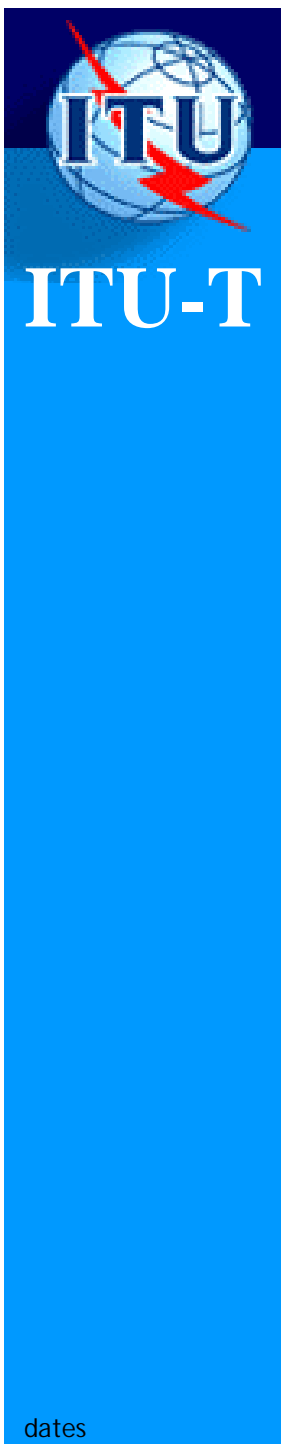# Session 7 In-Vehicle Devices and H.M.I.

Moderators :

Jean-Pierre Cheynet, ISO TC 22 Chair

Jean-Yves Monfort, ITU-T SG12 Chair

Presentations of Session 7

**Session 7-I** , March 3, 10h30-12h00

o **S7-1- Ergonomics and HMI of in-vehicles systems**:
Annie PAUZIE, National Research Institute on Transport and Safety, France

o **S7-2- Standardisation activities in the field of HMI for road vehicles**: Christard GELAU, BASt

o **S7-3- Mobile Device Integration - Opportunities and Risks**: Thomas MODER, Temic SDS

o **S7-4- Vehicles and Telecommunication - EMC Standards and Regulations**:
Ariel LECCA, PSA Peugeot CITROEN
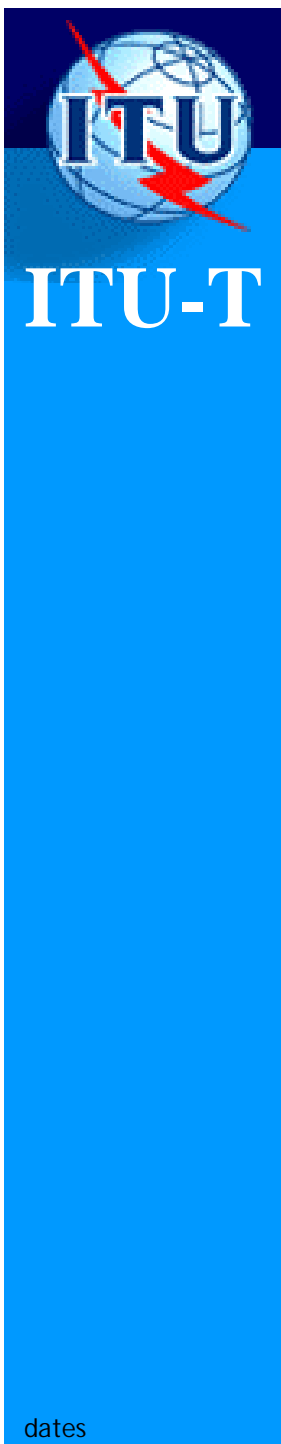
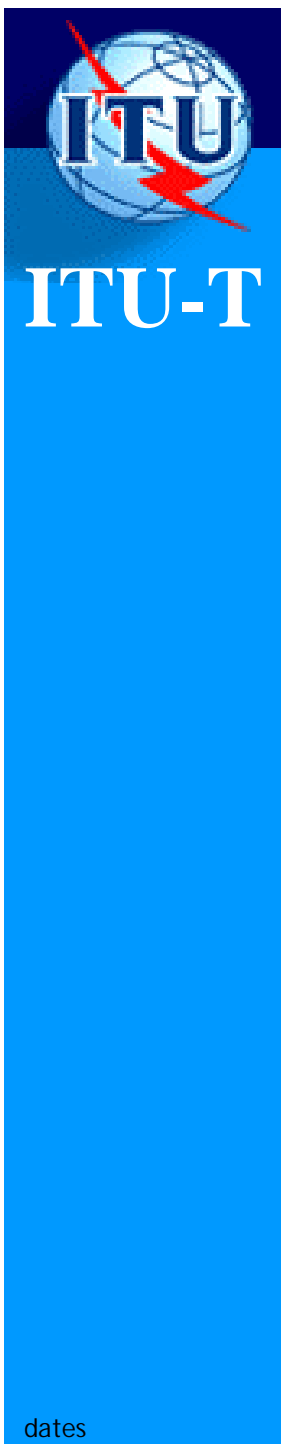# Presentations of Session 7

