# Collaboration on ITS Communication Standards

## 5 July 2016, Tokyo, Japan

### Meeting report

1. **Introduction**

The meeting of the Collaboration on ITS Communication Standards (“Collaboration”) took place on 5 July 2016 at TTC headquarters in Tokyo, Japan.

The meeting was held in conjunction with the [ITU/TTC Workshop on How Communications will Change Vehicles and Transport](http://www.itu.int/en/ITU-T/extcoop/cits/Pages/201607.aspx) on 4 July 2016.

**T. Russell Shields** of Ygomi LLC chaired the meeting.

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.[[1]](#footnote-1)

1. **Opening of meeting, introductions and adoption of the agenda**

**Russ Shields** welcomed the 21 participants including 2 remote attendees (the final list of participants is in [Doc 008](http://itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201607-Tokyo/008%20-%20List%20of%20participants.pdf)) and introduced the objectives of the Collaboration (see [website](http://www.itu.int/en/ITU-T/extcoop/cits/)).

He stressed that the Collaboration is not a standards-setting, but a standards-facilitating group, exchanging information and promoting the development and adoption of ITS communications standards.

The draft agenda was presented and adopted without changes in [Doc 001](http://staging.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201607-Tokyo/001%20-%20Draft%20agenda.docx).

1. **Wrap-up of ITU/TTC Workshop**

The meeting discussed the workshop held the previous day. It was explained that the Collaboration has established a yearly cycle of three meetings and three workshops: (1) March, during Geneva Motor Show; (2) summer in Asia; (3) fall in the Americas.

Participants expressed that the Tokyo workshop [programme](http://www.itu.int/en/ITU-T/extcoop/cits/Pages/201607-programme.aspx) covered many relevant issues related to vehicle communications, the presentations and debates at the Tokyo workshop were very informative and enriching. **Martin Adolph** (ITU) noted that the workshop was attended by 79 people from 6 countries, and that suggestions and comments are welcome and encouraged to shape and improve future workshops.

Participants asked to clarify mandate and objective of workshop and Collaboration, and raised questions about how things would fit together, as there was a lot of standards work going on in the ITS area. How does the work of the Collaboration fit into the work of other SDOs? Will it be in tune with the work of other SDOs, or create alternative standards?

Russ Shields reiterated that Collaboration was not a standards-setting, but a standards-facilitating group. He described the activities as tools for coordination, information sharing, capacity building on ITS/vehicle communications matters, and means to study the ITS communications standardization landscape, exchange information between participants of ITS communications standardization activities, and template for collaboration and gap analysis. The present meeting, and past meetings showed that these tools were used by many SDOs active in the ITS communications space to exchange information, learn from and about each other. ITU’s Study Groups have started addressing some of the gaps identified by the Collaboration.

1. **Update on ITS communications standardization activities**

**Dick Schnacke** (Chair, ISO TC204) gave an update on the work of ISO TC204 and related activities. He noted that the work on the vehicle gateway joint project between TC22 and TC204 proved to be challenging, with differences of opinions, e.g., is there a need for a standardized interface to the vehicle network, or would it be sufficient to only define data elements (e.g., vehicle speed) and their performance requirements (e.g., latency/feedback time). He summarized that for now there was agreement to work between TC22 and TC204 on data elements and performance requirements, but the progress was slow.

Meanwhile, TC204 has approved 3 new work items on secure vehicle interface standards (incl. cybersecurity from ITS station to vehicle network). A first review of the ITU-T vehicle gateway platform was undertaken by TC204. It was found that this a process specification, rather than a technical protocol, and can be used as a resource for further work. Dick Schnacke highlighted that the set of TC204 WG16 communication standards was now complete.

A liaison statement ([Doc 002](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201607-Tokyo/002%20-%20LS%20on%20ITS%20Communication%20standards%20from%20ITU-R%20WP5A.zip)) from **ITU-R Working Party 5A** was reviewed. The document contains the latest work plan for Agenda Item 1.12 of the World Radiocommunication Conference 2019 (WRC-19). The objective of AI 1.12 is “to consider possible global or regional harmonized frequency bands, to the maximum extent possible, for the implementation of evolving Intelligent Transport Systems (ITS) under existing mobile-service allocations”. More information about AI 1.12 and the outcome of WRC-15 is available in [Doc 003](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201512-Arlington/003%20-%20Automotive%20radar.docx) and [Doc 004](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201512-Arlington/004%20-%20ITS%20WRC-19%20agenda%20item.docx) of the Collaboration meeting in Arlington, December 2015.

