



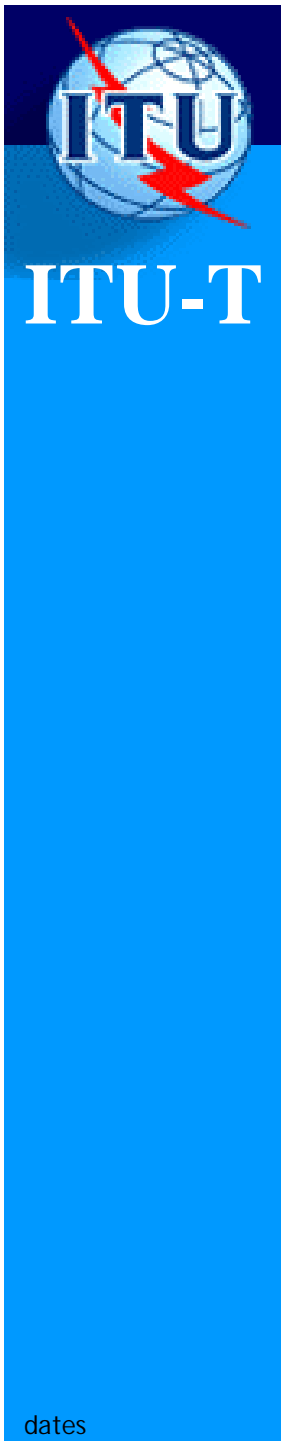
International Telecommunication Union

ITU, a potential partner for ICT in vehicles

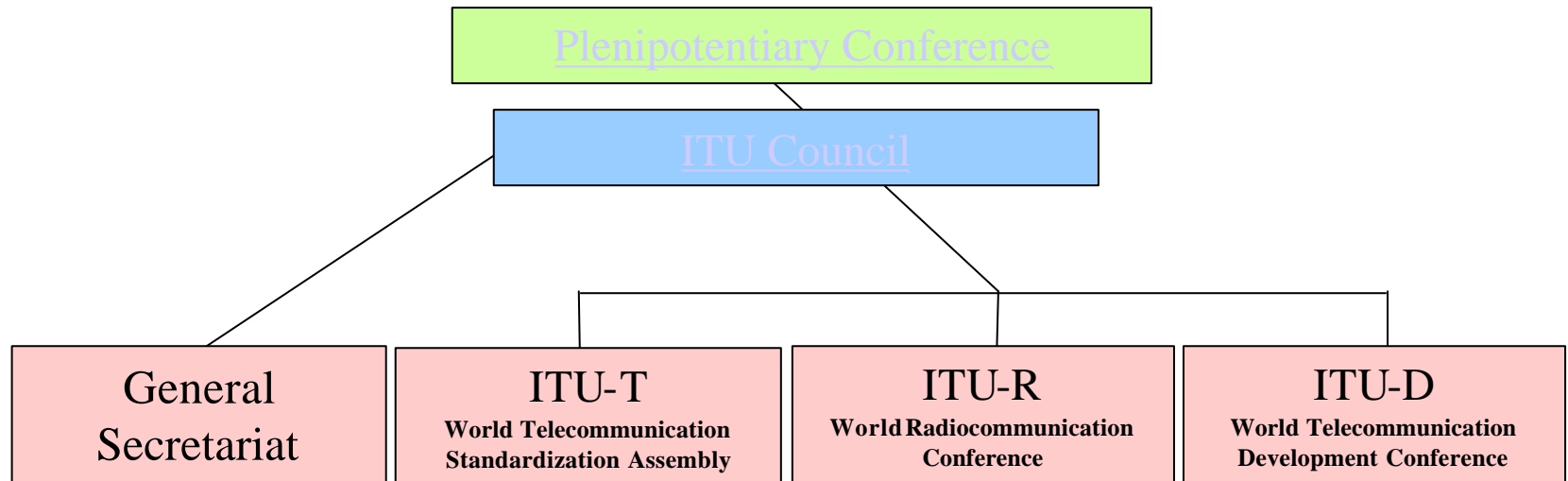
Jean-Yves Monfort

ITU-T SG 12 Chairman, France Telecom

"The Fully Networked Car, A Workshop on ICT in Vehicles"
ITU-T Geneva, 2-4 March 2005



