



Introduction of the H.VM-VMIA work item

Technical considerations of vehicular multimedia implementation

ITU workshop 11 July 2023

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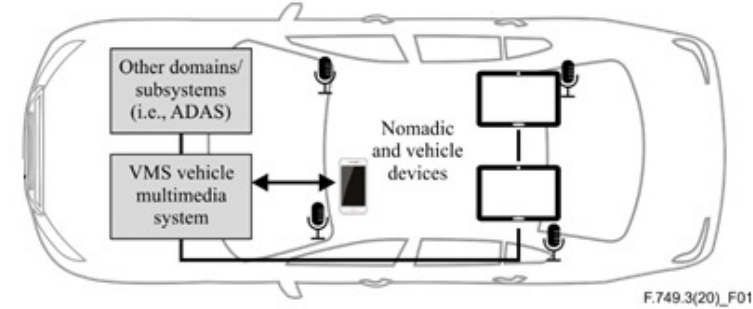
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H.VM-VMIA – History

- **Jul. 2020 to Sep. 2022 – the Focus Group on Vehicular multimedia produced 3 technical reports:**
 - June 2020 – publication by WG1 of the technical report “Use cases and requirements for the vehicular multimedia networks” – endorsed as Recommendation F.749.3 in Aug 2020
 - April 2021 – publication by WG2 of the technical report “Architecture of vehicle multimedia systems” – endorsed as Recommendation H.551 in Jan. 2022
 - **Sep 2022 – publication by WG3 of TR3 technical report “Implementation aspects of vehicular multimedia”**
 - *Note: Technical reports are informative*
- **Oct 2022 – ITU SG16 approved the creation of a new recommendation about “Vehicular Multimedia Implementation Aspects”, based on the FG-VM WG3 technical report**

H.VM-VMIA scope



- **Scope:** This Recommendation provides requirements for implementing Vehicular Multimedia System (VMS) and Vehicular Multimedia Unit (VMU) functionalities in vehicles. The requirements intends to ensure the Vehicular Multimedia functionalities provides the best user experience with multimedia and increase driving safety by limiting or reducing driver distraction.
- **Aspect covered**
 - Connectivity requirements
 - HMI (advanced features)
 - Media format
 - Smartphone

