

Minutes of the Task Force on Vehicular Communication

11 May 2023
12:00 – 15:00 (CEST)

I. Attendees

1. 52 experts from 11 Contracting Parties (Canada, China, Finland, France, Germany, Japan, the Netherlands, Sweden, United Kingdom of Great Britain and Northern Ireland (UK), United States of America, and Zimbabwe), 1 International Organisation (ITU) and 8 Non-Governmental Organizations (AAPC, FIA, CLEPA, ETSI, GTB, IMMA, OICA, and SAE International)

II. Welcome and introduction to meeting

2. The meeting was chaired by Ms. J. Doherty (United States of America), who opened the meeting by introducing the two other Co-Chairs of the TF on VC, Mr. T. Naono (Japan) and Mr. D. Kay (UK).

3. The Co-Chair from Japan highlighted that vehicular communication plays an important role for the future of the automotive industry, traffic safety and environmental performance. He highlighted that due to the particularities of vehicle communication, as they interacted with infrastructure and other elements outside the vehicle, this first meeting of the TF on VC was important to share the information and develop a common understanding so that the TF on VC could move forward with the next steps.

4. The Co-Chair from UK noted that, from his perspective, with the increased connectivity of vehicles, the TF on VC needed to look at vehicle communications with a systems approach (considering the vehicle and its interaction with its environment as a system), in order to capture the safety and environmental benefits. He stated that he was looking forward to hearing the views from the experts to identify the ways in which WP.29 can support the roll out of vehicular communications

A. Approval of the agenda

Working paper: VCTF-01-01

5. The TF on VC adopted the agenda.

III. Purpose of the TF on VC and discussion of the TF on VC objectives

Working papers: VCTF-01-02/Rev.1
WP.29-189-18/Rev.1
VCTF-01-08

6. The Chair highlighted that the purpose of this meeting was to hear the status of Vehicle-to-Vehicle (V2V) communication and identify the areas where WP.29 could be helpful. She presented VCTF-01-02/Rev.1 to the TF on VC for discussion, highlighting

the various tasks that the TF on VC had been advised to address by ITC, WP.29 and GRVA. She recalled that the role of the TF on VC is exploratory. It is not to draft regulation but rather to focus on the possible role of WP.29 in the field of vehicular communication. She recalled that if the conclusion was to draft guidelines or regulatory provisions, WP.29 could assign tasks to the Working Parties (GRs). She asked the attendees to present their views on what was needed to be done.

7. The expert from ETSI agreed that the proposal so far was good but that the TF on VC should consider planning for the future, taking into consideration the life cycle for a vehicle versus the life cycle of a smart phone.

8. The Co-Chair from UK reminded the TF on VC of the importance of the areas of work that ITC raised as it related to electric vehicle charging and the necessary communications and that WP.29 assigned this task to the TF on VC.

9. The expert from OICA presented VCTF-01-08, which provided a non-exhaustive list of examples of work that the TF on VC could potentially focus on.

10. The Vice-Chair from China highlighted that, from the Chinese perspective, it was important to define what V2V and Vehicle-to-Everything (V2X) are, and to review the worldwide standards, collecting the scenarios relevant for V2V and V2X.

11. The Chair agreed with the Vice-Chair and suggested that the scenarios presented in VCTF-01-08 could potentially be passed on to the GRs at a later stage due to their technical nature.

12. The Co-Secretary noted that there are about 25 standard organisations working on Intelligent Transport System (ITS) communications and that it would be possible to bring them together for the TF on VC. He also highlighted the issues related to life cycles of the vehicle and the technology as it related to the updates of technology. He added that one use case, that could be explored further based on the information available on the standards was the use case related to merging by vehicles with Automated Driving System (ADS) products active which he proposed could be discussed later on in the year in the work of the TF on VC.

13. The expert from OICA also cautioned the TF on VC not to bind itself to technology and ensure that the work remains technology neutral.

14. The Co-Chair from Japan asked OICA to provide some details and images on the examples presented in document VCTF-01-08 so that Contracting Parties (CPs) could have a common understanding of the use cases. The expert from OCIA stated that an initial outcome from the TF on VC should be to identify the use cases on which it should focus.

15. The Chair summarised, based on the discussions, the proposed work of the TF on VC as:

- Create definitions V2V and V2X for WP.29 use
- Collect and evaluate work done by standards organisations
- Look at services and use cases for:
 - Road and vehicle safety;
 - Sustainable development;
 - Electric Vehicle charging management.
- Explore how to resolve the gap of life cycle between vehicles and telecommunications
- Identify roles and responsibilities of stakeholders
- Consider regulatory limitations on the provision of services, e.g. data privacy
- Grasp market penetration (expectations and impact)
- Consider security, quality and trust worthiness of data

16. The expert from Canada noted that the list was quite involved in terms of infrastructure, and that it would be difficult to lean in that direction given that the TF on VC was focused on vehicle regulations. He stated that the preference should be to focus more on the vehicle side of it, while being fully aware of the link to infrastructure that would need to be made.

