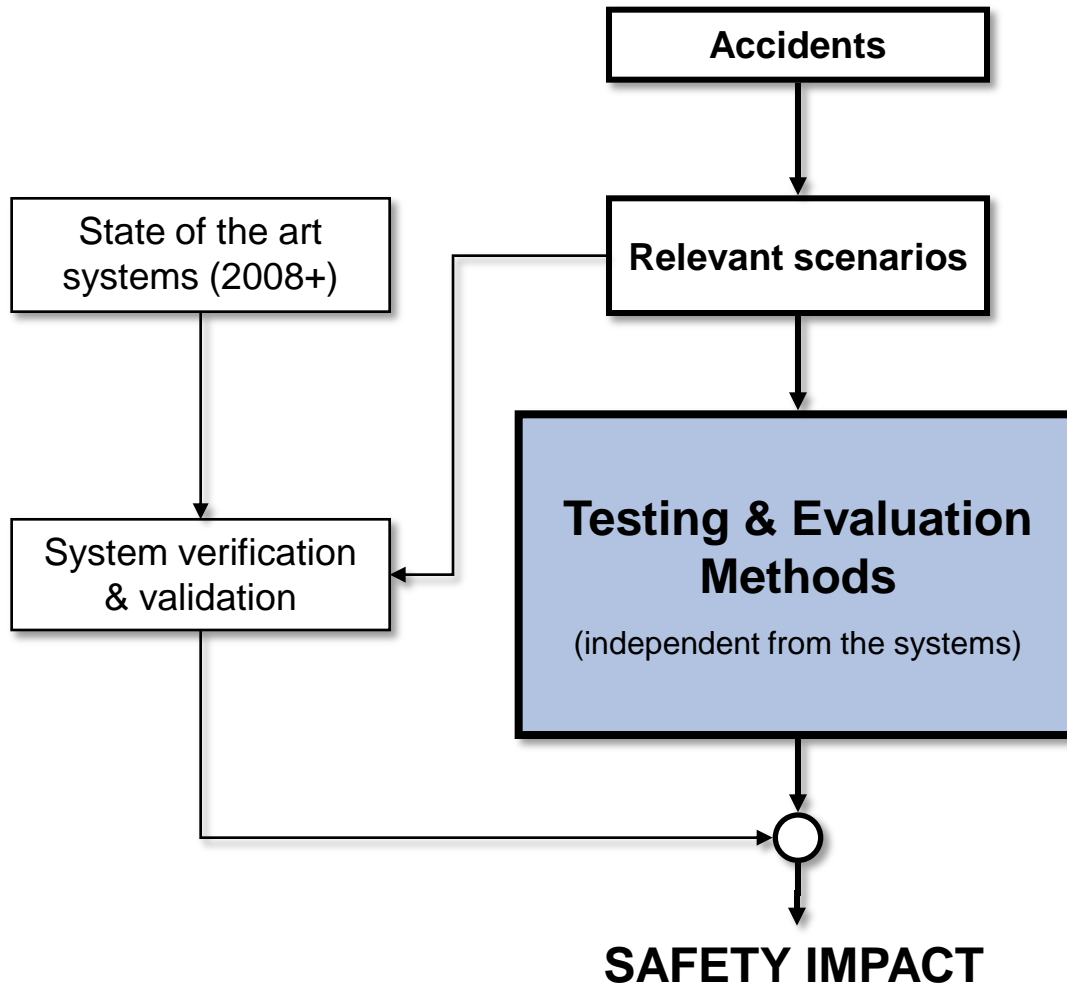
To develop testing and evaluation methods for ICT-based safety systems.

AND thereby

To increase public perception and customer acceptance of ICT-based safety systems.

To support development of ICT-based safety systems at vehicle OEMs and suppliers.

