Preparations for the 2027 World Radiocommunication Conference (Wrc-27)

WATRA Working Group on Infrastructure Development

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1 Background

The WATRA Working Group on Infrastructure Development as part of its work program held extensive deliberations on preparations for the 2027 World Radiocommunication Conference (WRC-27), to be held in Shanghai, China from 18th October to 12th November, 2027 by the International Telecommunication Union Radiocommunication Sector. The Conference is the principal global forum responsible for revising the Radio Regulations, the binding international treaty governing the use of radio-frequency spectrum and satellite orbits.

WRC decisions have long-term and far-reaching implications for national spectrum management, telecommunications policy, infrastructure investment, and the deployment of emerging technologies. As such, the WRC process constitutes a critical instrument for advancing national and regional digital infrastructure development objectives.

2 The WRC Preparatory Cycle

The WRC preparatory cycle is a structured, multi-year process through which technical, regulatory, and policy positions are developed prior to the Conference. The process includes:

- Definition of agenda items immediately following a WRC;
- Detailed technical and regulatory studies within ITU-R Study Groups and Working Parties;
- Regional coordination through bodies such as the African Telecommunications Union, leading to the development of African Common Proposals (ACP);
- Consolidation of options and methods at the Conference Preparatory Meeting (CPM); and
- Final decision-making and treaty revision at the WRC.

The current phase of the cycle, which is focused on studies and regional position development, is the most critical stage for influencing final outcomes. It is at this stage that technical inputs and policy positions from Member States can effectively shape global decisions.

3 Strategic Importance of WRC-27 for WATRA Member States

WRC-27 is of high strategic importance to WATRA Member States for the following reasons:

- **Spectrum Governance:** Spectrum is a finite national resource managed globally, with increasing demand from mobile, satellite, and emerging technologies.
- **Digital Transformation:** WRC decisions determine the availability of spectrum for 5G, future 6G systems, satellite broadband, and other innovative services.
- **Economic Development:** Spectrum allocations directly influence investment, innovation, and the competitiveness of national digital economies.
- **Regional Priorities:** West Africa's goals for universal connectivity, digital inclusion, and industrial development are closely tied to WRC outcomes.

WRC-27 must therefore be regarded not merely as a technical forum, but as a **strategic economic and regulatory policy platform**.

4 Key Policy Implications for WATRA Member States

The Agenda Items under WRC-27 present several critical implications:

4.1 Digital Inclusion and Infrastructure Expansion

- Agenda Items related to Fixed-Satellite Service (FSS), Mobile-Satellite Service (MSS), and International Mobile Telecommunications (IMT) will enable expanded broadband access, particularly in rural and underserved areas.
- Developments in satellite technologies, including non-geostationary satellite systems and direct-to-device connectivity, will complement terrestrial networks and support new use cases such as IoT, smart agriculture, and emergency communications.

4.2 Spectrum Access and Equity

- The prevailing "first-come, first-served" approach to satellite filings presents risks of spectrum concentration by early entrants, potentially limiting access for developing countries.
- Discussions on equitable access to high-frequency bands (including Q/V bands) are critical to ensuring fair participation by WATRA Member States in future satellite ecosystems.

4.3 Regulatory Sovereignty and Enforcement

- Agenda Items addressing unauthorized satellite operations highlight the need for stronger regulatory frameworks and enforcement mechanisms.
- WATRA administrations will need to adopt advanced tools such as geolocation, geofencing, and remote deactivation to maintain effective control over spectrum use within their jurisdictions.

4.4 Convergence of Satellite and Terrestrial Networks

- Emerging technologies enabling direct connectivity between satellites and mobile devices are blurring traditional boundaries between satellite and mobile services.
- This convergence will require regulatory adaptation, including new licensing models, coordination mechanisms, and cross-sector collaboration.

4.5 Increasing Complexity of the Spectrum Environment

- The growing number of satellite-related agenda items reflects a shift toward space-based connectivity and increased competition for spectrum resources.
- This trend introduces greater technical and regulatory complexity, necessitating enhanced expertise within national regulatory authorities.

5 Risks of Inadequate Participation

The Working Group identified significant risks associated with limited engagement in the WRC preparatory process, including:

- Reduced ability to influence global spectrum and regulatory decisions;
- Limited access to key frequency bands and satellite resources;
- Misalignment with African Common Proposals and regional priorities;
- Weak protection of national interests in emerging satellite and IMT ecosystems; and
- Long-term disadvantages in digital competitiveness and technological advancement.

These risks underscore the necessity for sustained and strategic participation throughout the preparatory cycle.

6 Recommendations

In light of the foregoing, the following policy actions are recommended for adoption by WATRA Member States:

1. **Elevate WRC-27 as a National Strategic Priority**

   Recognise WRC-27 as a key policy platform influencing national development, and ensure high-level political and institutional support for participation.

2. **Strengthen Technical and Regulatory Participation**

   Enhance active engagement in ITU-R Study Groups, Working Parties, and the ATU preparatory process to contribute to the development of global and regional positions.

3. **Ensure Appropriate Representation**

   Nominate qualified and experienced personnel to participate in WRC-related meetings and preparatory activities.

4. **Develop Early and Coordinated Positions**

   Establish national coordination mechanisms to formulate positions on WRC-27 Agenda Items, with particular focus on satellite communications and IMT convergence.

5. **Enhance Capacity Building**

   Invest in developing expertise in spectrum engineering, satellite coordination, interference management, and international negotiation processes.

6. **Promote Regional Coordination within WATRA**

   Strengthen sub-regional collaboration to harmonise positions and effectively contribute to the African Common Proposals.

7. **Institutionalise WRC Engagement**

   Include WRC matters as a standing agenda item within relevant Working Groups to ensure continuous monitoring and alignment.

7 Conclusion

WRC-27 represents a critical opportunity for WATRA Member States to influence the future of global spectrum governance and secure the resources necessary for digital transformation. The decisions taken will shape the region's telecommunications landscape for decades.

Accordingly, **proactive, coordinated, and sustained engagement in the WRC-27 preparatory process is essential** to ensure equitable access to spectrum, protect national interests, and advance the socio-economic development objectives of West Africa.