



Spectrum WG

EU-Taiwan 6G Joint Workshop

22nd September 2026

The Voice of European Industry and Research for Next Generation Networks and Services

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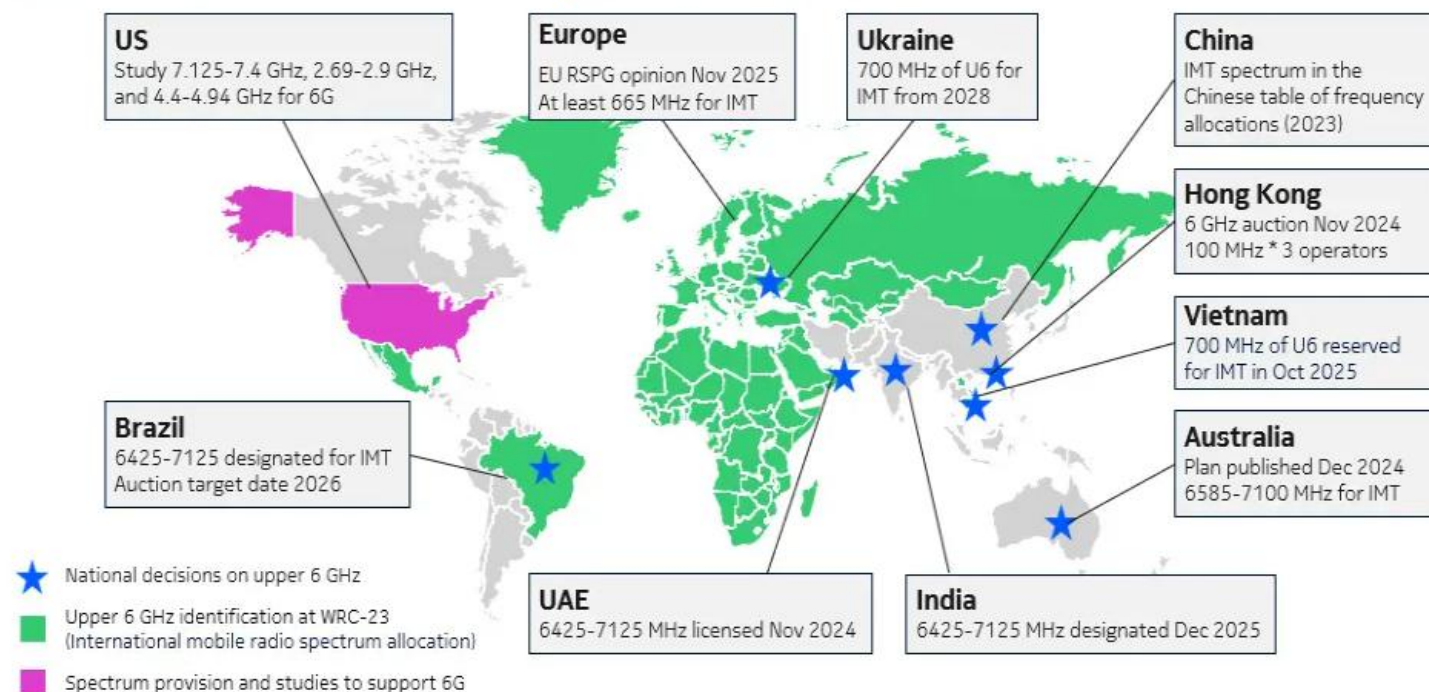
- The group focuses on the **regulatory and mainly technical aspects that relate to frequency spectrum** for beyond 5G and 6G systems or in general on IMT systems in ITU-R terms
 - Its key purpose is to **investigate the impact by and on research and innovation activities** vice versa in relation to actual developments in ITU-R on IMT-2030 and for the future identification of additional IMT frequency spectrum **as well as the feasibility of envisaged services and applications**
 - For this purpose, the Working Group **captures the European Industry and Academia priorities and trends in relation to spectrum**
 - It also aims at providing **support and consultancy to 6G-IA on spectrum-related issues**
 - Moreover, it will facilitate **dialogues with EU-funded research projects to create synergies on common interests in spectrum related issues and coordinate and promote research results within 6G-IA**, by pursuing the convergence of results on spectrum topics from the different projects
 - The Working Group may also **support European positions on spectrum matters for IMT-2030** based on technical expertise

RAN 6G WG SID



*From a technology perspective, the study will address frequency ranges **up to 52.6 GHz**, including at least the full range of **FR1** (up to 7.125 GHz), the range **between FR1 and FR2-1** (including around ~7 GHz), and **FR2-1** (24.25 GHz – 52.6 GHz)*

Global momentum for spectrum for 6G



Source: [Spectrum decisions shaping the road to 6G | Nokia.com](https://www.nokia.com)



