CRAN

Communications Regulatory Authority of Namibia

Overview of the Namibian ICT regulatory landscape

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Thematic areas

- Policy objectives on digitization
- Pricing and access
- Spectrum assignment
- Infrastructure sharing framework
- Quality of Service
- Challenges on market expansion and entry
- Conclusion

Policy Objectives on Digitization

- **Harambee Prosperity Plan II**

  Pillar 4 - Infrastructure development

  - **Goal 4 (Expand Coverage for ICT)**

    Activity 1 (Implement "Open access Network Infrastructure sharing regime…) the focus is on infrastructure sharing to reduce investment costs for ICT services and provide for equal access to all licenses in order to level the playing field for all licensees

- **Vision 2030 and NDP5**

  Making Namibia a lucrative investment option internationally and raising the standard of living for all Namibians through job creation and broadband access for all

Policy Objectives on Digitization (Cont.)

- **Broadband Policy**

  Provides broadband to the Namibian citizens in solving development problems with innovative solutions and approaches that are effective, scalable and replicable.

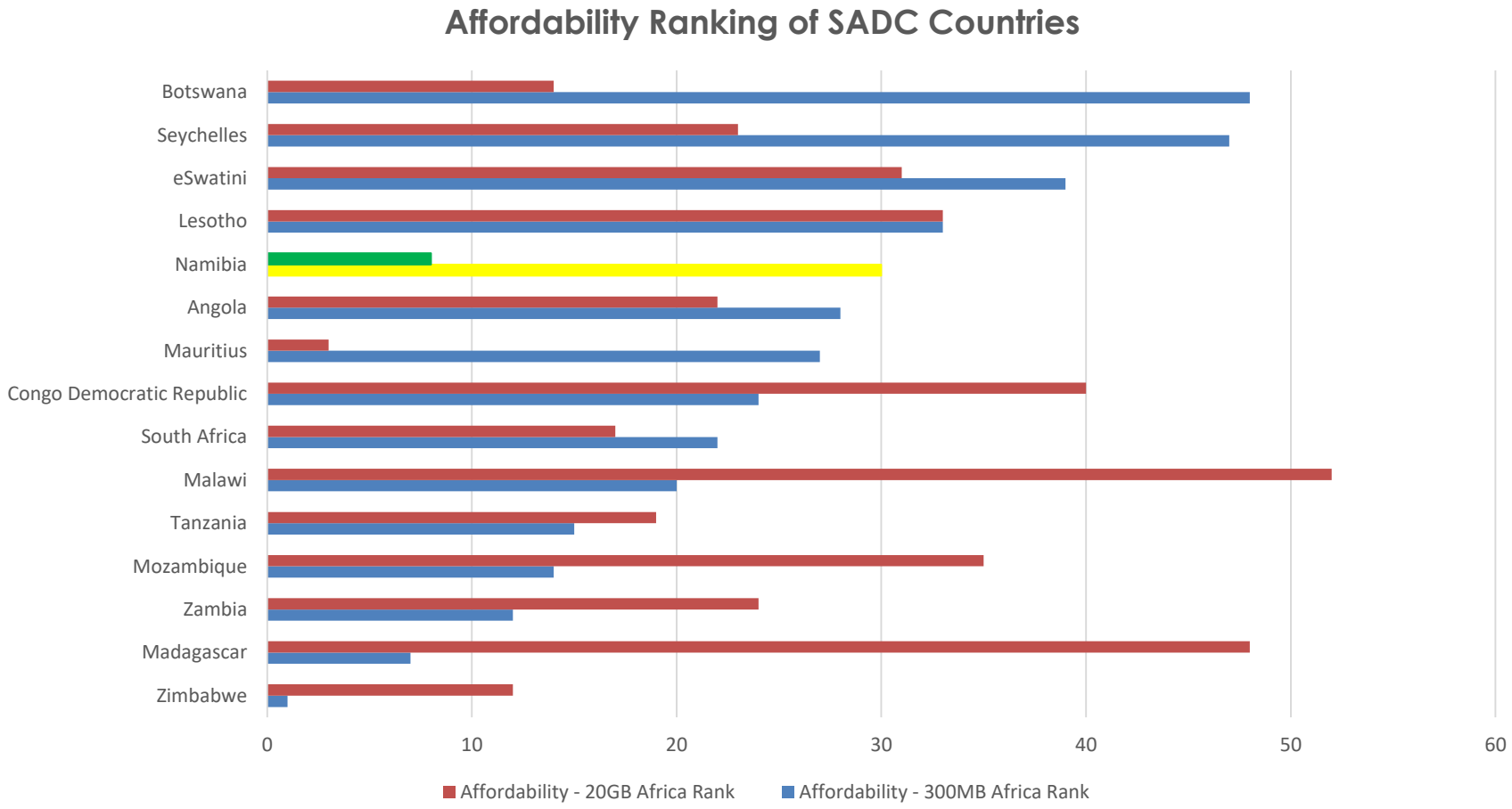
- **Sustainable Development Goal 9**

  Building resilient infrastructure, promoting sustainable industrialization and fostering innovation.

- **Fourth Industrial Revolution (4IR)**

  New technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and even challenging ideas about what it means to be human

Pricing and access



Pricing and access

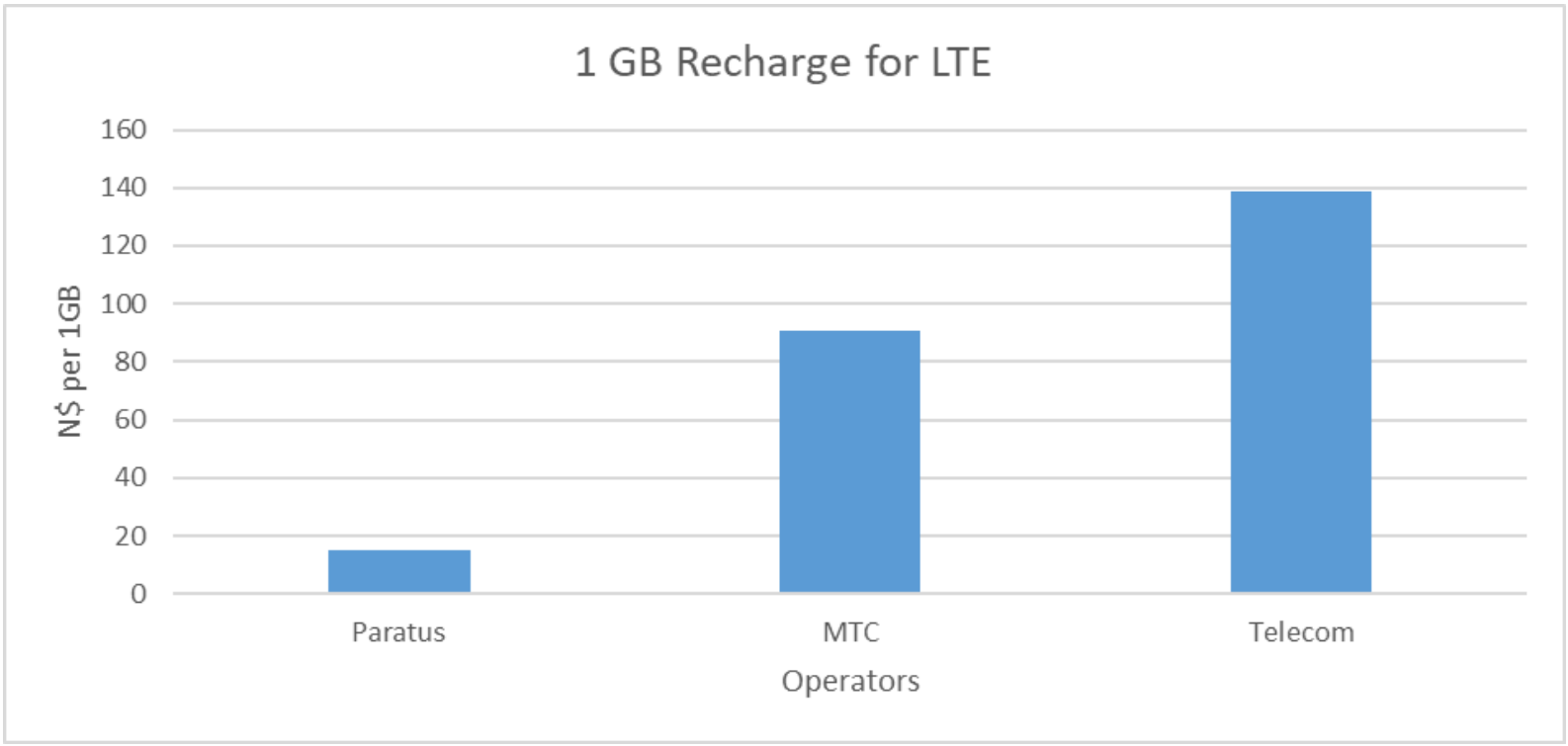
Namibian prices in terms of affordability ranks at:

