# 6G Journey- LFN TAC Overview

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# ITU Set the vision

- The Radiocommunication Assembly 2023 (RA-23)

  - The revisions of [Resolution ITU-R 56](#), confirming the name for the next generation of IMT (aka "6G") to be "IMT-2030"

  - [Resolution ITU-R 65](#), which describes the principles of the IMT-process

  - Recommendation on the "IMT-2030 Framework", which will now become [Recommendation ITU-R M. 2160](#).

- Future Technology Trends [ITU-R M.2516](#)

  - **Initial phase, setting the basis for the development of IMT-2030.**

- **The next phase (2024-2027)**

  - Dof relevant requirements and evaluation criteria for potential radio interface technologies (RIT) for IMT-2030.

# Current Ideas and Objectives

## Usage scenarios



Usage scenarios of IMT-2030
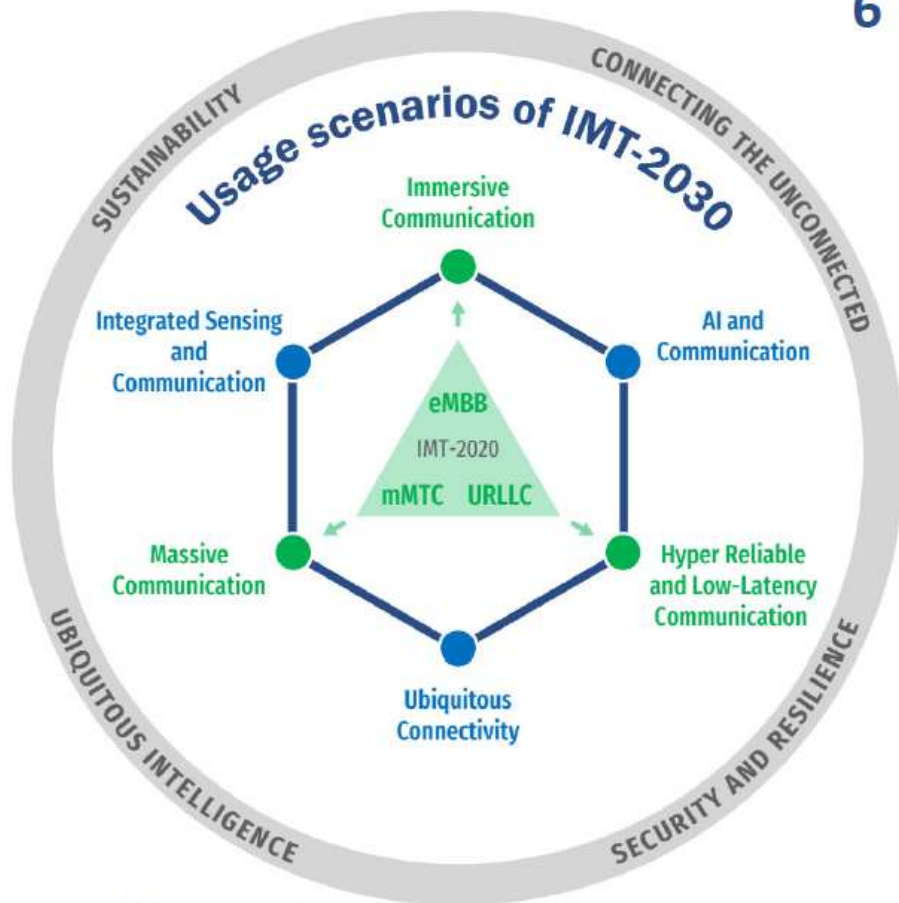
So called "Wheel diagram"

### 6 Usage scenarios

**Extension** from IMT-2020 (5G)

| eMBB | ➡ | **Immersive** Communication |
| mMTC | ➡ | **Massive** Communication |
| URLLC | ➡ | **HRLLC** (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

# New Application trends

- Network Will support enabling services

- Localized Demand supply Consumption Models

- Network a key element in vertical industries

- Lower Market entry barriers-decoupling of tech elements

- Circular Economy and Zero-waste, Zero Emissions

- Community driven networks

- Citizen centricity- knowledge producers, developer, users

- Enhanced Privacy and Security needs due to data platforms

- Improved monitoring and steering of Circular economy

- Immersive Digital realities

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# Potential New Services

- Holographic Communication

- Tactile and Haptics Internet applications

- Network and Computing Convergence

- Extremely High Access Rate

- Connectivity for everything (IOT to IOE)

- Extended Reality (XR)- VR, AR, MR

- Multidimensional Sensing

- Digital Twins

- Machine Type Communication- critical and Massive MTC

- Proliferation of Intelligence

- Global Seamless Coverage

- Diversification of terminals- types and densities

# Key Drivers

- Energy efficiency
- Data rate, jitter and latency
- Sensing resolution and accuracy
- Connection Density
- Coverage and full connectivity
- Mobility

