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agenda item 19)

Report from DEOP 72nd meeting GRSP 5-9 dec

Chair: Pernilla Bremer, Sweden

Secretary: Torbjörn Andersson, Clepa

Background

GRSP agreed in December 2021 that the ad hoc group of experts could continue to review existing research/share ongoing research and if GRSP determines that there is enough evidence to address this issue, an IWG may be established.

5 meetings

The group has collected and reviewed data to determine whether there is a difference when it comes to gender, but indirectly also the full diversity issue, i.e., stature, mass, and age of occupants in crash safety.

- The presented data indicate that the injury risk is higher for women than for men regarding several types of injuries and all types of crashes.
- The specific difference in fatality risk between female and male occupants has decreased with newer vehicle types but is still visible.
- Non-fatal injuries, which may lead to long-term consequences, e.g., neck injuries and injuries to extremities, remain a concern.

Larger equity issue

- The presented data give reason to assume that similar differences in risk occur for other significant diversity aspects, such as age, weight, and height. In conclusion, there is a larger equity issue.

Drafted proposal

- one on short to midterm perspective to find possible solutions with tools already existing, and reviewing current regulations and
- one long term perspective considering the potential of virtual crash testing as one way to improve equitable occupant protection.

The ad hoc group has identified following to follow up on

- Continue to collect and review relevant field accident data to further understand the reasons for the varying injury risks of different occupants. For the same reason, collect and review other relevant and available data, in particular data from the virtual testing performed today in research. The reason is to be able to separate the issues which current concerned regulations under GRSP could address directly (if upgraded) from the gaps where more research is needed.

- Explore and advance the current state-of-the-art of virtual crash testing to determine and increase its capability as a tool and process to evaluate equitability, including a specific assessment of the state-of-the-art virtual human body models, i.e., virtual models of humans, particularly the possibilities for a safety performance evaluation at a higher level of detail.

- Review the concerned UNECE regulations under the 1958 agreement for crashworthiness and occupant protection (passive safety), and related regulations, with a view to identify opportunities for improvement of concerned UNECE regulations regarding equity; NB, equity in its expanded definition.
- Assess whether existing regulations are sufficiently flexible to allow new technical developments regarding occupant safety resulting from new assessment possibilities of particularly virtual crash testing.