ITU Structure



- General Secretariat : Coordinates the Union's activities and the overall management of the Union
- ITU-T : Telecommunication standardization on a world-wide basis on technical, operating and tariff Questions
- ITU-R : Radio communications and wireless
- ITU-D : Use and deployment of telecom networks and services in the developing nations



Competition in ICT Standardization

- Standardization has become a MARKET because of
 - Liberalization of telecom industry
 - Internet
- Market laws rule: demand and supply
 - About 500 fora and standards organizations ...
 - ... compete & cooperate
 - A shakeout will reduce their number, but ...
 - ... new technologies will bring new fora

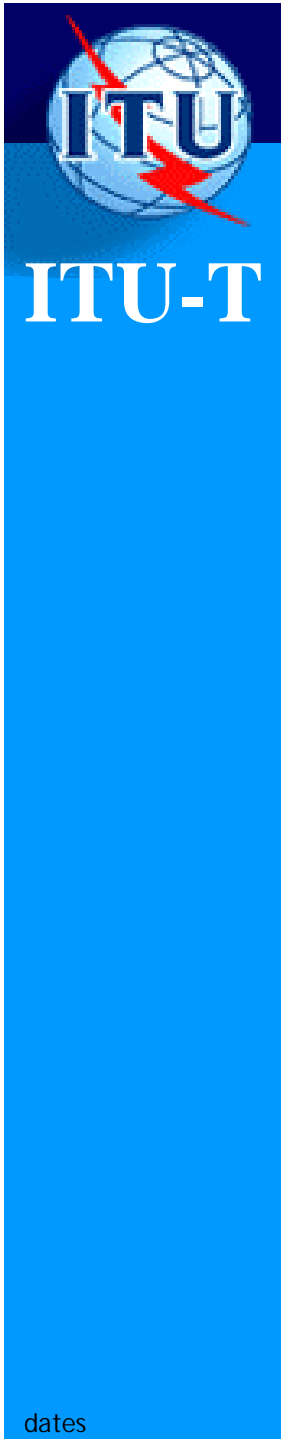


Initiatives following the 1st Workshop on ICT for vehicles

- o Advisory Panel for Standards Cooperation on Telecommunications related to Motor Vehicles - APSC TELEMov

<http://www.itu.int/ITU-T/special-projects/apsc/indexold.html>

- o The 1st APSC Meeting was held on 7 September 2004, Geneva, in ITU-T premises, and chaired by Paul Najarian. The meeting defined the draft program of the present **Workshop**, during Geneva Motor Show.



ITU-R, SG8/WP8

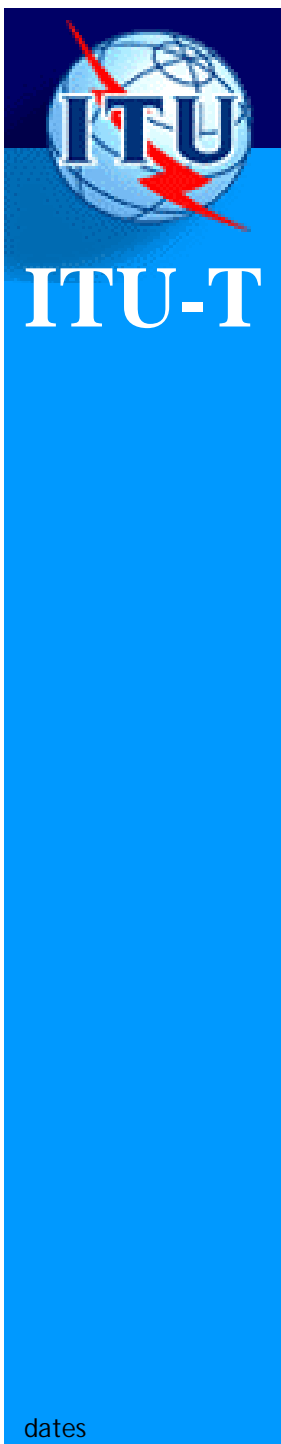
<http://www.itu.int/ITU-T/studygroups/index.html>

