Activities on Cooperative ITS in Japan

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80% of traffic accidents occur at intersections or locations with poor visibility. 70% of traffic accidents are caused by failure to recognize a hazard in time.

**Types of traffic accidents**
- Rear-end collisions: 32%
- Right-turn or left-turn collisions: 14%
- Collisions with cross traffic at intersections: 26%
- Collisions with pedestrians: 9%
- Other: 7%

**Types of human error**
- Failure to recognize a hazard in time: 70%
- Errors in judgment: 14%
- Errors in operation: 9%

Non Line of Site Communications will be effective for Safe driving support systems.
Characteristics of 700MHz band

In comparison of 5.8GHz band
- Reach longer distance
- Cover wider area
- Diffract to behind buildings

- Suitable for vehicle to vehicle communications at blind intersection
- 700MHz band would be better spectrum for Safe Driving Support System which requires high reliability.

- Conducting various verification tests and R&D to realize vehicle to vehicle communications for Safe Driving Support System
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Current Activities in Japan

- Feasibility tests
  - Evaluation on propagation characteristics and packet delivery performance on various public road, V2V and V2I integration functionality and Inter-system interference.

- Standardization
  - Feasibility test guideline; “ITS Forum RC-006” has been developed in ITS Info-Communications Forum.
  - ARIB standard development has started, based on RC-006 and feedback from feasibility tests.
  - ARIB STD draft0.1 (2010-06, by ITS Info-communications Forum)
ITS Radiocommunication Standardization in Japan

ISO TC204

ITS National Committee (JSAE)

ITS Standards (DSRC, V2V / I2V etc.)

ITS Info-communications Forum

ITU-R

Information and Telecommunications Technology Council (MIC)

APT: Asia-Pacific Telecommunity

MIC: Ministry of Internal Affairs and Communications

ARIB (Association of Radio Industries and Businesses) Technical Committee

ITS Standards (DSRC, V2V / I2V etc.)
Wide view of test site; intersection and street
Use case at the blind corner
Use case at the tail of traffic jam

Tail of the line of vehicles
Strategic Direction

- Contribute to reduction of the number of traffic fatalities by deploying Cooperative Safe Driving Support Systems using V2V and V2I communications.
- Effective utilization of radio frequency for ITS in 700MHz band, available from July 2012.
- Standardization will be based on “Feasibility test guideline” and feedback from the feasibility tests.
- International harmonization will be considered.
Framework for International Harmonization

- In ITU-R SG5 WP5A, a technical report on “advanced ITS radiocommunications” is under development.
- In Global Standards Collaboration (GSC), ITS Task Force will conduct the information exchange on ITS relevant activities among Participating Standardization Organizations.
- In APT Wireless Forum (AWF), TG-ITS has been established and ITS relevant activities have started. AWF will be reformed to APT Wireless Group (AWG).
For future harmonized standards, it will be beneficial to share the information on ITS cooperative systems, obtained in each region.

In ITU-R, development of a new technical report has been proposed; “a report on advanced ITS radiocommunications ”.

Korea and Japan provided contributions to revise the working document of the report.

ETSI TC ITS WG4 has been invited to the activity.

Open for further input. Call for further contributions!
Activities in GSC ITS Task Force

- The Task Force had a face-to-face meeting on March 2010 in Tokyo with attendees from ETSI, TIA, TTA and ARIB. The Task Force discussed on the followings;
  - cooperative ITS in 700MHz, 5.8/5.9GHz band
  - Reconfigurable radio systems for ITS
  - Coordination of the ITS standard activities

- In addition to the above, at GSC-15 ITS TF meeting on August 2010, new topics were introduced on driver distraction and new wireless access technologies such as TD-LTE for ITS.
The TF will continue information exchange on ITS relevant activities among Participating Standardization Organizations (PSOs).

To facilitate the information exchange, the TF should continue to invite interested PSOs to participate in the TF.

Considering the progress of ITS standardization activities in each PSO, the TF should discuss towards coordination of the ITS standardization activities.
Feasibility tests on cooperative ITS have been actively conducted in Japan.

Preparation for ARIB standardization has started, based on test guideline; RC-006 and feedback from the feasibility tests.

Activities toward international harmonization have started in ITU-R, GSC and AWF.

As a harmonization activity, cooperation in development of a report on “advanced ITS radiocommunications” has been introduced.
Thank you for your attention!