

Activities on Cooperative ITS in Japan



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The Fully Networked Car
Geneva, 2-3 March 2011



Contents

- **Background**
- **Feasibility tests and standardization**
- **Approach for international harmonization**
- **Summary**

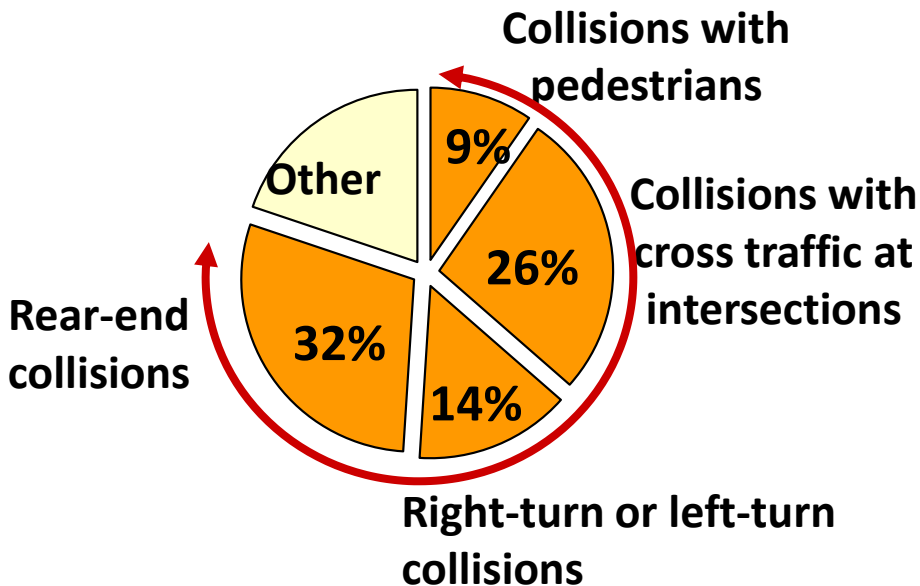
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Analysis of traffic accident in Japan

- 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]



[Types of human error]



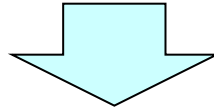
Non Line of Site Communications will be effective for Safe driving support systems.

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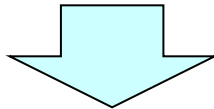
Characteristics of 700MHz band

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

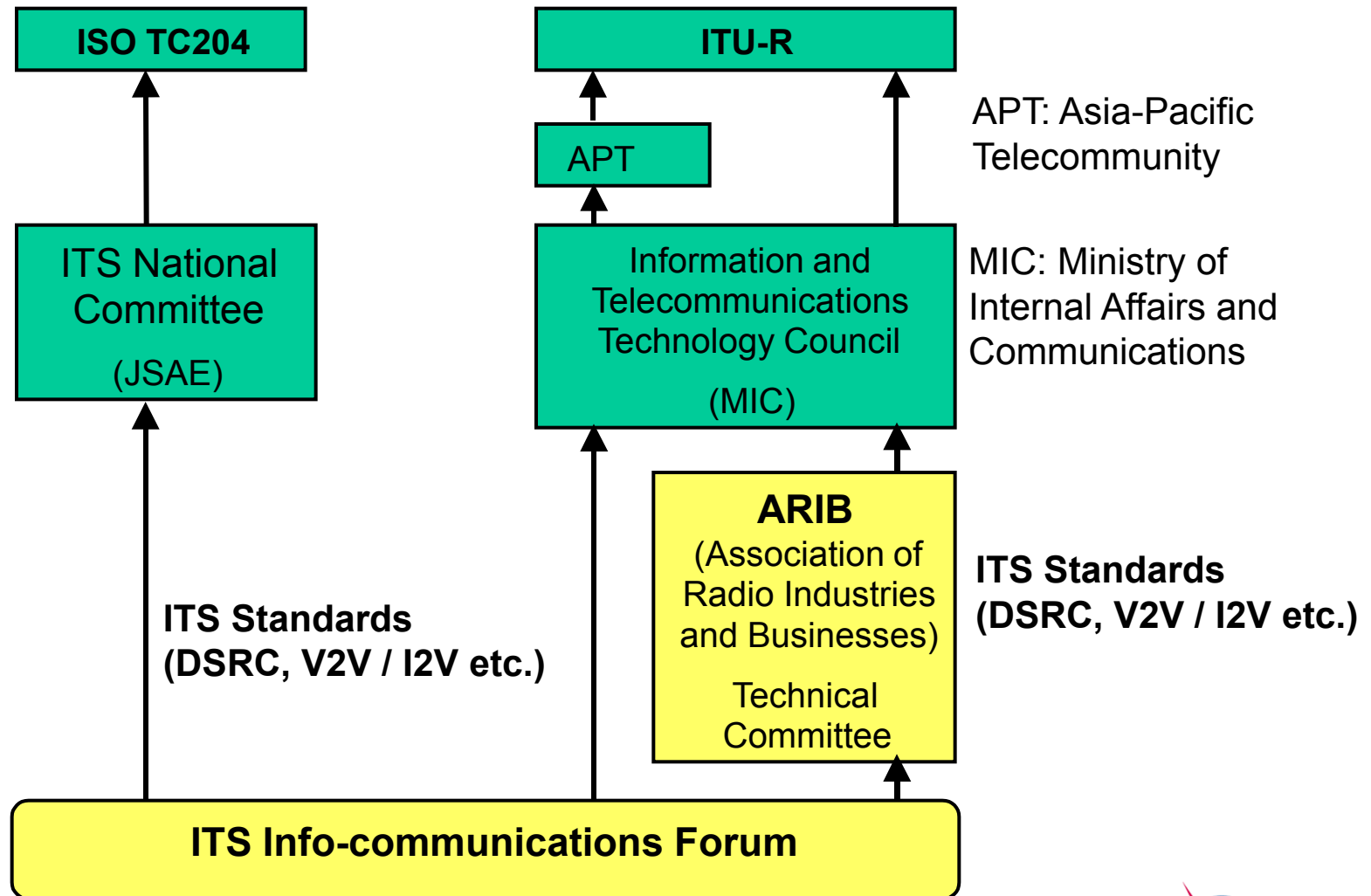
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Current Activities in Japan

