# Collaboration on ITS Communication Standards

## 21-22 March 2013, Beijing, China

### Meeting report

1. **Introduction**

The meeting of the Collaboration on ITS Communication Standards (“Collaboration”) took place on 21‑22 March 2013 at CCSA/CATR in Beijing, China.

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**

The Chairman welcomed the participants (35 on-site, 5 remote; the final list of participants is reproduced in [Doc 005](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201303-Beijing/005%20-%20List%20of%20Participants.pdf)) and thanked the Alliance for hosting the meeting. A *tour de table* was held and all participants introduced themselves.

The agenda approved by the meeting is reproduced in [Doc 001](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201303-Beijing/001%20-%20Draft%20agenda.docx).

1. **Presentation of incoming documents**

The Chairman introduced participants to the document collecting **communications requirements of high-priority ITS applications** (see [here](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20120821-Tokyo/002%20-%20Global%20ITS%20Communication%20Requirements%20(DRAFT).zip)). The document is based on a questionnaire filled by ITS experts from different regions and countries.

The document is structured based on the type of communications, namely

1. Vehicle / ITS Station-to-Infrastructure Short-Range Communications;
2. Vehicle / ITS Station-to-Infrastructure Wide-Area Communications;
3. Wide-Area Communications: Infrastructure to Multiple Vehicles (Broadcast); and
4. Vehicle-to-Vehicle Communications.

Following the above, the delegates from **China Unicom** introduced six additional use cases ([Doc 003](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201303-Beijing/003%20-%20Communication%20requirements%20for%20high-priority%20ITS%20applications.zip)), which were discussed in detail. An array of six use cases were introduced to high light the necessary requirements for ITS related applications ranging from non-delay sensitive info passing to users (e.g. bus/subway info access for users near the stations, parking availability) to more delay-sensitive applications (e.g. abnormal vehicles on the road and vital info transfer from ambulance).

Participants thanked China Unicom for the submission of these scenarios. General observations included:

* Prioritization of security: it was recommended to review the security priority of the use-cases in context of / in relation to other use-cases.
* Elements of security: it was recommended to assess use-cases in view of different elements of information security, i.e. confidentiality, integrity, authenticity, availability, and non-repudiation.
* The importance of a high-level dialogue between telecommunications experts, transportation experts and economists was highlighted to identify relevant scenarios, applications and user needs.
* Some of the existing technologies, such as toll tags and electronic license plates, may also be included to form a basis of the proposed applications.
* Moreover, although the requirements are presented through six different use cases, it is clear that some of the requirements are identical (e.g. Security in all six cases), but with different level of granularity required. The contributors were encouraged consider sort them out and come up with a more generic set of requirements for those applications.
* The proposals are valuable and the contributors were encouraged to take these work to Chinese standard development organizations, such as CCSA, to pursuit the necessary standardization work.

Specific comments on the scenarios included:

Scenario (1): Electronic Bus/Subway Station

* This application can be helpful in replacing the existing LCD/LED based information updates for users. The information passed to the users today has been limited due to the size and capacity of the LCD/LED based displays. With the Electronic info sharing through the devices possessed by the users, more info can be sent to users near the station.
* Furthermore, the over toil associated with acquiring and installing the display and maintenance (including power) can be greatly reduced.

Scenario (2): Ambulance

* Define communication requirements in general (uplink, downlink). Specific applications may run on top of this scenario and their requirements can be described in application profiles.
* This can be a good basis to address the requirement and needs for time/delay-sensitive ITS applications (not just limited to ambulance).

Scenario (3): Public parking

* Consider the inclusion of reservations and payments in this scenario, although there may be regulatory issues (e.g. commercial behaviour may be governed by the Depart of Commerce) associated with this combined application.
* Toll tags and electronic license plate and also be helpful for this type of applications.

Scenario (4): Obstacle warning

* Consider the inclusion of sub-scenarios, such as
  1. Accident vehicle
  2. Witness vehicle / end of queue
  3. Service vehicle / authorized vehicle (such as police)

Scenario (5): Vehicle status supervision

* This application can be combined with an Electronic License Plate/Toll tag.
* Since the application involved shut-off of the unauthorized vehicles, it is necessary to put more focus on the security control to avoid unauthorized access.