Session 7-II ; 14h00 – 15h30

o **S7-5- Speech Enhancement Methods for Vehicle Applications**: T. HAULICK, TEMIC Speech Dialog Systems

o **S7-6- Perspectives on the use of Distributed Speech Recognition for in-car Telematics**:
David PEARCE, Motorola

o **S7-7- Backgound Noise Simulation and Hands-Free Testing in a Car: The ETSI STF 273 Project and Its Impact on Car Hands-Free Testing:**
Hans Wilhelm GIERLICH, HEAD acoustics GmbH

o **S7-8 Evaluation of In-car Voice services: Tasks for the New ITU-T Q.12/12**:
Sebastien MOELLER, IKA Ruhr-University Bochum, Germany

dates
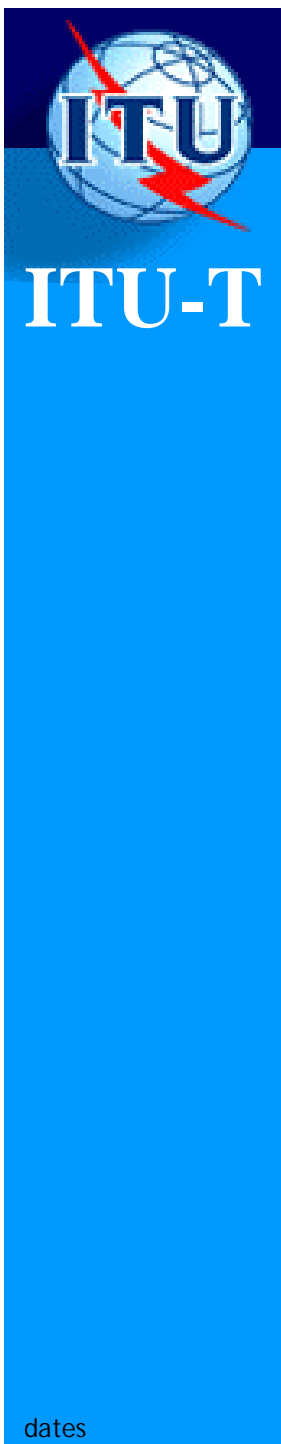
Highlights of Session 7

Ergonomics and HMI

o   Presentation S7-1

- It describes research activities conducted in order to identify the criteria to apply while designing the interface and the dialogue features, to develop methodologies to evaluate acceptability and usability of these systems by the wide population of drivers.
- It gives informations on eSafety initiative, started by EC, with a specific focus on HMI issues in relation to the European Statement of Principles.
- The presentation highlights the main results of a survey in several european countries on the use of equipments as navigation systems.

o   Presentation S7-2

- Gives the status of the works made in ISO/TC22/SC13/WG8 , and in particular summaries the contents of ISO 15005, 15006, 15007 and 15008 on requirements, recommendations and testing procedures for HM dialogue, auditory messages/signals, video systems.
- Describes the progress made on HMI standardization, and specially on procedure to prioritize the messages presented to the driver.