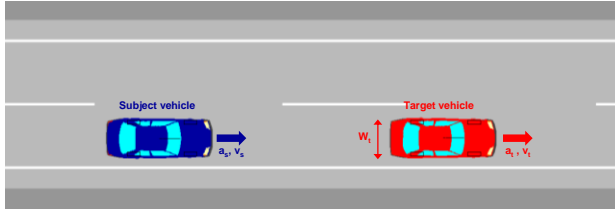
Scientific Approach



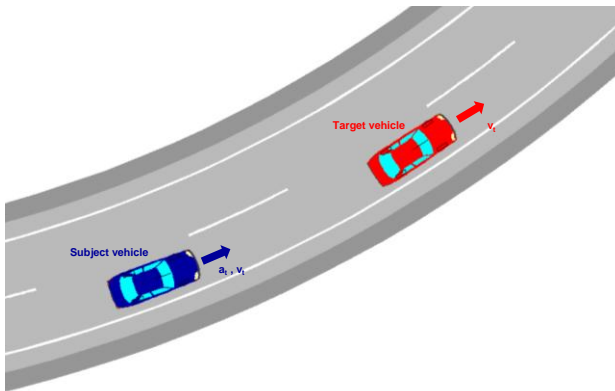
Considered Systems

- **System Cluster 1 (longitudinal assistance)**
 1. ACC
 2. Forward Collision Warning
 3. Collision Mitigation, by braking
- **System Cluster 2 (lateral assistance)**
 4. Blind Spot Detection
 5. Lane Departure Warning
 6. Lane Keeping Assistant
- **System Cluster 3 (yaw/stability assistance)**
 7. ABS
 8. ESC

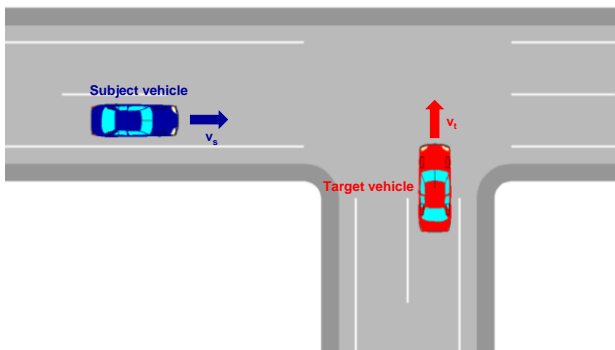
Considered Scenarios – Longitudinal



Straight road

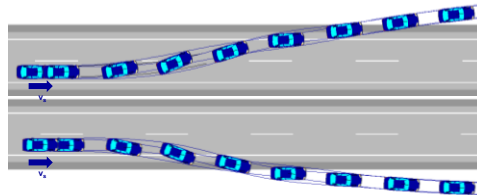
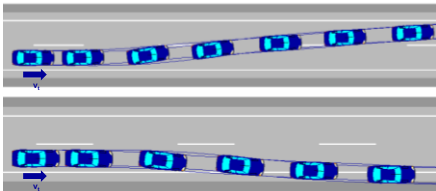


Curved road

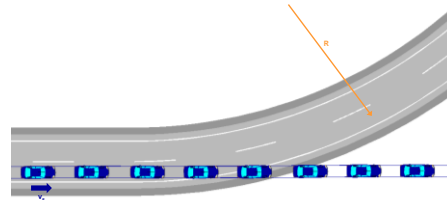
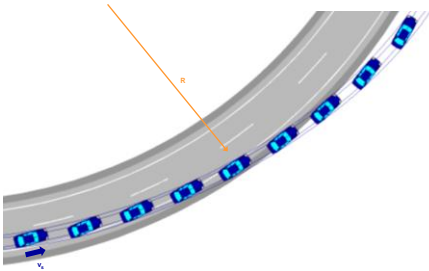


