

SPECIAL KEYNOTE | SESSION 7

6G SPECTRUM ROADMAP TOWARD **WRC-27**

Strategic spectrum priorities, international studies
and national preparation

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One Vision, Many Voices



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Why WRC-27 Matters for 6G

One conference will set the global spectrum foundation for IMT-2030 - shaping capacity, affordability and digital inclusion throughout the 2030s.



18 Oct – 12 Nov 2027

WRC-27, Shanghai, China -
194 Member States and
4,000+ delegates revise the
Radio Regulations, the global
spectrum treaty



3.1 billion

5G subscriptions worldwide in
Q1 2026 - forecast to more
than double to 6.4 billion by
end-2031



2.5×

growth in total mobile network
traffic by 2031: from 203 to
515 exabytes per month,
including fixed wireless
access



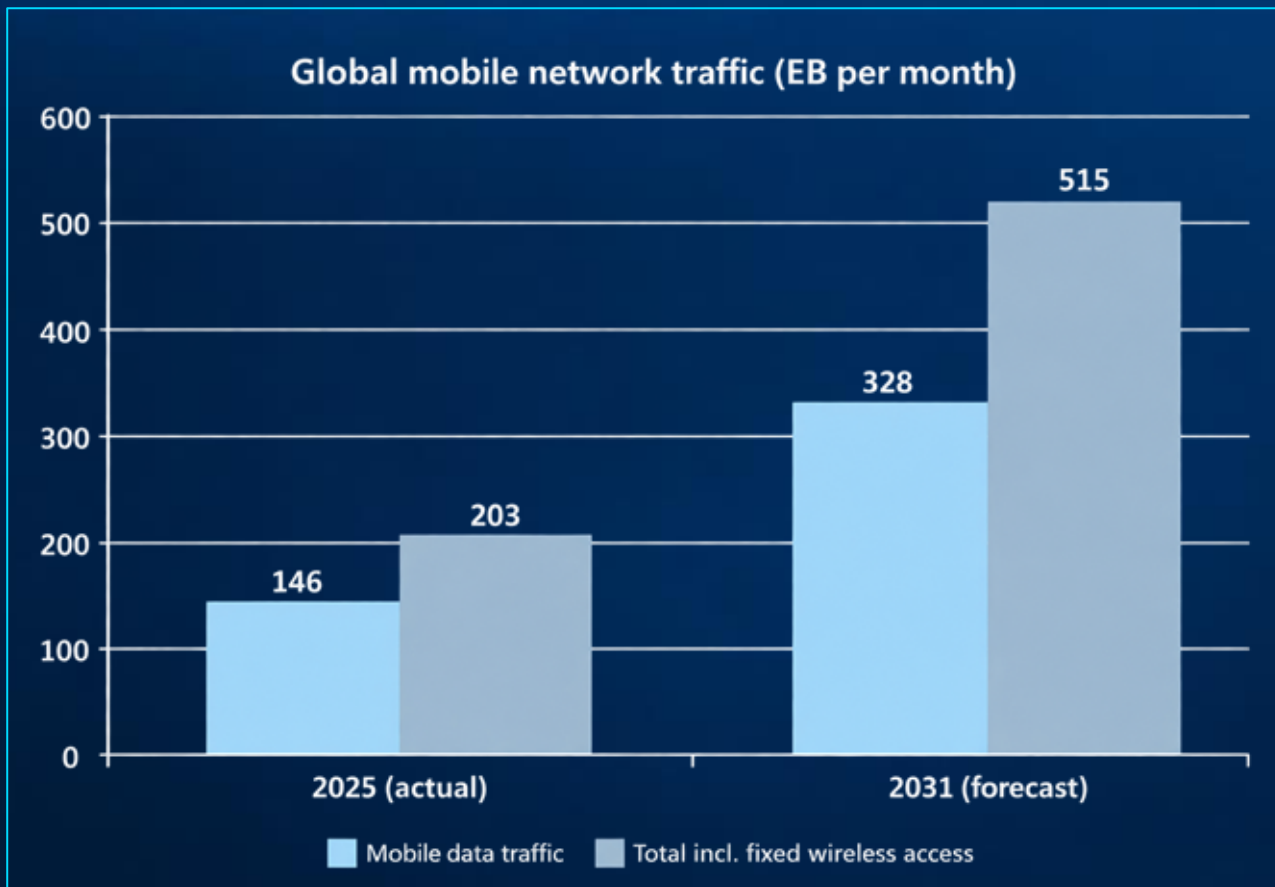
2028-29

first implementable 6G
specifications expected,
opening the door to
commercial IMT-2030
deployments from - 2030

