

Update regarding ITS-related work within ITU-R

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Content

Work in ITU-R Study Groups (WP 5A and WP 5D) “IMT for 2030 and beyond”

ITS-related work in ITU-R WP 5A and WP 5D

WP 5A (Land Mobile except IMT)

Revision of Rec. ongoing / **finalization in 11/22 (???)**

- **Rec. M.2121** (01/19) - Harmonization of frequency bands for ITS in the mobile service
- **Rec. M.2444** (11/18) - Examples of arrangements for ITS deployments under the mobile service

Ongoing work towards a **new Report ITU-R M.[CAV] – Connected Automated Vehicles (finalisation in 2023)**



WP 5D (IMT)

- **Rec. M.1036-6** (10/19) – IMT Frequency arrangements
 - The current revision shall include the bands identified at WRC-19 → **currently stalled due to diverging views**
- **Rec. M.2150-1** (02/22) – Terrestrial Radio interface standards for IMT-2020 → **evaluation of new RIT “Nufront”**
- Finalisation of **new ITU-R Report “The use of the terrestrial component of IMT for the Cellular-Vehicle-to-Everything”** → **expected approval by SG 5 (5/77)**

ITU focused website “**Emergency Telecommunication**”

- Info from all 3 ITU-sectors leading to specific support
- ITU-R lists all available or ongoing studies/activities within each Study Group (incl. under WP 5A purview)

Suppression of the old “**Compendium of ITU'S Work on Emergency Telecommunications**”

- “**Handbook on IMT**” has been updated (**published in 4/22**)
- Ongoing work on “IMT for 2030 and beyond”
 - **Future Technology Trends Report** → SG 5 (5/80)
 - **Work on New Vision Recommendation** started
 - WP 5D internal **workshop** (14th June 2022)

Next meetings: **WP 5D #42** (10. - 21. Oct. 22) / **WP 5A #28** (14.-25. Nov. 22) / **SG 5** (28. Nov. 22)

physical meetings with remote participation



New Report ITU-R M.[CAV] – Connected Automated Vehicles (Draft !!!)

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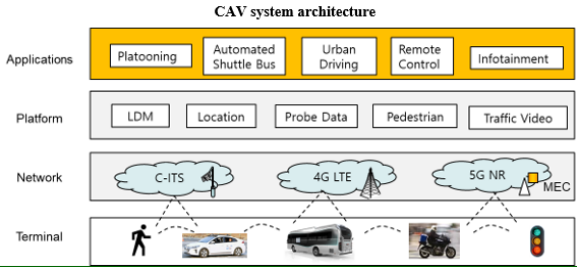
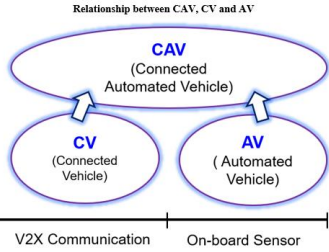
Work in progress - finalisation scheduled for 06/2023

Scope

This Report provides **Connected Automated Vehicle (CAV) terminology, descriptions of communication methods and radiocommunication systems for CAV**, as well as **radiocommunication requirements and spectrum needs for CAV**. The **status of global development of CAV** is also included. The scope of this Report is focused on the ad hoc, short range radiocommunication for Intelligent Transport Systems (ITS) among vehicles, and among vehicles and infrastructure. The cellular network connectivity aspects are covered in more detail in [DN] Report ITU-R M.[IMT.C-V2X].

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ANNEX 1 The functional elements of CAV
Explanation for the diagrams of functional elements (26 pics)
ANNEX 2



Classification by function		a. Merging lane change assistance	
Name of the use case	a-1-1. Merging assistance by preliminary acceleration and deceleration		
Target areas	Expressways + General roads		
Overview	Information, such as the speed of vehicles driving on the main lane at the measurement location on the main lane and predicted time to arrive at a merging section, is provided by the infrastructure to merging vehicles to assist preliminary acceleration and deceleration on the merging lane.		
Image of the use case			
<p>Spot measurement is conducted on the speed and vehicle length of vehicles that are driving on the main lane.</p> <p>Information of vehicles driving on the main lane is provided. (Sensor information and predicted time to arrive at a merging section are provided.)</p>			
Remarks (communication information)	Connection mode	V2I	Message
	Message recipient(s)	Multiple recipients	Sensor data
	Vehicle action	Preliminary acceleration and deceleration	Rich contents
	Quick responsiveness	Required	Data amount
			Small

Classification by function and name of use case
The use cases were classified based on functionality (a to h) and named depending on the usage scene of communication for automated driving.