Scenario (6): Logistics and Cargo Tracking

* Inter-modal (truck-ship, railroad-air, air-truck, etc.) transportation may be used as transportation so we should not just limit the cargo shipping to trucking.
* The means of cargo tracking can be implemented through placing sensors on the cargo container itself or on the means of carrying the cargo container, such as trucks. This may need to be further investigated since the means of trafficking may be regulated by different departments (Department of Transportation, Department of Railroad, e.g. in China).

**Action China Unicom:** Review the use-cases based on the discussions; discuss and evaluate the scenarios with ITS experts.

Yushi Naito presented a set of three input documents ([Doc 004](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201303-Beijing/004%20-%20TTC%20input%20Beijing%20meeting.zip)) submitted by **TTC Japan**.

One input proposes to include multimodal transport services in the ITS application requirements map. This includes applications in which different modes of transport (e.g., road transport, railway, ship) are used, such as freight and shipping related scenarios.

**Action TTC:** Describe such scenarios in detail for the next meeting.

In the second proposal related to [**work item 7** of the Collaboration](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/ToR/Archive-obsoleted-work-items/Work%20Items%20(v130322).docx), TTC introduces a refined set of **disaster relief** scenarios and describes a concrete approach, a multilayered communications network, exploiting vehicular communications in case of disasters.

**Action TTC:** Describe these disaster relief and other societal services enabled by ITS communications in more detail for the next meeting and propose a structured document as basis for future discussion.

The third document presented by Yushi included an update on TTC’s preparations for [ITS World Congress 2013](http://www.itsworldcongress.jp/), 14-18 October, Tokyo, Japan. TTC submitted a proposal to organize a Special Interest Session on the harmonization of open ITS communication standards, and proposes a moderator from ITU and speakers from different regions.

**Action ITU/TSB:** Check availability of Reinhard Scholl as moderator.

**Action TTC:** Provide an update on the preparations at the next Collaboration meeting.

Sören Hess, Chairman of **ETSI TC ITS** introduced the release process TC ITS has adopted ([Doc 002](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201303-Beijing/002%20-%20ETSI%20TC%20ITS%20release%20process.zip)).

He pointed out that the Release 1 is basically a “minimum set of standards” for interoperability of co-operative ITS i.e. responding to [Mandate 453 of the European Commission](http://ec.europa.eu/enterprise/sectors/ict/files/standardisation_mandate_en.pdf), and gave an overview of expected features and functionalities for Release 2.

He pointed out the importance of syncing the ITS releases of different SDOs and proposed that a global view (a collection and review) of different release approaches could be created at Collaboration-level.

1. **Gap analysis and quality assessment of ITS communications standards (work item 2), harmonization of standards (work item 3)**

To initiate work item 2, the meeting tasked ITU/TSB to create a questionnaire to catalogue ITS communication standards.

The questionnaire is now available at [**https://docs.google.com/forms/d/1xl4xbyNaKRJUR7kxCG5kkXNfiYiTWQGint1jbRsW9s0/viewform**](https://docs.google.com/forms/d/1xl4xbyNaKRJUR7kxCG5kkXNfiYiTWQGint1jbRsW9s0/viewform)

By **6 May 2013**, delegates are invited to complete the form for any ITS communication standards, with

* **Yushi Naito** to coordinate the collection of relevant ARIB, ITU-T, ITU-R and TTC standards
* **Mitch Tseng** to coordinate the collection of relevant IEEE, ISO TC204 and TIA standards

Relevant ETSI ITS communication standards are to be extracted from the material in [Doc 002](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-201303-Beijing/002%20-%20ETSI%20TC%20ITS%20release%20process.zip).

**Action ITU/TSB:** Circulate the questionnaire more widely.

Russ Shields explained that the standards collected with this exercise would be mapped against the requirements identified in a next step. The plan is to invite related ITU study groups to review and assess the quality of standards identified in this process.

