

Submitted by expert from the Netherlands

Informal document **GRVA-05-49**

5th GRVA, 10-14 February 2020

Agenda item 3



DUTCH
SAFETY BOARD

Who is in control?

Automation in road traffic

10 February 2020

Working party on Automated and connected vehicles (GRVA)

Purpose:



To learn from incidents



To make recommendations in order to improve safety



Criminal investigations and prosecution



DUTCH
SAFETY BOARD

Dutch Safety Board





Board member
Stavros Zouridis



Chairman
Jeroen Dijsselbloem



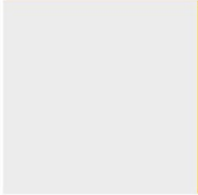
Board member
Marjolein van Asselt



Secretary Director
Carol Verheij



Head of Corporate Affairs
Erwin Medendorp



Head of Administration
and Finance
Barry Velders (a.i.)

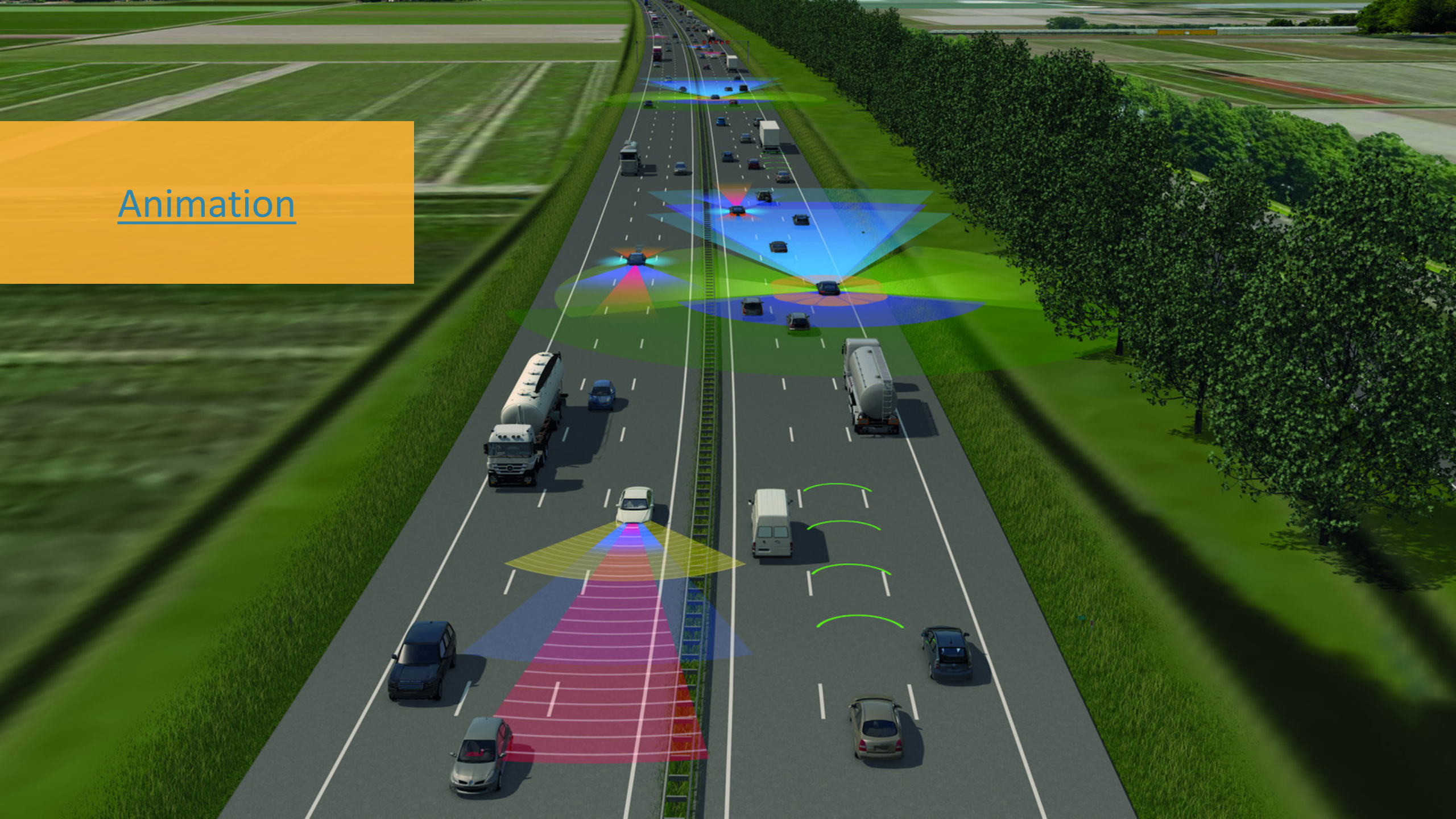


Manager
Arzu Umar



Manager
Stephan Berndsen

Animation



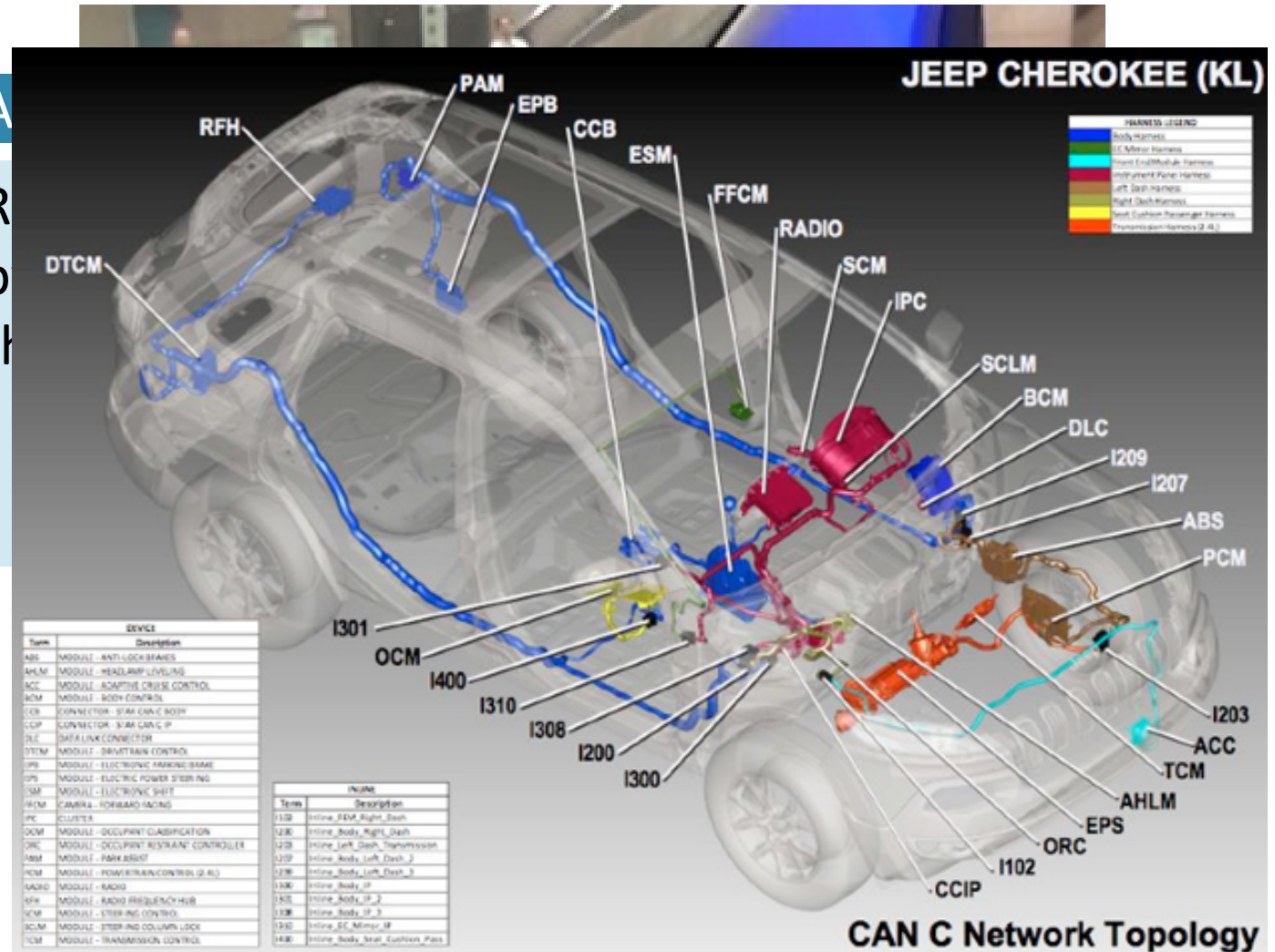
Why did the DSB start this investigation?

