**Summary record of the meeting of the Collaboration on ITS Communication Standards, 14 December 2011**

by Russ Shields and Yushi Naito

# 1 Introduction

The meeting “Collaboration on ITS Communication Standards” (see [TSB Circular 239](http://www.itu.int/md/T09-TSB-CIR-0239/en)) took place 14 December 2011 at ITU Headquarters in Geneva under the chairmanship of Mr Russ Shields. The website of the Collaboration is <http://www.itu.int/en/ITU-T/extcoop/cits/Pages/default.aspx>.

The intent of the Collaboration is to provide a globally recognized forum for the creation of an internationally accepted, globally harmonized set of ITS communication standards of the highest quality in the most expeditious manner possible to enable the rapid deployment of fully interoperable ITS communication-related products and services in the global marketplace by:

* promoting and cross-referencing existing standards,
* modifying and extending existing standards where indicated, and
* developing new standards where necessary.

**2 Opening of meeting**

Reinhard Scholl of the ITU Telecommunication Standardization Bureau welcomed the participants. He emphasized that the experts of the various annual Fully Networked Car workshop at the Geneva International Motor Show continuously emphasize that, although considerable resources have been invested in R&D, the lack of global standards is widely regarded as a major impediment to large-scale deployment of ITS services and applications. The ISO forum on standards for vehicle of the future which took place in Geneva on 2 December 2011 also came to the conclusion that “Global standards are needed (not regional ones) – a new approach and new methods of cooperation and fora are required, both for standards bodies and industry. Past approaches will not work.”Among the three standardization priorities emerging from the debate of the ISO forum was “Connectivity and communications, including applications-based data and Communications”.

**3 Approval of draft agenda**

The agenda as approved by the meeting is contained in Annex 1.

**4 Introduction of participants on site and remotely**

47 participants (excluding ITU Secretariat staff) joined the meeting either face-to-face or remotely. Representatives from the following Standards Developing Organizations were present: ARIB, CCSA, ETSI, IEEE, ISO, ITU, TIA, TTA, TTC, as well as UN/ECE which is responsible for vehicle regulation. The [list of attendees](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20111214-Geneva/000%20List%20of%20participants.pdf) is available in Document 0.

**5 Objectives for this meeting**

The objective of the meeting was to progress the draft Terms of Reference (ToR), identify the participation of SDOs, and establish a list of work items and their objectives. The current ToR have gone through numerous versions.

**6 Statements by SDOs**

The following organizations summarized their activities on ITS:

CCSA, ETSI, ISO, ITU-T SG 16, ITU-R WP 5A, ITU-T Focus Group on Car Communications, TIA, TTA, TTC, UN/ECE.

**7 Documentation**

The following presentations were given:

* Mr Yasubumi Chimura, TTC/OKI Japan: “[Proposal of Approach for standardization of ITS Communications](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20111214-Geneva/009%20Proposal%20of%20Approach%20for%20Standardization%20of%20ITS%20Communications.pdf)” (Document 9)
* Mr Zemin Yang: “[ITS Standards in CCSA](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20111214-Geneva/004%20ITS%20Standards%20in%20CCSA.pdf)” (Document 4)
* Paolo Pagano, Consorzio Nazionale Interuniversitario per le Telecomunicazioni (CNIT): “[Convergence to IPv6 in Intelligent Transport Systems](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20111214-Geneva/007%20Convergence%20to%20IPv6%20in%20Intelligent%20Transport%20Systems.docx)” (Document 7)

**8 Review of the Terms of Reference**

The [draft ToR](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20111214-Geneva/003%20Draft%20TOR.docx) (Document 3) have undergone numerous versions over the last few months. Mr Yushi Naito, Chairman of ITU-T Study Group 16, said that ITU-T SG 16 was supportive of the establishment of the Collaboration on ITS Communication Standards, *subject* to agreement by the appropriate body to its creation. The input of ITU-T SG 16 to the Collaboration meeting is contained in Document 6, “[Collaboration on ITS Communication Standards: Support of activity and ToR amendments proposed by ITU-T SG 16](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20111214-Geneva/006%20ITU-T%20SG16%20Approval%20of%20ToR%20of%20Collaboration%20on%20ITS%20Communication%20Standards.doc.docx)” which proposed a new section” Revision of ToR” to the draft ToR.

