

# **Terms of Reference:**

## **ITU-T Focus Group on "Vehicular Multimedia" (FG-VM)**

(Approved by ITU-T SG16 on 2018-07-20)

### **1. Rationale and Scope**

With the convergence of different networks, the vehicle will change from a transport tool to an infotainment space and smart living platform. As ADAS (Advanced Driver Assistance System) and automatic driving technology is evolving, the vehicle will be the 3rd living and infotainment space besides home and office.

As for vehicular multimedia contents, satellite broadcasting and satellite communication (for example, mobile broadcasting satellite, low-orbit satellite constellation and high-orbit high-throughput communication satellite) will play an important role due to their advantages of wide coverage, low investment, fast transmission speed and high flexibility. The convergence of networks will provide low cost, wide coverage and good interactivity for vehicular multimedia solution.

Meanwhile, vehicular multimedia terminals are also evolving to support networks integration, contents integration, intelligent display, intelligent voice interaction, high-precision navigation and various applications as well as interconnection between in-vehicle devices and nomadic devices.

A Focus Group on Vehicular Multimedia (FG-VM) is established to identify the need for new vehicular multimedia standards based on space and terrestrial networks integration. The study will evaluate related software, hardware, and valued-added service to derive use cases. It focuses on vehicular multimedia services and infotainment applications, not aiming at changing existing transmission protocols and channels, such as terrestrial broadcasting, satellite broadcasting, and mobile cellular network. The FG-VM will also leverage the work done by ITU in its previous Focus Group on Driver's Distraction [1], ITU-T SG16 Q27/16 and the ITU-T P.1100-P.1199 series [2] when relevant.

### **2. Objectives**

The objectives of FG-VM is to conduct an analysis of vehicular multimedia in order to identify relevant gaps and issues in standardization activities related to this topic, to derive use cases, possible requirements and architectures. The group also serves as an open platform for experts representing ITU members and non-members to quickly move forward studies on technology, standard and application relevant to vehicular multimedia.

More precisely, the objectives include:

- 1) To study, gather information and develop a standards research orientation and standards research plan related to vehicular multimedia in the fields of intelligent voice interaction, interconnection between vehicular terminal and smart phone, connectivity for high precision navigation and various other applications;
- 2) To develop corresponding use cases and requirements of vehicular multimedia enabled by converged networks;
- 3) To study architectures, interfaces, protocols, data formats, interoperability, performance evaluation, security and protection of personal information for vehicular multimedia;
- 4) To produce a gap analysis of vehicular multimedia standardization in order to identify the relevant scope of possible future ITU-T Recommendations on these topics and develop a roadmap for vehicular multimedia;

- 5) To establish liaisons and relationships with other organizations which could contribute to the standardization activities for vehicular multimedia.

### **3. Structure**

The FG-VM will establish working groups as needed.

### **4. Specific Tasks and Deliverables**

- To provide terminology and taxonomy for VM;
- To gather information on initiatives pertaining to VM enabled by converged networks and to identify existing standards, best practices and challenges for the adoption of VM in the context of converged networks;
- To describe the VM ecosystem enabled by converged networks and the roles and activities of the different stakeholders of this ecosystem;
- To define possible requirements on VM;
- To draft technical reports for VM enabled by converged networks which may include architectures, interfaces, protocols and data formats;
- To send the final deliverables to ITU-T Study Group 16 at least four calendar weeks before the parent group's next meeting in accordance with Recommendation ITU-T A.7;
- To analyse the standardization gaps related to VM and develop a future standardization roadmap, taking into consideration the activities currently undertaken by other ITU groups, various standards developing organizations (SDOs) and forums;
- To develop a list of SDOs, forums, consortia and other entities dealing with aspects of VM and liaise with the organizations that could contribute to the standardization activities on VM;
- To organise thematic workshops and forums on VM to bring together all stakeholders, and promote the FG-VM activities and encourage both ITU members and non-ITU members to join its work.

NOTE – The needs of persons with disabilities will be taken into account in undertaking the tasks above and preparation of deliverables. It is expected that using vehicular multimedia will improve the user experience and will increase driving safety for persons with disabilities.

### **5. Relationships**

This Focus Group will work closely with SG16 through co-located meetings when possible. It will establish and maintain task-appropriate collaboration arrangements with other groups in ITU.

The FG-VM will collaborate with,

- ITU-T SG12 to leverage the P.1100-P.1199 series on communications involving vehicles and the outcomes of the Focus Group on Driver Distraction
- ITU-R SG4 and SG5 on connectivity for high precision navigation
- ITU-T SG17 on security and protection of personal information for vehicular multimedia
- ITU-T Q27/16 on vehicle gateway platform for telecommunication and ITS services and applications

Furthermore, the FG-VM will collaborate (as required) with other relevant groups and entities, in accordance with Recommendation ITU-T A.7. These include governments, non-governmental organizations (NGOs), policy makers, SDOs, industry forums and consortia, companies, academic institutions, research institutions and other relevant organizations.

## **6. Parent group**

The parent group of the FG-VM is **ITU-T Study Group 16** "Multimedia coding, systems and applications".

## **7. Leadership**

See clause 2.3 of Recommendation ITU-T A.7.

## **8. Participation**

See clause 3 of Recommendation ITU-T A.7. A list of participants will be maintained for reference purposes and reported to the parent group.

It is important to mention that the participation in this Focus Group has to be based on contributions and active participations.

## **9. Administrative support**

See clause 5 of Recommendation ITU-T A.7.

## **10. General financing**

See clauses 4 and 10.2 of Recommendation ITU-T A.7.

## **11. Meetings**

The Focus Group will conduct regular meetings. The frequency and locations of meetings will be determined by the Focus Group management. The overall meetings plan will be announced after the approval of the terms of reference. The Focus Group will use remote collaboration tools to the maximum extent, and collocation with existing SG16 meetings is encouraged.

The meeting dates will be announced by electronic means (e.g., e-mail and website, etc.) at least four weeks in advance.

## **12. Technical contributions**

See clause 8 of Recommendation ITU-T A.7.

## **13. Working language**

The working language is English.

## **14. Approval of deliverables**

Approval of deliverables shall be taken by consensus.

## **15. Working guidelines**

Working procedures shall follow the procedures of Rapporteur meetings. No additional working guidelines are defined.

## **16. Progress reports**

See clause 11 of Recommendation ITU-T A.7.

## **17. Announcement of Focus Group formation**

The formation of the Focus Group will be announced via TSB Circular to all ITU membership, via the ITU-T Newslog, press releases and other means, including communication with the other involved organizations.

## **18. Milestones and duration of the Focus Group**

The Focus Group lifetime is set for two years from the first meeting but extensible if necessary by decision of the parent group. (see ITU-T A.7, clause 2.2).

## **19. Patent policy**

See clause 9 of Recommendation ITU-T A.7.

## **20. References**

- [1] ITU-T Focus Group on Driver Distraction, <https://itu.int/en/ITU-T/focusgroups/distraction>
  - [2] ITU-T P.1100-P.1199 on Communications involving vehicles, <https://itu.int/rec/T-REC-P>
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