

Advanced Driver Assistance Systems

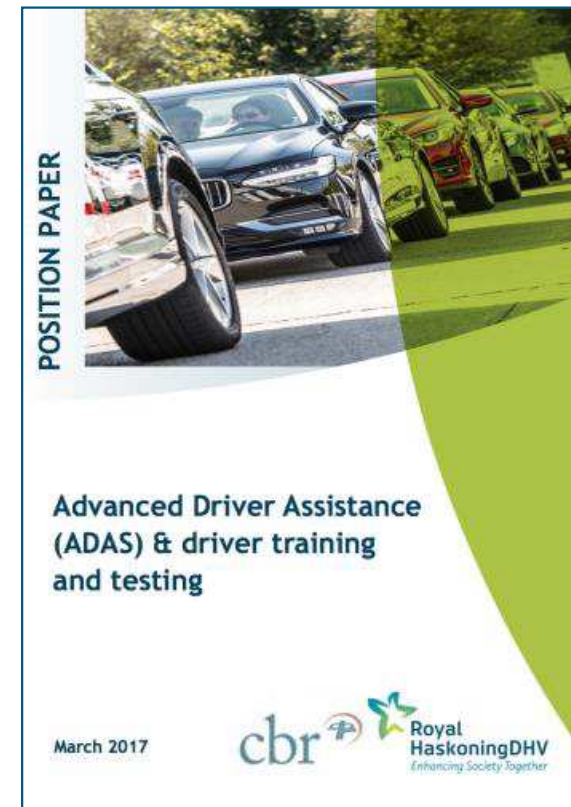
Key issues in driver training and testing

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14 June 2017



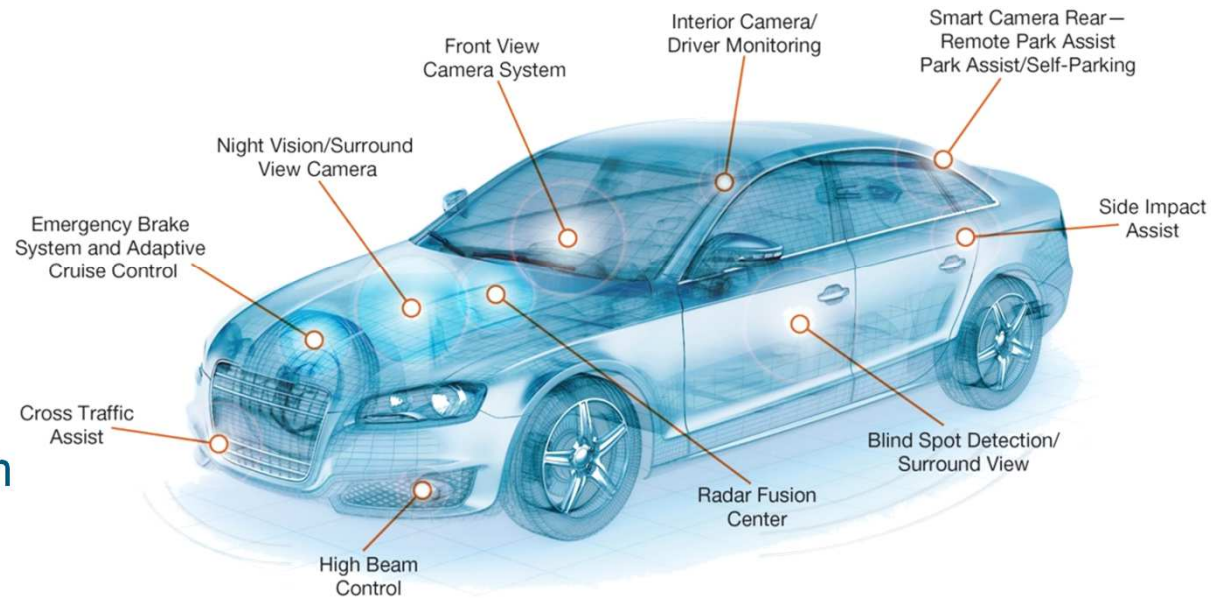
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1. Current state of affairs
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Do you have experience with:

- Adaptive Cruise Control
- Lane Keeping System
- Blind Spot Detection
- Emergency Brake System
- Fatigue Warning
- Parking Assistance
- Auto pilot



