

## **ITC / Round Table 2004**

**The 4<sup>th</sup> ITS Informal Meeting, UN/ECE/WP29  
June 27, 2003**

## **Draft Abstract of “Overview “ at the Round Table scheduled by WP29 in February 2004**

Kenji Wani  
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Director, International Affairs Office, Road Transport Bureau  
Ministry of Land, Infrastructure and Transport, Japan

Abstract:

### **Introduction**

In-Vehicle ITS or IVS technologies have been developed rapidly in recent years and several projects have been undertaken aiming at improve vehicle safety. Some of such technologies are already in the market.

- Major projects in the world
- Actual situation how such technologies are approaching to the market

### **ITS and WP29**

Facing these new developments of vehicle safety technologies, how WP29 should act has become subject to discuss. These discussions include how to deal with rapid changing technologies for the purpose of encouraging such development. Also as the World forum of vehicle regulation, WP29 seems to be expected as the most suitable place to establish common understandings on this area. Followings are part of discussions about the reason why common understandings are needed.

- 1) When the current regulations are forced to be applied, the ITS technologies cannot be introduced, for they may conflict the current regulations.
- 2) Since no relevant regulation exists, these technologies may be introduced to the market without thoroughly studying their negative aspects in advance. This may diminish the safety.
- 3) If a certain technology is evaluated in the market as being not safe, a hurdle for introducing the technology again into the market will be very high. Thus, there is the possibility that its introduction into the market will be retarded.
- 4) Some technologies are too innovative that it is difficult to judge their safety. As a result, each government may handle the technologies in a different way.

### **Establishment and Activities of ITS-informal Group of WP29**

Based on such discussions, ITS informal Group was established and its activities have been started since the first meeting held in June 2002.

- Activities
- Role and Position

## **“ITS Technologies and Advanced Driver Assist Systems”**

Presentation to WP-29  
Christoph Huß,  
Senior Vice President, Science and Traffic Policy,  
BMW Group  
February 18th, 2004

Abstract:

**The traffic safety and the relief of the driver’s load in their driving tasks are important issues for the BMW Group and the automobile industry. The new possibilities through electronics and communication technologies offer good chances to get progress. A lot of different vehicle-autonomous but also interactive systems are in the developing process and will be offered after the necessary questions and open points are settled.**

**Among other things the complexity of the systems influences the strategies for implementation. Priorities will have the vehicle-autonomous systems, which will be announced in the presentation. Today systems for improvements in vehicle dynamics, vehicle guidance, visibility and the HMI are under discussion or will be offered in the market in the near future. The presentation will go into some of this points.**

**Some vehicle-autonomous driver assistant systems could be optimised in their effects, if available and additional information for instance from the infrastructure or the environment, which may be created in the vehicle or is transmitted into the vehicle, is displayed.**

**The key for the success on the market is the acceptance of the customer and the experience in the assistance function or the relief of the drivers workload. The top goal however has to be the principle that the responsibility for driving has to remain with the driver. Assistance function means, to give support to the driver in those areas, where a machine can act better, to make on the other side a better use of the strength of the driver.**

## **CAMP Driver Workload Metrics Project**

Presentation to WP-29  
Mr. Richard K. Deering  
Manager  
Crash Avoidance and System Support  
Safety Integration Center  
General Motors Corporation  
February 18th, 2004

Abstract:

**Distracted drivers threaten their own safety and the safety of those around them. Concern among regulators and the public is growing as more drivers try to do other things at the same time they are driving. These 'things' go well beyond traditional tasks like radio tuning and climate control adjustments. They now include use of cell phones, Personal Digital Assistants (PDAs), route navigation systems, complex entertainment systems, and even surfing the Internet... while driving.**

**Driver distraction research generally uses indirect measurements for ethical and practical reasons. Ethically, such tests emphasize safety, especially when done under real driving conditions on public roads or on a test track. Practically, indirect measures are easier to obtain than crash or near-crash data. For example, one can measure a driver's eyes-off-road time while doing a task and driving at the same time. Eyes-off-road time (e.g., the duration and number of glances away from the road scene) is related to safety. Because a driver needs to see to drive, the longer or more often one looks away from the driving scene, the greater the chances that an unexpected hazard may arise and be responded to late ... or not at all.**

**The CAMP Driver Workload Metrics (DWM) Project is oriented toward distraction research using indirect, safety-relevant measures. The project seeks to develop metrics to measure the 'demands' of a task given a driver elects to do it. The participant's driving behavior and performance are measured during the completion of each task. These are then compared and contrasted to arrive at a better understanding of the attentional demands on a sample of drivers, men and women, from those in their 20s to those in their 70s. The DWM Project is intended to support ergonomically sound telematics systems design. It will do so by the development of metrics and test procedures to predict the "distraction potential" of system functions and features before such systems reach the marketplace. These metrics and methods will be useful to improve designs and to support driver accessibility-while-driving decisions.**