17. The Co-Chair from UK supported the use case approach for advancing the work.

18. The Co-Chairs of the TF on VC requested the secretariat to draft Terms of Reference and Rules of Procedures, for review and potential approval at the next session.

IV. Experiences of WP.29 Contracting Parties

Working Papers: VCTF-01-03
VCTF-01-04

19. The Vice-Chair presented document VCTF-01-03, which highlighted the areas in V2V and V2X that were currently being developed in China. He gave the TF on VC an overview of what had already been developed and deployed in vehicles and the ongoing work being done from the standards development perspective.

20. The Chair asked the Vice-Chair to provide some more context on collaborative driving. He did so.

21. The Co-Chair from Japan asked whether there was any financial incentive given to promote the use of vehicular communications to the market. The Vice-Chair informed the TF on VC that the technology still needed to be verified by the market, but the development of these technologies was supported by demonstration areas which received some support of local governments.

22. The expert from China, Vice-Chair of GRVA, further provided context. She explained that while there was some support by the government to promote the development, the primary driving force for the advanced stage of this work was from the industry as well as the customer.

23. The Co-Chair from UK asked whether there had been any data collection done on the functions which were already deployed in the Chinese market in order to quantify the benefits of certain functions. He also noted that the list of functions could be a source for additional items to discuss within the TF on VC when it is addressing the use cases. The Vice Chair responded that they did not have data at this point but would potentially have more data in the future as they are currently working on a survey.

24. The Chair asked whether there was any feedback of data from the functions which were already developed and what was being done to address any malfunctions on the road. The Vice-Chair confirmed that they were receiving information from the industry as they have some working groups within the automotive industry to identify any problems. He stated that China was expecting to receive data from the customer in the future as well.

25. The Chair suggested that the list of functions provided in the presentation would be a useful list to return to for the use case examples needed in the TF on VC.

26. The Co-Secretary asked whether China had done some research on the spectrum needs for the functions. The Vice Chair confirmed that there was already some research done but that there was more work needed as the use of spectrum by the different applications was too diverse in some cases. He expressed his wish, that some of these identified issues would be rectified in the working group.

27. The expert from UK gave a presentation on the status of V2V and V2X in the UK, highlighting the work within C-Roads and the current V2X projects. He noted that a lot of the work done so far had been very use case specific which supported other statements made within the TF on VC, that the approach to further work should be use case based. He also provided some status updates on the standardisation work in the United Kingdom and noted that further work needed to be done in the case of V2V standardisation.

28. The Chair suggested that the TF on VC may want to discuss more on spectrum and the issues of security, quality and trust worthiness.

V. Experiences of other stakeholders

Working Papers: VCTF-01-05
VCTF-01-06
VCTF-01-07
VCTF-01-09

29. The expert from ETSI and the Car2Car Consortium (C2CC) presented the status of activities related to vehicular communications in Europe. He presented VCTF-01-07, addressing the status of V2V work, the challenges in setting standards e.g. relating to security, and upcoming work, and work being done by the group. For the C2CC, he introduced VCTF-01-09, highlighting some areas of their work, that could be of interest to WP.29, including the publications and the roadmap for the uses of V2V and V2X technologies.

30. The Chair highlighted the importance of slide 24 of VCTF-01-07, as it would be useful for the work of the TF on VC when assessing the use cases to be addressed in the future.

31. The expert from Netherlands asked for a breakdown of the one million vehicles equipped with C-ITS as this would help public authorities understand where to invest. The expert from ETSI noted that it would be difficult to provide a full breakdown of vehicles given the limits to the information that vehicle manufactures were willing to share. He noted that all electric vehicles from a German manufacturer were equipped with the standard C-ITS from the factory; however, without the connectivity element, the security certificates expired within 3 months.

32. The expert from SAE International suggested that there should be further collaboration between the work of C2CC and SAE International as there was some overlap in their work.

33. The expert from France asked whether C2CC would be publishing work on the communication profiles on the use cases presented. The expert from ETSI confirmed that this work was in the early stages, and that they envisaged to publish more information on this aspect by the end of the year.

34. The expert from SAE International presented on their current work, giving the TF on VC an understanding of the structure of work for V2V and V2X. He highlighted the levels of standards being developed, the various working groups dealing with the different aspects of V2V and V2X and gave a summary of the work completed by his organization. He further stated that there was some alignment in the standards on security in the work being done by ETSI, SAE International and the Chinese standards bodies. He further highlighted the committee that was recently formed by SAE on Connected Transportation Interoperability.

35. The TF on VC decided to resume consideration on the presentation from IEEE at the next session due to time limitations.

VI. Next steps

36. The Chair proposed the following next steps:
- (a) Complete the IEEE presentation at the next meeting (proposed date of 23 June)
 - (b) Review of the TF on VC's activities as set out and an update of the Terms of Reference to discuss
 - (c) To have further inputs from stakeholders
 - (d) Potential presentations on spectrum
 - (e) A potential dedicated session on communication between electric vehicles and recharging infrastructure.
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