**Yushi Naito** (Chair, ITU-T SG16) introduced the status of activities in [Q27/16](http://www.itu.int/en/ITU-T/studygroups/2013-2016/16/Pages/q27.aspx). Work item F.AUTO-TAX was put on hold to be able to align with UNECE WP.29 requirements. Exchange of information on work items related to the vehicle gateway platform (VGP) was going on to understand terminology and objectives, then harmonize and see linkage to similar activities of other SDOs. He also noted that Q27/16 had a new rapporteur: Mr Fernando Masami Matsubara of Mitsubishi Electric Corporation, France. Looking at the next ITU-T study period (2017-2020), Study Group 16 was planning to continue to be the lead ITU-T study group on ITS communications.

**Koji Nakao** (Vice chair, ITU-T SG17) presented the developments in [Q6/17](http://www.itu.int/en/ITU-T/studygroups/2013-2016/17/Pages/q6.aspx) (see [Doc 004](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201607-Tokyo/004%20-%20LS%20on%20ITS%20security%20from%20ITU-T%20SG17.zip) and [Doc 005](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201607-Tokyo/005%20-%20LS%20on%20secure%20over%20the%20air%20vehicle%20software%20updates%20from%20ITU-T%20SG16.doc)). Work item [X.itssec-1](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=10276) was updated based on feedback received from JAMA and Hyundai, and is proposed for determination in the September meeting of SG17. SG17 is considering how the concepts described in X.itssec-1 can be applied to IoT devices in general. He noted that the second ITS communications related work item, [X.itssec-2](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=10277), was still in early draft stages.

**Kazuyuki Ashimura** (Secretary, W3C / Keio University) introduced the meeting to W3C’s Automotive Web Working Group ([presentation material](https://www.w3.org/2016/Talks/0704-auto-ka)). W3C is promoting the use of Web technology in cars, and defining data properties and APIs for HTML5-based in-vehicle infotainment systems.

The meeting expressed appreciation for the detailed information. A few questions, in particular with respect to security considerations were raised. W3C was encouraged to exchange information with the various SDOs with activities on vehicle gateways (see above), in particular

* ITU-T SG16 on vehicle gateway platform (Yushi Naito)
* ITU-T SG17 on security of FOTA updates (Koji Nakao)
* ISO TC204/TC22 on vehicle data elements for vehicle gateways (Dick Schnacke)
* Trusted Computing Group on security aspects of IVIs

Action (1) W3C and SG16, SG17, TC204/TC22, TCG: Exchange information on related activities.

**Tom Kurihara** (Chair, IEEE 1609 Working Group) described the work on the IEEE 1609.2 “Standard for Wireless Access in Vehicular Environments—Security Services for Applications and Management Messages” ([Doc 006](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201607-Tokyo/006%20-%20IEEE-Std-1609_2-Overview.pptx)). Published in March 2016, the latest version of IEEE 1609.2 defines, inter alia, a secure Protocol Data Unit (PDU) format; certificate formats for signing application PDUs and certificate authorities (CAs); a certificate revocation list (CRL) format; and a procedure for peer-to-peer certificate distribution to allow devices to “learn” unknown certificates. Consideration is given to privacy aspects, and to harmonization with related work in IEEE 802p, IETF, ETSI, and others.

Interest was expressed in exploring ways to exchange IEEE documents at different stages (draft, final) with other interested SDOs, and how these could be referenced in WP.29 regulation if appropriate. These documents are usually behind a “pay-wall”. As a first step it was agreed to identify the documents of interest.

Action (2) Koji Nakao: Identify IEEE standards of interest to SG17 work on ITS security.

**Yasubumi Chimura** (Chair, TTC Connected Car Working Group) summarized the activities of TTC’s Connected Car Working Group ([Doc 007](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201607-Tokyo/007%20-%20TTC-ConnectedCarWG.pdf)). One area of focus of this group is the use of vehicles as information and communication system in the event of disasters. It was suggested to closely link these studies with the related effort in ISO TC204, e.g., via Sugiura-san.

Action (3) Yasubumi Chimura / TTC: Share information on the role of ITS in the event of disasters with TC204.

Another area of focus is the automotive thin profile in the Trusted Platform Module (TPM) 2.0 library specification of the Trusted Computing Group (TCG). More information about the release of TPM 2.0 is [here](http://www.trustedcomputinggroup.org/trusted-computing-group-releases-tpm-2-0-specification-improved-platform-device-security/).

**Russ Shields** gave a brief overview of developments in 3GPP on LTE-based V2X services. Participants highlighted the need for these systems to interwork with systems in the 5.9 GHz bands. More information is available in [Doc 009](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201507-Beijing/009%20-%20Progress%20of%20LTE%20V2X%20in%20CCSA.pptx) and [Doc 010](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201507-Beijing/010%20-%20LTE-V%20in%203GPP.pdf) of the Collaboration meeting in Beijing, July 2015, and on the 3GPP [website](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=2934).