New risks

Due to technological developments:

- driving computer
- new role of driver and new type of interactions

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Focus

- Management of the risks
- Introduction and use of ADAS
- by manufacturers, suppliers, supervisors, legislators, interest groups.

Research questions



How do users, the automotive industry, sector parties and the government manage the risks associated with the introduction and deployment of advanced driver assistance systems (ADAS)?



To what extent can this risk management be improved?



Examples of risks that aren't managed well

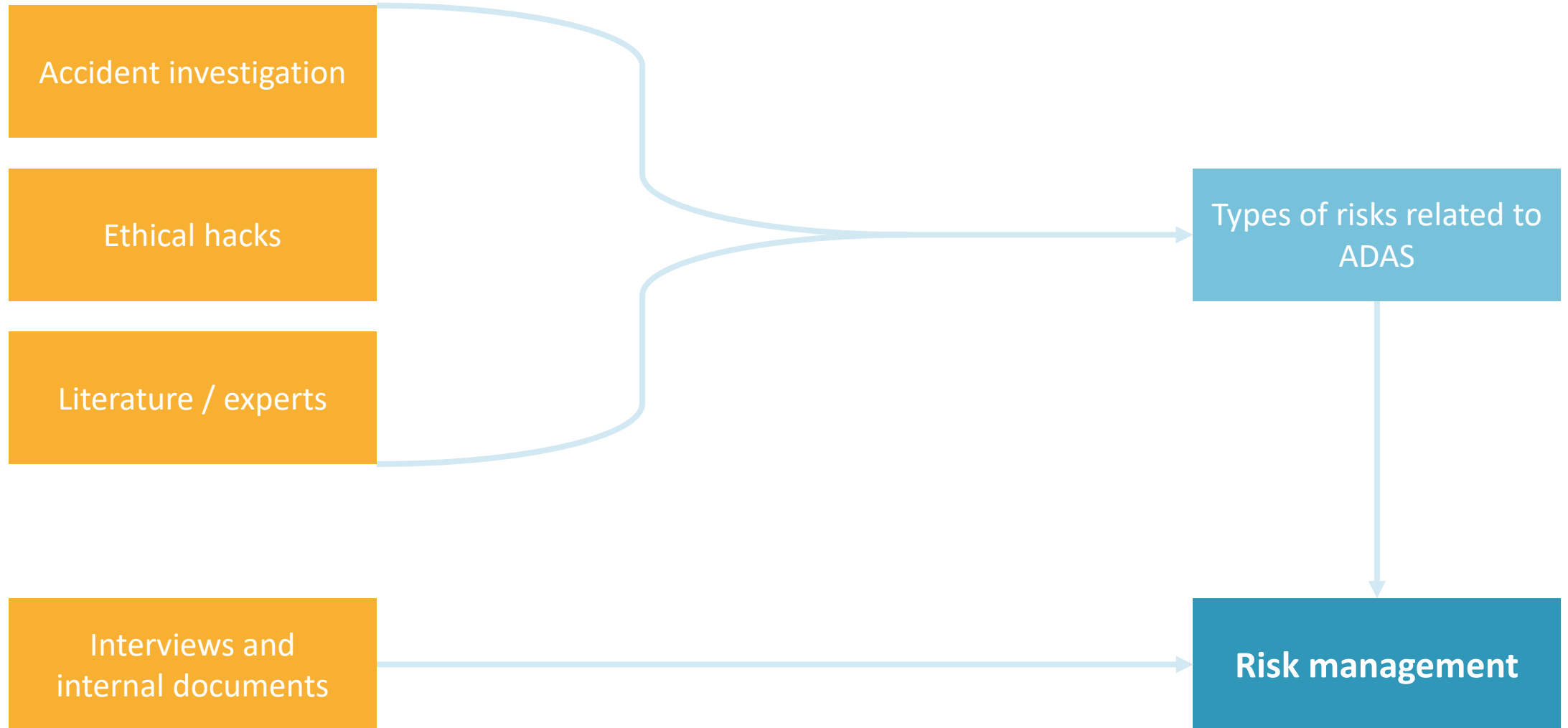


Accidents



Hacks

Set up investigation



New types of risks

Immaturity of systems

Drivers as operators

Interaction between
vehicles and drivers

Dynamic development of
automation (updates)

