



SABC SUBMISSION TO THE INDEPENDENT COMMUNICATIONS
AUTHORITY OF SOUTH AFRICA

ON INQUIRY INTO LONG-TERM SPECTRUM OUTLOOK FOR
PUBLIC CONSULTATION

04 MARCH 2022

South African Broadcasting Corporation SOC Limited: Registration Number: 2003/023915/30

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Executive Directors: Mr M T Mxakwe (Group Chief Executive Officer); Mr I C Plaatjes (Chief Operations Officer); Ms Y van Biljon (Chief Financial Officer); **Company Secretary:** Ms L V Bayi

1 Introduction

The SABC would like to thank the Independent Communications Authority of South Africa (“the Authority”) for the opportunity to make representations on the Draft Consultation Document on spectrum outlook (“the spectrum outlook document”. The spectrum outlook document was published in the government gazette on 24 December 2021 with gazette number 45690. The SABC will like to be given the opportunity to substantiate its written submissions through oral hearing should the Authority be holding one.

The SABC supports the Authority’s intentions to conduct inquiry into the long-term views of spectrum requirements for the various services in the country.

As the only public broadcaster within the Republic of South Africa charged with a specific mandate set out in Chapter IV of the Broadcasting Act No. 4 of 1999. The Public Broadcasting Service Charter not only obliges the SABC to provide radio and television programming that informs, educates, and entertains; but further states that these are to be made available throughout the Republic. This places a unique obligation on the SABC that requires adequate radio frequency spectrum and protection in order to fulfil this mandate.

The SABC will largely confine its submission on the spectrum outlook document to areas which pertain to its business as the public broadcaster.

2 SABC’s responses to specific consultative questions

2.1 SPECTRUM MANAGEMENT AND ECONOMIC IMPACT

2.1.1 Question 2

Are there services, in addition to broadband, that ought to be considered as important for economic growth? If so, please explain what these services might be and what the trade-offs are between using spectrum for broadband and alternative services. Please provide any evidence from other countries that may be relevant.

Comments:

Radio and Television broadcasting are important for economic growth as evidenced in the report below:

According to the United States of America's National Association of Broadcasters (the US NAB), (report released on 19 September 2019), television and radio broadcasting creates \$1.74 trillion per annum. The local commercial broadcast television and radio industry generates \$1.17 trillion of Gross Domestic Product (GDP) and 2.47 million jobs through direct and stimulative effect on the American economy.

The analysis examines local broadcasting's impact on the economy through direct employment, its ripple effect on other industries and as an advertising medium for messaging consumers.

The report further states that America's local broadcast radio and TV stations play a unique role in every community across the country. They keep citizens informed with local news, viewers entertained with the most-watched programming and families safe with lifeline emergency information. Broadcasting plays a pivotal economic role as well creating hundreds of thousands of well-paying jobs while helping hometown small businesses reach local consumers through advertising.

The situation is the same in South Africa. Radio and TV stations impact positively on the economy in the country. The majority of South Africans still rely on TV and particularly Radio broadcasts for information and entertainment. Rural areas in South Africa do not have broadband infrastructure and coverage that can be used to communicate with citizens. As the national broadcaster, we have over the years invested in increasing and improving the TV and Radio network across the country to reach areas ¹where broadband does not reach. With the slow penetration and high cost of broadband infrastructure and services throughout the country, the majority of South African's still rely solely on TV and Radio for access to information and entertainment.

2.2 BROADBAND PENETRATION IN SOUTH AFRICA

2.2.1 Question 3

Please comment on the above assessment of the status quo on broadband penetration in South Africa, and what role spectrum may play in addressing the gaps identified.

¹ <https://www.nab.org/documents/newsroom/pressRelease.asp?id=5147>

Comments:

It cannot be overstated that Broadband access can lead to economic growth. It is therefore likely that expanding access to broadband services in South Africa will lead to greater economic growth, productivity, and employment.

Installations of fibre networks to home are on the increase in urban areas. However, in rural dwellings where communities are vastly underpopulated and impoverished, the last mile connections will largely depend on spectrum assignments. 5G coverage will serve as a reliable infrastructure in these communities. Affordability by rural communities will be the key answer to attract Mobile Network Operators (MNOs) to these communities as has been witnessed with the growth and penetration of broadband services over the years. Due to the underdevelopment of rural areas, mobile networks do not find such areas to be economically viable and attractive for them to invest in broadband infrastructure in rural areas, making penetration slow in those areas. Urban areas have the most network penetration and infrastructure to be economically attractive to mobile operators as seen with the growth of 4G, fiber and 5G technologies being predominately focused in urban areas.

2.3 MOBILE

2.3.1 Question 18

What are your views on reallocating the following bands for IMT over the next years?

List of possible future IMT bands (please supplement or delete as your organisation considers reasonable):

- 450-470 (20MHz)
- 617-698 (70MHz)
- 1 427-1 518 (91MHz)
- 1 710-2 025 (315MHz)
- 3 300-3 400 (100MHz)
- 3 400-3 600 (200MHz)
- 3 600-3 800 (200MHz)
- 4 800-4 990 (190MHz)
- 24 250-27 500 (3250MHz)
- 37 000-43 500 (6500MHz)

- 45 500-47 000 (1500MHz)
- 47 200-48 200 (1000MHz)
- 66 000-71 000 (5000M)

Comments:

The SABC is in support of the bands identified for IMT services except that the suggestion of the following 3 bands cannot be supported – i.e. the bands 450 – 470MHz; 617 - 698MHz and 3 600 – 3 800MHz.

