Session Highlights 5-7 March 2008

(pls send comments to Reinhard.Scholl at itu.int)

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Geneva, 5-7 March 2008

ISO IEC ITU International Telecommunication Union

Executive Session

- Max Mosley, President of FIA:
  - Governments need to create fiscal incentives so that latest advances in ICTs (energy efficiency, road safety) get into cars
- Michel Mayer, CEO Freescale Semiconductor
  - Standards are critical: automotive industry lacking behind ICT industry
  - Believes trend in vehicles goes to centralized as opposed to distributed computing
- Kenji Ikeura, President, Connexis
  - Paradigm shift: user-oriented (news, music …) and vehicle-oriented services (automatic crash notification, diagnostics) are diverging

- Hermann Meyer, CEO ERTICO (= ITS Europe)
  - Link fiscal measures also to European legislation on CO2 emissions
- Oliver Bahns, T-Systems
  - Fully networked car needs three ingredients: connectivity, human-machine interface, cost-effectiveness; standardized services platform necessary
- David Butler, Honda Formula 1 Racing Team
  - 2007 Honda launched “earth dreams”campaign: F1 cars present global environmental message

Session 1: ICTs and Climate Change: Some conclusions

- "Green ITS" offers a promising approach for reducing the environmental impact of the automotive sector
- A holistic approach is necessary, incorporating cooperation amongst the car, infrastructure & driver
- Car fuel efficiency is improving, but progress on infrastructure is disappointing, as shown by the declining share of public transport in overall mobility
- "Eco-driving" is an important element:
  - Eco-driving advice system with CARWINGS shows 16-19% improvement in fuel-efficiency, with help of online services
  - GNSS (global navigation satellite systems) can provide useful performance data for route optimization
  - As a target, cars worldwide should produce <130g CO_2 by 2012, and at least a further equivalent 10g reduction coming from a bundle of complementary measures

- Standards work in e.g. ISO TC 204, TC 22, ITU-T Focus Group, ITU-R Study Group 5A, IECT TC 100, ETSI Technical Committee “ITS” since October 2007, …
  - What about ITU-T/ITU-R intersectoral group on the fully networked car?
- APSC Telemov = Advisory Panel for Standards Cooperation on Telecommunications related to Motor Vehicles
- Forums and consortia
- Research projects
- Proprietary solutions

- **"ICT" on vehicles is part of the end user network:**
  - Complexity, lot of proprietary solutions, different approaches,..
  - User perspective: simple HMI and Performance (QoS, QoE)
  - → *Standards:* Focus on High level Requirements (e.g. Terminal Equipment and Network interfaces, end-to-end QoS/QoE)?
- **SDR (Software Defined Radio):**
  - Key technology to achieve flexibility, to reduce complexity and costs of wireless systems in vehicles
  - → *Standards:* Digital IF Interface for automotive needs to be developed. ITS experts should be involved in SDR Forum.
- **IPv6:**
  - "IP" Cars will need IPv6 addressing capabilities (volume, functionalities to manage mobility,..)
  - IPv6 to be supported from the beginning
  - → *Standards:* ITS Requirements to be identified by ITS experts, Strengthen cooperation between ITS and IETF communities (TC204WG16)

- Real progress in Car-2-X communication technologies and development of applications & services, e.g.
  - Concept for a “Virtual control Sub-Centre” as a communication management layer lying above a peer-to-peer Vehicle Ad-hoc Network (VANET) built on vehicle-to-vehicle communications
  - CVIS project, and some functions in the EDA (enhanced driver awareness) application for the inter-urban context, to be demonstrated in Swedish & French test sites
  - SISTER project: investigates the potential for satellite communications to support a range of ITS applications

- Numerous ongoing projects on car-to-car communications
- Convergence of results of these projects could provide good basis for global standardization of architectures and routing protocols for C2C communications
- How to push project results into standards bodies?
- Global standards vs regional standards

- The fully networked car in high(er)-end cars:
  - superior details, real-time updates, disaster prevention information (storms)
- The fully networked car in emerging markets:
  - requires new approach: not trickle-down from high-end models to every person's car, but bottom-up
  - usage fees below US$2 per month, upfront device cost < US$80 (India)

- Emergence of converged, high-feature devices
  - 2007 mobile phone: 3 Megapixel cameras, a 600 MHz processor, 4+ GB memory, data rates 3.6 Mbit/s
  - 2011 mobile phone: 160+ GB memory, 1-3 GHz processor, data rates 100 Mbit/s
  - Mobile phone arguably to become universal connectivity device
    - Navigation functionality rolled out to cell phones
    - Coupling of navigation related to location-based services (for instance, if fuel is low, it might indicate the nearest petrol station)
  - ipod and iphone to come to car environment
- What technology will be used to connect? 3G, WiFi, Bluetooth, WiMAX, USB … - how to connect different platforms? ("islands of disconnect")
- Main challenge: to overcome "walled garden" approach of proprietary systems and content

Session 8: Voice and audiovisual services

- MOST Bus has reached a high degree of integration in cars up to 150bit/s, interfaces to nomadic devices need to be defined further
- Highly sophisticated technologies are required to deliver and transmit speech from/in/to the vehicle, wideband will give a significant improvement
- Standardization of testing techniques for such systems lead to optimization, the ITU FITCAR work needs to be extended to wideband and in-car communication
- Significant progress is made speech recognition and in text to speech applications
- Needs for standardization:
  - Interfaces between in car systems (e.g. MOST) and nomadic devices
  - Interfacing of mobile phones, nomadic devices with the hands-free systems
  - Channel for exchanging information between mobile devices and the network

Session 9: Safety

- Good Route project: routing monitoring for dangerous goods projects
- SAFESPOT Integrated Project:
  - road safety based on V2V and V2R infrastructure.
  - 51 partners, to complete work Jan 2010.
  - Uses relative positioning systems provided by satellite (Galileo), communications-based positioning (ultrawideband, wireless LAN) and image-based positioning (e.g., based on landmarks recognition).
- Emergency call – a good enabler for telematics in Europe
  - Comparison: OnStar (private system) in USA has had > 82 mio subscriber interactions so far = one interaction every 2 seconds
  - European roadmap: 2011 as the date by which eCall a standard option in all type approved vehicles in 2011.
- "Secure Vehicular Communications (SeVeCom):
  - Mathematical modelling of a data-centric trust environment

Next steps

- **ITU Press Release to be issued today:**
  - http://www.itu.int/ITU-T/newslog/ICT+Standards+Needed+To+Green+Automotive+Industry.aspx

- **Detailed meeting report available week of 10 March**
- **Photos will also be uploaded**

When checking out of your hotel …

- … make sure to book your hotel for next year:

Fully Networked Car
4-6 March 2009

(4 March 2009: 2nd press day

5 – 15 March 2009: open to public)

Thank you to …

- Speakers
- Moderators
- Steering Committee
- my colleagues from ITU Secretariat
- Sponsors
- YOU

See you next year !