

## 1. Background

Japan explained “Proposal for Overall requirement of System safety in Document 05” by FRAV04-13 at last session of FRAV. In this document, we proposed to evaluate some candidates as overall requirement concept from some aspects. This time, Japan is proposing our evaluation for this matrix. We hope FRAV would discuss our evaluation and give a feedback from members.

Candidate	Improve road transport safety		Performance based	Technology neutral	Measurable	Social acceptance	Feasibility
	individual	fleet					
C&C Human driver	Good	Good	Good	Good	Good, because capability of human driver doesn't differ in each countries *	Good	Good
Physical limitation, State of the art *2	Excellent	Limited, because volume in our market are limited	Not good	Not good	?	?	Not good, because OEM cannot make AD with affordable cost
Safety envelope	Good	Good	Not good	Not good	Good	?	Good
Positive risk balance	Some are good, but some are not good	Good	Good	Good	?	Not good, because there is risk for accidents caused by relatively less safe type of AD	?

\* In 4<sup>th</sup> FRAV, some members expressed a concern that level of human driver could change in each country, so the level of human drive cannot be defined in international regulation. However, human level of this “C&C human driver” is physical capacity of human, such as reaction time and power for brake pedal. Such capacities are not so different in each country. Therefore, the level of human driver is measureable enough.

We should be careful that we do not try to measure the level of manner of driver and traffic culture in each country.

\*2 Based on the assumption that physical limitation or state of the art are much higher in level than C&C human driver level, physical limitation or state of the art or state of the art level can be considered to lead to higher price and less production of ADS.

## **2. Japan Position**

Considering evaluation above, Japan proposes C&C Human driver concept as “consensus on conceptual definition of “safe performance””.

At the same time, we can continue to consider, if stakeholders provide other evaluation and FRAV thinks such other evaluations are valid, including to be integrated into the C&C Human driver concept.

(Reference)

Improve road transport safety (individual): ADSs improve the level of safety of an individual vehicle equipped with ADSs

Improve road transport safety (fleet): ADSs improve the level of safety of a fleet, considering the number of vehicles equipped with ADSs in the market

Performance based: requirement should be based on performance, not on specific design

Technology neutral: requirement should widely accept variety of technologies, not limiting the technology or innovation for fulfilling the requirements based on performance

Measurable: requirement should be measurable with clear criteria and possible to harmonize among countries

Social acceptance: acceptable and understandable for society, not arousing criticism

Feasibility: able to realize for manufacturers, being not too stringent