Admission procedures for testing on public roads in the Netherlands

Virtual, 9 -10 September

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• brief introduction of the organization
• conditions under which we provide such exemptions
• I’ll talk about the process itself
• short overview about what we learned and what are the challenges for us and the applicants
RDW: safety, sustainability and legal certainty in mobility

Admission
Surveillance and enforcement
Registration
Information provision
Issuing of documents

Development of (inter)national legislation
Budget based on tariffs for tasks
<table>
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<tr>
<th>Vehicle Chain</th>
<th>RDW tasks in Vehicle Chain</th>
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<td>Experimental exemptions</td>
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<td>Testing/Certification</td>
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<td>Surveillance T5</td>
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<td>TA registration</td>
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<td>Registration owner</td>
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<td>Registration vehicle data (static)</td>
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<td>Individual approval</td>
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<td>Surveillance importer/dealer</td>
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<td>Use</td>
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<td>Driver licence</td>
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<td>Recall</td>
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<td>End of live</td>
<td>Deregistration surveillance</td>
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Development of (*vehicle*) directives & regulations

Information exchange
exemption of self-driving vehicles in the Netherlands.

Field Operational Tests (FOT’s) should be about:

- traffic flow
- traffic safety
- quality of life
Process of exemption selfdriving with driver in the vehicle

- Applicant
  - RDW
  - Vehicle
    - Intake
    - Deskresearch Vehicle
    - Proving Ground
    - Exemption
  - Use of exemption on public roads
  - Evaluation with all parties involved

- Road
  - Research Road(s)
  - Observation

- Behaviour
  - Research Behaviour
  - Observation
  - Additional Risks
  - Additional Requirements

Exerimental law
Process of permit selfdriving without driver in the vehicle

- Applicant
  - RDW
  - Vehicle
    - Intake
  - Deskresearch Vehicle
  - Proving Ground
  - Observation
    - Observation
    - Additional Risks
    - Additional Requirements
  - Use of permit on public roads
  - Evaluation with all parties involved

- Ministry of Transport
  - Dossier
  - Use of permit on public roads
  - Evaluation with all parties involved
  - Permit

- Ministry of Justice
Process of exemption Selfdriving vehicles

• Intake
  - With participant and RDW

• Start up meeting
  - with all parties; everybody the same information
  - OEM/manufacturer, road authority, SWOV, insurance, RDW, legal
  - formulating knowledge questions

• Testing vehicle by RDW, decision road authority, advise SWOV (institute for road safety research)

• Decision exemption/permit

• Monitoring exemption or permit

• Evaluation
  - Answering knowledge questions
Risk assessment selfdriving vehicles  Goal: towards real admission

1. human driver is an active part of the safety case (in the vehicle). And the legal driver. Goal: large-scale field operational testing
   - ISO 26262 & SOTIF

2. human driver is indirectly part of the safety case (remote). Still the legal driver. Test with a remote driver

3. human driver is not part of the safety case.
   - National research.- RDW Vehicle Driving License Framework
Summarize application for exemption or permit

1. The sharing of knowledge
2. The result must be a better situation
3. It must take the human factor into account
4. You need a high level of safety
5. High standard, high quality and the opportunity to learn for all participants in the process
Some highlights based on 88 exemptions

- EMC awareness
- Quality risk analysis
- Safe transition of control – time to react by human in case of failure is longer than we think
- Taking normal regulating / homologation into account – exemption only if necessary
Some highlights based on 88 exemptions - develop legislation

1. taking self driving systems into account for Electromagnetic compatibility
2. safety for passengers on buses without drivers requires other regulations to recognise a dangerous situation at an early stage and for time to leave a vehicle safely.
3. failssafe steeringssytems is necessary for high automated steeringsystems
4. combination of redundant systems asks for combination of regulations (braking/steering)
5. aging of software and hardware.
6. communication between vehicles and other road users
7. bidirectional vehicles affect the regulation on light, brake and tires
8. data
Thank you for your kind attention.

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This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 723051.
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