- 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



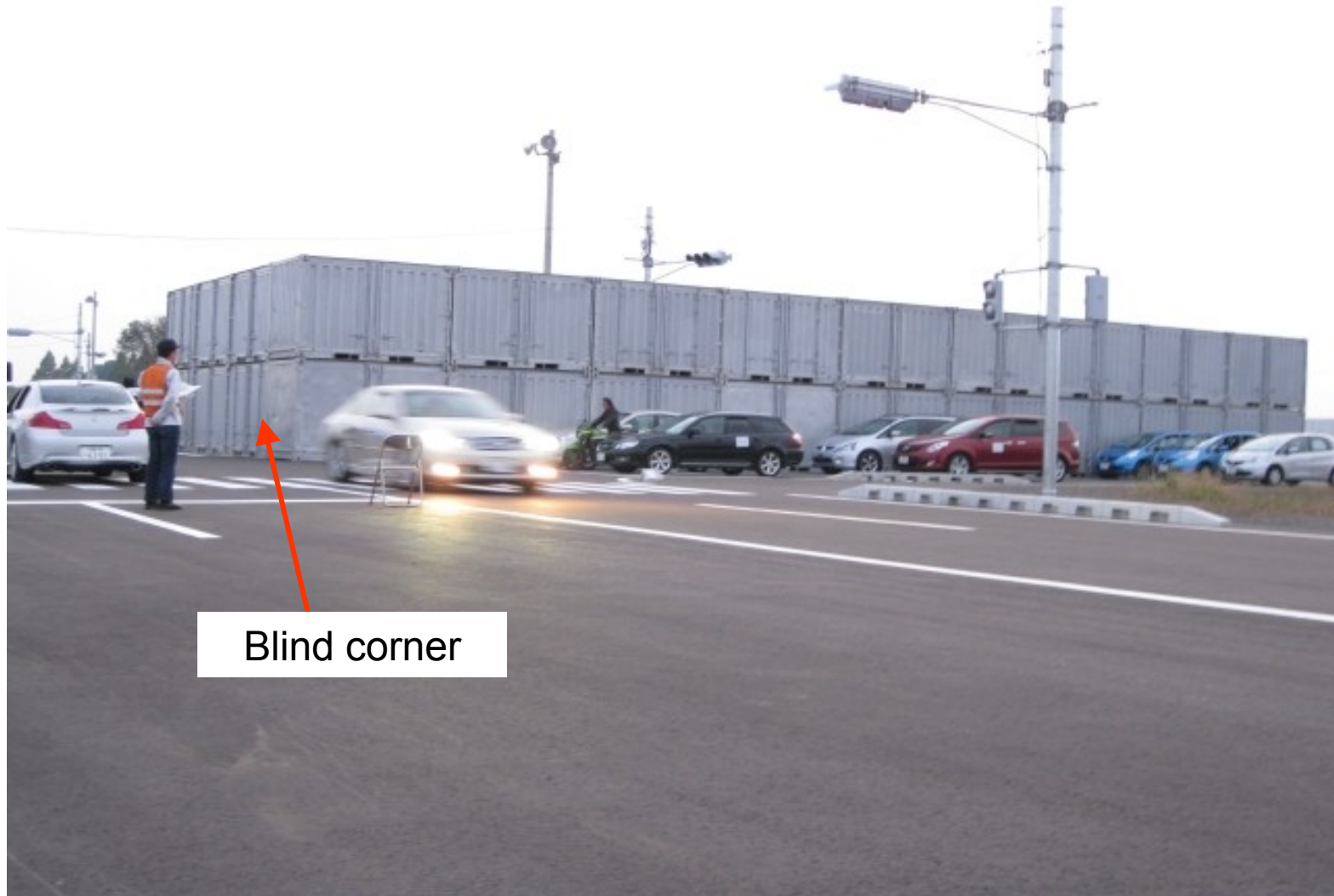
Wide view of test site; intersection and street



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Use case at the blind corner



Blind corner

Use case at the tail of traffic jam



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.

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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).

Approach for international harmonization

- 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.

GSC ITS TF: Next Steps/Actions

- 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.

Summary

- 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!