The Corporation has extensive Broadcast ancillary equipment such as wireless microphones and in ear monitors in this band 450 – 470MHz band and holds licenses to that effect. The current licenses include:

454.050 MHz
 454.225 MHz
 454.825 MHz
 454.900 MHz
 464.550 MHz
 464.525 MHz
 469.900 MHz

It should be noted that changes in the band is very costly. It requires purchasing new equipment all together. In allocating proposing for this band to be allocated to IMT, the Authority must note of the complexities and costs of migrating services.

The other 2 bands are respectively under consideration in the WRC 23 under agenda items 1.5 and 1.3. These bands are currently being used for DTT and broadcast signal distribution networks services respectively. They cannot be suggested for IMT services 2 years ahead of the WRC 23. This will be pre-empting the outcome of the WRC 23.

2.4 BROADCASTING

2.4.1 Question 30

What will impact on the demand for these services/applications in the coming 10-20 years? What is the realistic demand for these services in the next 10 to 20 years? Are there adequate spectrum allocations for Broadcasting services in South Africa?

Comments:

Broadcasting transmissions is evolving towards 5G technologies. The Evolved Multimedia Broadcast Multicast Services (eMBMS) and Further Evolved FeMBMS is the standard towards 5G

technologies. 5G is a point-to-multipoint interface used for mobile services but designed to improve the efficiency in the delivery of broadcast and multicast services. With eMBMS, up to 60% of the capacity may be allocated to broadcast services. FeMBMS enables 100% of the transmission capacity to be used for broadcasting services. These technologies will be deployed in the 470 – 694MHz bands. The studies towards WRC agenda item 1.5 which deals with the use and needs of broadcast spectrum shows that there should be no change in the current allocation of the DTT band.

2.4.2 Question 31

How much spectrum should be maintained for terrestrial broadcasting in the band 470MHz to 694MHz in the next 10 to 20 years?

Comments:

In answering to the ITU's questionnaire in 2021, ITU-R BT.2302, South Africa provided that 224MHz band will be required for Broadcasting in the band 470 – 694MHz. The situation is still the same since last year.

2.5 PROGRAMME MAKING AND SPECIAL EVENTS

2.5.1 Question 35

What will impact on the demand for these services/applications in the coming 10-20 years? What is the realistic demand for these services in the next 10 to 20 years? Are there adequate spectrum allocations for PMSE services in South Africa?

Comments

The SABC has have microwave systems such as RF cameras and helicopter links which are used for News and Sports broadcasts and the Corporation holds licenses to these services. The frequencies are:

- Bike to Helicopter links (shared) 4410 – 4490GHz
- Helicopter to tower (shared) 2315 – 2384GHz

- Point to point (shared) 7GHz

These equipment and systems support programme making. In the next 10 years, it is predicted that there will be more content making. The 7 Mux plan which has been developed by South Africa, coordinated with neighbouring countries, and registered at the ITU creates a significant number of channels. There are 5 more multiplexers to be created on the DTT platform. These muxes are to be filled with channels and in turn the channels are to be filled with content. In view of the above not only does the Corporation request that this equipment is to be protected but also more spectrum are to be made available to meet the growing needs of content creation.

2.6 SATELLITE SYSTEMS

2.6.1 Question 40 :

Which applications and allocations will require the most frequency spectrum demand in the following frequency bands?

- C-band
- Ku-band
- Ka-ban

Comments:

C-Band: Because of its high resilience to heavy rain, signal distributors depend on the C-band for delivering TV programming to its various terrestrial transmitters especially in tropical areas such as Africa. This is a mission critical operation for the Broadcasting signal distribution as many viewers rely on this platform indirectly. As more transmitters get connected via fibre, this requirement for C-band back hauling will reduce. This is a major undertaking with a huge upfront cost imperative for initial infrastructure layout and it will be deployed over several years.

Ku – Band: As the analogue switch off process is intensified more South Africans which did not receive TV programs in the analogue situation because terrestrial networks could not reach all corners of the South African landscape, now gets connected via the direct-to-home platform. This is made possible because of the Ku-band. The Ku-band can receive signals with relatively smaller antenna sizes.

Today, Ku-band satellites are not only used extensively for video distribution and live broadcasting, but also for many data services, such as broadband connectivity, VSAT (very small aperture terminal) services, mobile backhaul, maritime and aeronautical services. Each of these applications are considered mission-critical in our highly connected world. In fact, Ku-band is well established as the primary spectrum used for mobility networks to deliver broadband connectivity to where it is needed most - across oceans and the open sky, unreachable by any terrestrial networks.

We also use Ku-band services for our contribution links from OBs to studio using SNG vehicles in areas where fibre connectivity is not available or cost-effective. The SABC recently signed a five year lease for Ku-band lease and we have invested in 15 SNG vehicles for our TV and Radio contributions from remote areas. This also serves as our backup in case of a critical loss of our National Metro Ethernet WAN connected over the fibre network.

The need to allocate more spectrum to alleviate the congestion in this band is very critical.

3 Recommendations

Considering the extend of government's investment in laying down the network infrastructure for the DTT service only for the DTT band or a portion of it to be suggested for use for IMT services will require further engagements. Further engagements will also be required on the issue of the Authority pre-empting the outcome of the WRC 23 by suggesting that a portion of the DTT band and the C-band should be used for the IMT services. It would be a worthwhile exercise for the Authority to engage the SABC through oral hearings, for the Corporation to substantiate this submission.

Once again, the Corporation is thankful for the opportunity afforded to make this submission.