- 30th for 300MB in Africa (11th in SADC) and
- 8th for 20GB in Africa (2nd in SADC).

Large data users are having a price benefit against small users.

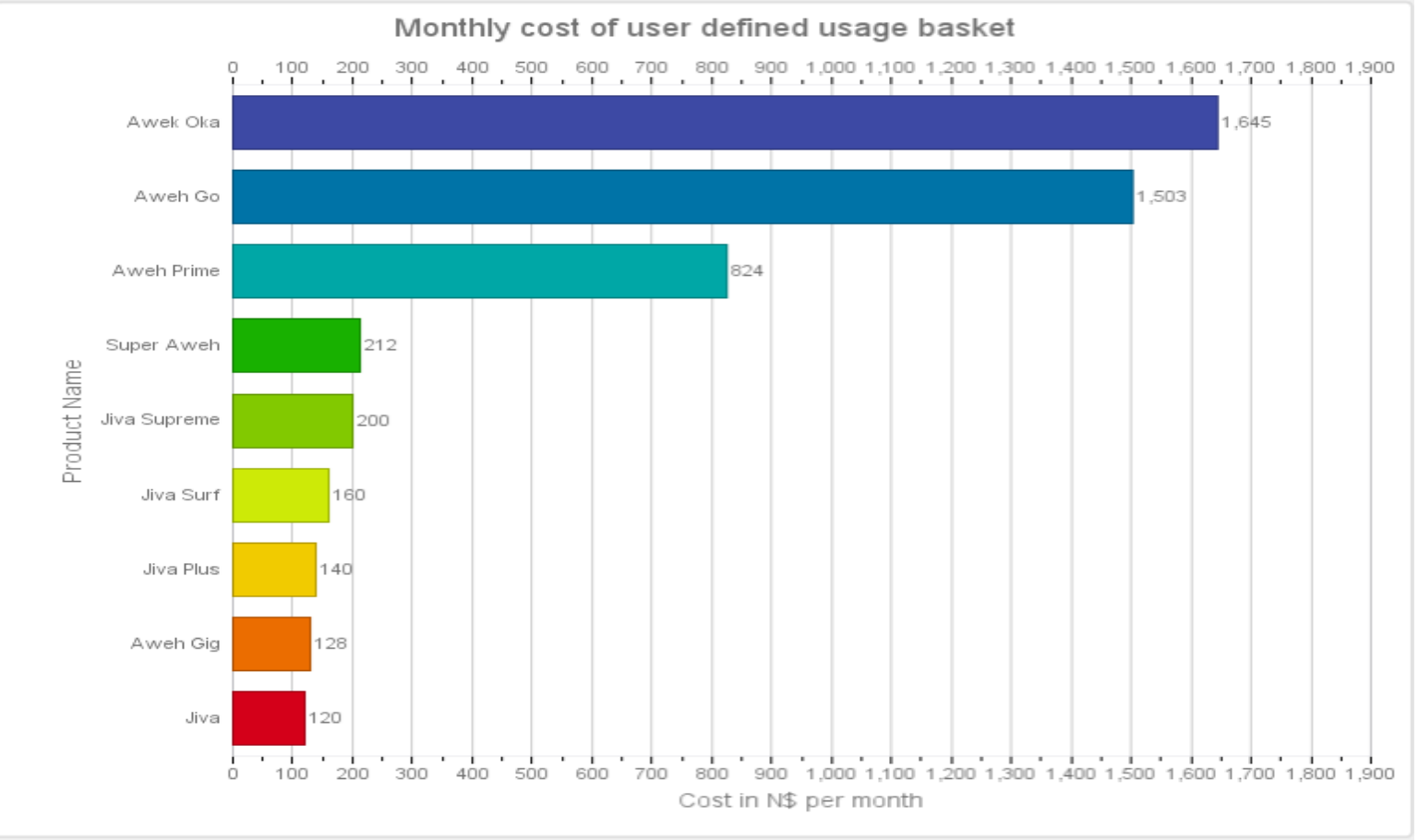
Cheapest prepaid mobile voice product by country (in USD) Namibia improved its ranking from 45th to 20th.