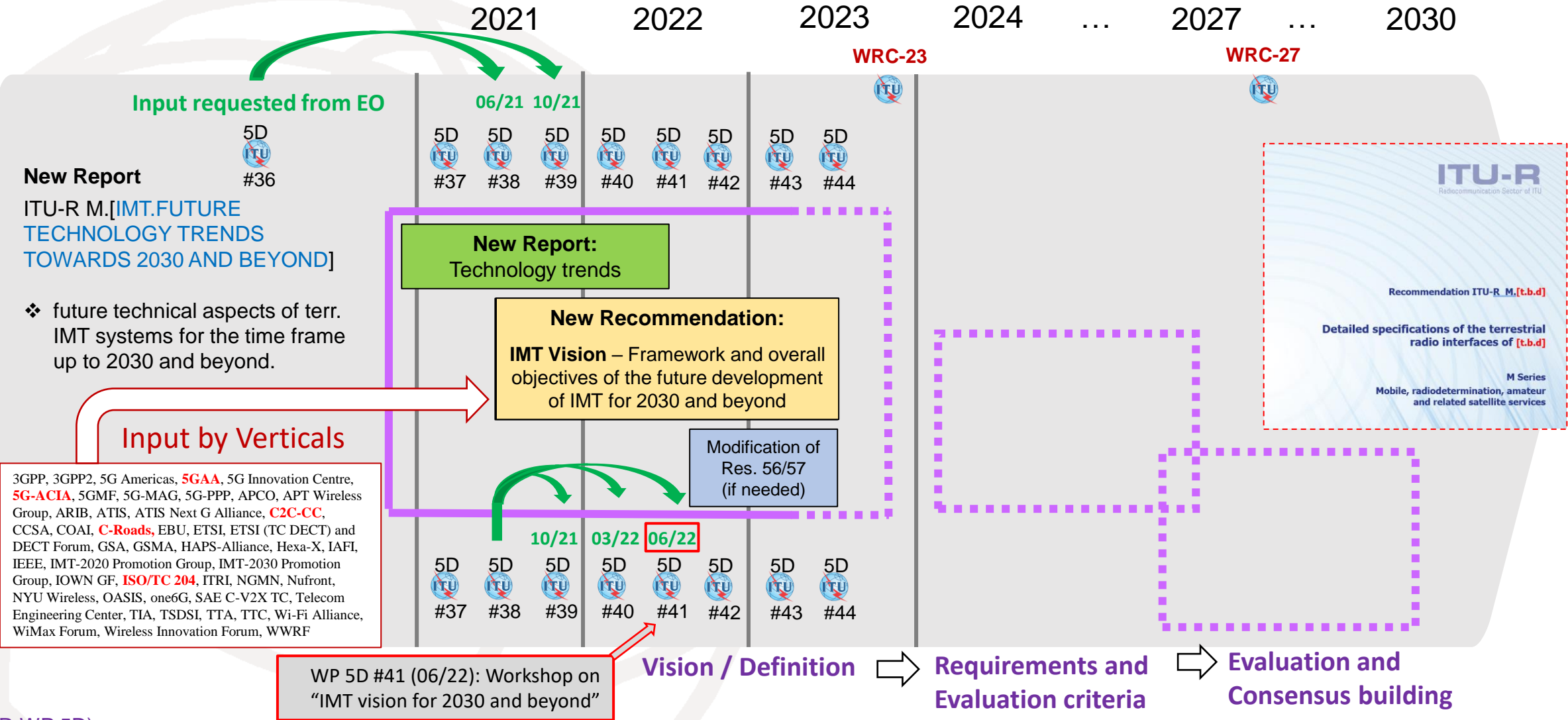
Overview of the use case
The classification by function, name of the use case, target areas (e.g., expressways, general roads) and overview of the use case are indicated. For use cases that were dropped, the reason for dropping is indicated.

Image of the use case
The legend for icons in the images of use cases is as follows.

- An automated driving vehicle that uses communication
- A vehicle to which information is provided
- A vehicle that is irrelevant to communication
- Communication
- Vehicle movement



