

TRAFICOM

Finnish Transport and Communications Agency

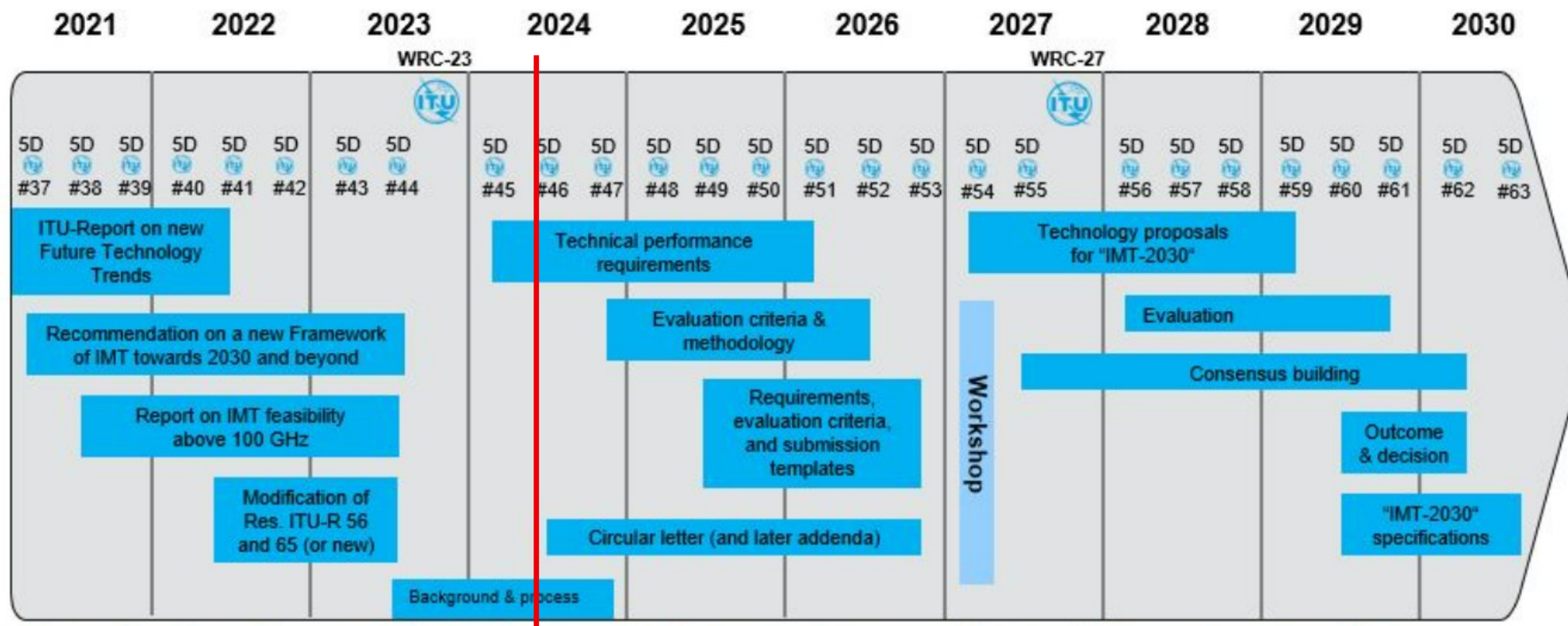
RSPG:n 6G-työ ja ITU:n IMT-2030 -työ

17.6.2024

Heidi Himmanen



ITU-R timeline for IMT-2030

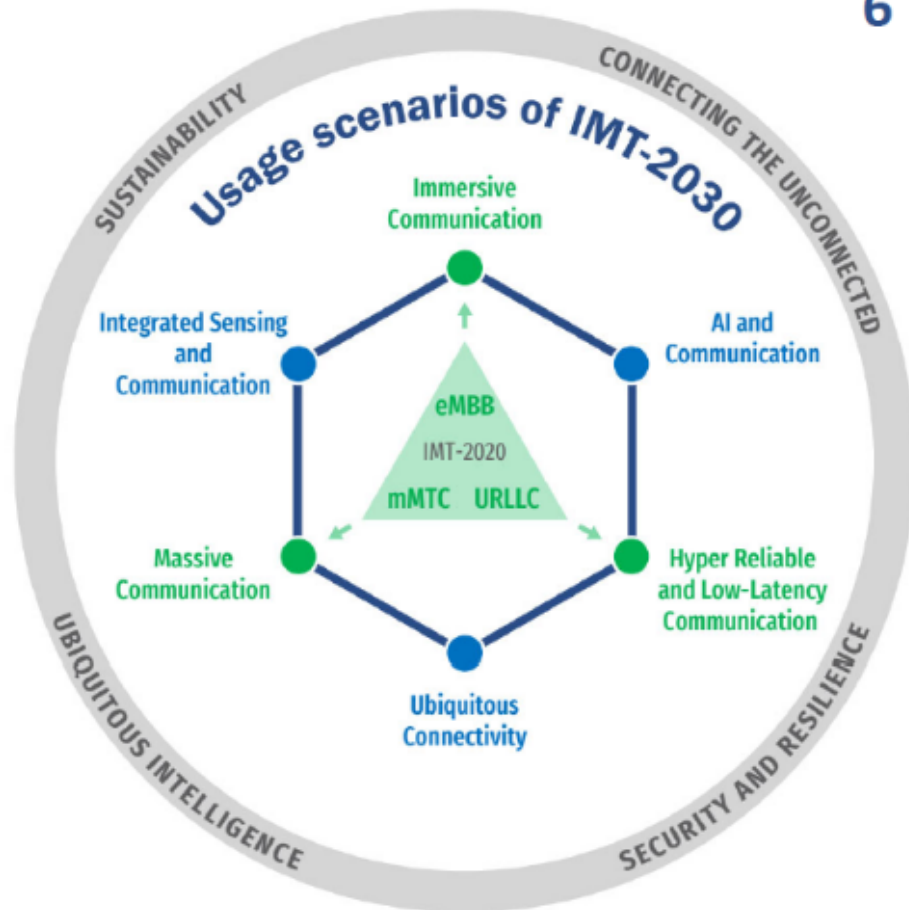


Note 1: WP 5D #59 will additionally organize a workshop involving the Proponents and registered Independent Evaluation Groups (IEGs) to support the evaluation process

Note 2: While not expected to change, details may be adjusted if warranted. Content of deliverables to be defined by responsible WP 5D groups

Note by the ITU-R Radiocommunication Bureaux: This document is taken from Attachment 2.12 to Chapter 2 of Document 5D/1361 (Meeting report WP 5D #41, June 2022) and adjustments could be made in the future. ITU holds copyright in the information – when used, reference to the source shall be done.

Usage scenarios for IMT-2030



So called "Wheel diagram"

6 Usage scenarios

Extension from IMT-2020 (5G)

eMBB → Immersive Communication

mMTC → Massive Communication

URLLC → HURLLC (Hyper Reliable & Low-Latency Communication)

New

Ubiquitous Connectivity

AI and Communication

Integrated Sensing and Communication

4 Overarching aspects:

act as design principles commonly applicable to all usage scenarios

Sustainability, Connecting the unconnected,
Ubiquitous intelligence, Security/resilience

RSPG Opinion on 5G/6G (Oct 2023)

5G Implementation is Ongoing

More Dynamic & Shared Use of Spectrum

Spectrum for Verticals and Local Networks

Additional capacity needs - mid-band

License Exempt or Light-licensed Spectrum

Non-terrestrial Networks

Early recognition of Spectrum for 6G