Pricing and Access



MTC only has 1.5 GB and it was therefore converted to 1 GB, Source CRAN

Pricing and Access



Cheapest product for 100 voice minutes, 100 SMS and 3GB,

Pricing and access

97% of the Namibian population have access to 2G;

78% has access to 3G; and

40.5% has access to 4G.

Spectrum Assignment Strategy

Spectrum Assignment Strategy Published in 2018 setting out the following objectives-

- Facilitate the availability of spectrum to be used as a tool to develop communications services and access to ICT infrastructure;
- Promote competition;
- Promote effective and efficient use of spectrum;
- Ensure fair distribution of spectrum between market players;
- Set fees for spectrum that support the activities of the Authority; and
- Monitor, investigate and enforce adherence to the regulatory framework.

Mobile broadband spectrum assignments

Spectrum Band	MTC	Telecom Namibia	Paratus	MTN
800 MHz band				20 MHz (2x 10 MHz)
E-GSM	10 MHz (2x 5 MHz) 10 MHz (2x 5 MHz) (Temporary for COVID-19 related congestion relief)			
900 MHz band	26 MHz (2x 13 MHz)	24 MHz (2x 12 MHz)		
1800 MHz band	70 MHz (2x 35 MHz)	40 MHz (2x 20 MHz)	40 MHz (2x 20 MHz)	
2100 MHz band	40 MHz (2x 20 MHz)	40 MHz (2x 20 MHz)		40 MHz (2x 20 MHz)
2300 MHz band		40 MHz		10 MHz
2600 MHz band		86 MHz	40 MHz	
3500 MHz band				20 MHz

Fixed broadband spectrum assignments

Spectrum Band	MTC	Telecom	Paratus	MTN	Witel
3400-3600 MHz		84 MHz			
3600-4200 MHz	80 MHz				25 MHz
4400-8500 MHz	280 MHz	280 MHz	112 MHz		30 MHz
10-15.35 GHz	56 MHz	224 MHz	28 MHz		80 MHz
17.7-100 GHz	448 MHz		194.5 MHz	280 MHz	

Spectrum Requirements for the Digital Economy

- The characteristics of different spectrum bands determine whether spectrum bands can be utilised for rural, urban or for both rural and urban network and service deployment.

- Applications and use cases also have different spectrum requirements.

- It is therefore necessary to provide for multiple spectrum bands to be allocated for IMT.

Low-band Spectrum (below 1GHz)

- Suitable for indoor and outdoor coverage over wide areas in urban and rural areas (4G and 5G)
- **800 MHz** earmarked for 4G broadband services and can support IoT applications and online education.
- **700 MHz** is earmarked for IMT-2020 broadband and applications as well as public protection and disaster relief (PPDR) services when required.

Mid-band Spectrum (below 2-5 GHz)

- Suitable for indoor and outdoor coverage over smaller areas in urban and rural areas (4G and 5G).
- **2300 MHz, 2600 MHz, and 3300-3600 MHz** can be utilised for 4G/5G deployment.
- 3400-3600 MHz has emerged as a primary band for IMT-2020 and it is near-globally harmonised and allows for assignments to be done contiguous blocks of 80-100 MHz.
- 3400-3600 MHz is allocated on a co-primary basis to FIXED, FIXED-SATELLITE and MOBILE (IMT).
- Countries with C-Band fixed satellite in this band is considering 2600 MHz for deployment of IMT-2020.