Global harmonisation at WRC-27 drives economies of scale, affordable devices, international roaming - and determines who shares in the 6G economy.

The Demand Curve

Traffic Is Outpacing Spectrum Supply



+22%

year-on-year network traffic growth in Q1 2026 - above expectations, led by India and North America

~2 GHz

of mid-band spectrum needed per market by 2030 to sustain 5G growth (GSMA)

2-3 GHz

of mid-band per country by 2035-2040 for the 6G era - up to 3× typical holdings today; 2.5-4 GHz in high-demand markets (GSMA Vision 2040)

The spectrum pipeline agreed at WRC-27 is how the world closes this gap.

One Vision: The Six IMT-2030 Usage Scenarios

ITU-R Recommendation M.2160 defines the shared global framework every candidate band must ultimately serve.

Sustainability, security, resilience and connecting the unconnected run across all six scenarios - priorities Jamaica shares.



Immersive communication

XR, holographic and multisensory media at scale



Hyper-reliable, low-latency

Industrial automation, energy grids, critical control



Massive communication

Dense IoT - smart cities, logistics, agriculture



Ubiquitous connectivity

Terrestrial + non-terrestrial integration to close coverage gaps



AI and communication

AI-native networks; distributed compute and sensing data



Integrated sensing & comms

Networks that perceive - positioning, imaging, environment awareness

WRC-27 Agenda Item 1.7: Candidate IMT Bands Under Study

Resolution 256 (WRC-23) - sharing and compatibility studies in ITU-R WP 5D across three ranges.



● 4 400–4 800 MHz 400 MHz · Upper C-band

Wide-area balance of coverage and capacity; strong harmonisation opportunity

Incumbents: fixed, mobile, radionavigation

● 7 125–8 400 MHz 1 275 MHz · Upper mid-band

Largest contiguous opportunity - the core of the FR3 capacity layer

Incumbents: fixed, FSS, EESS, space research

● 14.8–15.35 GHz 550 MHz

Ultra-high-capacity urban and enterprise deployments; wide channels

Incumbents: fixed, mobile, satellite & science

No identification is automatic: WRC-27 outcomes depend on study results and the protection of incumbent services.

Sources: ITU Resolution 256 (WRC-23); ITU-R Working Party 5D study programme.

mmWave (24 GHz +)
Hotspot capacity, short range

FR3 (7–24 GHz)
THE 6G CAPACITY LAYER — wide contiguous channels, city-scale reach

Mid-band (1–7 GHz)
5G workhorse - city-wide capacity

Low-band (< 1 GHz)
Coverage, rural reach, in-building

← capacity coverage →

The FR3 Opportunity (7–24 GHz): A Strategic 6G Spectrum Layer

A practical middle path - more capacity than traditional mid-band, far better propagation than mmWave.



Why FR3 matters to regulators

Leading candidate range for IMT-2030 - multi-gigabit services while retaining mobility and reach

Larger contiguous blocks than legacy mid-band - fewer, wider channels
lower cost per bit

Harmonisation maximises economies of scale and affordable device ecosystems for small markets

Requires early national work: usage audits, migration options, licensing strategy

**The FR3 Opportunity (7–24 GHz):
A Strategic 6G Spectrum Layer**

Up to 3×

today's typical mid-band holdings will be needed per country by 2035–2040 - much of it expected from FR3.

Coexistence: Balancing 6G Expansion with Incumbent Services

Every candidate band is occupied. The path to WRC-27 runs through evidence-based sharing and compatibility studies.