# **Driver Assistance System (Lane Keep Assist System)**

Presentation to WP-29  
Akira Iihoshi  
Chief Engineer, HONDA R&D Co.,Ltd  
February 18th, 2004

Abstract:

**Honda developed a Lane Keep Assist System and put into commercial production as driver assistance system in October 2002.**

**The driver assistance system incorporating the Adaptive Cruise Control (ACC) & the Lane Keeping Assist System (LKAS) for significantly reducing drivers' workload on expressways.**

**We will describe below points.**

- 1. System Structure**  
Description of structure, sensors and actuators
- 2. Outline of Adaptive Cruise Control**  
Introduction of ACC operations & features
- 3. Outline of Lane Keep Assist System**  
Introduction of LKAS operations & features, operating guide, and lane departure warning system
- 4. Showing Video (system operations)**
- 5. Reduction in Drivers' Workload**  
Plots of steering torque characteristics and drivers' fatigue level to show how the system eases the driver's workload
- 6. Summary**  
Representation of a probable concern and its solution, and showing contribution to prevent accidents due to drivers' fatigue.

### 3. Research

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<TBD>

Presentation to WP-29

Ian Noy

The former chairman of IHRA ITS WG

Director

Standards Research and Development Road Safety and Motor Vehicle Regulation

Transport CANADA

February 18th, 2004

Abstract:

**The presentation will include the potential adverse consequences of in-vehicle telematics such as distraction, major concerns, research findings, and potential interventions. Also it is emphasized that discussion about in-vehicle ITS is a global issue and that the opportunity exists to develop globally harmonized interventions, through WP.29.**

## 4. Conclusion

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# **Draft summary of Mr. GAUVIN's intervention at the ITS ROUND TABLE SCHEDULED BY THE WP 29 IN FEBRUARY 2004**

### **GENERAL COMMENTS**

The WP.29's mandate is limited to vehicle regulations, and the Round Table deals only with the part of ITS systems that regard only the vehicle, currently referred to by the symbol IVS.

### **1 - IMPORTANCE OF IVS FOR THE FUTURE**

WP.29 admits that the development of IVS systems is of the highest importance for its works:

- 1.1. IVS systems are being rapidly developed and take an unforeseeable technical form that is problematic with regards to existing regulations and the incompressible administrative time needed for their amendment.
- 1.2. In terms of road safety, great expectations are founded on the improvement of the primary safety (to avoid the accidents); but IVS systems might be designed not only to improve safety, and it seems that each system that can be proposed is worthy of specific analysis.
- 1.3. It is necessary for WP.29 to remain up to date with the evolution of the research and development of IVS systems.
- 1.4. It is necessary to consider flexible formulas allowing the approval of innovative technical devices.

### **2 - RAPPEL OF WP.29 INSTITUTIONAL FRAME**

- 2.1. WP.29 offered to hold a Round Table especially for IVS, after the first Round Table on the new fuel oils and propulsion systems: it is the recognition of the importance of this topic and of its long-lasting innovative character.
- 2.2. WP.29 instituted the ad hoc group on IVS that is systematically held after each WP.29 session. This ad hoc group had, as a first mission, to prepare the Round Table; on a more long-lasting purpose it allows to have an update, 3 times a year, on the technical evolution of the systems and to suggest the WP.29 the adequate decisions.
- 2.3. WP.29/AC.2 looks at possible administrative formulas allowing the approval of innovative technical devices that do not comply with the prescriptions of an existing regulation.

### **3- POSSIBLE EVOLUTIONS OF WP.29 ACTIVITIES**

- 3.1. Reminder: The GR structure was fixed by the ECE, and each GR has the same status of permanent working group of ECE, as the WP.29. On the other hand, the yearly organisation of the work of each GR (agenda, frequency and duration of the meetings) is fixed in a flexible and progressive way by WP.29.**
- 3.2. The unforeseeable character of IVS technical development makes difficult the definition of permanent administrative structures, the mandate of which would be permanently fixed.**
- 3.3. In those conditions, two options are possible:**
  - 3.3.1. To maintain the current structure: ad hoc group of WP.29 on ITS, helping WP.29 to pilot the action of the existing GRs, and in particular of GRSG.**

*Advantages:* technical and administrative flexibility; no structural risks

*Disadvantages:* no strong identification of IVS works

- 3.3.2. To consider to restructure the existing GR and/or to create a specific GR for ITS.**

*Advantages:* strong identification of IVS works

*Disadvantages:* difficulty in characterising the mandate of a GR specifically dedicated IVS.

*Risk:* to pose structurally to ECE superior instances the problem of the GRs structure in a context totally conditioned by reductions of activities and costs.