Current state of affairs

- Wide variety of ADAS
- Potential of ADAS
- Actual usage of ADAS
- From assisted driving towards automated driving
- Lack of awareness around ADAS
- ADAS allowed in the driving test in the Netherlands since 2016



Leading questions

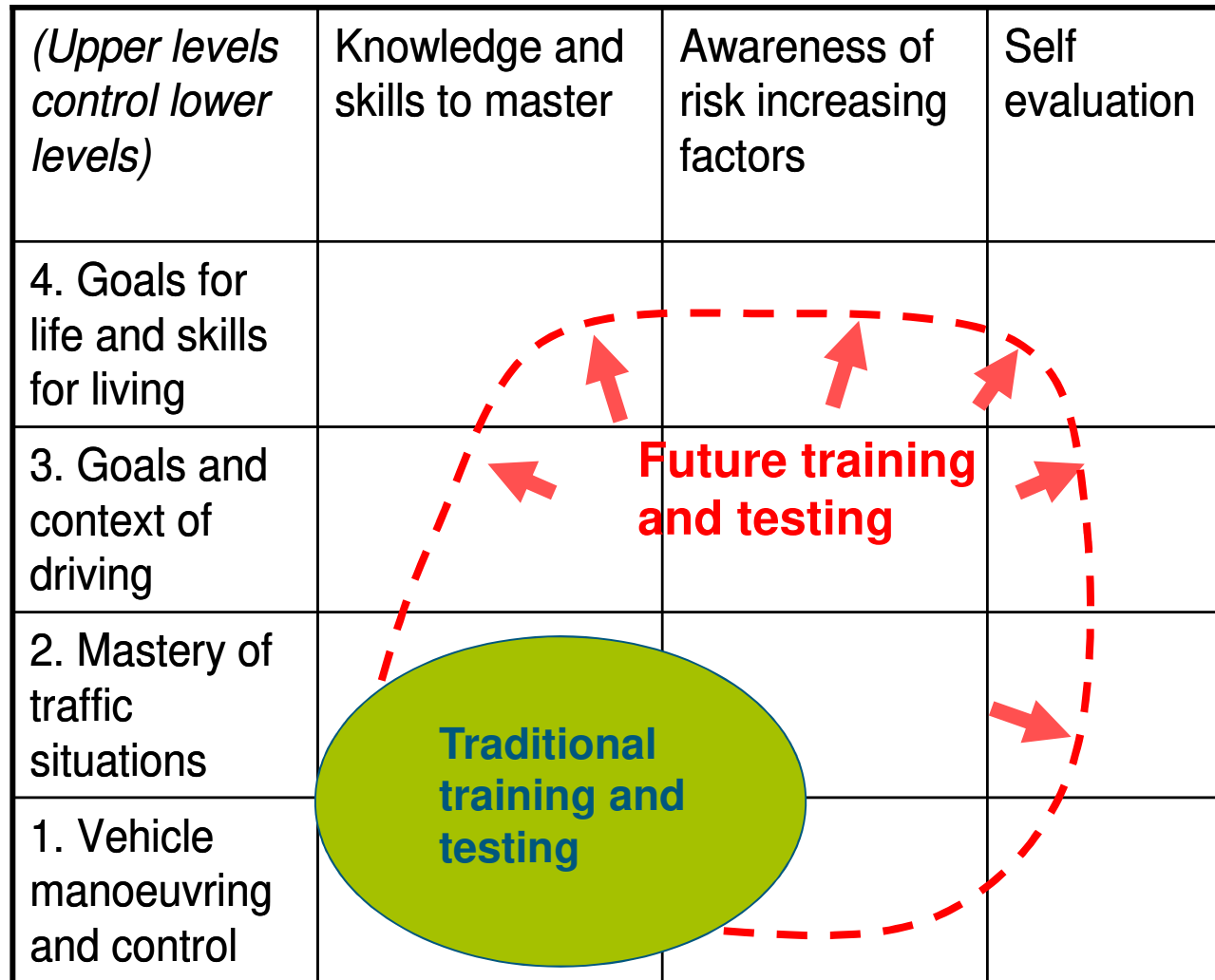
- What do driver assistance systems mean for the driving task?
- What is changing for the driver?
- What skills and competences should drivers have?
- How to train and test these?

