Report of the 6th and 7th Session
Separate Technical Unit (STU) Task Force under GRSG IWG VRU-Proxi

Date: Monday, 7th of April 2025 and Wednesday, 9th April 2025

Time: 13:00 - 15:30 BST / 14:00 - 16:30 CEST

Venue: Online meeting, link to MS Teams provided in separate e-mail

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Agenda:

1. **Welcome and introduction**
   The TF Lead has welcomed all and has given an introduction for this TF session.
   6th session attendees: All 3 Contributors, 1 of 4 Supporters and 0 of 24 Observers
   7th session attendees: All 3 Contributors, 0 of 4 Supporters and 1 of 24 Observers

   The following information point were reported and discussed:
   - STU TF documents are now on the UNECE website up to 4th session, please check if all is as expected and agreed.
   - Report from STU TF to GRSG via IWG Chair, document provided: GRSG-2025-xx VRU-Proxi-36 TF STU Report for GRSG 20250402 -1
     The outlook for the timing was briefly discussed possibly providing an informal document to GRSG in Jul/2025 and merge changes thereafter from the review of the TF or IWG into a working document before the Autumn GRSG session. All this is still not yet predictable and likely the earliest in 4 to 6 weeks' time such can be assessed.
   - In the 7th session the team briefly aligned on the VRU-Proxi IWG topics presented by the IWG Chair and others at the 129th GRSG session. Now all such documents are available on the UNECE website which were presented the meeting. For the STU TF topic there was not change or input given to what was reported.
   - Further possible upcoming changes on regulations in concern from 129th GRSG meeting proposed change informal document GRSG-129-01: (NL) Collective amendments to UN Regulations Nos. 151, 159, 160 and 167
     The TF team did not spot any other relevant changes or intentions for the STU TF.
   - The next, 37th, IWG meeting is currently proposed for 1st, 2nd, 8th, 9th or 10th Jul 2025 in person in Brussel by the Chair with option for remote access. TF team to give preference to the IWG meeting and any scheduling survey for this. TF session will be adjusted accordingly.
   - Suggest keeping a common agenda and report for 6th and 7th session, as there is little time between these both.
     TF team agreed.
   - Input to 6th session from Japan (email from an Observer on 4th Apr 2025), cross read and seem to highlight and support our started discussion on STU possible or not possible certain aspects of requirements or testing for regulation in concern.
     Added this to agenda point 5 below for one of the next sessions.

2. **Adoption of the agenda**
   Document: TF-STU-06-01 Draft Agenda -2
   Adopted, including updates to the 7th session.

3. Adoption report 5th session

Document: TF-STU-05-10 Report -2
Adopted, including minor administrative changes by the TF Lead.

4. Agree on next meeting(s), content and who to join

Check next scheduled meeting for availability and participation needed in relation to agenda content or task(s) to be completed in time for next meeting.
Note: Our key goal was to have at least all 3 contributors and 2 supporters in each meeting.

- In the 6th session the check was completed. All 3 Contributors should be available for the 7th session.
- Team was reminded to update the individual meeting of the series that starts on 16th April if attending is not possible.
- In the 7th session the following was agreed:
  - 16th of April session the TF Lead and one Contributor will work out and visualise how the STU and Component definitions from R.E.3 can help the TF on the identified concern on risk for the STU integration as the current document "TF-STU-06-02 Breakdown of Requirements and Testing R159 - STU proposal Rev3" shows.
  - 23rd of April session is cancelled due to limited attendance of the Contributors over the holiday season.
  - The next session is planned of the 30th of April when at least 2 Contributors and possible some Supports will join.

5. Review of documents provided from Japan Auto-Body Industries Association (JABIA)

The TF team to review the documents provided from JABIA for the STU implementation in Japanese on R158 for camera monitor systems.
Review before next meeting the provided 7 documents TF-STU-05-03 to TF-STU-05-09, key document was highlighted: TF-STU-05-03 Approval_JPN Rev1
Added further document for review provided to 6th session from an Observer from Japan.
Email content and attached document received on the 4th of April 2025:

- TF-STU-06-04 Email content from an Observer about the split subject to type of sensor or regulation
- TF-STU-06-05 Email attachment from an Observer about the split subject to type of sensor or regulation for R158

Not covered in meeting due to time limitations, carried over to the next session.

