UNECE VRU PROXI GROUP TASK FORCE SUMMARY

Review of how effective the interventions of UNECE 151, 158, and 159 have been/will be in terms reducing accidents

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Availability of new or enhanced technologies in UN Regulations No. 151 and No. 159 and potential review of detection ranges for 151 and 159

Chair: Dr Steve Summerskill

AGENDA

- Discussion of Taskforce topic 1:
  - Review of how effective the interventions of UNECE 151, 158, and 159 have been/will be in terms reducing accidents
- Discussion of Taskforce issue 2:
  - Availability of new or enhanced technologies in UN Regulations No. 151 and No. 159
  - Potential review of detection ranges for 151 and 159

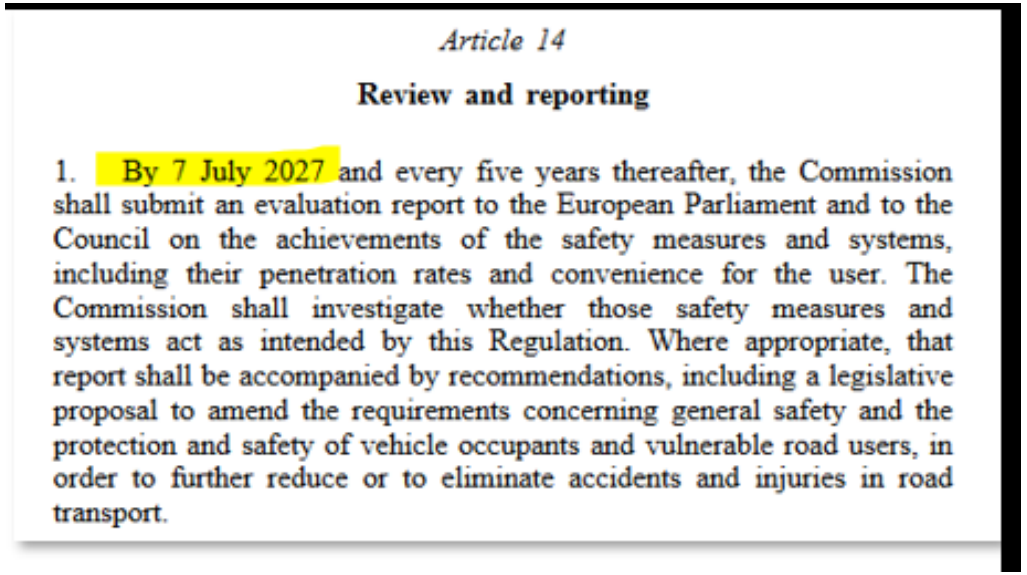
- Discussion of Taskforce topic 1:
  - Review of how effective the interventions of UNECE 151, 158, and 159 have been/will be in terms reducing accidents

REVIEW OF HOW EFFECTIVE THE INTERVENTIONS OF UNECE 151, 158, AND 159 HAVE BEEN/WILL BE IN TERMS REDUCING ACCIDENTS

Initial discussions in the 35th session of the UNECE VRU PROXI highlighted some concerns about this topic

1. It is likely too early to take a quantitative approach because accident data will not yet show improvements due the use of vehicles which are fitted with systems (if such an improvement exists)
2. Therefore, it could be possible to take a more qualitative approach, through surveying the opinions of drivers and operators
3. As highlighted in the 35th meeting, if we take this approach, it is important to ensure that only drivers and operators of vehicles which meet the regulations are surveyed

However, opinion during the Task force meeting was that it is too soon and the image below was provided.



Article 14

Review and reporting

1. By 7 July 2027 and every five years thereafter, the Commission shall submit an evaluation report to the European Parliament and to the Council on the achievements of the safety measures and systems, including their penetration rates and convenience for the user. The Commission shall investigate whether those safety measures and systems act as intended by this Regulation. Where appropriate, that report shall be accompanied by recommendations, including a legislative proposal to amend the requirements concerning general safety and the protection and safety of vehicle occupants and vulnerable road users, in order to further reduce or to eliminate accidents and injuries in road transport.

REVIEW OF HOW EFFECTIVE THE INTERVENTIONS OF UNECE 151, 158, AND 159 HAVE BEEN/WILL BE IN TERMS REDUCING ACCIDENTS

It is my opinion that there are currently detection range issues with UNECE 151 and 159 and that exploring how AI camera systems have been implemented as part of the Transport for London (TfL) Progressive Safer System could be useful as mechanism for solving the detect range issue

There are issues with this;

1. The UK suppliers of such systems have adopted Chinese AI models for the detection of VRUs
2. In the TfL PSS suppliers can self certify their systems.
3. We have performed testing of some systems and most required some form of adjustment to meet the PSS requirements
4. But they were then able to meet the requirements
5. There is a large scale test of these technologies underway in the UK (200,000 vehicles) and so this is a good opportunity to learn how these systems are operating in the real world.