Cybersecurity

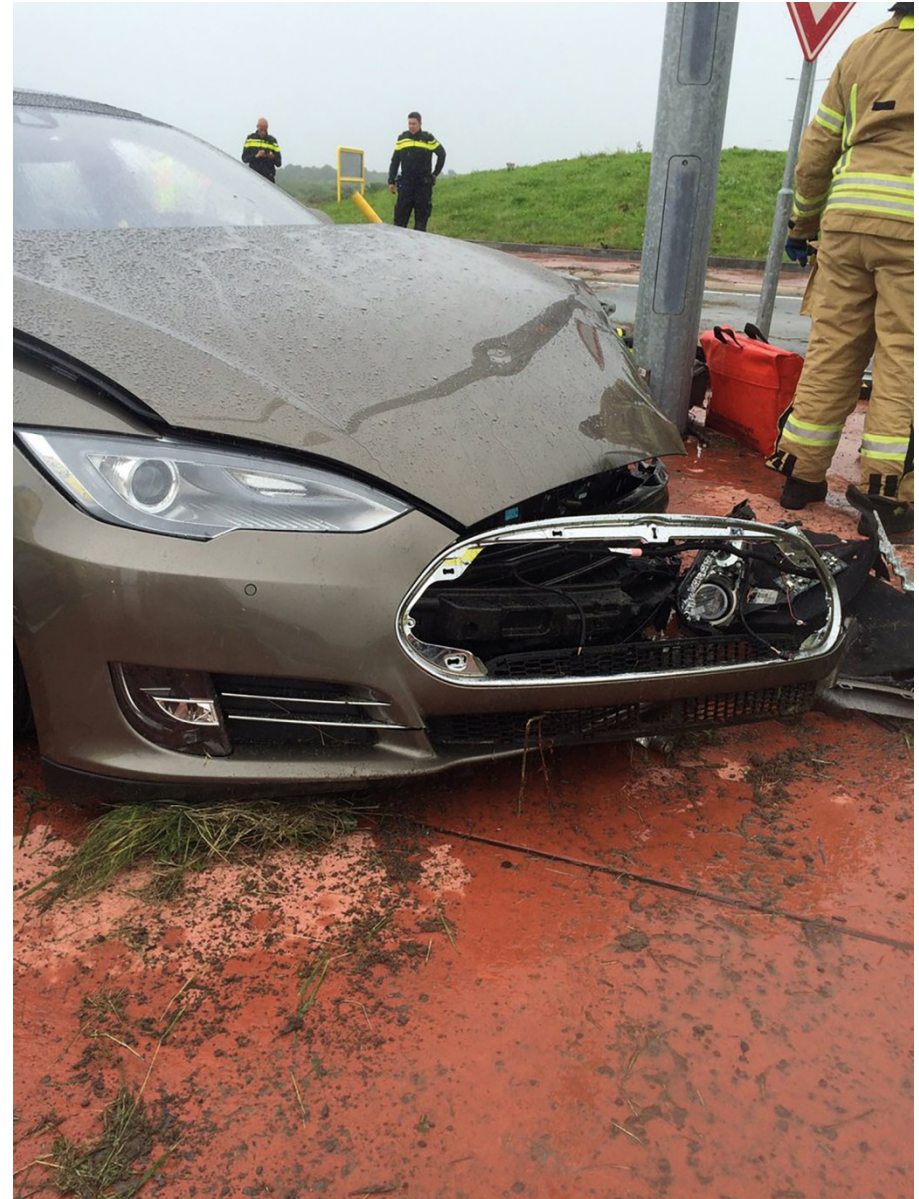
New role of the driver

- Longer response times
- Reduced alertness
- Operating errors of ADAS:
 - Foolproof design
 - Clarity who is in control



Lack of knowledge driver

- Users have only limited insight into the operation and limitations of ADAS
