

Informal Document No. **6**  
The 5th Meeting of Informal Group on ITS  
(131st WP.29, 11-14 November 2003,  
agenda item 2.4.)

## **ITC / Round Table 2004**

**UN/ECE/WP29**  
**February 18, 2004**

UN/ECE/INLAND TRANSPORT COMMITTEE  
ITS Round Table

**DATE**

February 18<sup>th</sup>, 2004

**STRUCTURE**

**1. 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

**2. 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)

**3. 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

**4. 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

## Overview

Kenji Wani

Chairman of the ITS Informal Meeting, UN/ECE/WP29  
Director, International Affairs Office, Road Transport Bureau  
Ministry of Land, Infrastructure and Transport, Japan  
February 18th, 2004

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”**

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**

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)**

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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## Harmonized Research in ITS

Ian Noy

Director

Standards Research and Development  
Road Safety and Motor Vehicle Regulation  
Transport Canada  
February 18<sup>th</sup>, 2004

Abstract:

**The International Harmonized Research Activities (IHRA) is an inter-government initiative aimed at achieving greater harmonization of government policies concerning motor vehicle safety, through harmonization and collaboration in research. The impetus behind the working group on ITS reflects the need for governments to understand the safety benefits and risks associated with on-board ITS and to develop test procedures and criteria for evaluating the safety of in-vehicle information, control and communication systems with respect to human performance and behaviour. This group has identified a set of research priorities and some examples will be presented describing the state of progress on these priority research topics. Harmonized research in ITS is of special importance for three reasons, 1) it represents a significant opportunity to influence active safety through effective collision avoidance interventions, 2) it addresses a global need to more clearly define the role of government with respect to ITS safety, 3) it represents an area essentially unregulated at the present time; consequently, there is a greater likelihood of achieving harmonized safety policies than might otherwise be the case. It would seem natural that IHRA-ITS research should support WP.29 regulatory development interests. We would like to ensure that our research effectively addresses ITS safety concerns and responds to the needs of WP.29 in promulgating harmonized vehicle regulations. Although the mandate of IHRA-ITS WG is strictly research and knowledge generation, the ultimate purpose of the research is help governments develop national policies in general, and vehicle regulations in particular. It is proposed that the IHRA-ITS Working Group establish work with WP.29 ITS informal group in respect to possible future regulations of in-vehicle ITS information, control and communication systems.**

## 4. Conclusions

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# Conclusions

Bernard Gauvin  
Chairman of the ITS Informal Meeting, UN/ECE/WP29  
Ingenieur Generale des Mines  
Charge de la sous-direction de la Reglementation des vehicules  
Ministere des Transports  
February 18th, 2004

Abstract:

### GENERAL COMMENTS

**The WP's mandate is limited to the vehicle regulation, and the Round Table treats but the part of ITS systems that regard the only vehicle, currently referred to by the symbol IVS.**

### 1 - IMPORTANCE OF IVS FOR THE FUTURE

**The 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 delay 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 cannot be designed 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 the WP to remain up to date with the evolution of the research and development of IVS systems.**
- 1.4. It is necessary to plan flexible formulas allowing the approval of innovative technical devices.**

### 2 - RAPPEL OF THE WP29 INSTITUTIONAL FRAME AND ACTIONS

- 2.1. The 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. The WP 29 instituted the ad hoc group on IVS, that is systematically held after each WP29 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. The WP 29/AC2 works on the administrative formulas allowing the approval of innovative technical devices that do not comply with the prescriptions of an existing regulation.

### 3- POSSIBLE EVOLUTIONS OF THE WP 29 WORKS

3.1. **Reminder:** The GR structure was fixed by the EEC, and each GR has the same status of permanent working group of EEC, 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 with a flexible and progressive way by the 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 set.

3.3. In those conditions, two options are possible:

3.3.1. **To maintain the current structure:** ad hoc group of the WP 29, suggesting the WP 29 the terms of management of the action of the existing GR, and in particular of the GRSG.

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

*Disadvantages:* no strong identification forte 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 forte of IVS works

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

*Risk:* to pose structurally to EEC superior instances the problem of the GR structure in a context totally led by the economies and the activity reductions.

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