Mr Sergio Buonomo, Counsellor of ITU-R Study Group 5, reported that ITU-R Working Party 5A analyzed the draft ToR at its meeting mid-November. The comments are available in Document 5, “[Terms of Reference of Intelligent Transport System Communications Collaboration](http://www.itu.int/ITU-R/index.asp?category=study-groups&rlink=rsg5http://www.itu.int/en/ITU-T/extcoop/cits/Documents/005%20ITU-R%20WP5A%20comments%20on%20TOR%20of%20Collaboration%20on%20ITS%20Communication%20Standards.docx&lang=en)”. ITU-R Working Party 5A supports the collaboration efforts on Intelligent Transport Systems (ITS) Communications. Working Party 5A stresses that the spectrum requirement and radiocommunication aspects of ITS in support of such globally harmonized communication standards strictly remain under the purview of ITU-R.

The meeting noted that the ToR do not yet contain detailed procedures on how the standards would be approved and eventually turned into ITU-T or ITU-R Recommendations. It was agreed that Mr Dick Schnacke (ISO), Mr Michael Sharpe (ETSI Secretariat) and Mr Reinhard Scholl (ITU Secretariat) would propose draft procedures. This would be done in parallel with progressing the work items.

The revised ToR, updated after the meeting, are contained in Annex 2. Changes with respect to the draft ToR (Document 3) are mostly:

* Section 3: sentences with “Candidate participants” deleted.
* Section 4, sentence added: “The Collaboration Management shall create its procedures in published form.”
* Section 5, Collaboration management
* New section 6 “Revision of ToR” (proposed from ITU-T SG 16)

**9 Review of the draft work items**

The draft work items (see Annex 1, Agenda, section 8 thereof) were discussed in detail. The results of the discussion are reflected in Annex 3 “Suggested List of Initial Work Items for the Collaboration on ITS Communication Standards.” The work items will be separated from the ToR.

**10 Next steps**

* The Draft ToR and work items will be provided to ITU-T’s Telecommunication Standardization Advisory Group (TSAG) which will meet 10-13 January 2012.
* SDOs are invited to reflect on the work items and nominate a representative for the Collaboration Management.
* Next meeting of the Collaboration: as there was a workshop on ITS communications organized by ISO and ITU in Japan (24 August 2011) and now the Collaboration meeting in Geneva, it was suggested that the next meeting take place in the US. (Subsequent note: possibly piggybacking with the mid-March meeting of the ITU-T Focus Group Driver Distraction.)

Some of the upcoming meetings are:

ISO TC 204 WG 16: beginning of March 2012

ISO, IEC, ITU Workshop Fully Networked Car @ International Geneva Motor Show: 7-8 March 2012

ITU-T Focus Group Driver Distraction: mid-March 2012 at SAE in the U.S., tentatively

ISO TC 204: 16-20 April 2012, Melbourne (Australia)

ETSI TC ITS #10: 26-27 April 2012, with working groups meeting 23-25 April, Sophia Antipolis (France)

SAE World Congress: 24-26 April 2012, Detroit (USA)

ITU-T SG 16: 30 April – 11 May 2012, Geneva (Switzerland)

* ITS Security: ITU-T Study Group 17 (Security) will organize a tutorial on ITS Security during its next study group meeting 20 February-02 March 2012. Tentative date for the one-hour tutorial is 29 February 2012, 13:30 – 14:30.

**11 Any other business**

There was no other business.

**11 Closing**

The meeting closed at 16:00.