- Communication in advertisements and media is inadequate
- Provision of information and instruction is often lacking
- Driving test does not include ADAS
- Diversity of ADAS
- Users rely on ADAS



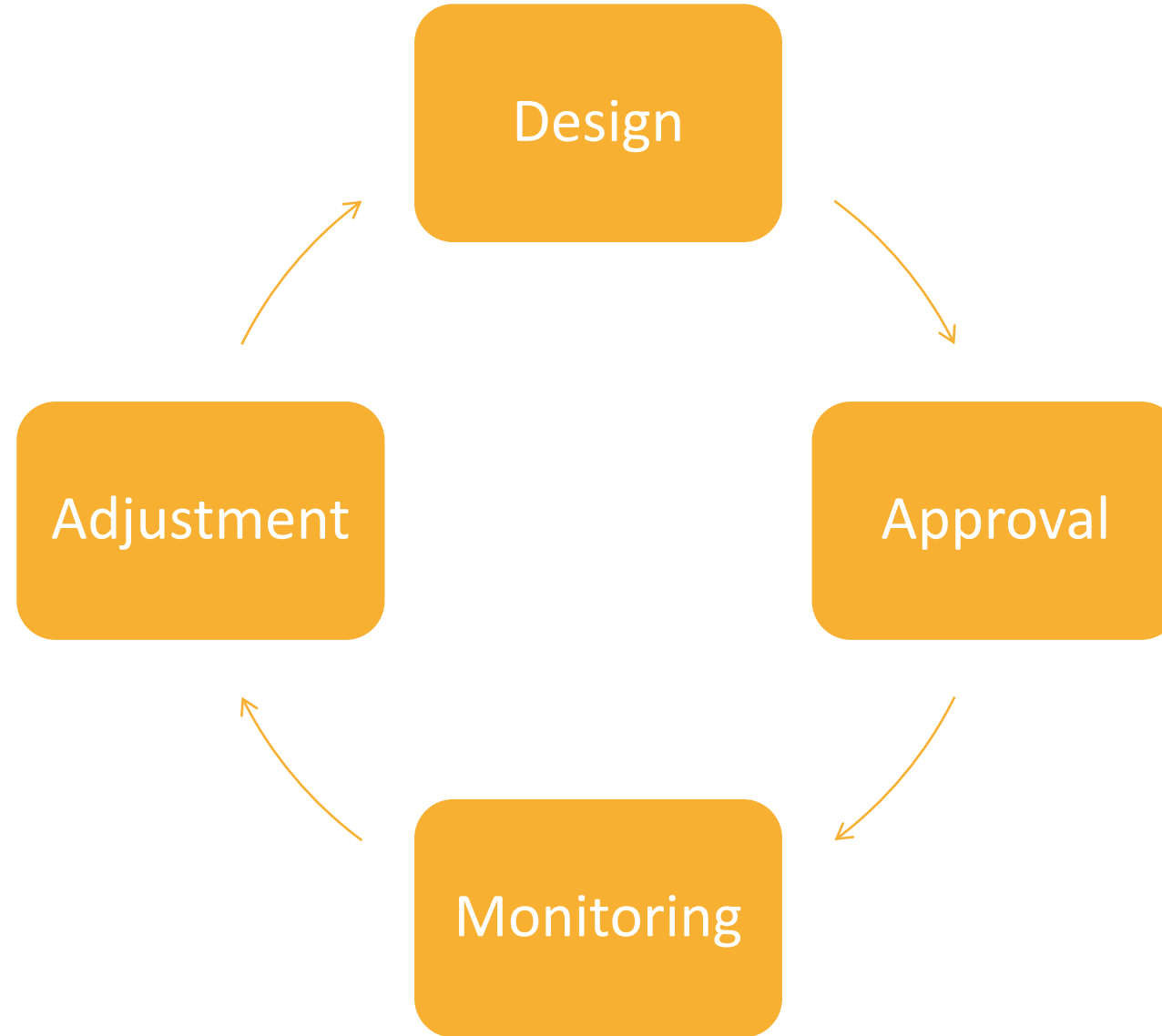
Conclusion: Driver not the central point of focus