- Spectrum Utilization
- Simplified User Centric Network
- Native AI
- Security and Trustworthiness
- Dynamic and Controllable Radio environment

# Progress- Enhanced and New



Capabilities of IMT-2030
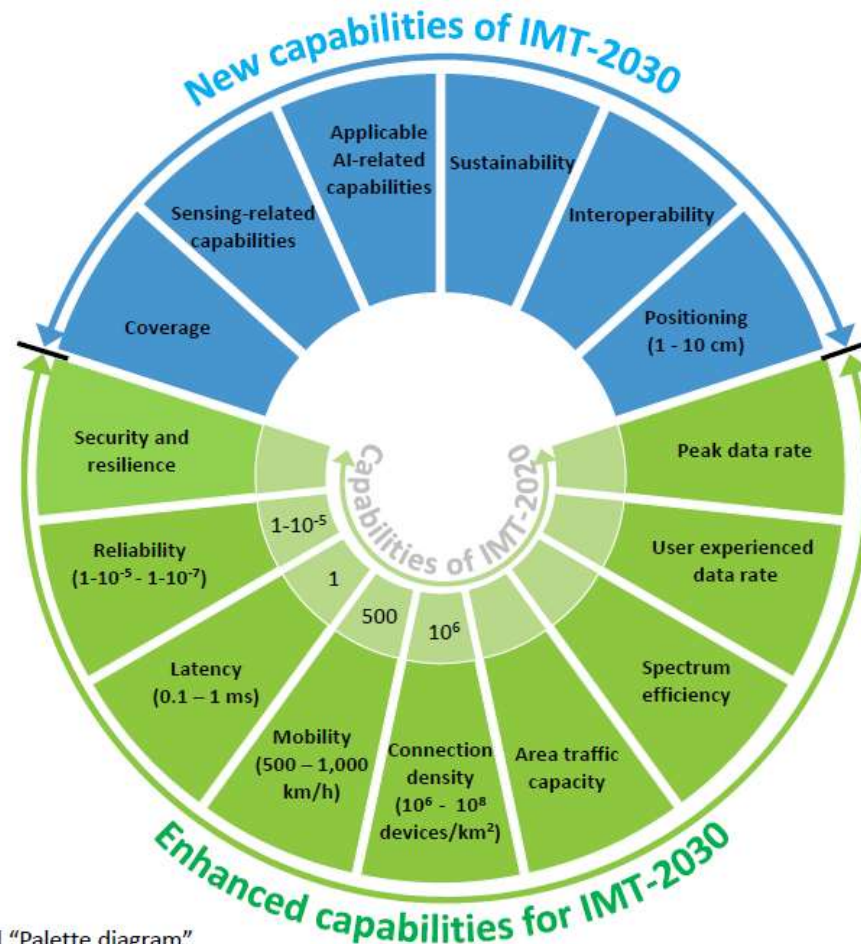
The range of values given for capabilities are estimated targets for research and investigation of IMT-2030.

All values in the range have equal priority in research and investigation.

For each usage scenario, a single or multiple values within the range would be developed in future in other ITU-R Recommendations/Reports.
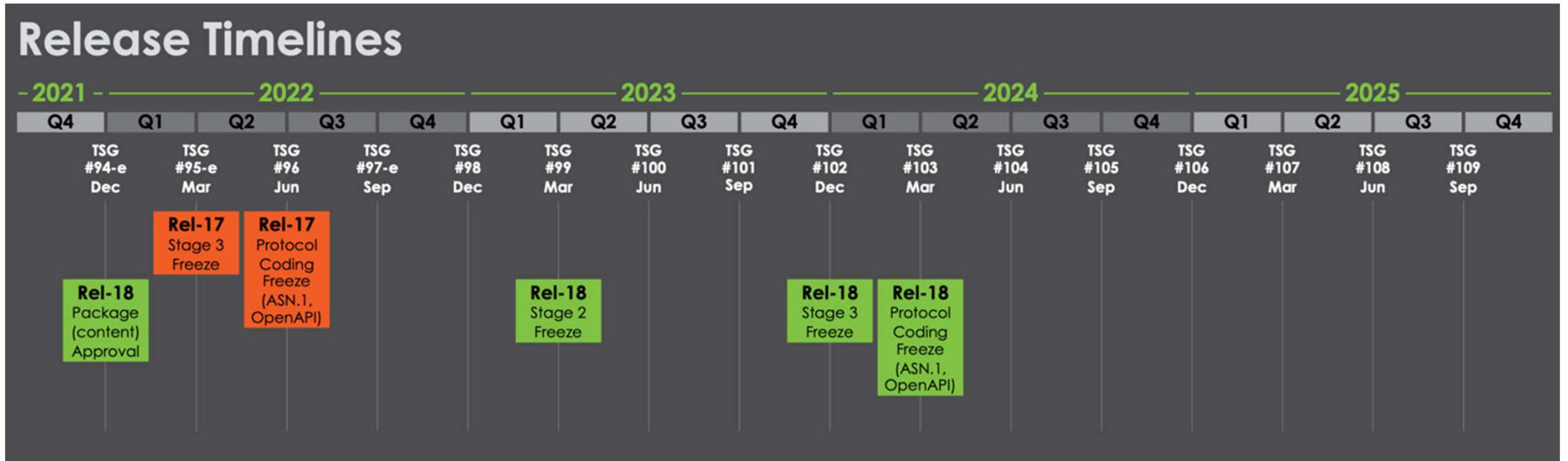
So called "Palette diagram"