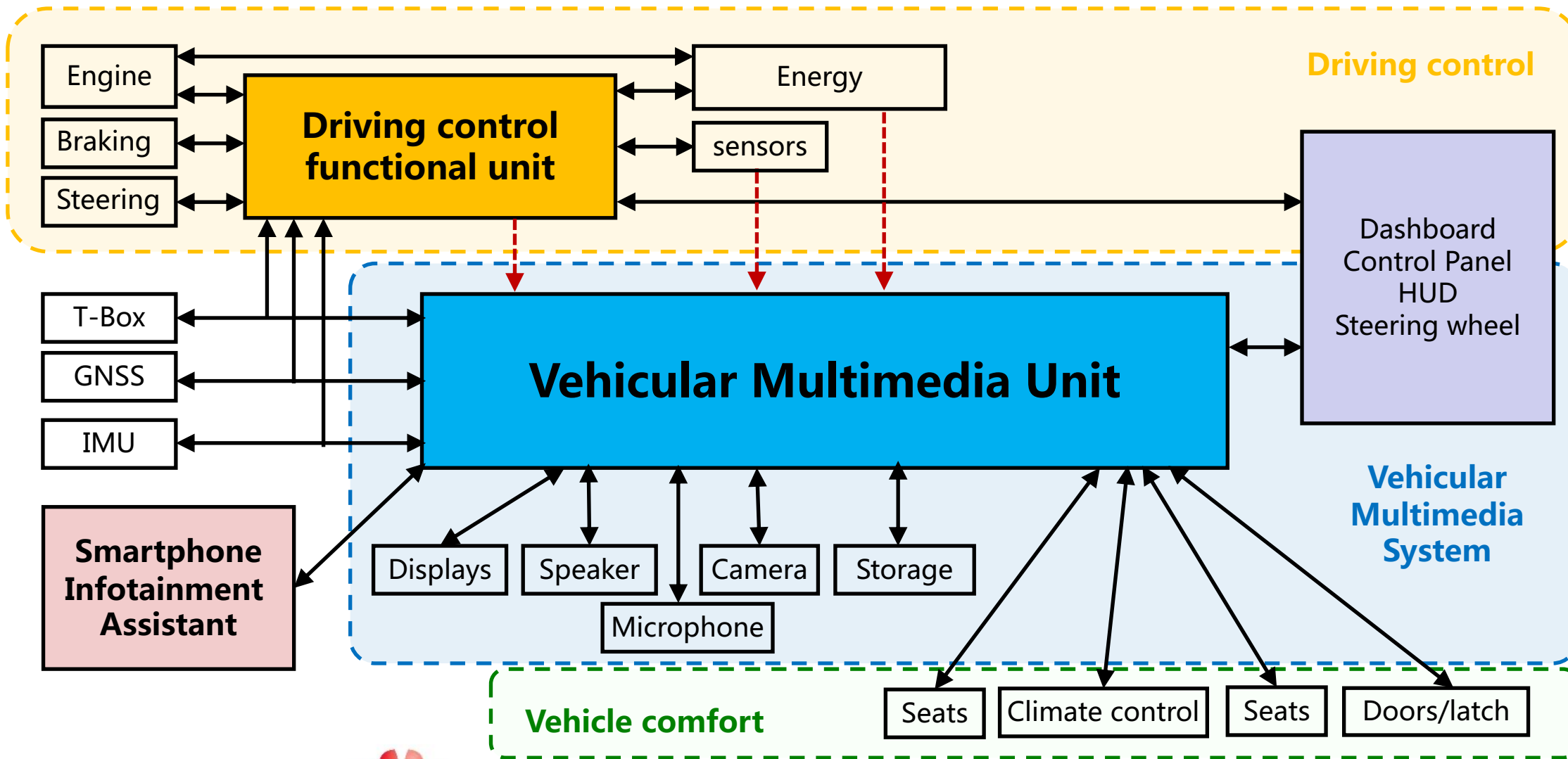


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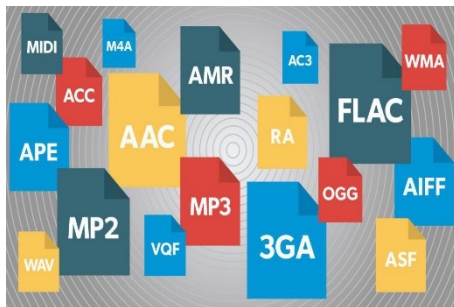
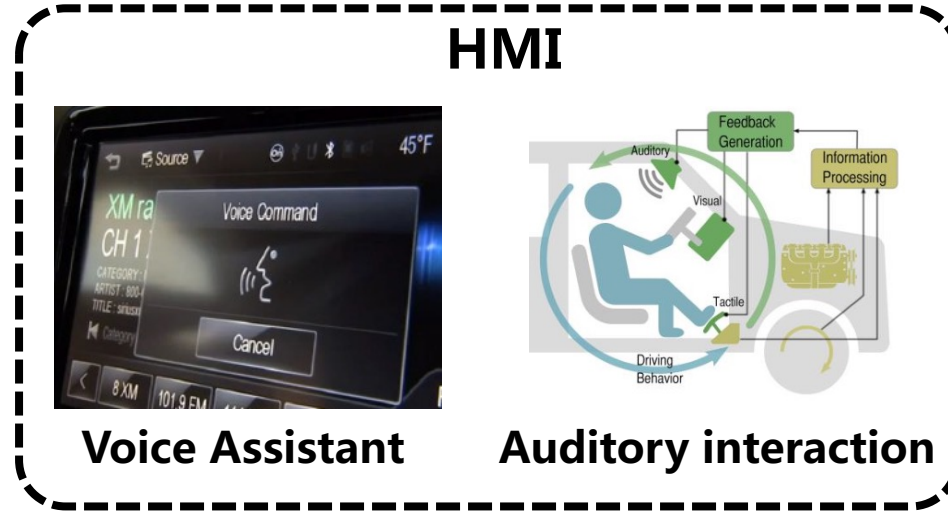
Functional view



Topics covered in this 1st Recommendation



Connectivity



Media formats



Smartphone infotainment assistant



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Topics for later consideration

HMI



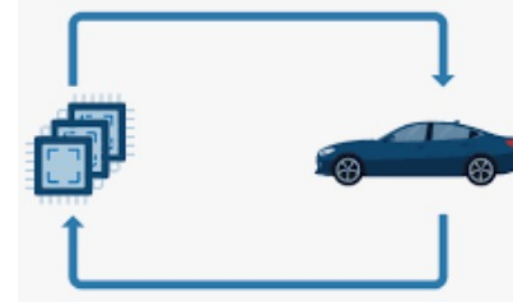
Gesture Control



Motion sickness free



Safety



In-vehicle integration



Cyber-security
& privacy

- **Cyber-security is not specific to multimedia and is covered by specific SDOs/TBs with dedicated standards as well as regional regulations**
- **Privacy regulations and policies exist, depending on regions**

H.VM-VMIA development status

Section	Title	Status
6.1	Connectivity	
6.1.1	WiFi	Completed
6.1.2	BT	Completed
6.1.3	in-Vehicle network	Completed
6.1.4	Broadcast communication	Completed
6.2	HMI	
6.2.1	Voice assistant	Completed
6.2.4	Auditory Interaction	Completed
6.3	Media format and control	
6.3.1	2D video format basic set	Completed
6.3.2	3D format basic set	Completed
6.3.3	Audio format basic set	Completed
6.3.4	Media service discovery	Completed
6.3.5	Media over internet	Completed
6.4	Smartphone Infotainment Assistant	
6.4.1	Introduction	Completion for proposal at the next Q27 meeting (Aug. 23)
6.4.2	Connectivity	Completion for proposal at the next Q27 meeting (Aug. 23)
6.4.3	Communication layers	Completion for proposal at the next Q27 meeting (Aug. 23)
6.4.4	Protocol flow diagrams	Completion for proposal at the next Q27 meeting (Aug. 23)
6.4.5	System performances	Completion for proposal at the next Q27 meeting (Aug. 23)

Timeline and Liaisons

- **Time line**

- Draft expected to be proposed for approval in the SG16 plenary Q4 2023
- Public workshop to share ITU views with the automotive community :
 - This Workshop#2
 - Workshop#3
 - Around Autumn
 - Present complete draft and collect last feedback before going to approval

- **Liaison**

- Cooperation with SG12 (Performance QoS & QoE) Q4 (Objective methods for speech and audio evaluation in vehicles)
- Alignment with Q4/12 new WI P.ASR: "Performance requirements for automatic speech recognition (ASR) in vehicles"
- Q4/12 welcomes participation of experts in this field and would be pleased if experts of ITU-T Q27/16 feel comfortable to also join the meetings of Q4/12

Thank you



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