**Annex 1 – Agenda**

1. Introductory logistical remarks on remote participation – ITU Secretariat
2. Welcome – Reinhard Scholl, Deputy to the Director, ITU Telecommunication Standardization Bureau
3. Introduction of participants on site and remotely
4. Goal of the meeting:
   1. Agreement on ToR
   2. Participation by SDOs
   3. Establishment of a list of work items
   4. Objectives of each work item
5. Statements by SDOs
6. Documentation
7. Review of the Terms of Reference
8. Review of the draft work items:
   1. Perform a gap analysis and quality assessment of current ITS communication standards and creation of a plan to address identified needs
   2. Convert currently published ISO and ETSI ITS communication standards into ITU recommendations
   3. Develop security frameworks and standards for the aggregation of existing and future communication networks into ITS
   4. Assess the global harmonization and interoperability status of currently available ITS communication standards and creation of a plan to address any identified needs.
   5. Investigate actions necessary to facilitate the deployment of ITS communication products and services based on the ITS communication standards being developed
   6. Analyze the requirements for deploying IPv6 in ITS communication networks, and creation of a plan to address identified needs
   7. Assess the role of ITS communication standards for the Internet of Things
   8. Assess the role of ITS communication and global standards to increase road safety
   9. Develop standards to govern the interaction of drivers with communication devices installed in vehicles and smart phones brought into vehicles
   10. Review mobility network services and ITS communications for their application to emergency and disaster handling
   11. Study communication standards for charging, billing and other services for electric/hybrid vehicles
9. Next steps
10. Any other business

**Annex 2: Updated Terms of Reference (version updated after the meeting on 14 Dec 2011, taking into account comments made at the meeting)**

Terms of Reference  
for a Collaboration on ITS Communication Standards

(DRAFT – 15 December 2011 – Clean version)

# Scope

These Terms of Reference (ToR) apply to the creation and operation of a Collaboration on ITS (Intelligent Transport Systems) Communication Standards organised by ITU. Herein, the Collaboration on ITS Communication Standards is the “Collaboration”.

# Intent

The intent of the Collaboration is:

1. to provide a globally recognized forum for the creation of an internationally accepted, globally harmonized set of ITS communication standards of the highest quality in the most expeditious manner possible; by:
   1. promoting and cross-referencing existing standards where appropriate,
   2. modifying and extending existing standards where indicated, and
   3. developing new standards where necessary,

to enable the rapid deployment of fully *interoperable* ITS communication-related products and services in the global marketplace,

1. to respect the strengths and existing charters of ITU and other participating organizations (SDOs) so as to:
   1. minimize any negative impact on past and current development efforts within each organization, and
   2. to avoid any unnecessary duplication in future development efforts,

and,

1. to minimize the procedural and negative budgetary impact of any actions for the benefit of all participants.

The Collaboration recognizes the value and importance of:

* pooling/sharing resources to create technically sound, globally harmonized ITS communication standards,
* identifying and filling gaps in the set of ITS communication standards currently available, and
* bringing together communication standards bodies and other pertinent organizations,

in achieving the ultimate goal of enabling rapid deployment of fully *interoperable* ITS communication-related products and services in the global marketplace. In particular, the Collaboration intends to create ITU Recommendations[[1]](#footnote-1) in the field of ITS communications that are technically aligned and fully interoperable with each other.

Any interpretation of the policies and procedures set forth herein shall be in accordance with the intent specified in this Section.

# Collaboration participants

Standards Development Organizations (SDOs) are welcome to participate in the Collaboration. Any SDO interested in participating in the Collaboration should contact the Collaboration Management. All participants in and all contributions to the Collaboration shall have equal status in the technical work and shall be considered on equal terms.

Collaboration Participation is open to:

* representatives of ITU Member States[[2]](#footnote-2), Sector Members, Associates and Academia, and any individual from a country which is a member of ITU who wishes to contribute to the work,
* any individual from a national, regional or international SDO who wishes to contribute to the work.

# Collaboration structure

The Collaboration is comprised of Collaboration Participants, Collaboration Groups, and the Collaboration Management (see Section 5).

The Collaboration itself shall operate as a consensus-based group under the established procedures of the ITU. In the event of a conflict arising from differences between policies and procedures of ITU not covered by these ToR, the Collaboration Chair shall consult with Collaboration Management to propose a resolution, then seek approval thereof from ITU. The Collaboration Management shall create its procedures in published form.

The remit of the Collaboration is to:

* investigate issues related to standards for communications required for ITS applications
* accelerate the development of globally harmonized, interoperable standards for ITS communications

# Collaboration management

The “Collaboration Management” comprises a chairman and one or more vice-chairmen. ITU appoints the chairman. If needed, after the establishment of the Collaboration, subsequent management appointments will be made by the Collaboration. All SDOs including ITU-T and ITU-R can nominate a vice-chairman. The term of office of chairman and vice-chairman is two years. Renewal of appointment is acceptable.