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR COMMUNICATIONS NETWORKS, CONTENT AND
TECHNOLOGY

Digital Decade and Connectivity
Radio Spectrum Policy Group
RSPG Secretariat

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RSPG26-013 FINAL

RADIO SPECTRUM POLICY GROUP

Opinion

on

6G spectrum roadmap

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Low bands

700 / 800 / 900 MHz

Nationwide and indoor coverage

Mid bands

1.5 – 3.6 GHz

Capacity in urban and suburban areas

Upper 6 GHz

6425 – 7125 MHz

Primary new band for 6G

High bands

26 / 42 GHz

Very high-capacity hotspots

Sub-THz

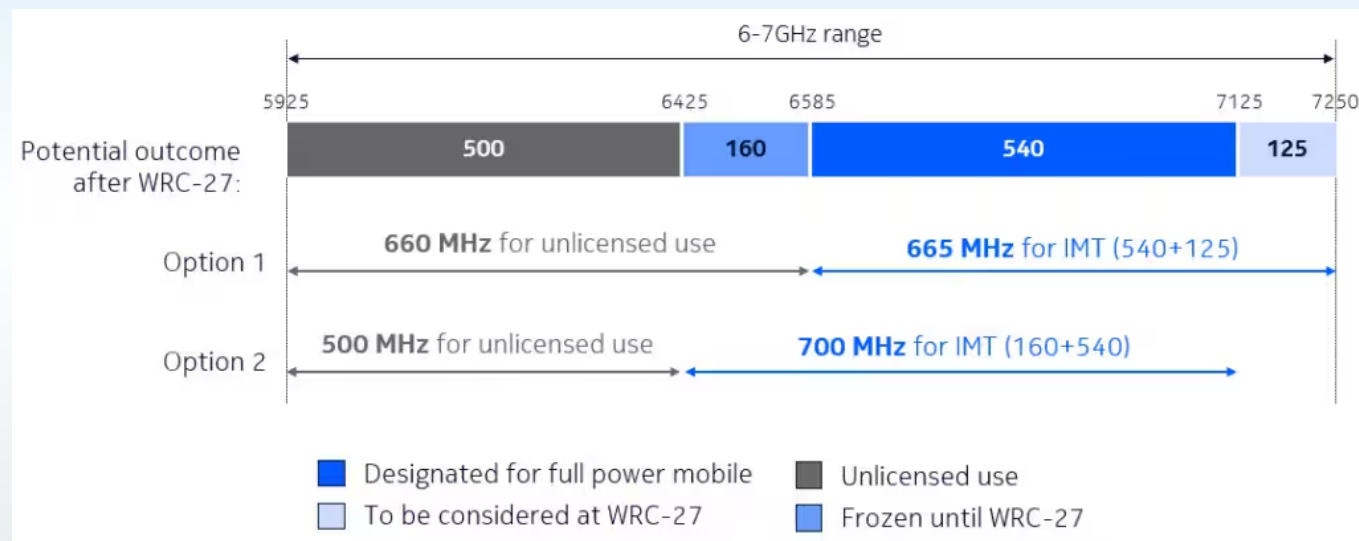
> 100 GHz

Long term: not ready for 2030

Key messages

- 6G can run in all bands already harmonised for mobile
- Migration of existing bands is left to operators' market strategies

Upper 6 GHz will be the primary 6G band, with at least 540 MHz of contiguous spectrum for mobile



Source: [Spectrum decisions shaping the road to 6G | Nokia.com](https://www.nokia.com)

Key messages

- The RSPG is of the opinion that the upper 6 GHz band will be the primary band suitable for the introduction of 6G in Europe by 2030
- 200 MHz per operator
- RSPG asks device makers to treat this range as one block to avoid fragmentation (6425–7250 MHz)

TN + NTN

Coordinated evolution with non-terrestrial networks; terrestrial remains the primary wide-area platform. D2D in terrestrial bands where feasible

Coexistence with Wi-Fi

Licence-exempt technologies recognised as key for **indoor connectivity**, their evolution should be considered alongside mobile networks

Sharing

Urges academia and industry to research and develop **advanced spectrum sharing mechanisms** to maximize spectrum efficiency and meet 6G capacity needs

Sustainability

Academic and industrial communities to prioritize the research, development, and standardization of sustainable, **energy-efficient 6G technologies to address the environmental footprint of 6G**

- The most important work on spectrum for mobile communications currently ongoing is on the **upper 6 GHz band (6.425 – 7.125 GHz)**
- There are some other bands under study for IMT:
 - Bands under study for **next WRC-27** under agenda item 1.7 for an IMT identification. **4.4 – 4.8 GHz, 7.125 – 8.400 GHz*** and **14.85 – 15.35 GHz**
 - There are some problems regarding the current usage of these bands in Europe for governmental uses that make quite improbable to identify them for mobile use
 - Bands for discussion in **WRC-31: Low bands** (UHF band 470 – 698 MHz)
 - Inside this band, the 600 MHz range already used in USA for 5G is the most important band that could be harmonized for mobile once the band is freed-up from Digital Terrestrial Television usage, after 2030
- **Frequencies above 52.5 GHz** (FR2-2: from 52.6 GHz to 71 GHz) and **sub-THz have been deprioritized in the initial phase of 6G**

(*) In ITU-R Region 1, the 7.125–8.4 GHz is split into two non-contiguous blocks: 7.125–7.250 GHz and 7.750–8.400 GHz

Thank you