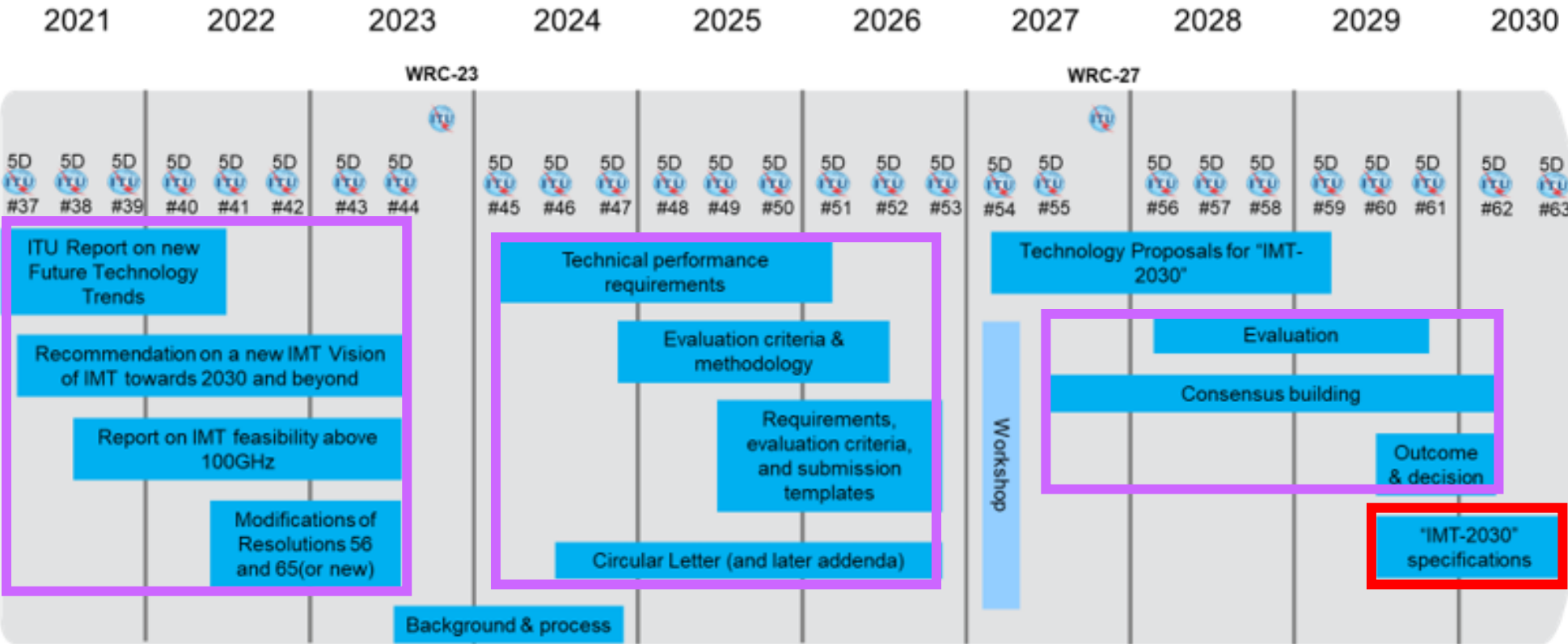
IMT-Process: for “systems beyond IMT-2020”



(ITU-R WP 5D)

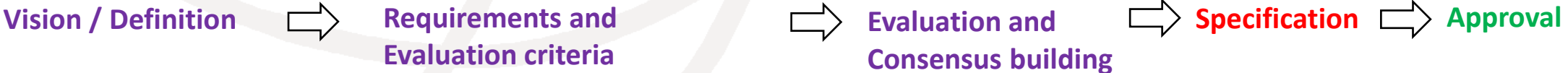


Timeline for "IMT towards 2030 and beyond"



ITU-R – Study Group 5
and subsequent approval by the Member States

Note 1: Meeting 5D#59 will additionally organize a workshop involving the Proponents and registered IEGs to support the evaluation process
 Note 2: While not expected to change, details may be adjusted if warranted. Content of deliverables to be defined by responsible WP 5D groups



(ITU-R WP 5D)

Note: Timeline as agreed at meeting #41 of ITU-R WP 5D in 06/22 (see [5D/1361](#), Ch. 2, Att 2.12)



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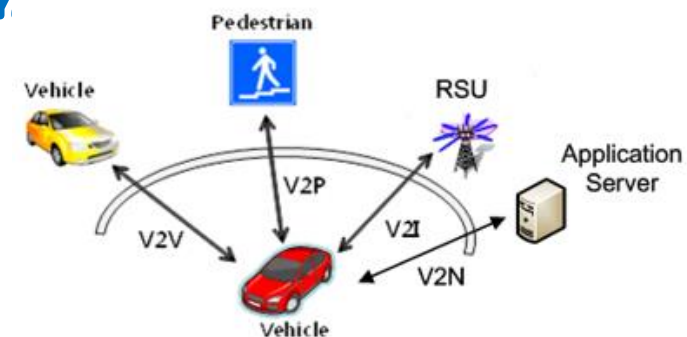
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New Report “The use of the terrestrial component of IMT for the Cellular-Vehicle-to-Everything”

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Approval expected at SG5 in 11/22 (document [5/77](#))



Scope

This report contains the **mutual relationship between IMT technologies in terrestrial networks and the Cellular-Vehicle-to-Everything (C-V2X)**, which supports various V2X use case, as well as elements of functions in IMT technologies that are used to realize the C-V2X application. **The focus of this report is on the aspects of IMT technologies available for use by subscribers to mobile networks that are used to support V2X use cases, and also** the description of provisions in these technologies that have been designed to address the common out-of-network coverage situations.

This report provides details on:

- **V2X use cases** being considered to be supported by IMT technologies in terrestrial networks;
- **Characteristics and capabilities of terrestrial networks necessary to support appropriate V2X use cases;**
- Relationship between the IMT technologies and “the C-V2X application”; and,
- In an annex, **a Case Study associated with V2X** use cases in various scenarios supported by Enhanced Mobile Broadband (eMBB), Massive Machine-Type Communications (mMTC), and Ultra-Reliable Low-Latency Communication (URLLC) of the terrestrial component of IMT.