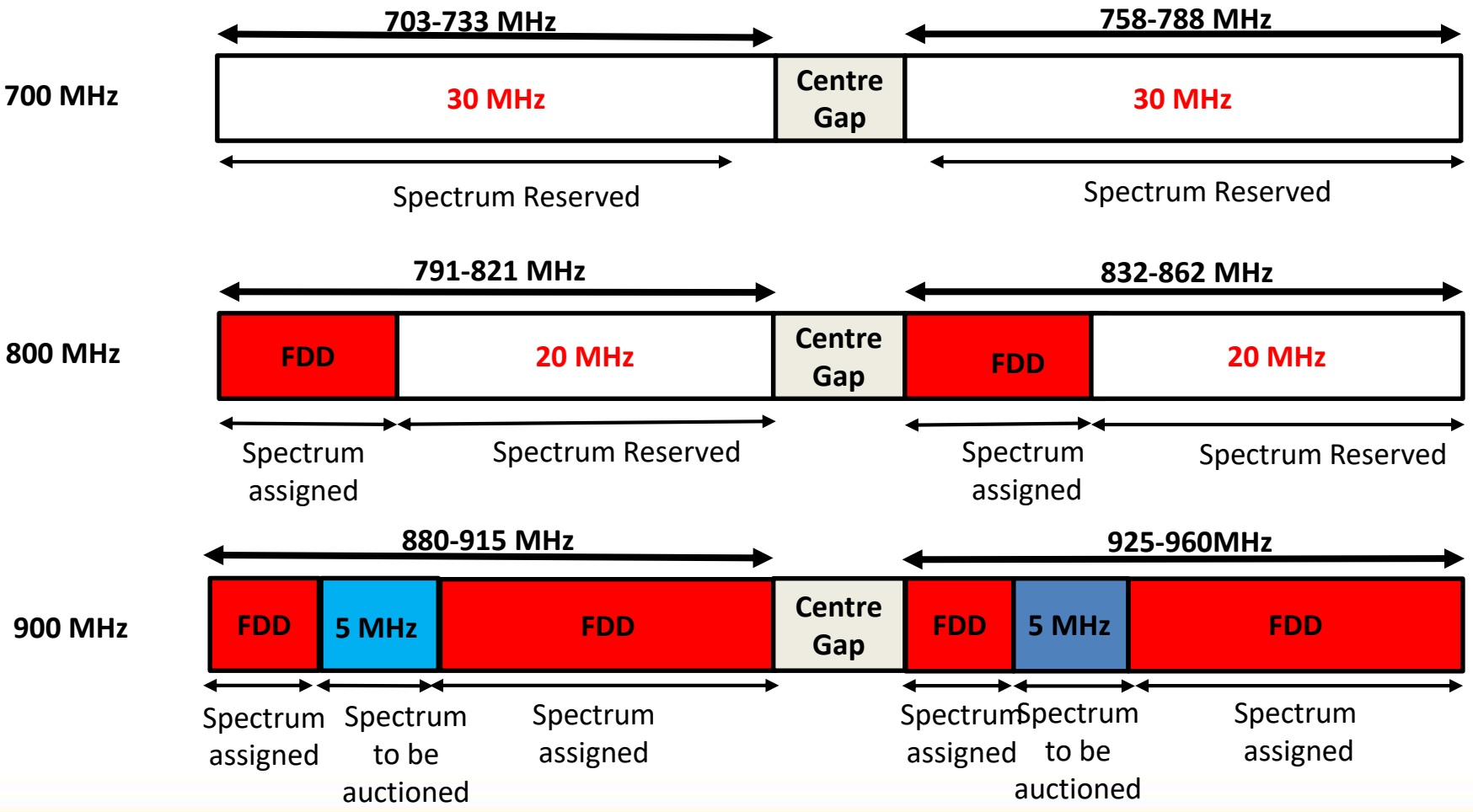
High-band Spectrum (Above 24 GHz)

- Suitable for transmission of high volumes of data in urban areas.
- **24.25-27.5 GHz, 37.0-43.5 GHz, 47.2-48.2 GHz and 66.0-71.0 GHz** were allocated for IMT-2020 services on either a PRIMARY or as a footnote allocation depending on the spectrum band.
- These bands will be shared with fixed, HAPS and satellite services subject to ITU Radio Regulations and WRC-19 Resolutions, technical requirements and specific licence conditions.
- Development of channelling plans are underway in ITU WP 5D to be submitted to RA-23 before WRC-23 for approval.
- Namibia will incorporate these allocations in the National Frequency Allocation Plan as per the WRC-19 Final Acts.