Highlights of Session 7

Speech services

o Presentation S7-6

- Shows the performance advantages of Distributed Speech Recognition including a DSR Front end.
- Indicates that cooperative activities in telematics should be a fine step forward.

o Presentation S7-8

- Shows how Speech Recogition and speech synthesis may be affected by environmental and transmission impairments
- Reviews the methods for assessing the quality of speech services, including the definition and the use of quality prediciton models

Highlights of Session 7

Implementations in cars and test methods (1/2)

o Presentation S5-3

- Analyses the risks and opportunities for Car OEMs, and gives some answers supported by exemples (e.g., sending e-mails, downloading audio files).

o Presentation S5-5

- Shows the quality improvements due to Integrated hands free systems including speaker-adapted sound pick-up systems.
- Presents solutions to improve the conversation quality (e.g. intelligibility) inside a vehicle, and gives informations on the test arrangements and the results of the tests made in cars.
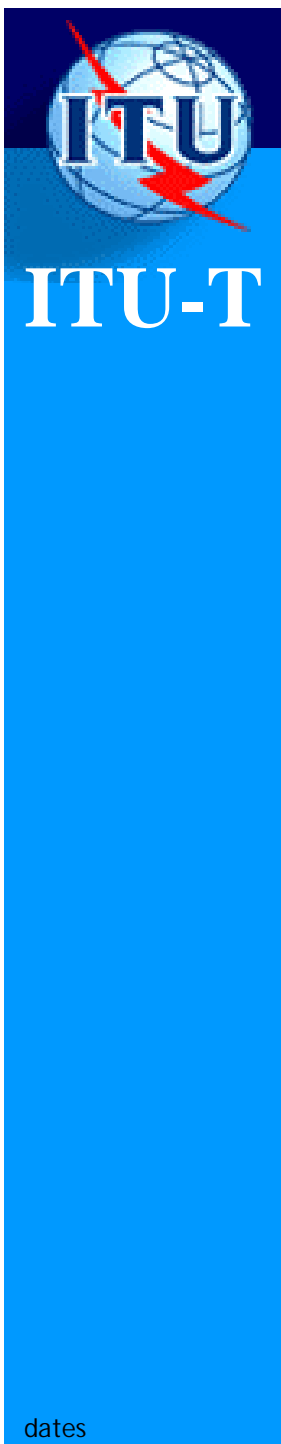
Highlights of Session 7

## Implementations in cars and testing methods (2/2)

- o Presentation S7-7
    - Defines test set up to assess, in cars, the speech quality of handsfree terminals
    - Gives a special focus on test methodologies to assess the quality of background noise transmission
    - Gives perspectives of future developments and on availability of free databases

Highlights of Session 7

EMC

o   Presentation S7-4

- Makes a review of vehicle/telecommunication main EMC interactions and of the existing Standards on limits and on testing methods

- Summarizes the statements of vehicle european directive

- Concludes on "EMC standards and regulations are one of the necessary steps towards a succesful vehicle/telecommunication functional synergy.
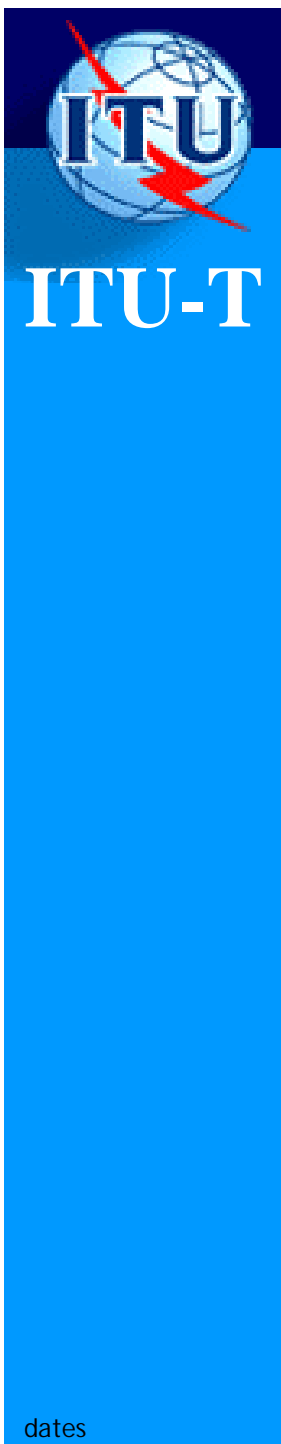
Observations of Session 7

Importance of performance and good design of the HMI and Voice interfaces for

Better safety

Better confort

These two Objectives are highly complementary.

Better Quality of services, designs, HMI improves the safety

Conclusions for Session 7

o The different bodies and organisms have developed, based on their skills, designs, implementations, test methodologies,...

o The car industry and partners have expressed their whishes for better quality and better understanding of user expectations

o Cooperation will give solutions to these issues. Ways to improve it need to be implemented. One can be reciprocal presentations in the relevant meetings.