# ITU Roadmap- IMT-2030



WP 5D timeline for IMT towards 2030 and beyond
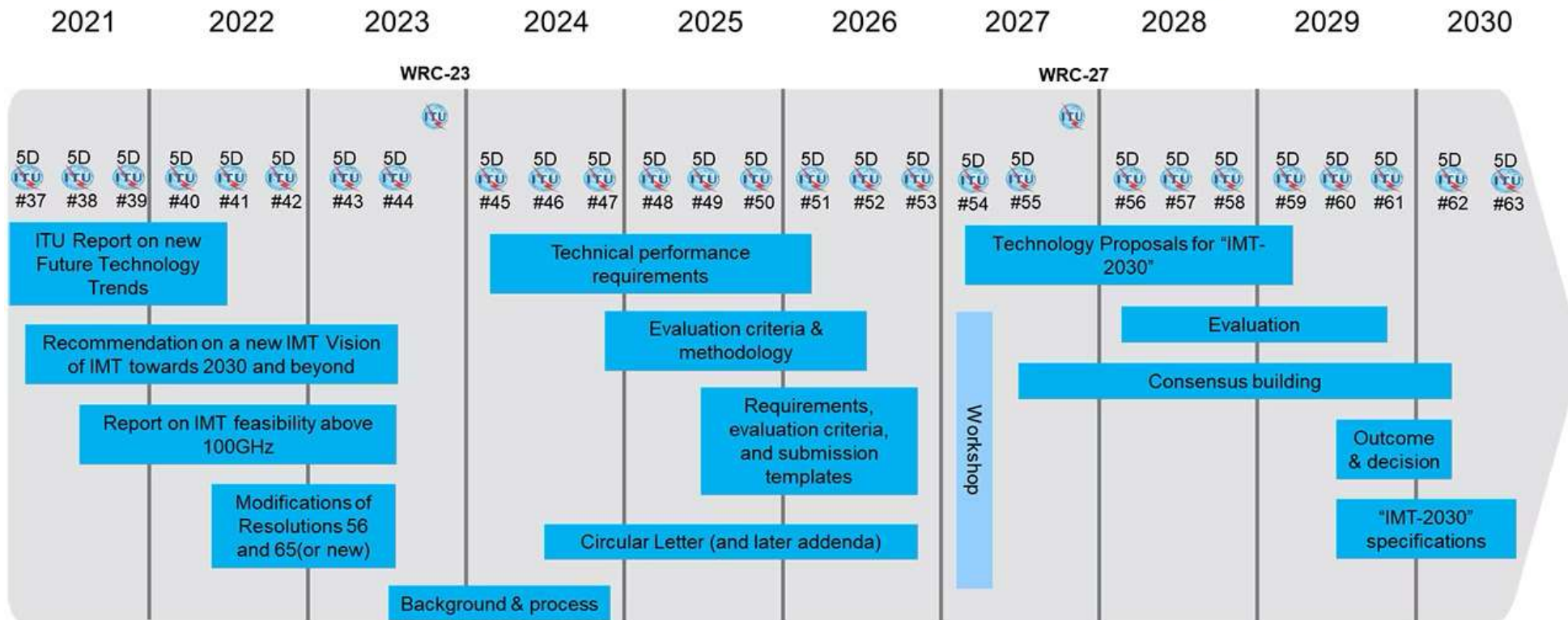
Note 1: Meeting 5D#59 will additionally organize a workshop involving the Proponents and registered IEGs to support the evaluation process
Note 2: While not expected to change, details may be adjusted if warranted. Content of deliverables to be defined by responsible WP 5D groups

# 3GPP Raodmap

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# References

- ITU Radiocommunication Home

  - https://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5d/imt-2030/Pages/default.aspx

- Resolution ITU-R 56

  - https://www.itu.int/pub/publications.aspx?lang=en&parent=R-RES-R.56

- Resolution ITU-R 65

  - https://www.itu.int/pub/publications.aspx?lang=en&parent=R-RES-R.65

- Future Technology Trends Report- Must read to connect the dots

  - https://www.itu.int/pub/R-REP-M.2516

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