

## Main Discussion Points on ALKS Extension

Japan is willing to make an active contribution toward the ALKS extension. Currently, we anticipate the following issues to be the main discussion points:

### <General Approach>

- What should be the priorities of the discussion? (Extending the speed range could be discussed first, but should lane change function (lane change during MRM, lane change for passing and lane change for merging/diverging) be covered at the same time?)  
JPN Position: Speed range extension and lane change during MRM should be prioritized.
- Should timeline for discussion be decided?  
JPN Position: Sufficient discussion is necessary from the safety point of view.
- What should be the frequency of the meetings?  
JPN Position: Support 1/month schedule
- Is it necessary to require detection of priority vehicles?  
JPN Position : See attached
- Where should the DSSAD update be discussed?  
JPN Position : DSSAD-IWG would be the most suitable group.
- How should the VMAD/FRAV discussions be reflected?

### <Speed Range Extension>

- How should the speed limit, which varies in each country, be treated under the Regulation?
- How should the Minimum following distance be decided?
- How should the Minimum forward detection range be decided?
- Should it be required to recognize speed limit sign?
- Is it necessary to consider the situations where lane marking is not visible? (it was not necessarily required for ALKS as the system follows the leading vehicle.)

- Is it acceptable to halt the vehicle within the lane under MRM (or lane change to the shoulder should be mandatory)?
- To what level should pedestrian crossing be covered? (it could be difficult to avoid a collision in a high-speed area but what should be the level required under the Regulation?)
- Is there any other additional requirement necessary for highway driving/driving without a lead vehicle?

#### <Lane Change Function>

- What are the items that need to be strengthened when compared to ACSF category C?
- Is it necessary to decide a minimum detection range for directions other than forward (side, diagonal)?
- Shall driver interruption during auto lane change be acceptable? What kind of maneuvers should be required for override during auto lane change?
- Is there any other additional requirement necessary for the Level 3 lane change function?

#### <Extension of the Category Scope>

- What are the items that need to be changed from M1?
- Which has a higher priority, extension of the category scope or M1 speed range extension and lane change function?

#### <Other issues>

- Are there any cases where following traffic law could cause danger? If so, how should we treat those cases in regulation?
- During Type Approval, what type of tests should be conducted or provided by the documentation? (Should current requirement be further clarified?)

(Attached) Japan Comments about emergency vehicle issues raised by France.

- If the regulation requests the detection of priority vehicles by the system :

1. Should the Regulation be clarified ?

**(Japan answer) Although it is not clearly described, we consider that the regulation requests the detection of priority vehicles (except if the priority vehicles are not in emergency mode) by the system since that system is required to follow the traffic rules and it can be only achieved when the system has detection functionality. We support to describe this issue clearly in order for clarification of regulation. In addition, we propose to describe the requirement that "the system shall detect the ODD exit" for clarification.**

2. Should the Regulation propose technical requirements ?

3. Should the Regulation propose a test method to verify these requirements ?

**(Japan answer) It is first necessary that the regulation is clarified to requests the detection of priority vehicles by the system. That means description of technical requirements and test method for the detection seem not to be necessary at this moment considering the variety of the priority vehicle in each country as raised below and flexibility of technologies.**

- Priority vehicles announce their approach through the use of sirens and flashing lights. In some countries, they do not have to activate the siren for priority, but are still equipped. The variety of priority vehicles should make it difficult for ALKS to manage the situation properly.

**(Japan answer) In ALKS, there is a check list which countries' traffic rules the system can comply with. In the proposed case, it can be dealt by checking the traffic rule of countries in which the vehicle can detect the priority vehicles.**

- What would be the point of having a driver alert inside the vehicle in addition to the siren of the priority vehicle? It may appear that sirens should be listened by the driver before the system or before the signal given to the driver

- The driver of a vehicle equipped with ALKS shall be available and able to regain control upon request from the system. Therefore, it may be considered that the driver must be able to react to the arrival of a priority vehicle activating its siren. He will thus be able to regain control of the ALKS function.

**(Japan answer) In current ALKS UNR's concept, we understand that driver is required to take over the control only when the transition demand is initiated. Therefore, we consider the siren cannot be considered as transition demand.**