- Discussion of Taskforce topic 1:
  - **Availability of new or enhanced technologies in UN Regulations No. 151 and No. 159 and potential review of detection ranges for 151 and 159**

AVAILABILITY OF NEW OR ENHANCED TECHNOLOGIES IN UN REGULATIONS NO. 151 AND NO. 159 AND POTENTIAL REVIEW OF DETECTION RANGES FOR 151 AND 159

Initial discussions in the 35th session of the UNECE VRU PROXI highlighted some concerns about this topic

1. Currently UNECE 151 allows a 900mm no detection zone to the side of the vehicle
2. Currently UNECE 159 allows an 800mm no detection zone to the front of the vehicle
    1. These no detection zones are considerable and have the potential to hide both pedestrians and cyclists to the front and side of the vehicle

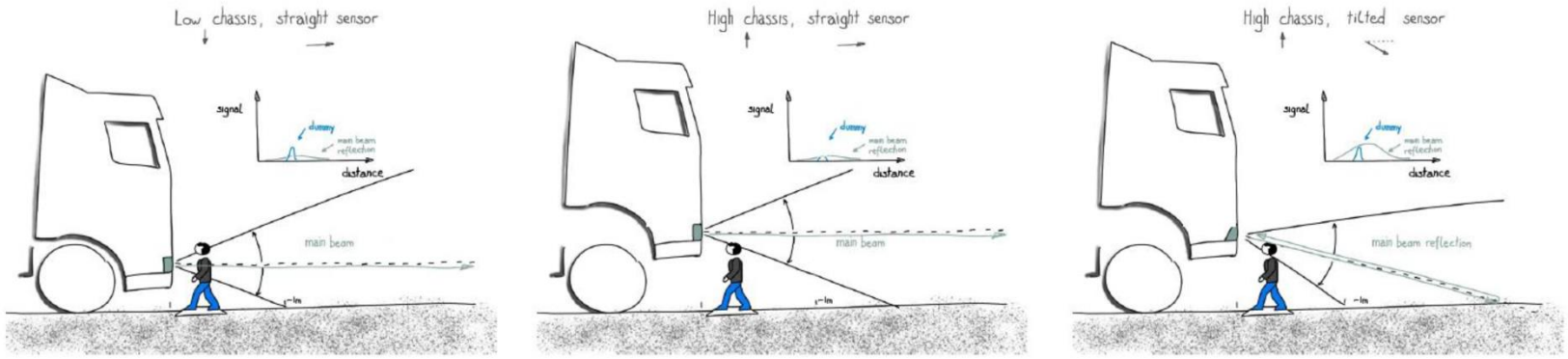
Issues for consideration

- It may be that the no detection zones are not this large in actual vehicle designs and so we could survey the detection performance of actual vehicles?
- After we have these data we can then review the potential requirements for an amendment which will reduce the no detection zones and examine the potential of new only if seen as required

EVIDENCE DISCUSSED BY INDUSTRY DURING THE MEETING

- During the Task Force meeting evidence was supplied which discussed why the non-detection zone was increased to 800mm from the initial proposal of 350mm
- See image
- This shows that it was seen as difficult to have a single RADAR sensor that can be mounted at a single location in the vehicle front which can meet the requirements
- Some TfL PSS systems are using dual Radar sensors to solve this issue
- (see Product by Brigade)
- We think this issue needs to be explored further

CONSTRAINTS 1



1. Based on theoretical assumptions there are negative implications (reflections, implausible signals,…) with tilted mounting

2. No knowledge on detection performance with tilted mounting under real life conditions (series / series development)

SUMMARY

- Discussion of Taskforce topic 1:
  - Review of how effective the interventions of UNECE 151, 158, and 159 have been/will be in terms reducing accidents
  - The consensus among manufacturers was that it is too soon for such a review of performance
  - I would argue it could still be valuable to explore not only the performance of 151 and 159, but also additional technologies which can solve the non-detection zone issue
- Discussion of Taskforce issue 2:
  - Availability of new or enhanced technologies in UN Regulations No. 151 and No. 159
  - Potential review of detection ranges for 151 and 159
  - The evidence supplied during the task force meeting suggests that the non-detection zone was increased from 350mm to 800mm based upon potential issues with meeting the standard during test for one RADAR detection system
  - A review of the actual performance of the systems is recommended based upon the issues highlighted
  - This could be done independently or with the support of manufacturers