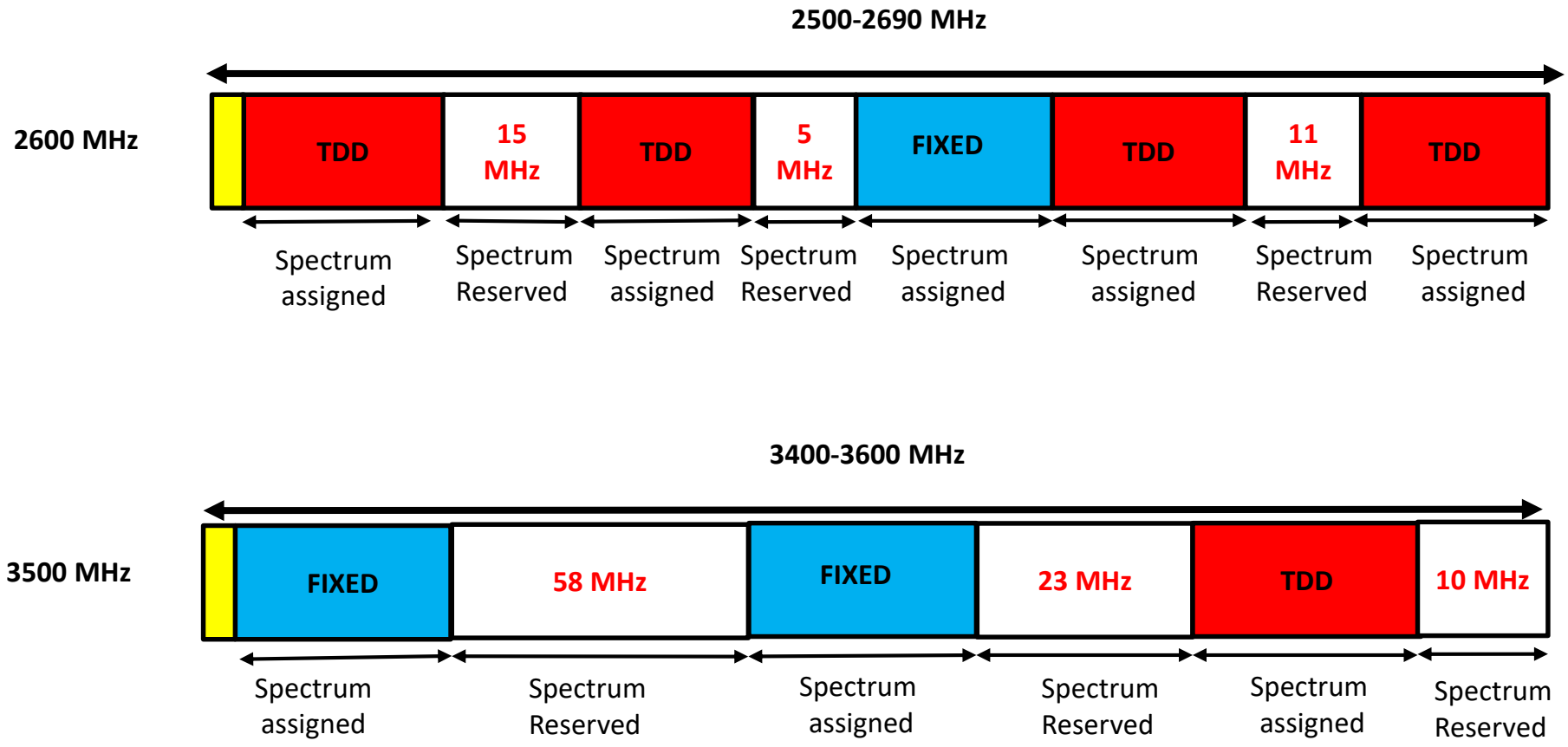
Spectrum bands under discussion at WRC-23

- Identification of the frequency bands **3300-3400 MHz, 3600-3800 MHz, 6425-7025 MHz, 7025-7125 MHz and 10.0-10.5** GHz for IMT
- Primary allocation of the band **3600-3800 MHz** to mobile services within Region 1
- Review the spectrum use and spectrum needs of existing services in the frequency band 470-960 MHz in Region 1 and consider possible regulatory actions is the frequency band **470-694 MHz**

Availability of spectrum below 1 GHz



Availability of spectrum below 2-5 GHz



Infrastructure Sharing Regulatory Framework

- Goal 4 of HHP 2 highlights Open Access and infrastructure sharing as a priority
- CRAN's Infrastructure Sharing Regulations of October 2016 caters for and enabled Open Access and active infrastructure sharing
- However licensees have not ventured or entertained infrastructure sharing except for passive tower sharing.