ITU-T and ITU-R will each appoint one member to the Collaboration Management. National, regional and international SDOs are encouraged to apply to join the Collaboration Management. Consensus of Collaboration Management members is necessary to accept new Collaboration Management members. Upon acceptance, an organization is a “Participating SDO” and may appoint one person to serve as a member of the Collaboration Management.

The Collaboration Management is responsible for the activation and termination of Collaboration Groups and for assigning Work Items to Collaboration Groups.

# Revision of ToR

Any member of the Collaboration Management may propose a revision of this ToR. The Collaboration Management shall, in consultation with the revision proposer(s), propose the draft revised ToR, and seek consensus of the Collaboration Management. The revised ToR becomes effective after the approval of ITU-T, ITU-R and all the participating SDOs.

# Collaboration groups and work items

Any member of the Collaboration Management may propose a topic (Work Item) to be considered by the Collaboration. The Collaboration Management shall, in consultation with the Work Item proposer(s), propose a Collaboration Group structure to progress a qualified Work Item, and seek consensus of the Collaboration Participants, after which the Work Item will become an *established* Work Item.

Collaboration Groups are established in one of three ways:

1. **ITU-led Collaboration Groups:** A Collaboration Group may be led by ITU. If it is within the established procedures of ITU, ITU will invite Collaboration Participants to participate in the development of the standard(s). Other Participating SDOs in the Collaboration are encouraged to reference the standard as well.
2. **SDO-led Collaboration Groups:** A Collaboration Group may be led by a Participating SDO. If it is within the established procedures of the Participating SDO, the Participating SDO will invite other Collaboration Participants to participate in the development. Once a standard is approved by the lead SDO(s), ITU is encouraged to convert this standard (e.g. via reference) into an ITU-T/-R Recommendation in accordance with established procedures of the ITU. Other Participating SDOs are encouraged to reference the standard as well.
3. **Collaboration-led Collaboration Groups:** The Collaboration may propose that a Work Item be developed by Collaboration Participants independent of ITU or a Participating SDO. At least one Participant of the Collaboration must accept the Work Item leadership role for the Collaboration Group to exist. Once a deliverable is developed by the Collaboration Group, it shall be submitted to ITU for conversion into an ITU-T/-R Recommendation, in accordance with established ITU procedures. Other Participating SDOs are encouraged to reference the resulting ITU Recommendations.

All decisions by the Collaboration Management as to which form of a Collaboration Group to propose shall be made in accordance with the intent of Section 2.

Approval of deliverables of the Collaboration shall be in accordance with the management procedures and directives pertaining to that Collaboration Group.

# Meetings

Collaboration meeting venue and dates shall be proposed by the Collaboration Chair and consensus shall be sought among Collaboration Participants.

Collaboration Group meeting venue and dates shall be proposed by consensus of the Collaboration Group members and submitted to the Collaboration Management. All meetings shall be announced sufficiently in advance to allow participants to cost-effectively plan their attendance and in no case without at least 10 weeks’ notice.

To the extent practical, meeting dates and locations will be co-ordinated with other ITU, or ITS-related meetings to maximize expert participation. More specifically, Collaboration Groups shall take the participation of experts from other standards bodies in the Collaboration into account when determining the location of their meetings at which Collaboration participation in their Work Items is expected.

The host will make an effort to allow for remote participation.

All decisions concerning venue and meeting dates shall be in accordance with the intent of Section 2.

# Documents and contributions

The Collaboration shall maintain a document registry and electronic distribution archive (e.g., an e-mail reflector for circulation of all documents and discussion) using ITU’s electronic infrastructure. The registry and archive shall be linked to the ITU web sites, as well as to the web sites of Participating SDOs in the Collaboration. The ITU Telecommunication Standardization Bureau (TSB) will assist the Collaboration Management with secretarial tasks.

Participants intending to submit a document for discussion at a particular meeting should make that document available to all meeting participants at least seven calendar days before the meeting through the use of electronic document handling. A registration deadline several days in advance of the start of the meeting shall be announced for each meeting. A “late or unannounced” document shall be accepted only with the consensus of the meeting participants, or otherwise deferred to a subsequent meeting. This policy shall be stated in the invitation letter that is provided for every meeting to all participants.