o Workprogram

- Next Generation DSRC. "Broadband" approach for vehicles (Recommendation M.1453), with links wth IPv6.
- Requirements for Vehicle-to-Vehicle Communications in the Millimeter Wave (60 GHz Range).
- "Handbook on ITS" under development, in particular as a request of ITU-D.
- Analysis of application of new technologies (e.g., SOFTWARE DEFINED RADIO (SDR), Adaptive Antenna, et Ultra-Wideband Technologies (UWB) for ITS.
- Question No. 205 (see next slides)
- Question No. 51 "Automatic Determination of Location and Guidance in the Land Mobile Service."
This question was created i n 1982 and opened the door of "standardization" for the Navigation Systems in cars.

ITU-R Question 205

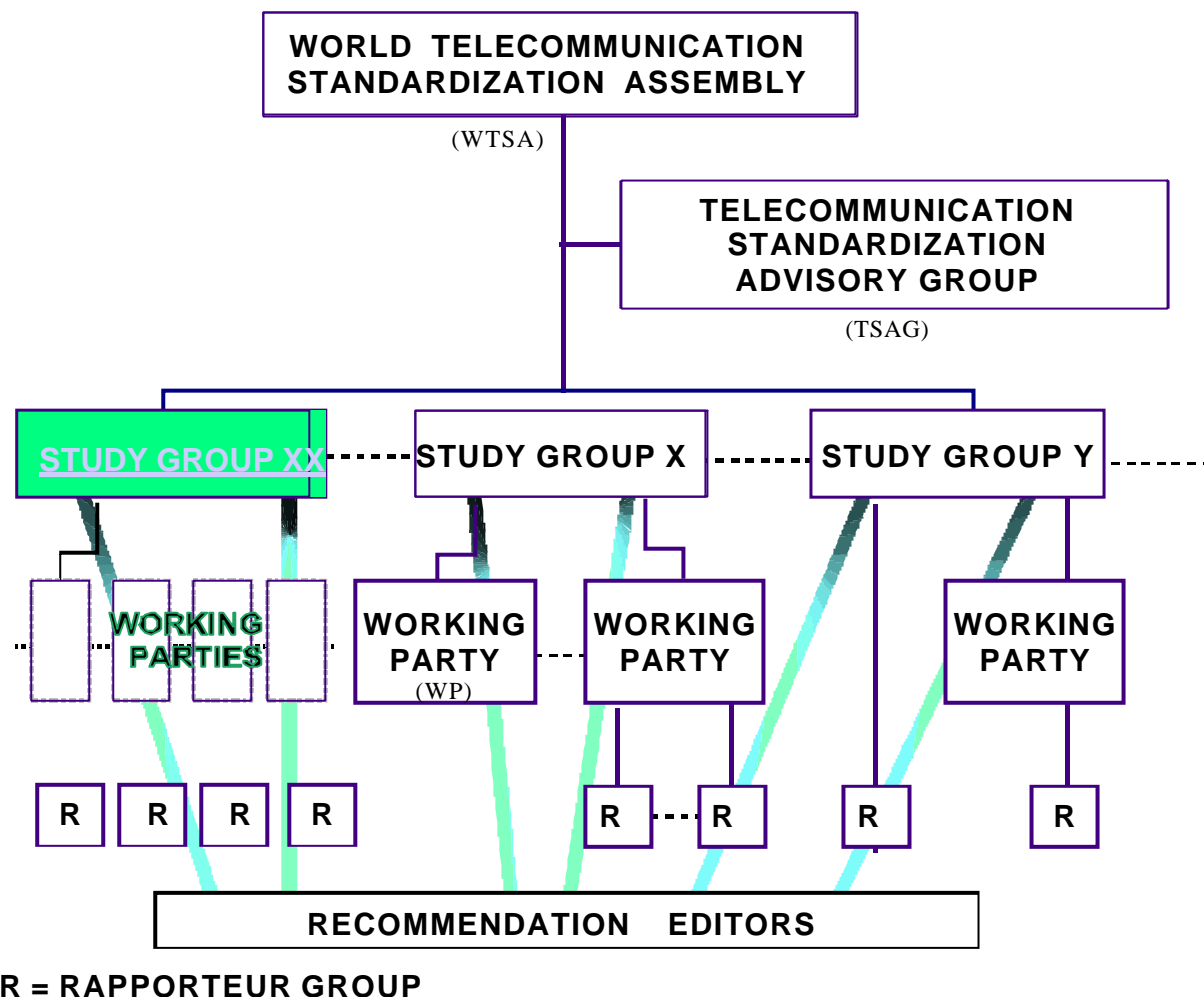
- Question 205 "The interconnect between ITS and Land Mobile Communications" already published 4 Recommendations
 - **ITU-R M.1310** Transport information and control systems (TICS) - Objectives and requirements (10/97)
 - **ITU-R M.1451** Transport information and control systems: functionalities (05/00)
 - **ITU-R M.1452** Transport information and control systems - Low power short-range vehicular radar equipment at 60 GHz and 76 GHz (05/00)
 - **ITU-R M.1453** Transport Information and Control Systems (TICS): Dedicated Short Range Communications (DSRC) at 5.8 GHz (05/00)



