# Collaboration on ITS Communication Standards

## 28 October 2012, Vienna, Austria

### Meeting report

1. **Introduction**

The meeting of the Collaboration on ITS Communication Standards (“Collaboration”) took place on 28 October 2012 at Telecommunications Research Center (FTW) in Vienna, Austria.

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**

The Chairman welcomed the participants (13 on-site, 1 remote; the final list of participants is reproduced in [Doc 007](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121028-Vienna/007%20-%20List%20of%20Participants.pdf)) and thanked FTW for hosting the meeting. Regular participants of ITS standardization groups in ETSI, ISO, ITU and TTC were represented.

Russ Shields stressed the value of communication standards as a means to contributing to interoperability of ITS. Considerable progress has been made over two decades of related standardization activities. Now it is time to assess and benchmark the outcomes of this work to avoid fragmentation, close standards gaps, address industry needs and thereby facilitate the deployment of ITS products and services. The Collaboration group was created for this purpose and invites all interested organizations to participate in this important activity.

The agenda as approved by the meeting is reproduced in [Doc 001](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121028-Vienna/001%20-%20Draft%20agenda.docx).

1. **Introductions**

A short *tour de table* was held and participants introduced themselves.

1. **Review of incoming liaisons and documents**

Yushi Naito presented the liaison statement ([Doc 002](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121028-Vienna/002-%20LS%20-%20Security%20study%20on%20ITS%20Communication%20standards.doc)) received from [ITU-T Study Group 17](http://www.itu.int/ITU-T/studygroups/com17) (telecommunication security) in response to an invitation to participate in Collaboration activities.

Participants noted the importance of security and privacy aspects in ITS and that legal requirements (e.g., lawful intercept, data retention, etc.) and regulations need to be considered at an early stage in ITS communications standards setting.

As a starting point, it was suggested that contact be established between study group 17 and the organizers of the ITS safety pilot in Ann Arbor, Michigan to explore if there was an interest to have the security aspects of the pilot reviewed and commented on by study group 17.

**Action 1: ITU secretariat (Martin Adolph) by next Collaboration meeting:** To establish contact between SG17 focal points and ITS safety pilot, and follow up.

Paul Spaanderman gave a status update of ETSI TC ITS standardization activities ([DOC 003](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121028-Vienna/003%20-%20Status%20of%20ITS%20related%20standardization%20work%20at%20ETSI.zip)). He highlighted published work as well as work in progress in the five ETSI TC ITS working groups and Topic Group 37 on ITS, ETSI TC ERM (EMC and radio spectrum matters). In the discussion, the concept of ITS station was explained and participants asked for a definition of cooperative ITS.

[In an email conversation following the meeting, Knut Evensen pointed to the “[Joint CEN and ETSI Response to Mandate M/453](http://www.etsi.org/WebSite/document/Technologies/First_Joint_CEN_and_ETSI_Response_to_Mandate_453.pdf)” dated 15 April 2010: *“Co-operative ITS is a subset of the overall ITS that communicates and shares information between ITS stations to give advice or facilitate actions with the objective of improving safety, sustainability, efficiency and comfort beyond the scope of stand-alone systems.”* This definition is expanded on in [ISO TR 17465-1](http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=62889), which went through a final comment review in ISO TC204 WG16’s meeting in Moscow (October 2012), and is going to TC204 ballot shortly. The ITS station concept is defined in the latest version of [ISO 21217](http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=50507).]

Paul also mentioned various upcoming events with ETSI TC ITS involvement, and it was agreed to collect information about similar events and disseminate them to all Collaboration participants.

**Action 2: ITU secretariat (Martin Adolph):** To collect and share ITS-related event information (see Annex 1 – Upcoming ITS (standards) related events).

Steve Sprouffske pointed participants to a study commissioned by the Norwegian Public Roads Administration and briefly introduced the document providing a global snapshot of ITS standardization activities (was uploaded later as [Doc 006](https://staging.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121028-Vienna/006%20-%20ITS%20Standardization%20Status%20Report%20%28March%202011%29.docx)).

Takaaki Sugiura gave a brief update on the [EC-US ITS Standards Harmonization Working Group](http://www.standards.its.dot.gov/hap.asp). He noted that harmonization activities were now also open to Japanese standards groups.

1. **Status and updates of ITS communications requirements document**

Takaaki presented several inputs from TTC Japan regarding the requirements document ([Doc 005](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121028-Vienna/005%20-%20Additional%20input%20on%20ITS%20communications%20requirements%20from%20Japan.zip)).

Following the recommendations made in the document, participants agreed to exclude the requirements supporting operation of ships and aircrafts from the ITS communications requirements document, and to include and address communications requirements supporting the activity of transport of people and goods, using all transport modalities.

Participants noted the importance of clarity needed between communications latency versus application latency.

In the previous meeting of the Collaboration in Tokyo, [Dr Inoue proposed to include a high-level description of the social/societal role of ITS](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20120821-Tokyo/006%20-%20Meeting%20report.docx) and the communication requirements of associated services in this document. The specific text is still outstanding.