Related Radio Spectrum Policy Group work plans

Coverage and Capacity Needs

6G Use Cases and Usage Scenarios

6G Strategic Vision (2025)

Long-term Vision for Upper 6 GHz band

6G Spectrum Roadmap (2026)

WRC-2027

Future use of 470-694 MHz in EU

Possible future spectrum for 5G/6G

Work in progress

3.8-4.2
GHz

40 GHz

Identified for IMT

6425-
7125 MHz

For further studies

470-694
MHz

7125-
7250 MHz

MSS D2D
694/698
MHz -
2.7 GHz

7750-
8400 MHz

4400-
4800 MHz

14.8-
15.35 GHz

Draft outline for 6G strategic vision

1. Intro
2. Current situation
3. Drivers for 6G
4. New solutions for more dynamic and shared use of spectrum
5. Strategic role of satellite, NTN, HAPS/HIBS and BS on UAV in 6G
6. Role of authorisation regime (incl. licence-exempt use)
7. Input from research, development and innovation
8. Spectrum for launching 6G mass market in EU and paving its initial development (timing, densification of networks, needs for new spectrum)

Spectrum sharing will play a major role in 6G

- ▶ There is an ever-increasing interest of mobile networks, wireless local area networks, satellite services and military services towards the same spectrum bands
- ▶ However, there are also synergies between these services
 - ▶ Convergence between terrestrial and satellite 6G-services (e.g. ESA activities on 5G/6G)
 - ▶ Interest towards 5G/6G for military use (e.g. NATO DIANA 6G test centre in Finland)
 - ▶ Some of the 6G use cases are similar to future WLAN use cases (e.g. AR/VR, metaverse)



Kiitos!

Heidi Himmanen

Chief adviser, D.Sc.(Tech)

Digital Connections

Finnish Transport and Communications Agency Traficom

heidi.himmanen@traficom.fi

Available on LinkedIn