ITU-R Recommendation M.1453

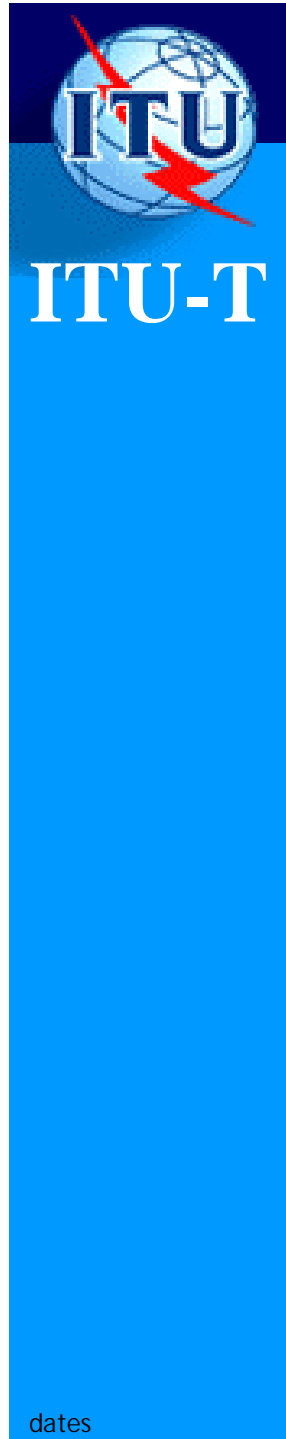
- Defines specifications of WI-FI Systems Transmission for moving vehicles.
- Has been recently modified (Nov. 2004) for IP (Internet Protocol).
- Has been approved by ITU-R SG8, and is currently under voting procedure in RA (Radiocommunication Assembly)

Structure of ITU-T SGs and WPs



ITU-T's Approval Procedures

- o 2 Approval Procedures :
 - TAP (regulatory Recs)
 - and AAP
- o AAP= Alternative Approval Process via email
 - 95% of all Recs use AAP
 - Average approval time: 9 weeks



Strengths of ITU-T

- Unique mix of industry & government
- Truly global, Brand name
- Consensus decisions guarantee wide acceptance

Who comprises ITU/ITU-T?