This will eventually result in the harmonization and incorporation of the identified standards as ITU Recommendations **(work item 3)**. Yushi Naito and Martin Adolph (ITU/TSB) briefly introduced the process, which is described in a set of [working procedures](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20120626-Munich/006%20-%20Draft%20working%20procedures.docx).

The chairman expressed hope to submit the first batch of fully-reviewed standards for adoption as ITU Recommendations in early 2015.

1. **Security frameworks and standards for ITS communications (work item 4)**

The chairman gave an overview of security and privacy considerations associated with ITS communications (also see discussion of China Unicom use-cases), and pointed out the pivotal role of addressing security and privacy with standards. He mentioned the liaison relationship between Collaboration and [ITU-T study group 17](http://www.itu.int/en/ITU-T/studygroups/2013-2016/17/Pages/default.aspx) (security).

1. **Driver distraction (work item 5)**

Scott Pennock, Chairman of ITU-T focus group on driver distraction presented the final deliverables of the focus group. The deliverables were [submitted](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=T13-SG12-130319-TD&source=Chairman%20FG%20Distraction) to the concurrent meeting of the parent study group ([study group 12](http://www.itu.int/en/ITU-T/studygroups/2013-2016/12/Pages/default.aspx)) and will be made available on the [focus group website](http://www.itu.int/en/ITU-T/focusgroups/distraction/Pages/default.aspx).

The focus group since terminated transferred its work to the respective ITU-T study groups and questions (notably Q4/12 and Q27/16). The final report notes that new driver distraction related work items which require external co-ordination/collaboration may be taken up by the Collaboration on ITS Communication Standards.

1. **Terms of Reference and list of work items**

The text describing work item 5 was [updated](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/ToR/Archive-obsoleted-work-items/Work%20Items%20(v130322).docx).

1. **Collaboration management**

No updates to report.

1. **Next meetings**

The following meetings are planned in 2013 to advance the work and submit results for the review of SDOs involved in ITS communication standards:

* 26 and 28 June 2013, Geneva, Switzerland (please see detailed information below)
* [20-22 August 2013, North America (tbc)]
* [12-13 October 2013, Tokyo, Japan (tbc, in conjunction with [ITS World Congress](http://www.itsworldcongress.jp/) and ISO TC 204)]

Week of 24-28 June 2013, Geneva, Switzerland

* 24-25 June: Meeting of [Question 27/16 – Vehicle gateway platform for telecommunication/ITS services/applications](http://www.itu.int/en/ITU-T/studygroups/2013-2016/16/Pages/q27.aspx) – open to ITU-T membership and invited experts (please contact ITU/TSB for details)
* 25-28 June: 160th session of the UNECE World Forum for the Harmonization of Vehicle Regulations ([WP.29](http://www.unece.org/trans/main/welcwp29.html)). Opening session and agenda items on ITS are tentatively scheduled for the morning of 25 June 2013. Open to participants registered for the other events; please check the respective box in the registration form if you are interested in attending the session.
* 26 and 28 June: Meeting of the Collaboration on ITS Communication Standards
* 27 June: [ITU/UNECE workshop “ITS in emerging markets – drivers for safe and sustainable growth”](http://www.itu.int/en/ITU-T/Workshops-and-Seminars/its-em/201306/Pages/default.aspx)

Other upcoming events related to the work of the Collaboration include:

* 17 May 2013, Geneva, Switzerland and worldwide: [World Telecommunication and Information Society Day](http://www.itu.int/en/wtisd/Pages/default.aspx). Theme in 2013 is “ICTs and Improving Road Safety.”

Also see Annex 1.

1. **Any other business**

None.

1. **Close of meeting**

The Chairman thanked the participants for all the discussions and the host CCSA for providing excellent meeting facilities.

### List of new actions

**Action (1) China Unicom:** Review the use-cases based on the discussions; discuss and evaluate the scenarios with ITS experts.