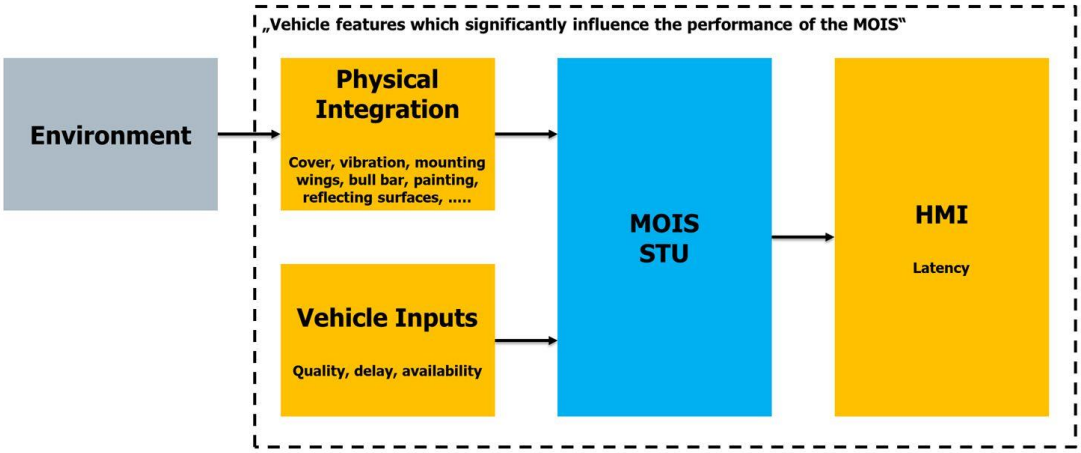
6. Status and progress of open Actions items from last sessions

a) Feedback by the team will be exchanged and changes made until this breakdown will be concluded and agreed, action item from 1st and 2nd session.
Document: TF-STU-05-11 Breakdown of Requirements and Testing R159 - STU proposal Rev2
TF team to carry on the work at point 6.5 from last session.

- In the 6th session the TF team finished to feedback and discussed all points up to 6.8. Most of the meeting was used to focus and further updates on the notes added in the recent session at the end of the document for open questions and the risk for integration for an STU.
- The issuing Contributor shared and added updates as discussed in the meeting to document: TF-STU-06-02 Breakdown of Requirements and Testing R159 - STU proposal Rev3.
- One Contributor stated an ISO working group face a similar matter where performance testing of a sensor is difficult to perform not on a target vehicle due to many dependencies. See references given to ISO working group ISO/TC 22/SC 32/WG 16 automotive perception sensors with 3 parts:

  - ISO/AWI 13228 Road vehicles – Test method for automotive LiDAR
  - ISO/AWI TR 13377 Road vehicles – Guidelines for cooperative interference mitigation of automotive millimeter-wave radar
  - ISO/AWI 13389 Road vehicles – Test method for detection performance of exterior sensing millimeter-wave radar
- The TF team agreed is likely not viable attempting a minimum testing approach for vehicle with STU equipped to avoid some or any major testing procedure as the ones defined in chapter 6 and related annexes. This would lead to rely on the judgment from the Technical Service of system capabilities and risk all based on data the STU supplier provided rather than testing. The Technical Service strength is more on testing to requirements given and unlikely can sufficiently make judgments on e. g. sensor technology and its limitations or dependencies to ensure compliance with regulation.
- The TF team to contemplate on this and the likely option to carry on assuming a maximum amount of testing in line with the regulation and reduce this to a degree if possible. Evaluate this in next session.
- Reference to notes on agenda item 6. b) as this highlighted the dependencies to ensure compliance with regulation from a definition view point.

b) Feedback by the team will be exchanged and changes made until the definitions will be concluded and agreed, action item from 1st and 2nd session.
The Contributor, who issued the document, stated likely changes are needed with the progress of the agenda point above. Contributor to inform when such is planned and when available in due time.
- The TF team has carried on after point 0.8 to feedback and discuss the document hold by one Contributor, who issued this document originally.
- This Contributor shared and added updates as discussed in the meeting: TF-STU-07-01 Proposal for definitions and framework Rev2.
- Discussed was the point 2.33 which triggered a wider discussion of understanding this definition and the practical usage for STU and also Component as defined from UNECE's framework "Consolidated Resolution on the Construction of Vehicles (R.E.3)" ECE_TRANS_WP.29_78_Rev.7e.pdf
- The team suggested this might help the TF on the identified concern of risk for the integration as the current document "TF-STU-06-02 Breakdown of Requirements and Testing R159 - STU proposal Rev3" shows, see above under 6. a).
- The risk was illustrated by the dependencies with a diagram visualising the vehicle features which significantly influence the performance of the MOIS:



See also for the document: TF-STU-07-02 Graphics STU Component.jpg

- The “STU” approach might be more suitable of similar vehicle when the variance between types of vehicles does not or little affects the STU performance. E. g. in case for MOIS same vehicle front, cab, MOIS integration and sensor height from the same manufacturer but different vehicle length and the number of 2, 3 or 4 axles. The STU approach is typical more helpful for the vehicle manufacturer.
  The “Component” approach when the defined MOIS system (the “Component” as in R.E.3) is not or little affected by the vehicle features or its installation. Therefore, does not significantly influence the performance of the system or easily can be proven. E. g. complete Camara Monitor System (CMS) for R158 similar to R46 approach for CMS for mirror class V and IV. The Component is typical more an enabler for the system or subsystem supplier.
- It was agreed change of the ToR in 2024 of the IWG from “component” to “STU” was likely had not fully aware of the definitions from R.E.3 document and its implication. TF to report in on next IWG meeting as needed for any possible changes in the ToR for the TF.
- In the 7th session, which will be more a 1:1 between the TF Lead and one Contributor due to attendance limitations over the holiday season. Goal is to work out and visualise how the STU and Component definitions might help in various dependencies for vehicle features which significantly influence the performance vs. the various demands from the 4 regulations this TF has in concern.

