6th Sub-Sahara Spectrum Management Conference

Virtual Event
20 – 22 July 2021   Please note all times are in Central Africa Time Zone (UTC + 2)

DAY 1

10.30 – 11.15   **Welcome Ceremony**

Session 1: Setting the scene – Making spectrum work for Africa
To help set the scene for the event and help identify some concrete aims and objectives, this opening session will hear from influential policy voices on what they see as the key spectrum challenges for the region and give them an opportunity to provide messages and challenges to industry speakers and stakeholders on what they would like to see from them. There will then be a chance for industry to respond, and some concrete targets and objectives for the event will be set.

11.15 – 11.30   **Opening thoughts from key policy voices**
5 minutes each from 3 policymakers. Pre-recorded and seen by industry representatives in advance

- What do you see as the key spectrum challenges for the region?
- What would be your one key message for industry?
- What do you hope to get out of this conference?

11.30 – 12.00   **The response from industry**

12.00 – 12.45   **Panel discussion** (45 minutes)

12.45 – 13.30   **Lunch**

Session 2: Tackling global and regional digital divides - bringing the benefits of digital transformation to Africa
As we begin to cautiously emerge from the Covid-19 pandemic, countries all around the world are embracing digitalisation as a key part of their recovery strategy. For Africa, this move towards a digital future arguably offers both more challenges and more opportunities than anywhere else. If communities, homes and businesses in the region are left unconnected, then the risk is an increasing digital divide with millions of Africans being left behind - accessible, secure and reliable internet is critical for all. The next 2 sessions will look in detail at some of the challenges and opportunities, and at how the required connectivity can be delivered to enable Africa to emerge from the pandemic stronger and to embrace a digital future for all.

Session 2i: Increasing broadband penetration – Delivering connectivity to unconnected communities and homes
The pandemic has shone a light on the importance of connectivity, and highlighted the inequalities between the digital 'haves' and the digital 'have nots' across the Sub-Sahara region. The huge increase in home-working, home-schooling and simply the need to remain connected in order to keep in touch has really brought home the huge the importance to citizens everywhere of having affordable and reliable connectivity available in their home. And as we move towards a digital recovery, this importance is only going to grow. Each community and home in the region without connectivity leads to the potential of more citizens being left behind as Africa looks to embrace digitalisation. Given the legacy challenge of very little fixed infrastructure that is seen in Africa, there is a need to be creative with solutions to deliver the broadband penetration that is required in order to tackle this challenge. This session will explore the potential offered by different technologies such as fixed wireless access, advanced satellite broadband and more, and the work that is being done across the region to deliver connectivity and enable a digital future for Africa's citizens everywhere.

- What can be done to tackle the two digital divides that currently exist for Africa – globally between Sub-Sahara and other regions in the world; and regionally between the digital 'haves' and the digital 'have nots' across the continent?
- What specific challenges are faced when looking at connecting the unconnected in African countries, particularly relating to issues such as the relative shortage of fixed infrastructure, and the geographical scale of the areas that is being covered?
- How can the legacy challenges of a lack of fixed or wired infrastructure across many areas be overcome?
- What impact can fixed wireless access, satellite broadband and other key technologies have on connecting underserved communities and homes, and on increasing broadband penetration?
- What network requirements are necessary, and what funding options exist to deliver the required investment to roll these out?
- What are the spectrum requirements, and how can it be ensured that access to the necessary bandwidth is available?
- How can it be ensured that connectivity is provided in an affordable and secure manner, and that the needs of businesses and consumers in unconnected communities are both understood and met?
- To what extent can the goal of universal access across Africa be a reality, and what timeframe is realistic for this to be achieved?

13.30 – 14.40   **Panel Discussion**

14.45 – 15.30   **Showcase Session 1**

15.30 – 15.50   **Break**

Session 2ii: Delivering the required connectivity for Africa's vertical industries
Digitalisation brings with it both massive opportunities and massive challenges for Africa. If harnessed correctly, technology and connectivity has the potential to transform industry and traditional sectors (eg farming, agriculture and manufacturing), dramatically improving productivity and making huge strides in bridging Africa's development gap with the rest of the world. If Africa fails to capitalise on the opportunities available however then there is a risk of falling further behind, and lowering the global competitiveness of African businesses. To deliver on the benefits and unlock the potential of technology, connectivity and broadband penetration are of course key. With huge areas of the region still not connected, this digital divide is a major challenge for technology providers and policymakers across the region. This session will look at the different technologies and options that are available to help to tackle this issue, and then look at the different models that exist to deliver the connectivity that is required to power the huge range of different vertical use cases that are being seen.

- What technologies can play a part in delivering the required connectivity to meet the many varied use cases of vertical industries in both urban and rural environments across the region?
- What work is being done to help facilitate the efficient deployment of the required technology infrastructure and access to broadband and what challenges still lie ahead?
- What impact can the emergence of 5G enabled use cases have on delivering the required connectivity and how can it be ensured that 5G helps to narrow rather than widen the digital divide?
- Is there an argument that regulators in Africa should be exploring models to allocate spectrum directly to vertical users to enable them to build their own private, localised licences?
- What are the spectrum requirements, and how can it be ensured that access to the necessary bandwidth is available?
- Africa has been left behinds in previous industrial revolutions. What needs to be done to ensure that this isn't the case for the 4th industrial revolution?