## **Projet de résumé de l'Intervention de Monsieur GAUVIN A LA TABLE RONDE ITS ORGANISEE PAR LE WP.29 EN FEVRIER 2004**

### **COMMENTAIRE D'ORDRE GENERAL**

Le mandat du WP.29 est limité à la réglementation des véhicules, et la Table Ronde ne considère que la partie des systèmes ITS qui concernent le seul véhicule, couramment désignés sous le symbole IVS.

### **1 - IMPORTANCE DE L'IVS POUR L'AVENIR**

Le WP.29 reconnaît que le développement des systèmes IVS est d'une importance essentielle pour ses travaux :

- 1.1.** les systèmes IVS sont en développement rapide et peuvent revêtir des formes techniques imprévisibles, ce qui pose problème par rapport aux règlements existants et à leur délai administratif incompressible d'amendement
- 1.2.** En termes de sécurité routière, on fonde de grands espoirs sur les améliorations de la sécurité primaire (éviter les accidents) ; mais les systèmes IVS peuvent ne pas être conçus uniquement pour améliorer la sécurité, et il semble que chaque système qui pourra être proposé mérite une analyse spécifique
- 1.3.** Nécessité pour le WP.29 de se tenir à jour en permanence des progrès de la recherche et du développement des systèmes IVS.
- 1.4.** Nécessité de prévoir des formules souples permettant d'homologuer des dispositifs techniques innovants.

### **2 - RAPPEL DU CADRE INSTITUTIONNEL ET DES ACTIONS DU WP.29**

- 2.1.** Le WP.29 a proposé de tenir une Table Ronde spécifique sur l'IVS, après la première Table Ronde sur les nouveaux carburants et systèmes de propulsion : c'est la reconnaissance de l'importance du sujet et de son caractère durablement innovant.
- 2.2.** Le WP.29 a institué le groupe informel sur l'IVS qui se tient systématiquement après chaque session du WP.29. Ce groupe informel avait comme première mission de préparer la Table Ronde ; d'une façon plus durable il permet de faire le point, 3 fois par an, de l'évolution technique des systèmes et permet de proposer au WP.29 les décisions adéquates.

- 2.3. Le WP.29/AC.2 réfléchit aux formules administratives permettant l'homologation de dispositifs techniques innovants non conformes à un règlement existant.

### 3 - EVOLUTIONS POSSIBLES DES TRAVAUX DU WP.29

- 3.1. Rappel : la structure des GR a été figée par la CEE, et chaque GR a le même statut de groupe de travail permanent de la CEE que le WP.29. Par contre, l'organisation annuelle des travaux de chaque GR (ordres du jour, fréquence et durée de chaque réunion) est fixée de manière très souple et évolutive par le WP.29.
- 3.2. L'imprévisibilité des développements techniques IVS rend difficile la définition de structures administratives permanentes dont le mandat serait figé.
- 3.3. Dans ces conditions deux options sont possibles :

- 3.3.1. Maintenir la structure actuellement en place : groupe informel du WP.29, proposant au WP.29 les modalités du pilotage de l'action des GR existants, et en particulier du GRSG

*Avantages* : flexibilité technique et administrative pas de risques structurels

*Inconvénients* : pas d'identification forte des travaux IVS

- 3.3.2. Envisager de restructurer les GR existants et/ou de créer un GR spécifique pour l'ITS.

*Avantages* : identification forte des travaux IVS

*Inconvénients* : difficulté de caractériser le mandat d'un GR spécifiquement dédié à l'IVS.

*Risque* : poser structurellement aux instances supérieures de la CEE le problème de la structure des GR dans un contexte complètement orienté par les économies et les réductions d'activités.

# Contents of ITS Round Table

## □□ **Overview**

- Definition of ITS to be discussed at WP29, potential of accident reduction effects and problems possibly happen in the dissemination will be discussed.
- 1) Speaker: Mr. Wani
- 2) Time: Approx. 20 minutes

## □□ **Technology Development**

- Based on the definition and the position, samples of technologies thought to be disseminated in the near future will be explained.
- Also future courses of ITS and so on may be touched on.
- 1) Speaker: OICA(ACEA, AAM, JAMA)
- 2) Time: Approx. 60 minutes (20min. per person)

## □□ **Research**

- Based on the definition and the position while taking into consideration the “Conclusions” mentioned below, the activities of IHRA/ITS Working Group will be introduced referring to benefits and risks of ITS technologies.
- 1) Speaker: Mr. Noy
- 2) Time: Approx. 20 minutes

## □□ **Conclusions**

- Based on the position, it will be concluded that ITS technologies are essential for road safety, that common understandings among contracting parties are being sought, and that it is necessary to study how to deal with ITS at WP29 including how the organization should be.
- 1) Speaker: Mr. Gauvin
- 2) Time: Approx. 20 minutes