c) Action tbd. create working version and nominating within TF team from 1st and 2nd session.
   - Action TF Lead to create working version for R159 by around 4th of Apr 2025.
     Status: Not needed or ready yet.
   - Action: Observe progress from GRSG 129 and WP.29 meetings for documents.
     Listed so far:
     Informal document GRSG-129-01: (NL) Collective amendments to UN Regulations Nos. 151, 159, 160 and 167
     Status: Ongoing item.

d) Action TF Lead to update the created working version with the 4th amendment as a supplement of R158, see agenda point 10 from 1st and 2nd session.
   Status: Not needed or ready yet.

e) Action TF Lead to follow up with GRSG Secretary Edoardo Gianotti and report back to TF team from 1st and 2nd session.
   Update from further follow up and GRSG STU TF reporting Spring 2025 session.
   No feedback in the 129th GRSG session.
   Follow up with Chair of the IWG is such was relayed and any direction given.
   Chair of the IWG stated in a call with TF Lead before the 129th GRSG session that the Chair of the VRU-Proxi would be informed by GRSG if there are changes requested from outside the IWG. The currently overserved lack of information likely resulted due to the changes of the Chair of the IWG.

f) EU Reg. regulation 2021/1958 for Intelligent Speed Assist (ISA)
   - Action TF Lead to check with Lukasz to find someone who can point out key point on this approach taken in this regulation who was active involved in this drafting group at around the years 2019 and 2020.
     Status: Resolved, see below notes form the 7th session.
   - Action TF members: If this item succeeds bring up from 3rd session action item 6. e): Why SLWF as not added as a requirement for STU element under 2.1.3.
     Status: Resolved, see below notes form the 7th session.

Update in 6th session:

- Contacts have been received for Elitza and Peter (former VRU-Proxi Chair) and both have been contacted.
- One Contributor stated as far as Elitza is known she was likely more from the formal side engaged than from the subject matter content on which Peter was. As an alternative given was Matthias from TRL UK.

Update in the 7th session:

- Peter is interested to tell the STU TF but timing limitations led to a 1:1 with TF Lead on the 22nd of April 2025.
- Matthias from TRL UK joined for about half hour in the 7th session and the following was discussed:
  - TRL was contracted by EC for leading the drafting of the regulation and gain knowledge and technical background in many consultations with component suppliers and vehicle manufacturers.
  - Industry was asking to a split for efficiently for implementation of the ISA regulation.
  - SLIF was most honour element with the highest testing effort. If STU is correctly installed, it can be reused in many vehicles. There was not much back and forth or major pitfalls in the discussion writing the regulation as this was requested at an early stage of drafting.
  - On the question why the SLWF or any displays or HMI was not picked up also as an STU the feedback was: There was no direct discussions on such, no STU scope was proposed or driven by the industry. Therefore, it was not discussed or considered.
  - On the question of the borderline definition for the STU score if such was discussed and what is included or what not. There has not been in-depth consideration. The example the TF brought up if for the map-based GPS system the GPS antenna could come from the vehicle manufacturer and reception could be affected by the installed location. ISA does not include the GPS antenna in the SLIF for the STU approach. Quality of the GPS reception is not covered by testing on level of the vehicle with an STU equipped.
  - At that time 4 to 5 colleagues at TRL were working with the industry and interested organisations. The traffic sign table outline was done in the drafting but the content by EC from input of the EU's countries. The final consultation was done by Peter, the EC lead, however, little text has changed from the draft TRL did.
  - For the regulation in concern of the STU TF a brief discussion was about the possible split of the detection system from the judgment system (like ISA's SLIF and SLWF). This was rejected as the type of sensor involved are far more depended for information and set up due to various dependencies on vehicle features which significantly influence the performance, see lasted notes in sections 6. b).
    In theory it could be down however of the effort for the implementation of the split (not existing in current regulations) and the little benefit this split adds to the matter on hand of the STU TF.

g) Action TF members to set check point in drafting of regulations to keep agreed supplement approach and carefully review no other changes can be interpreted to affect the current scope of requirements.
Status: Not yet possible to schedule, no drafting yet started.

7. Agree on next steps, work packages, collaboration or similar

Not covered in meeting due to time limitations, carried over to next session.

8. AOB

None

9. End of Meeting