Finally, TTC proposed very specific amendments to the ITS communications requirements document which were endorsed by participants for inclusion in the document’s next version.

Muna Hamdi presentation (iMFV 28th Oct ITU V3, part of [Doc 004](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20121028-Vienna/004%20-%20Additional%20input%20on%20ITS%20communications%20requirements%20from%20the%20Arab%20region.zip)) focused on the following main points:

1. To benefit from the expertise available within the Collaboration on ITS Communication Standards and other forums within ITU and other standardization bodies into avoiding repeating  mistakes in countries like the Arab countries and other counties who are currently building new Transport and ICT infrastructure, expanding and building new cities - hence the output of this forum will be highly beneficial if it provides examples of lesson learned.
2. iMFV is focusing on building a road map to the future vision of travel taking examples from a number of Arab Countries (see [here](http://www.hud.ac.uk/imfv/publications/imfvarabia/)). The case studies  are work in progress and it is anticipated to share and discuss the outcome with this forum in the future.
3. The importance of clarifying aims and objectives and raised the importance of multimodal public transport applications, predicting future technologies that will support it when planning for cost-effective and environmentally friendly ITS.
4. ITS Application priorities may be grouped in two ways:
* In Slide 6 of the presentation, Dr Hamdi updated ITS Application Priority list and classified them into three groups (Safety, Economy and Environment) related applications, then explained the interrelations between these groups.
* In Slide 7 the ITS Application priorities may be grouped in a way taking into account Social Behaviour, Incentive Systems and Future Smart Environment Infrastructure also be grouped as:
	+ *Law enforcement (Safety, Security, Environment &Management)*
	+ *Emergency, Disaster, Incident & Demand Management*
	+ *Information Based Behaviour Management*
	+ *Multimodal based on Systems of Systems view*
	+ *Integration with other smart infrastructure - promoting International Travel/Trade Standards*

In the following discussion, participants opined that the document should become more “readable” and consistent in itself. It was decided that introducing definitions of terms used will help to achieve this objective.

Al Morton pointed to Recommendation ITU-T G.1000 (<http://itu.int/ITU-T/G.1000>), which gives a framework and definitions for communications quality of service. The Recommendation is available free of charge on the ITU website and introduces a matrix to facilitate identification of communications QoS criteria (see below).

Such matrix may be used for any telecommunications service to determine the requisite QoS criteria. After determining the quality criteria, parameters and performance objectives can be defined and set respectively.

|  |  |
| --- | --- |
|  | **Service Quality Criteria** |
| SPEED1 | ACCURACY2 | AVAILABILITY3 | RELIABILITY4 | SECURITY5 | SIMPLICITY6 | FLEXIBILITY7 |
| **Service Function** |  |  |  |  |  |  |  |
| SERVICE MANAGEMENT | Sales & Pre- ContractActivities 1 |  |  |  |  |  |  |  |
| Provision 2 |  |  |  |  |  |  |  |
| Alteration 3 |  |  |  |  |  |  |  |
| ServiceSupport 4 |  |  |  |  |  |  |  |
| Repair 5 |  |  |  |  |  |  |  |
| Cessation 6 |  |  |  |  |  |  |  |
| CONNECTION QUALITY | ConnectionEstablsh. 7 |  |  |  |  |  |  |  |
| InformationTransfer 8 |  |  |  |  |  |  |  |
| ConnectionRelease 9 |  |  |  |  |  |  |  |
| Billing 10 |  |  |  |  |  |  |  |
| Network/Service management by customer 11 |  |  |  |  |  |  |  |

*Source: Figure 1/G.1000 – Matrix to facilitate identification of communications QoS criteria*

Participants noted that it would be worthwhile considering the re-assessment of high-priority ITS applications using this approach. They also noted that it may not be necessary or possible to determine each cell of the matrix for any given application, and that some ITS applications do not necessarily push the boundaries of the communication technology’s capabilities.

**Action 3: TTC / Dr Inoue by 30 November 2012:** To provide a high-level description of the social/societal role of ITS and the communication requirements of associated services.

**Action 4: Drafting team (Dick Schnacke, Scott Cadzow, Yasubumi Chimura) for presentation at next Collaboration meeting 17 December 2012:** To revise ITS communications requirements document, and

a) Use the mapping and changes proposed by TTC in Doc 005.

b) Reflect the input from Dr Inoue (see Action 3).

c) Consider the inclusion of intelligent disaster handling systems as high-priority application, as proposed in Doc 004.

d) Consider applying the matrix proposed in Recommendation ITU-T G.1000 to facilitate the identification of communications QoS criteria.

e) Propose a set of definitions to increase consistency of the document.

Russ expressed that it would be good to have a stable version of the requirements document ready by the end of 2012.

1. **Standards gap analysis based on ITS communications requirements**

A future ITS communication standards gap analysis is closely interlinked with a complete requirements document.

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

It was agreed to accept the changes made earlier in the working documents (terms of reference, list of work items).

**Action 5: ITU Secretariat (Martin Adolph) ASAP:** To update website.

1. **Collaboration management**

No updates to report.

