Homework NL 3rd meeting   (report 3rd meeting ACSF-03-17, 10 - list of actions)

Proposal:

Reworked Par 5.6.1.2.6:

If the attention recognition system detects that the driver is inattentive, it shall give a warning ~~to restore attentiveness again.~~ until the drives takes control again. If driver does not take control within [10-15 s] after the un-attentiveness is recognized , the system shall start an minimum risk manoeuvre or deactivate the steering function. The manufacturer shall provide information to the technical service how the attention recognition systems detects inattentiveness of the driver.

Justification:

Systems which allow the driver to let go of the steering wheel will persuade the driver to do something else. To avoid misuse the driver shall be kept in his role as supervisor to make sure that in the event of a critical situation, which cannot be dealt with by the system, the driver can take control in a rather short time.

Remark: The attention recognition system should at least be able to detect within a short time (e.g. 10-15 s) that the driver is e.g. reading a book or is busy with his i-pad.

Reworked par. 5.6.1.4.4:

Before ~~If~~ the vehicle reaches a lateral acceleration of ~~more than~~ 3 m/s² a transition demand shall be given~~.~~ and the system shall decelerate the vehicle in order to prevent the exceeding of an acceleration of 3 m/s^2.

Justification:

The system shall be capable to predict the oncoming lateral acceleration. During a lane change the system can control, the lateral acceleration.. However if the road has a curve and the vehicle drives at a speed such that the lateral acceleration will become more than 3 m/s2, the system should decelerate the vehicle until the speed is such that the lateral acceleration will be less than 3m/s2. Or the system shall give enough time [10s] to the driver to take control.

Additional tests (document 03-04 test I and II)

Test I, background:

Document 03-16:

5.4.3.2. Any sudden termination of control caused by a failure of the system physical or functional failure shall produce immediately a distinctive driver warning by a [red] visual signal and either an acoustic signal that shall remain operational until the driver has resumed control.

Document 03-04:

NL: It should be impossible that the system stops suddenly because of a system failure. Sensors and important functions should be redundant. This applies especially for the systems who work with more autonomy.

The requirement could be: "Not any physical or functional failure of the system shall cause that the systems terminates suddenly. [10 s] before it stops functioning it shall produce a distinctive driver warning by a [red] visual signal and either an acoustic signal that shall remain operational until the driver has resumed control. If the driver does not take control ACSF shall initiate the minimum risk procedure

This could be tested by introducing a failure. Consequently the system shall warn and continue to work until the driver takes control or the minimum risk manouevre has been initiated.

New reworked proposal for the 4ᵗʰ meeting:

Test I reworked

Drive the vehicle on a test track. A failure is introduced. The vehicle's ACSF shall produce immediately a distinctive driver warning by a [red] visual signal and either an acoustic signal that shall remain operational until the driver has resumed control. After the failure has been recognized the ACSF shall remain functional until at least [10] s after the failure has been recognized.

Justification;

Systems which allow the driver to let go of the steering wheel will persuade the driver to do something else. Even when the ACSF has a system which assesses the driver's attentiveness the driver will be daydreaming or something else. In case of a failure it is not reasonable to expect he is capable to take immediately the control of the steering system.

Test II, background

Document 03-16:

5.6.1.1.2. The vehicle shall be equipped with a means for the driver to activate and deactivate the system. The deactivation shall be possible at any time.

New reworked proposal for the 4ᵗʰ meeting:

Test II could be waived if the text of par 5.6.1.1.2 would be changed such that it is clear that the ACSF can only be activated when the environment is within the system boundaries and if not, the systems returns automatically to the stand by mode.