- ITU: Member States (189 countries)
- ITU-T: Sector Members = private sector
 - Operators & manufacturers
 - From start-ups to big companies
 - Telecom and Computing

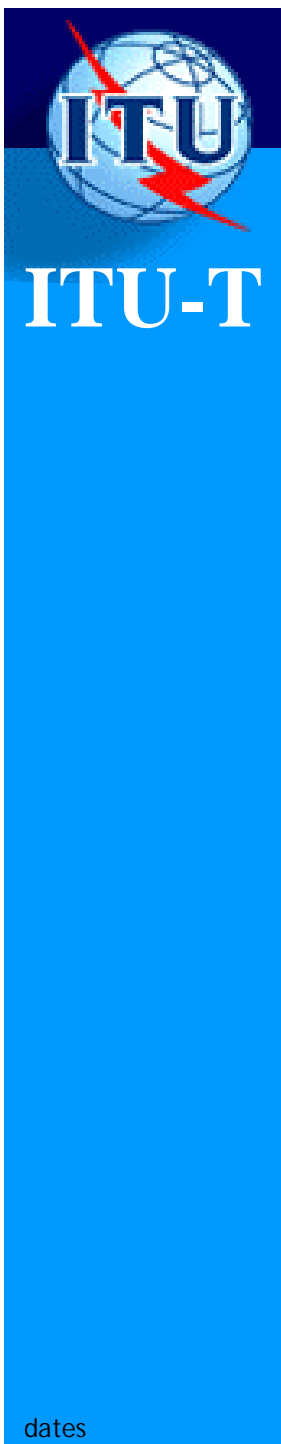
- ITU-T Associates

ITU-T Product: Recommendations (ITU-T speak for "standards")



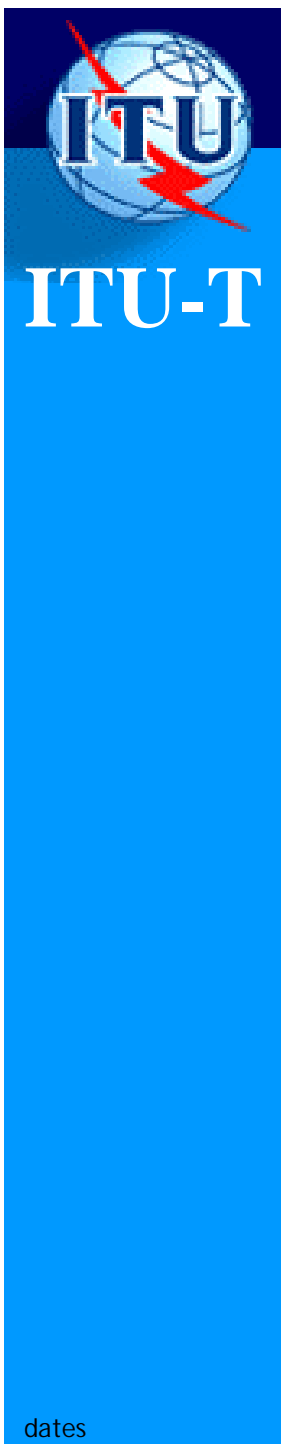
"Top-13" Participation (2003)

Administrations (65/832) Members: 189		ROAs (63/461) Members: 163		SIOs (121/664) Members: 173		Associates (31/53) Members: 82	
U.S.A.	144	FT	43	Nortel	29+12+12	eAccess	5
China	95	Telekomunikacja Polska	38	NTT	47 + 3	OFS Fitel	5
U.K.	55	China Telecom. Corp.	29	Alcatel	9+8+2+9+12+2+1	Opticom	3
Germany	45	BT	27	Cisco Systems	34	SwissQual	3
France	33	Deutsche Telekom	26	Siemens	25+1+5	Telekom Srpske	3
India	32	KDDI	19	ETRI	29	ACCA Networks	2
Brazil	31	Bharat Sanchar Nigam	18	Huawei Tech.	25	AULM	2
Syrian Arab Rep.	30	Telenor ASA	17	Lucent Tech.	12+9+1+2	ElectriPHY	2
Italy	29	AT&T	14	L.M. Ericsson	21+1	Harris	2
Canada	26	NTT DoCoMo	14	ZTE	21	Octasic Semicond.	2
Japan	25	Telecom Italia	13	Infineon	13+1+1+1	Okinasa Photonics	2
Korea (Rep. of)	22	TeliaSonera	13	NEC	12	Telchemy	2
Russian Federation	20	BELGACOM	11	Fujitsu	11	Teraburst Networks	2
Total:	587(70%)	Total:	282 (61%)	Total:	371 (56%)	Total:	35 (66%)