Satellite services

FSS uplinks, downlinks and earth stations operate across the candidate ranges - protection from harmful interference is a treaty obligation



Earth observation & science

EESS and meteorological sensing underpin climate monitoring, hurricane forecasting and disaster preparedness



Fixed & government users

Microwave links, public safety, defence and government systems in-band and adjacent - coordination and transition planning required



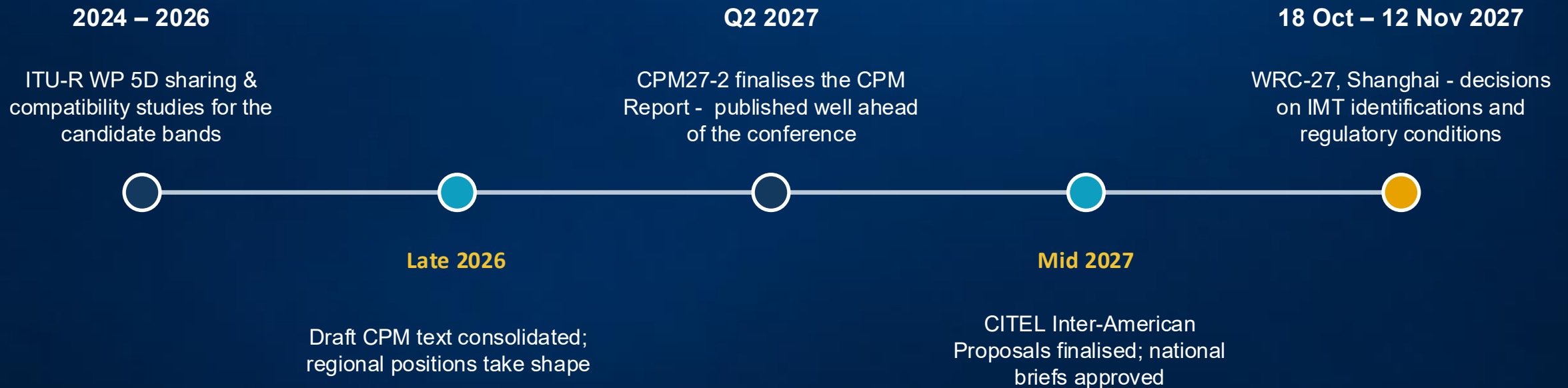
The mitigation toolbox

Geographic separation, coordination zones, power limits, antenna discrimination and dynamic spectrum sharing

The small-state perspective: for small island developing states, satellite resilience and weather sensing are lifelines - Jamaica's positions will balance new IMT capacity with the protection of services critical to safety and climate resilience.

The Road to Shanghai: 2026-2027 Milestones

Technical studies, regional coordination and national preparation converge over the next 14 months.



Executive takeaway: positions are effectively settled before Shanghai. The 2026–2027 study and coordination window - CITEL, ITU-R and national consultation - is where influence is actually exercised.

Jamaica's Preparation: Four Pillars to WRC-27

The Spectrum Management Authority's approach - turning a small administration into an influential voice.



1

Forecast demand

National spectrum demand forecasting and inventory ahead of 6G - grounded in traffic trends and use-case evidence



2

Audit incumbents

Map fixed, satellite and government usage across candidate bands; develop long-term migration and coexistence options



3

Coordinate & position

Evidence-based national positions through CITEC PCC.II and ITU-R; support regional harmonisation where it benefits the Caribbean



4

Engage stakeholders

Structured consultation with operators, academia and government; encourage trials and readiness for FR3-era licensing

Regional coordination multiplies impact: harmonised Caribbean and Americas positions carry real weight in Shanghai.

Key Takeaways

- **Spectrum policy is the critical enabler of the 6G era - WRC-27 Agenda Item 1.7 will define the bands the 2030s are built on.**
- **Balance is the mandate: new IMT capacity must coexist with the satellite, science and safety services that small states depend on.**
- **Spectrum policy is the critical enabler of the 6G era - WRC-27 Agenda Item 1.7 will define the bands the 2030s are built on.**



THANK YOU One Love..

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