Transversally moving target

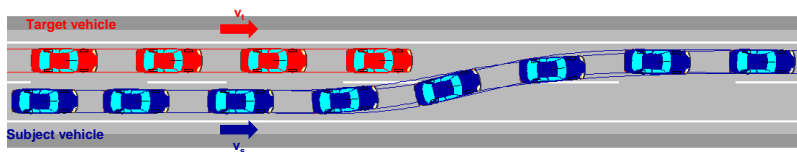
Considered Scenarios – Lateral



Lane and road departure on a straight road

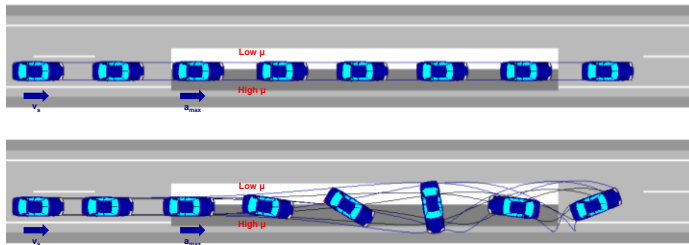


Lane and road departure on curve / on a straight road just before a curve

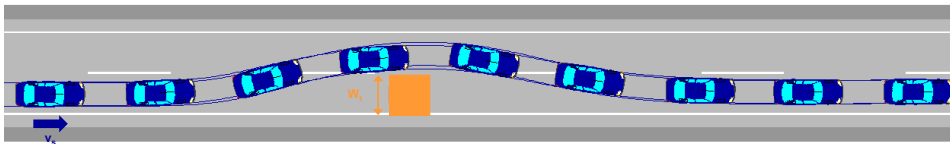


Lane change collision

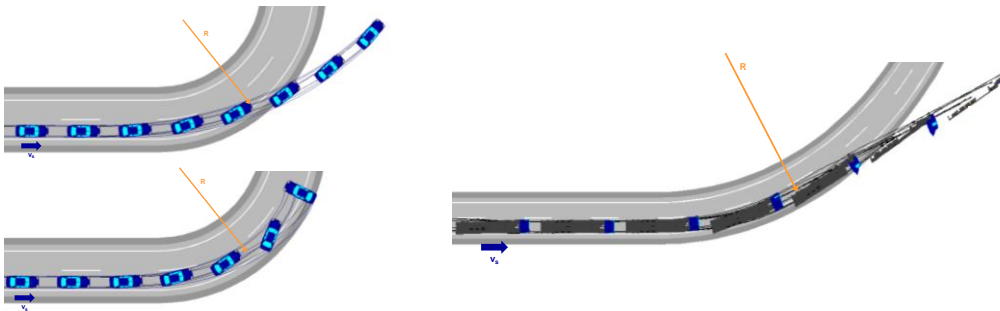
Considered Scenarios – Stability



Emergency braking
on μ -split



Driver collision
avoidance



Fast driving into a
curve / roll stability

Further Information

Visit our project website and find

- a complete project overview
- up-to-date public results
- further publications and presentations
- registration for the project newsletter

www.evalue-project.eu



Testing and Evaluation Methods for ICT-based Safety Systems
Collaborative Project
Grant Agreement Number 215607

Deliverable D1.1

State of the Art and eVALUE scope

Confidentiality level: Public

Status: Final

Executive Summary

eVALUE will address the real function of ICT-based safety systems and their capability to perform the function through two courses of action: defining and quantifying the function output to be achieved by the safety system and developing the testing and evaluation methods for the ICT-based safety systems.

The safety systems within the eVALUE scope are classified into four clusters: longitudinal, lateral and yaw/stability. The fourth cluster remains open for upcoming systems. Based on market availability and penetration rate, the consortium decided to focus on eight preventive or mitigating safety systems: ACC, FCW and CM by braking, in the longitudinal assistance domain; BSD, LDW and LKA, in the lateral assistance domain; and finally, ABS and ESC, in the yaw/stability assistance domain. Following the description of current test and evaluation methods, sensor technologies, system function output and ECUs globally applicable to ICT-based safety systems, the report covers these technologies and components for the eight selected systems in detail.

As a next step to this deliverable and according to the work plan, concepts for design reviews, physical vehicle testing as well as laboratory testing will be analysed. The result will be an in-depth understanding of the possibilities to investigate and evaluate the eight active safety systems within the first phase of the project. The different concepts will then support the decision about the development of the testing and evaluation methods that are able to point out the safety benefit of those systems in the most representative way.

Thank you for your kind attention!

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