1. **Update on World Forum for Harmonization of Vehicle Regulations (WP.29) activities**

**Russ Shields** highlighted recent activities related to ITS communications of [UNECE WP.29](http://www.unece.org/trans/main/wp29/introduction.html). WP.29 convenes officially three times per year (March, June, and November) and entrusts informal groups with specific problems that need to be solved urgently or that require special expertise. ITU has a standing invitation to participate in WP.29 and its working groups, and is promoting the use of international standards in these activities. ITU work on secure updates of automotive software was presented at the last meeting of the informal working group on ITS/Automated Driving (ITS/AD). The documentation of the ITS/AD group is available [here](https://www2.unece.org/wiki/pages/viewpage.action?pageId=2523344).

[Recommendation ITU-T P.1140](http://itu.int/ITU-T/P.1140), which defines use cases, requirements and associated test methods for speech communication for emergency call communications, is referenced in a draft new regulation on Accident Emergency Call Systems (AECS). The documentation of the AECS working group, which developed the draft regulation is available [here](https://www2.unece.org/wiki/pages/viewpage.action?pageId=14319865).

1. **Discussion about Collaboration in the next Study Period (2017-2020)**

The meeting reviewed a liaison from the ITU-T Review Committee ([Doc 003](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201607-Tokyo/003%20-%20LS%20on%20increasing%20efficiency%20of%20work%20in%20ITU-T%20from%20RevCom.doc)) on increasing efficiency of work in ITU-T. It was agreed to respond by highlighting the achievements of the Collaboration in bringing together and coordinating the ITU-T study groups with work items on ITS communications, as well as exchanging information on ITS communications with many other SDOs.

Action (4) Russ Shields, Yushi Naito, ITU/TSB: Draft and send reply liaison to RevCom and TSAG.

1. **Outlook**

The next Collaboration meeting will take place on **29 November 2016 in Detroit, United States**. The meeting will be held in conjunction with an [**ITU/TIA Vehicle Connectivity workshop**](http://www.tiaonline.org/events/tia-vehicle-connectivity-workshop) on **30 November**.

The first Collaboration meeting in the new study period will be held in **Geneva, Switzerland on 10 March 2017**, succeeding the **ITU/UNECE Symposium on The Future Networked Car at Geneva Motor Show on 9 March**.

1. **Close of meeting**

The Chair thanked TTC for hosting the meeting and workshop and expressed appreciation to all participants for their inputs and the fruitful discussions. The meeting closed at 1630 local time.

## List of action items (July 2016)

| Meeting | No. | Who | What | Work Item | By when | Status |
| --- | --- | --- | --- | --- | --- | --- |
| Tokyo, July 2016 | | | | | | |
| Tokyo(2016) | 1 | SG16, SG17, TC204/TC22 | Take into consideration W3C activities; exchange relevant information with W3C. | 3 |  | Ongoing |
| Tokyo(2016) | 2 | Koji Nakao / SG17 | Identify IEEE standards of interest to SG17 work on ITS security | 4 | November 2016 | Pending |
| Tokyo(2016) | 3 | Yasubumi Chimura / TTC | Share information on the role of ITS in the event of disasters with TC204 | 7 | November 2016 | Pending |
| Tokyo(2016) | 4 | Russ Shields, Yushi Naito, ITU/TSB | Draft and send reply liaison to RevCom and TSAG |  | 11 July 2016 | Done |
| Geneva, March 2016 ([meeting report](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201603-Geneva/007%20-%20Meeting%20report.docx)) | | | | | | |
| Geneva(2016) | 2 | Yushi Naito / SG16 | Exchange information on vehicle gateway / vehicle gateway platform with ISO TC204 / TC204 Chairman |  | March 2016 | Done |
| Arlington, December 2015 ([meeting report](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201512-Arlington/011%20-%20Meeting%20report.docx)) | | | | | | |
| Arlington(2015) | 1 | ITU/TSB | Study the proposal of convening a meeting of the leaderships of vehicle manufacturers, UNECE, ITU, and others. |  |  | Ongoing |
| Geneva, March 2015 ([meeting report](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201503-Geneva/009%20-%20Meeting%20report.docx)) | | | | | | |
| Geneva(2015) | 2 | Russ Shields, Yushi Naito, ITU/TSB | Follow work of informal group ITS/AD, synchronize activities with development of F.AUTO-TAX. | 2, 3, 6 |  | Ongoing |

1. Collaboration website, <http://www.itu.int/en/ITU-T/extcoop/cits/> [↑](#footnote-ref-1)