

Submitted by the Chair of
the IWG on ACSF

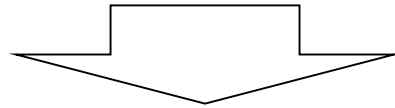
Informal document **GRVA-02-35**
2nd GRVA session, 28. Jan – 01. Feb. 2019,
Agenda item 5(d)

Status of the Informal Working Group on ACSF

Summary of ACSF IWG Meetings – 20th and 21st Session

Schedule of IWG on ACSF

- **20th meeting** was held from 7th to 9th November 2018 (Liverpool, UK)
- **21st meeting** was held from 16th to 18th January 2019 (Hangzhou, China)



IWG ACSF would like to present outcome of discussions

Overview discussion topics on requirements for Automated Lane Keep System on highways

- Activation / deactivation
- Driver availability recognition system
- Transition demand
- Information to the driver
- Minimum Risk Manoeuvre
- Emergency Manoeuvre

■ Activation / deactivation

Agreed principle

The activation of the system shall only be possible if:

- The driver is in the driver seat and the seatbelt is fastened,
- all functions needed for the operation are working properly and
- the vehicle is on roads where pedestrians and cyclists are prohibited and which, by design, are equipped with a physical separation that divides the traffic moving in opposite directions.

■ Activation / deactivation

Major discussion point

While the system is activated, how driver priority should be treated?

Option 1:

Reflect driver's input (steering, acceleration & brake pedal) to some extent and initiate Transition Demand
⇒ How to reflect driver's input?

Option 2:

Dismiss driver's input(except dedicated control) and initiate Transition Demand
⇒ Would it be appropriate dismiss driver's input?
(maybe relevant to WP.1)

■ Driver Availability Recognition

Agreed principle

Driver presence:

- Check use of the seat belt
- Check if driver's presence in the seat

Driver availability / awareness:

- Check whether the driver is not sleeping and ready/ able to take over manual control

Main discussion point

- How measurable values for the driver presence and awareness could be determined?

■ Transition Demand

Agreed principle

- System shall detect its limits and always issue a transition demand before/upon reaching the limits, System shall work properly during the whole transition phase
- Transition phase shall be long enough for human drivers (not sleeping; no medical issues) to take over manual control again.
- Warning during transition phase shall be escalating and demanding to encourage the driver to take over manually control as soon as possible.
- Vehicle is not allowed to be brought to standstill by the system during the transition phase except when the traffic situation requires it.
- System shall be deactivated automatically after a transition phase except a MRM is started.

■ Minimum Risk Manoeuvre

Agreed principle

- Only starts after a transition demand if the driver has not taken over manual control.
- If the vehicle is fitted with the capabilities to surveil the traffic behind and beside the vehicle, a MRM with a safe lane change/s to the hard shoulder shall be the first option to be considered in the MRM strategy before come to standstill.
- Without these capabilities, standstill in the driving lane
- System shall be deactivated automatically after a MRM.

■ Emergency Manoeuvre (EM)

Agreed principle

- Only allowed if traffic situation requires to prevent imminent collision.
- Full deceleration capabilities of the vehicle and evasive manoeuvre in the lane allowed.
- No transition demand required; EM works in parallel with ongoing transition phase/MRM with higher priority for EM.
- Deactivation of the system needed only after an EM brought the vehicle to a standstill with transition demand.

Summary

- Current mandate of IWG ACSF expires with GRVA-02
- IWG ACSF has made **progress** in defining core technical requirements for ALKS on highways, with **many in-depth discussions** about these **very complex issues**.
- Work and deliverables of IWG ACSF **not finished**, no agreed proposal of the group regarding core technical requirements or draft regulation for GRVA's consideration
- IWG ACSF asks for consideration of GRVA to **extend mandate** of IWG ACSF **for 1 year** until **January 2020** in order to **finalize work**
- Scope of work until January 2020: remains as stated in ToR (report GRVA-01, Annex III), but with proposal to primarily focus on **vehicle category M1** for **low speed applications**