**Action (2) TTC:** Describe such [multimodal] scenarios in detail for the next meeting.

**Action (3) TTC:** Describe these disaster relief and other societal services enabled by ITS communications in more detail for the next meeting and propose a structured document as basis for future discussion.

**Action (4) ITU/TSB:** Check availability of Reinhard Scholl as moderator [for special interest session at ITS World Congress].

**Action (5) TTC:** Provide an update on the preparations [of the special interest session] at the next Collaboration meeting.

**By 6 May 2013:** [**ITS communication standards catalogue and questionnaire**](https://docs.google.com/forms/d/1xl4xbyNaKRJUR7kxCG5kkXNfiYiTWQGint1jbRsW9s0/viewform)

**Action (6) ALL:** Complete the form for any ITS communication standards

**Action (6a) Yushi Naito:** Coordinate the collection of relevant ARIB, ITU-T, ITU-R and TTC standards.

**Action (6b) Mitch Tseng:** Coordinate the collection of relevant IEEE, ISO TC204 and TIA standards.

**Action (6c) ITU/TSB:** Circulate the questionnaire more widely.

### Pending and ongoing action items from previous Collaboration meetings

**Washington meeting (**[**see report**](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121217-Washington/006%20-%20Meeting%20report.docx)**):**

**Yushi Naito:** Send this [ITS communications security-related] presentation material to ITU-T Study Group 17 (security) for comments and suggestions, e.g., on how to design a graceful evolution of secure ITS communications infrastructure (slides 7-9), on risk assessment (slide 10) and any next steps to be considered. The next SG17 meeting will take place in Geneva, 17-26 April 2013.

**Yushi Naito:** Identify existing ITU-T work on Public Protection and Disaster Relief (PPDR), e.g., communication for police, fire brigade ambulance, etc.

**Requirements Drafting Team:** Include SAE J2735 in requirements document.

**Jim Frazer:** Clarify contribution [[Doc 004](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121217-Washington/004%20-%20References%20to%20V2I%20standard%20SAE%20J2735%20and%20additions%20to%20section%202_1.zip)] with respect to the communications requirements of “management of electric vehicles and electric vehicle charging spots” and “Integration to the Smart Grid”.

**Vienna meeting (**[**see report**](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121028-Vienna/008%20-%20Meeting%20report.docx)**):**

**Requirements Drafting Team:** see Action 4.

## Annex 1 – Upcoming ITS (standards) related events

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| --- | --- | --- | --- | --- |
| Date | Title | Venue | Organizer | Website |
| 24-25 Jun 2013 | Question 27/16 – Vehicle gateway platform for telecommunication/ITS services/applications | Geneva, Switzerland | ITU-T | <http://www.itu.int/en/ITU-T/studygroups/2013-2016/16/Pages/q27.aspx> |
| 25-28 Jun 2013 | UNECE WP.29 | Geneva, Switzerland | UNECE | <http://www.unece.org/trans/main/welcwp29.html> |
| 26 and 28 Jun 2013 | Collaboration on ITS Communication Standards | Geneva, Switzerland | Collaboration | <http://itu.int/en/ITU-T/extcoop/cits/> |
| 27 Jun 2013 | ITS in emerging markets – drivers for safe and sustainable growth | Geneva, Switzerland | ITU/UNECE | <http://www.itu.int/en/ITU-T/Workshops-and-Seminars/its-em/201306/Pages/default.aspx> |
| 20-22 Aug 2013  (to be confirmed) | Collaboration on ITS Communication Standards | North America | Collaboration | <http://itu.int/en/ITU-T/extcoop/cits/> |
| 12-13 Oct 2013 (to be confirmed) | Collaboration on ITS Communication Standards | Tokyo, Japan | Collaboration | <http://itu.int/en/ITU-T/extcoop/cits/> |
| 14-18 Oct 2013 | ITS World Congress | Tokyo, Japan |  | <http://www.itsworldcongress.jp/> |

*Please also see calendar of Meetings related to ITS standardization maintained by ESF GmbH,* [*http://calm.its-standards.eu/Public/Meetings.html*](http://calm.its-standards.eu/Public/Meetings.html)

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