1. **Next meetings**

The next meeting of the Collaboration on ITS Communication Standards will take place on **Monday, 17 December 2012 in Washington, D.C., United States**. The meeting will be hosted by the [Alliance of Automobile Manufacturers (AAM)](http://www.autoalliance.org/). Meeting logistics are posted at <http://www.itu.int/md/T09-TSB-CIR-0319/en> and participants are invited to register at <http://www.itu.int/reg/tmisc/3000477>. Remote participation will be available.

[ITU-T Focus Group on Driver Distraction](http://www.itu.int/en/ITU-T/focusgroups/distraction/Pages/default.aspx) will meet in the same venue on **18-19 December 2012**.

The first meeting in 2013 will take place on **21 March 2013**, hosted by CCSA in Beijing, China.

The second meeting will take place on **28 June 2013** at ITU headquarters in Geneva, Switzerland. The meeting will be preceded by a joint workshop organized by ITU and UNECE on **27 June** (tentative title: “Intelligent transportation systems in emerging markets – drivers for safe and sustainable growth”). Interested delegates may also attend the meeting of UNECE WP.29 (“Vehicle Regulations”) which addresses ITS-related issues on 25-26 June.

The third meeting is planned in conjunction with ITS World Congress 2013 (14-18 October 2013) in Tokyo, Japan. TTC is advised to introduce its proposal to organize a global standards harmonization roundtable at ITS World Congress 2013 via the ITS Asia Pacific programme committee.

Offers to host subsequent Collaboration meetings are most welcome. Concrete information (when, where, who will host) can be send to the ITU secretariat, tsbcits@itu.int.

1. **Any other business**

None.

1. **Close of meeting**

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

The meeting closed at 5:45pm local time.

### List of new actions

**Action 1: ITU secretariat (Martin Adolph) by next Collaboration meeting:** To establish contact between SG17 focal points and ITS safety pilot, and follow up.

**Action 2: ITU secretariat (Martin Adolph):** To collect and share ITS-related event information (see Annex 1 – Upcoming ITS (standards) related events).

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e) Propose a set of definitions to increase consistency of the document.

**Action 5: ITU Secretariat (Martin Adolph) ASAP:** To update website.

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

* **ISO TC 204 WG16** and **CNIT** to further discuss [Doc 004](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20120403-Troy/004%20-%20CNIT-Non-functional%20ITS%20requirements.docx) and [Doc 005](http://www.itu.int/en/ITU-T/extcoop/cits/Documents/Meeting-20120403-Troy/005%20-%20CNIT-%20Low-cost%2C%20low-power%206LoWPAN%20network%20modules.docx) (Troy meeting) at ISO TC 204’s meeting in Melbourne (16 April 2012), to find ways to accommodate the input and to collaborate
	+ Status: Related work items are being created

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Title | Venue | Organizer | Website |
| 7 Nov 2012 | 79 GHz Workshop | Geneva, Switzerland | 79 GHz project | <http://79ghz.eu/index.php/invitation> |
| 15-16 Nov 2012 | International ITS Harmonization Workshop | Darmstadt, Germany | EU-US ITS Cooperation - Harmonization Task Groups 1 & 3 and EU FP7 Project PRESERVE | <http://www.preserve-project.eu/harmonization-workshop>  |
| 18 Nov 2012 | Intelligent Mobility Day – The Way forward | Ramallah, Palestine | ICT Center at Al-Quds Open University in collaboration with iMFV | <http://www.qou.edu/english/index.jsp?pageId=286>  |
| 12-14 Dec 2012 | Joint CEN / ISO & ETSI Meeting and Stakeholder Workshop: Infrastructure messages for C-ITS safety and sustainability applications and use cases | Berlin, Germany | CEN/TC278/WG16 & ISO/TC204/WG18Cooperative Systems |  |
| 17-19 Dec 2012 | Collaboration on ITS Communication Standards and ITU-T Focus Group Driver Distraction | Washington, D.C. | Collaboration / ITU-T | <http://itu.int/en/ITU-T/extcoop/cits/>  |
| 5-6 Feb 2013 | ETSI ITS Workshop | Vienna, Austria | ETSI | <http://www.etsi.org/ITSWorkshop>  |
| 6-7 Mar 2013 | The Fully-Networked Car at Geneva Motor Show | Geneva, Switzerland | IEC/ISO/ITU | <http://www.worldstandardscooperation.org/fnc2013.html>  |
| 21 Mar 2013 | Collaboration on ITS Communication Standards | Beijing, China | Collaboration | <http://itu.int/en/ITU-T/extcoop/cits/> |
| 25-28 Jun 2013 | UNECE WP.29 | Geneva, Switzerland | UNECE | <http://www.unece.org/trans/main/welcwp29.html>  |
| 27 Jun 2013 | ITS in emerging markets – drivers for safe and sustainable growth | Geneva, Switzerland | ITU/UNECE |  |
| 28 Jun 2013 | Collaboration on ITS Communication Standards | Geneva, Switzerland | 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)