# Real World Test Drive - SG.2-1 Approved Meeting Minutes

## June 5, 2018, Den Haag

Presence: Japan (9, NTSEL. MLIT, JASIC), China (2, CATARC, Geely), RF (2, NAMI), EC (2), USA (1, SAE), NL (4, RDW), UK (3, TSC, DVLA, McLaren), Du (2, BAST, BMVI), ETSC (1), TASS (3), CIECA (1), Tesla (1), CLEPA (3 including NVIDIA, Denso), CITA (1), OICA (8 including PSA, Toyota, Daimler, Ford, Audi).

Note: Immediately prior to the inaugural meeting of SG.2 – 1, the Chair of AutoVeh called for comment and approval of the AutoVeh Terms of Reference as amended. No objection was presented and as such, the TOR was approved.

Chair Peter Striekwold called the meeting to order, reviewed the agenda and made note that the Agenda, accessible at: https://wiki.unece.org/download/attachments/60363448/TFAV-SG2-01-01%20%28Secretary%29%20draft%20agenda.docx?api=v2

included discussion of TOR. Given that TOR for AutoVeh / SG.1 & SG.2 was agreed upon moments earlier, the Chair proposed that each group review the AutoVeh TOR and divide the elements by responsibility of SG.1 and SG.2. This will be provided prior to the next meeting.

The Chair then asked the participants of SG.2 – 1 to provide (not attributed) comments/thoughts on the following two questions:

1) What is the expected outcome of SG.2? What questions will SG.2 answer?
2) What should be excluded from SG.2 work plan?

The Chair asked for comments, first from the contracting parties and then from the other participants. These comments were presented by attendees to identify issues for discussion and deliberating during future meetings of the SG.2.

Summary of Question 1 responses:

- How to test/evaluate the machine performance versus human?
- How to evaluate reactions to other traffic?
- How to validate a process for testing that makes sense?
- How to link the real-world test to the deliverables of SG.1?
- How we structure and manage SG.2 work not to duplicate that of SG.1?
- How to assess the real-world drive given that each individual test may is not repeatable in the “real world”?
- What are the bundled conditions that should be tested?
- What are the limitations of safe on-road testing?

- How to monitor the functionality during the lifetime given that software (and/or other) updates will likely be performed on vehicles?
- How to track updates performed on individual vehicles?
- Will there be different tests for different classes of vehicles?
- SG.2 should liaison with SG.1, ACSF, other groups where appropriate to avoid duplication and utilize works in progress or completed for efficiency.

Summary of Question 2 responses:

- What performance criteria should not be validated on-road?
- No failed system validation on-road.
- "Edge Case" testing should not be tested on-road if entails risk.
- Testing of extreme (environmental, for example) events should not be part of the on-road test
- No maneuvers endangering other traffic should be tested on-road.
- Exclude software testing, cybersecurity testing and PTI from SG.2 on-road.
- Exclude areas being performed by ACSF (unless ACSF does not align appropriately with on-road testing)

Not related to question 1 or 2 above, the Chair opened the floor to comments regarding the issues of ethics, traffic behavior, data collection issues. There was no general support to include ethical issues in road-tests, this is considered to be under national responsibility for now. In the future this might converge.

Following the open discussion summarized above, the document "TFAV-SG2-02 (OICA) input_Real World Test Drive" (pdf and ppt accessible on the link below) was presented and explained at specific issues.

https://wiki.unece.org/display/trans/SG-2+1st+session

SG.2 discussed what are, if any, priority areas, potentially defined by market demand or product readiness or other criteria that should be approached first by SG.2? – urban, highway (low and high speeds), valet parking, what might be done in parallel, and what are the cross-cutting areas (such as transition of control)? Popular consensus is that urban work should begin first due to the fact that ACSF is already working on some highway cases. ACSF expects to report in September on their results. That will be a moment to re-adress the divirion of future work. Considering that from UNECE perspective safety is the prime objective, valet parking is not considered as a priority.
The chair of ACSF indicated that the ODD leads to very different variants of a specific function, therefor the ACSF is including specification of these functions into its requirements in order to achieve harmonization, safety and common acceptance.
RDW indicates the importance of including data from real use in future procedures as an addition of the road test. This was confirmed by McLaren.

SAE indicated that the level of "driving behavior" to be tested may depend on the vehicle type, as e.g. commercial driver may have to comply to higher level driving examinations

CIEACA indicates that the road tests should not be restricted to conformity with traffic rules but also include safe and predictable behavior for the environment. They are willing to give a presentation for this in a future meeting.

The Chairs of SG.1 and SG.2 requested volunteers to host upcoming joint meetings for the groups. JASIC volunteered to host a meeting in Japan in October 2018, SAE International asked the group if April 2019, either in Washington DC at the Government Industry Meeting or Detroit, at the World Congress. OICA offered their headquarters as did CLEPPA.

The chairs will discuss these options with the offerors and Chair of AutoVeh and post notice of subsequent meetings. Given summer vacation schedules, likely early September and onwards.

The Chair thanked all for participating and contributing; the meeting was adjourned SG.2-1.

*Note: The next meetings of the SG.1 & SG.2 is tentatively agreed up to be September 3 & 4, 2018 in OICA, Paris.*