All Collaboration documents and contributions shall be available to Collaboration Participants in electronic form. Participating SDOs may make the documents and contributions available to their membership.

# Working methods – general policies and procedures

Each Collaboration Group will determine by consensus how to process Work Items assigned to it in accordance with its normal operational procedures.

Work Items that are under responsibility of the entire Collaboration will be processed by consensus, except for decision for which the Collaboration Management is responsible.

# Patent and copyright issues

The “Common Patent Policy for ITU-T/ITU-R/ISO/IEC”[[3]](#footnote-3) and the related “Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC”[[4]](#footnote-4) apply.

ITU will jointly hold copyright with the Participating SDO of the texts developed jointly by the Collaboration.

# Liaison statements

The Collaboration shall conduct liaison communications. All incoming liaison statements (LSs) received by the ITU groups that have relevance to the Collaboration work shall be forwarded to the Collaboration. SDOs participating in the Collaboration are encouraged to also forward relevant LSs they receive to the Collaboration. Collaboration outgoing liaison statements are approved by consensus of the Collaboration participants and dispatched by the Collaboration Secretariat.

# Promotion and public relations activities

Any public relations or promotional activities initiated by the Collaboration shall be approved by the Collaboration Management.

# Reporting

A meeting report shall be provided by the Collaboration Chair within 14 days after the conclusion of each meeting and made available electronically to Collaboration Participants.

# Dissolution

The Collaboration may be dissolved by consensus of the Collaboration Management team.

**Annex 3: Suggested List of Initial Work Items for the Collaboration on ITS Communication Standards**

Possible initial Work Items include:

1. Perform a study of identified ITS application requirements so that needed communication capabilities and performance can be properly defined. This study should identify and use existing sets of ITS application requirements from various global regions and supplement them to reflect recent application developments and direction. Requirements of individual applications or sets of applications should be combined to create communications capability needs and performance boundaries as required to support the full set of expected applications. All defined applications should be considered in the study, with particular attention being given to high priority applications such as:
   1. Road safety applications
   2. Traffic management/mobility applications
   3. The Internet of Things
   4. Applications affecting environmental needs, including those servicing electric/hybrid vehicles

Special attention needs to be given to the requirements of

a Developing Countries

b Megacities

1. Perform a gap analysis and quality assessment of current ITS communications standards and create an action plan to address identified needs. Gap analysis should compare the ITS communication standards that already exist or are in work with the standards that would be required with a ‘best practices’ communications standards scenario. If overlaps are found, the best elements of duplicative standards should be used in the study and the overlap should be clearly noted in the outcome of the study. The quality assessment should examine each existing standard to determine if it is clear, complete, incorporates all the necessary ingredients and is harmonized with its complementary standards to create a complete communications solution based on the requirements of Item 1. Throughout this study, the use of IPv6 should be assumed in all situations where it is viable.
2. Converge, harmonize, and incorporate appropriate published and emerging ITS communication standards (regardless of their SDO source) into proper ITU Recommendations.
3. Create a complete, coherent and effective package of security frameworks and standards for use within ITS communications. This task should identify all existing and ongoing work in this area, leverage it to the greatest possible degree, and assure that modern communication security practices are embedded in the final product.
4. Develop standards to govern the interaction of drivers with communication devices brought into vehicles (such as smart phones). The standards should require carry‑in devices to determine if they are in a vehicle. If the carry‑in device interacts with equipment in the vehicle, the standards should require the carry‑in device to follow vehicle driver distraction rules. If the carry‑in does not interact with equipment in the vehicle, the standards should require the carry‑in device to not allow use of the carry‑in device by the driver while the vehicle is moving.
5. Investigate regulatory actions necessary to facilitate the deployment of ITS communication products and services based on the ITS communication standards being developed
6. Review mobility network services and ITS communications for their application as a ‘last resort’ supplement to other communication systems for emergency and disaster handling.

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1. This includes ITU-T Recommendations and ITU-R Recommendations [↑](#footnote-ref-1)
2. See <http://itu.int/members/>. [↑](#footnote-ref-2)
3. See <http://www.itu.int/en/ITU-T/ipr/Pages/policy.aspx> [↑](#footnote-ref-3)
4. See <http://www.itu.int/oth/T0404000001/en> [↑](#footnote-ref-4)