Perspective for improvement

- No assessment protocol available yet for ADAS activation and operation
- Issue adopted by CBR as a main priority for near future development
- Issue identified by the international commission for driver testing – CIECA



ADAS and the Goals for Driver Education matrix



Driver operation and interaction

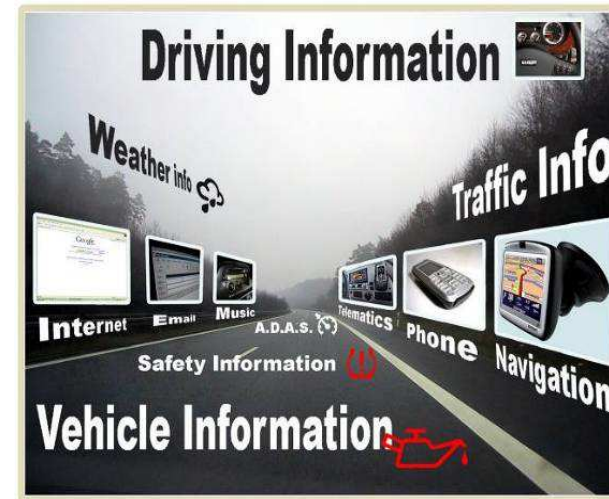


Transition of control



Conditions to be managed

- Behavioral adaptation
- Distraction
- Risk compensation
- Task difficulty
- Workload



DRIVER

Human centered
design

Adequate Training &
testing

The young drivers' perspective

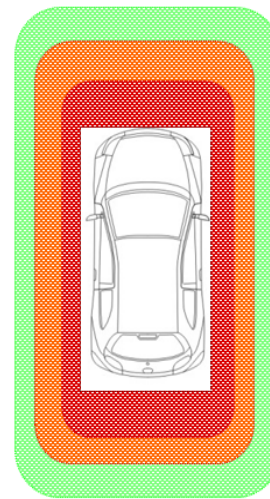


Challenges for adequate training & testing

- At what stage of the driver training should ADAS be introduced?
- How to train and test specific support functions offered by the different systems?
- What modifications are needed in training driving instructors (train the trainer)?
- How to deal with interventions by the ADAS?
 - Why did the system intervene? Proactive or critical, due to serious failure by the student?
 - Did the student react adequately on the system's information or intervention?
- How to evaluate the introduction of ADAS in training and testing in the long and short term?
- How to setup and organise training and testing for drivers that already have a driving license?

Towards a roadmap for the integration of ADAS in driver training and testing

- Research needs, filling in knowledge gaps
 - Specific car driver behaviour
 - The interaction with other road users
- Activities to be taken up at national and international level
 - Skills and competences to drive in assisted and automated mode
 - Develop a first version of a protocol for driver testing including ADAS
 - Life long learning
 - International working group



Green: It feels safe

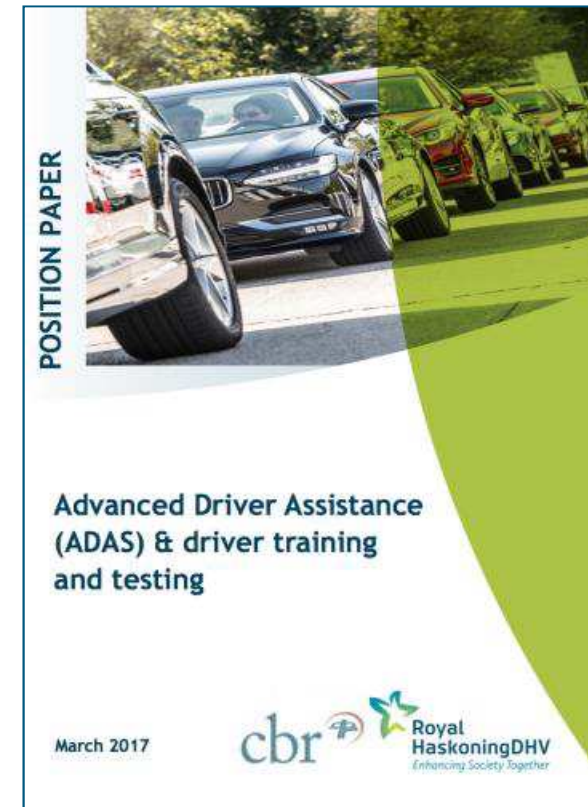
Orange: It did not really feel safe

Red: Oops, this felt unsafe

Knowledge Agenda Automated Driving

The position paper can be downloaded at the knowledge agenda site:

<http://bit.ly/2sovITN>



Thank you for your attention.

Questions and discussion?

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