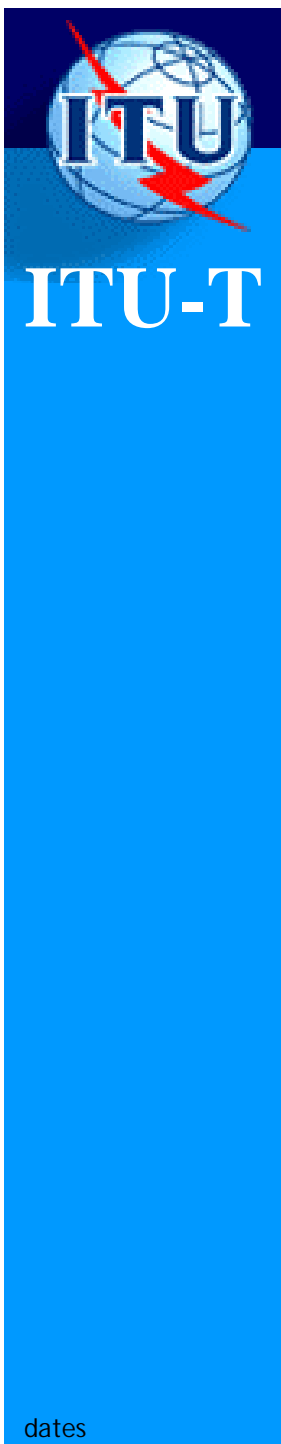
ITU-T

- 13 Study Groups + TSAG
<http://www.itu.int/ITU-R/study-groups/index.asp>
- Several Focus Groups : eg NGN
- Lead Study Groups (the following have potential links with ICT in vehicles)
 - Performance and quality of service (SG12)
 - Multimedia terminals, systems and applications (SG16)
 - Ubiquitous applications (“e-everything”, such as e-health and e-business) (SG16)
 - Telecommunication security (SG17)
 - Mobile telecommunication networks and for mobility (SG19)



ITU-T Special focus on

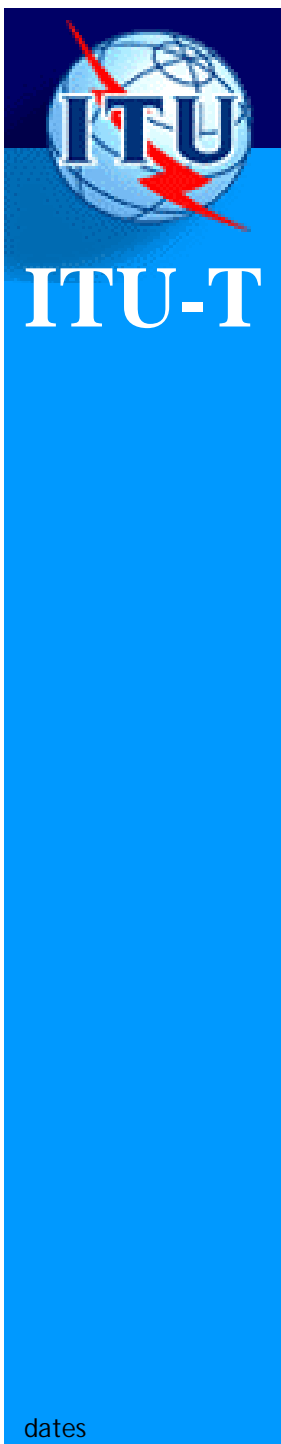
- 2 new Questions in SG12 (see also Presentations of Session 7 of this workshop)
 - Q4/12 **Hands-Free communications in vehicles**
 - a skeleton for P.CARHF already available
 - Q.12/12 **Performance evaluation of services based on speech technology**
 - a Roadmap available soon on SG12 Web Page
- SG12 develops Speech **Quality Models**, and Multimedia Quality Models (in collaboration with SG9, in charge of Video Quality Models)
- SG12 has a strong expertise in terminals and networks **transmission Quality** (incl. **IP QoS**)



