

**Note of The 9th Meeting of WP.29-ITS Informal Group  
11 March 2005.  
Palais Des Nations, Geneva.**

(1) Adoption of the Agenda

The group's Chairman, Mr Wani, introduced Mr Yarnold as having been elected to the Co-chairman after Mr. Gauvin. Mr Wani explained that the note of the group's last meeting was taken by the UK, and would be taken by Japan for this meeting. He proposed OICA to take note of the June meeting, and CLEPA the note of the November meeting.

As Item 2 on the agenda, he explained that PSA was scheduled to make a presentation on the topic of Lane Departure Warning (LDW), which would be an example of in-vehicle system to facilitate the group's discussion to help identify the tasks for WP29. As Item 4, ITU would report the results of its recent workshop.

Co-chairman, Mr Yarnold, added that LDW would be a good topic not only for Europe but also for other regions to discuss about it, and he pointed to the importance of considering driver responsibility and human interaction.

(2) Information and Discussion

i) OICA: Lane Departure Warning (LDW)

[Presentation]

PSA provided a presentation on the LDW system designed for use on motorways and expressways. PSA noted that sensors and HMI are the particularly important technologies for warning systems. Considering their costs, PSA selected infrared sensors to detect lane markings. Four types of HMI (sound, light, steering wheel vibration, seat vibration) were compared and evaluated based on ergonomics, and seat vibration was selected because it was easily perceivable to the driver without irritating other occupants. The system allows the driver to switch it on and off. It had been made available in four vehicle models on an optional basis (390 Euro) since October 2004.

[Discussions]

- \* Sweden and India asked about the sensor performance under unfavorable road conditions including snow, rain, and dirty surface. PSA answered that the system was designed for highways, on which lane markings are usually clear, and it had been tested under the normal road conditions in Europe.
- \* Russia made question if PSA was planning a seat vibration that would warn an emergency (crash) conditions. PSA replied negatively, explaining that the LDW system was designed to respond to lane departures caused by a doze, inattentiveness for example, while the HMI was intended to avoid excessively alerting the driver.
- \* FEMA expressed a doubt that PSA's system could not work under most serious circumstances such as driving under heavily intoxicated condition. PSA responded that the system was designed for more general conditions.

- \* Australia inquired about the system's switching between an expressway and an ordinary surface road and about the system's effectiveness. PSA answered that it switched on or off according to vehicle speed and that it would take some years to assess its effectiveness since the system had just been introduced into the market.
- \* Mr Wani summarized the above discussions in two points: one was the reliability of detection, which would be affected by different road conditions, and the other was the HMI, by which how to provide information to a driver. He commented that HMI was a more important factor in this context.
- \* Mr Yarnold asked about the operational speed and deactivation of PSA's LDW system. PSA answered that, assuming expressways, the system was set to operate at a vehicle speed of 80 km/h or above, and it could be deactivated for five seconds from the moment the driver changed the switch. (The system would not operate during lane changes).
- \* Mr Yarnold inquired about HMI that how the vibration level had been determined. PSA answered that a necessary and sufficient vibration level under a lack-of-tension condition had been determined by studying actual drivers' behavior.
- \* The US commented on the significance of understanding the issues and directions of advanced devices and that it was interesting to hear at the WP29 the issues and challenges tackled during the technical development. The US recognized the cooperation between industry and government as one of the subjects to be considered.
- \* OICA commented that these systems were intended to assist drivers and the responsibility still remained on drivers. OICA added that it was not possible to evaluate the driver's responses in all situations, since numbers of different signals would be transmitted to the driver in complex situations.
- \* Mr Yarnold commented that although PSA's vibration system would be regarded favorably, if many different warning systems were introduced in the market, drivers could be confused, and he pointed to a need for harmonization.
- \* Mr Wani commented that two views exist on this issue: one put importance on harmonization, and the other found significance on careful consideration before standardization in order not to limit the future potential of developing technologies. He also commented that there was a premise that warning systems might fail to function. He summarized that it would be important for industry, who considered carefully before introduction of a system into the market, and government, who concerned about safety, to cooperate together to share a common understanding. In this regard, while the Informal Document 21, distributed by Canada, dealt with the issue of driver distraction, it could be considered that industry-government cooperation was also handled, he mentioned. He then referred to the OICA comment and remarked that the driver's responsibility was vitally important not only from the standpoint of legislation but also from the perspective of issues of actual devices. He commented that the PSA presentation and the following discussions had provided a good start for this group.

- \* Mr Yarnold commented that HMI would also be discussed during the study of EU, JAMA and AAM guidelines, which was on the agenda for the group's next meeting.

(3) Future Work

- i) Contribution from IHRA
- ii) Relation between ITS Informal and GRs
- iii) Schedule

Mr Wani proposed a tentative schedule until the Closing Discussion in November 2006 on the basis of Informal Document 6. He announced that, in addition to the presentations in the proposed schedule, those from other groups would be welcomed.

(4) Others

ISO provided the information on the results of the joint ISO/ITU workshop on "Information & Communication Technology in Vehicles" (2-4 March 2005). Participants were informed that the results of all the sessions were available at the ITU website.