New role driver

Lack of knowledge driver

Improving ADAS



Conclusion: more improvement of safety ADAS possible

- Continuous development of systems
- Improvement during lifetime or only for newly produced cars
- No transparency about improvements based on monitoring and evaluation
- Manufacturers do not learn to the same degree of accidents
- Most manufacturers do not share the results of their accident investigations



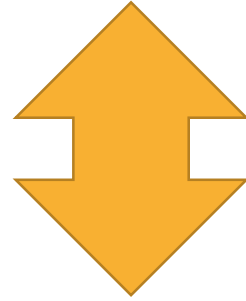
Regulation

- Technological changes are going faster while the legislative process is slow
- No improvement of safety level required for new ADAS
- Unclear how the level of safety must be assessed
- Manufacturers are not obliged to learn from accidents
- Legislation has little focus on interaction with users
- Oversight not set up for changes during lifetime

- Legislation in development only for SAE3+:
 - Validation (including a risk analysis and risk assessment)
 - Data storage
 - Human factors (no working group)
 - Instruction of drivers (no working group)



Reference framework: Principles for safe introduction of new technology



No responsible innovation

Manufacturers

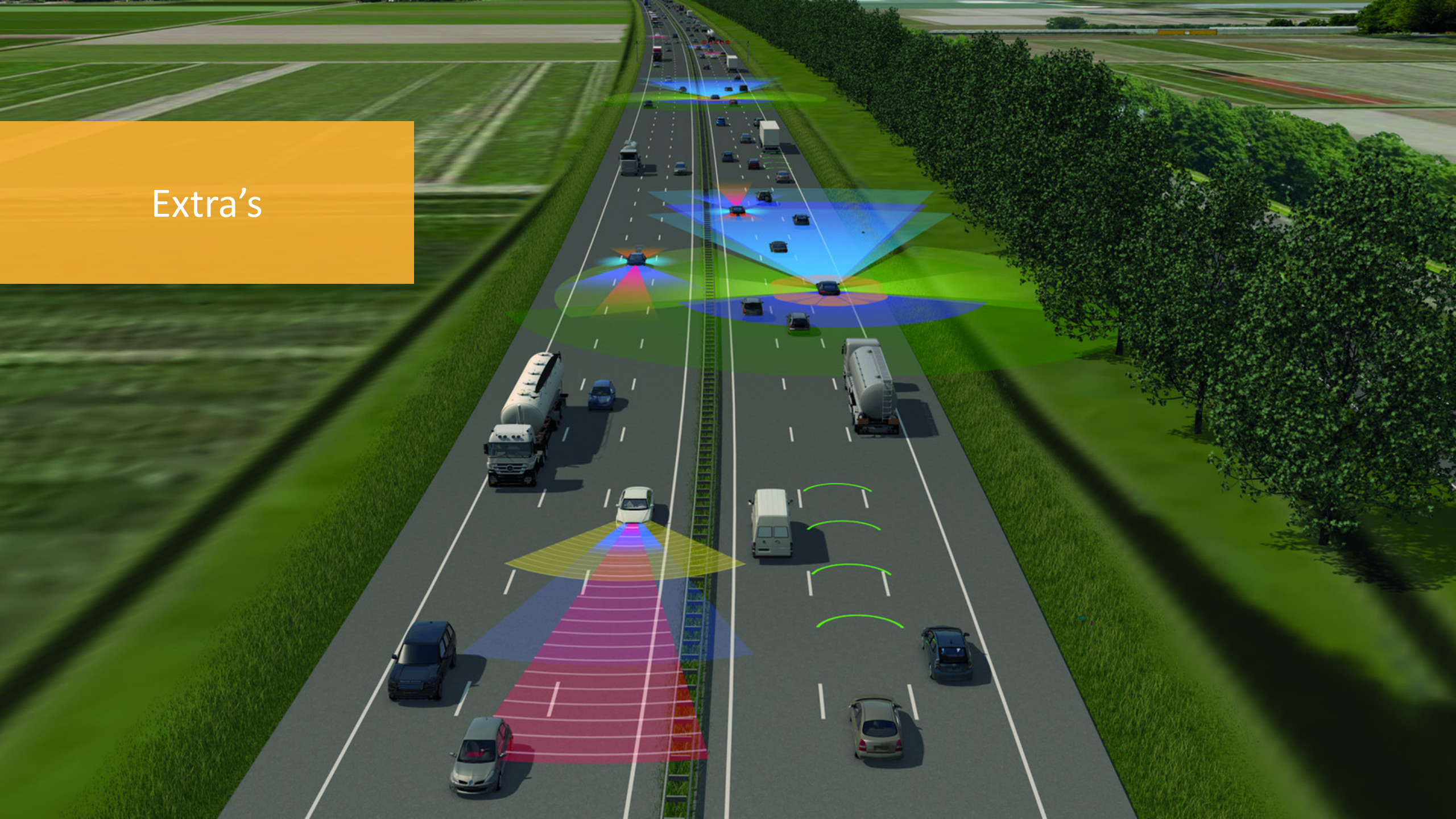
- Driven by technical possibilities
- Safety and security during the life cycle
- Do not ensure that drivers (can) understand what the technology is doing
- Accident investigation is limited
- Do not provide insight into technology and accident rates

Government

- Accessing the safety level is insufficiently operationalized (Directive 2007/46/EC, Article 20)
- No policy adjustment based on monitoring and evaluation



Extra's



Learning from accidents

Lack of information:

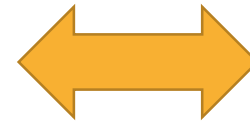
- No insight into the number of cars with ADAS
- No insight into usage of ADAS
- Lack of empirical data about accidents (data not saved or hard to read-out)
- Severe accidents not (always) investigated

Consequence: Evaluation and adjustment do not take place



Conclusion: Driver not the central point of focus

- Functionality unclear
- Sometime unclear 'who is in control?'
- Updates which may change functionality
- New role as operator:
longer reaction times and reduced alertness
- Not trained
- Inadequate communication
- Subject in a living lab without realizing



DISCLAIMER

Driver legally
responsible