ITU-T Special focus on

- o Study Group 16, responsible for studies relating to multimedia service capabilities, and application capabilities (including those supported for NGN) (see also Presentations of Session 8 of the workshop)
 - This encompasses multimedia terminals, systems (e.g., network signal processing equipment, multipoint conference units, gateways, gatekeepers, modems, and facsimile), protocols and signal processing (media coding).

- o Exemples of Questions under studies
 - Q.6/16 Video Coding
 - Q.9/16 Variable Bit Rate Coding of Speech Signals
 - Q.22/16 Multimedia applications and services
 - Q.29/16 Mobility for Multimedia Systems and Services



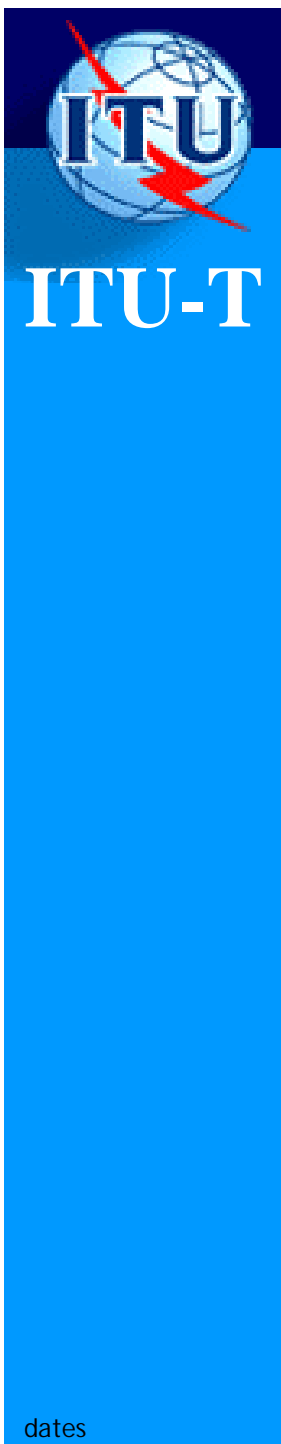
ITU-T Special focus on

- o **Study Group 5:** “Protection against electromagnetic environment effects” is working on new Question 16/5 on “*EMC requirements for the Information Society*” to study methodologies for predicting and mitigating EMC problems that may prevent from working successfully the complex variety of both wireless and wireline technologies.



Collaborations on ICT for Vehicles

- o So, ITU has already taken significant actions, but this effort needs to be pursued.
- o New collaborations are expected to share the skills and to progress on standardization for these new areas in which Automotive, Electronic, Information and Telecom Industries need to work together.



Thanks

- Jeanyves.monfort@francetelecom.com
- o Acknowledgements to
 - R. Ceruti (Tilab- ITU-T WP1/12 Chair)
 - H. W. Gierlich (Head Acoustics- ITU-T Q4/12 and Q.6/12 Rapporteur)
 - Judit Katona-Kiss (ITU-TSB, SG12 Councillor)
 - P. Najarian (ITS- ITU-R WP8)
 - R. Pomponi (Tilab, SG5 Chair)
 - P.A. Probst (Swiss - ITU-T SG16 Chair)
 - R. Scholl (ITU-TSB Deputy Director)