Quality of Service Regulatory Framework

- The Authority published Quality of Service regulations 21 April 2015.
- Licensees are required to provide the same quality of service in rural and urban areas.
- Quality of service standards are divided into three (3) categories-
  - Service Quality
  - Billing and Customer Service
  - Network Quality

Minimum Quality of Service Standards: Service Quality

Service	Parameter
Supply time for fixed line initial connection	95% of service requests to be completed within 5 elapsed days and 100% of service requests to be completed within 7 elapsed days
Fault repair time	90% of faults to be repair within 24 elapsed hours from time reported 100% of faults to be repaired within 48 elapsed hours from time reported
Supply time for initial mobile services connection (postpaid/prepaid)	95% of service requests to be completed within 5 elapsed days and 100% of service requests to be completed within 7 elapsed days

Minimum Quality of Service Standards: Billing and Customer Service

Service	Parameter
Response time for administration and billing enquiries	95% of calls must be answered within 20 seconds
Customer/Licensee complaints resolution time	90% of customer complaints must be resolved within 24 hours
Billing Correctness	Less than 2% of bills should result in customer complaints

Minimum Quality of Service Standards: Network Quality

Service	Parameter
Mobile/Wireless Service Coverage	A minimum of -100 dBm must be achieved for 95% outdoor and 85% indoor service coverage following a predetermined route
Unsuccessful Call Ratio	% of unsuccessful calls must be less than 2% in busy time
International Call Connectivity	The ASR on a country-by-country basis should be more than 60%
Dropped Call Ratio	% of dropped calls must be less than 3%

Minimum Quality of Service Standards: Network Quality (Cont'd)

Service	Parameter
Successful Internet Log-in Ratio	95% of Internet log-ins by the user of the data service must be successful in busy time
Packet Loss Ratio	Packet Loss Ratio may not be more than 3% for any class of service offered
Unsuccessful data transmission ratio	95% of all data transmissions must be successful within a specified time period
Data transmission speed achieved	Data transmission speed achieved must be at least 80% of that advertised by the licensee during busy time

Reporting requirements

- Bi-annual reports are to be submitted to the Authority;
- Licensees must report in the format set out by the draft regulations;
- Measurements shall be taken according to the standards stipulated by the Authority;
- The Authority shall determine the geographical area and time period for drive testing conducted on its behalf.
- **Drive testing by the Authority is current underway;**
- The Authority may publish quality of performance indicators.

Reporting requirements (Cont'd)

- Licensees must retain all quality of service data, including measurements and related records for a minimum period of twelve (12) months; and

- The Authority may conduct surveys or other studies to assess customer satisfaction with the quality of service provided by licensees.

Challenges on Expansion and Market Entry

- **Telco's (new entrants)**
  - **Barriers by dominant players**
    - No MVNO in Namibia after more the 5 years of discussions;
    - Delay in implementation of Number Portability;
    - No active sharing (national roaming)
    - High backhauling costs to expand to other area's other then Windhoek and Swakop/Walvisbay
    - Limited spectrum – especially in the below 1GHz bands

Challenges on Expansion and Market Entry (cont.)

- **Telco's (general)**
  - Limited infrastructure sharing
  - No real open access allowed by any licensee at this stage
  - Cost to provide service into unserved rural area's expensive and can only be achieved if licensee start to share active and passive infrastructure sharing.

Cyber Security Challenges

- Implementation of Electronic Transactions Act.
- Establishment of NCIRT.
- Finalization of data protection and cyber crime bill.

Conclusion

Regulatory framework has the requisite elements for the evolution of a digital economy:

- Challenges pertaining to sharing of infrastructure need to be addressed to ensure open access.
- Issuance of requisite spectrum to licensees in order to cover the gaps – especially in the rural areas.
- Backhauling pricing must be reduced.
- Compliance to QoS parameters.
- Formulation of a comprehensive cybersecurity framework.

Questions & Answers

Thank you