15.50 – 17.00   **Panel Discussion**

10.30 – 10.50   **Setting the scene – updates and key focusses of WRC-23 preparation in the region**

Session 4: The future of the UHF band – what potential for increased collaboration and coexistence between broadcast and mobile services?
Whilst the digital switchover and clearing process in the 700MHz band continues in countries across the Sub Sahara region, WRC-23 is going to also increase attention on the 470 – 694 MHz band. Agenda item 1.5 will study the feasibility of sharing and compatibility between broadcast and mobile services in the band, as well as conducting a broader review into the spectrum use and needs of existing services across the entire 470-960 MHz range. This session will look at the future ecosystem across the whole UHF band, and with a number of new technologies and standards emerging, examine the extent to which this may increase the potential for sharing between mobile and broadcast services. It will also explore some of the positions that are starting to emerge in the sub-700MHz band across the Sub-Sahara and elsewhere in Region 1. Where does the balance lie in meeting the needs of broadcast, PMSE, IMT and other key users within the UHF band?

- What is the current state of play with regards to digital migration and the re-assignment of the 700MHz band across the region?
- How much UHF spectrum is required by different services (for example broadcasters, mobile, PMSE) in the medium and longer term? How can the needs of all users in the band best be balanced?
- What work is being done ahead of WRC-23 to study options for coexistence and sharing between mobile and broadcast users in the UHF frequencies? To what extent is this a possibility?
- What sensitivities exist in this area, and what safeguards would need to be put in place to protect vital broadcasting services?
- What examples of increased collaboration between mobile and broadcasters are being seen and could the emergence of 5G and more advanced technologies help facilitate new business models and closer co-ordination between the sectors?
- What work is being done to study the positions across the region in the sub-700MHz frequencies, and what is the likely long-term future there?
- With many countries still working to complete the digital switchover in the 700MHz band, should the focus at this stage be on this task, or is there an argument to also start exploring options in the 600MHz band at the same time?
- What impact would a further reduction of UHF band spectrum for terrestrial television broadcasting have on countries across the region, and how can the needs of broadcasters, PPDR and other key users of UHF spectrum be safeguarded?

10.50 – 12:00   **Panel Discussion**

12.00 – 12.45   **Showcase Session 2**

12.45 – 13.20   **Lunch**

13.20 – 13.40   **Thinking Point – Balancing the needs of 5G and other key users in upper mid-band frequencies**
Stefan Zehle, CEO, Coleago (confirmed)

Session 5: The emerging shape of the 3.3 – 4.2 GHz C-band – how important is a harmonised approach?
The 3.4GHz – 3.6GHz portion of the C-band has been allocated to mobile on a primary basis across Africa and many other regions of the world. The future of the 3.3GHz – 3.4GHz and the 3.6GHz – 3.8 GHz portions of the band are however still hotly contested, and due to be discussed in detail at WRC-23. With C-band frequencies across the band being used as the basis for the first implementations of 5G globally, regulators and policymakers are faced with the task of delivering the required spectrum for this, whilst also safeguarding the vital needs of incumbent satellite users. This session will look at the different approaches being seen across different regions, and explore the importance of delivering a harmonised approach. Bringing the focus back to Africa, it will look at the long-term future of the band here, and the best way to balance the requirements of all key users.

- What is the current situation regarding the award of spectrum in the 3.3GHz – 4.2GHz frequencies around the world?
- How relevant are trends in the allocation of spectrum in the band that are being seen in different regions for decisions that are being made in Africa?
- How important is it that a harmonised approach is taken across region 1 or even globally for economies of scale, or is it actually more important that regional differences are taken into account?
- What are the key issues for consideration for national and regional delegations studying the both the 3.3 – 3.4GHz and the 3.6 – 3.8GHz portions of the band ahead of its discussion at WRC-23?
- With the 3.4GHz – 3.6GHz now allocated as on a primary basis to the mobile service on a global level, to what extent is there still a need for additional bandwidth in the C-band to be allocated to the mobile service and identified for IMT to meet the growing needs for 5G?
- What benefits would access to 80MHz of contiguous spectrum in the band provide mobile operators? Do these benefits justify the challenges that delivering chunks of spectrum in this way would bring?
- To what extent is co-existence between mobile and satellite users in the band possible?
- What guard bands and separation distances may be required to avoid interference with FSS earth stations, and how does this impact the economics of widescale deployment in the band by MNOs in Europe?
- What potential is there for the allocation of spectrum in the band for private localised networks, allowing easier co-existence with satellite users?

13.40 – 14.50   **Panel Discussion**

14.50 – 15.10   **Break**

Session 6: Exploring the future of the 6GHz band in Africa
The 6Ghz band is currently used around the world by satellite and microwave systems, but both unlicensed and licensed services are looking to get access to spectrum in the band. As an option for 5G, it is particularly attractive for countries and regions that have specific challenges in making available sufficient wideband channels in other mid-band frequencies. At WRC-19, the decision was taken to leave the lower portion of the band (5925-6425 MHz) for licence-exempt use, whilst (with the support of many countries from Africa), the upper portion of the band (6425-7125 MHz) is to be studied ahead of a possible IMT identification at WRC-23. This session will look at the next steps from here, and at the long-term future of the band.

- Where does the balance lie between licenced and licence-exempt use of the 6Ghz spectrum?
- To what extent is sharing between IMT and Wi-Fi users in the band a viable option in both indoor and outdoor conditions?
- How does the specific situation with regards to WiFi and IMT development and roll-out 'on the ground' differ in developing regions compared to developed countries, and how can this be taken into account when considering a strategy for the 6GHz band?
- What work needs to be done in the build up to WRC-23 to prepare for discussions that will take place there around the future of the band?
- What is the long-term future of the band both in Africa and globally, and how can the needs of all users be best balanced?
- How important is it that a coordinated approach to the band is found and to what extent is this a likely scenario given all the positions that are emerging?

- How could the protection of satellite be managed in practice, taking into account RR obligations?

15.10 – 16.20   **Panel Discussion**

16.20 – 17.00   **Thinking Point: Beyond IMT - A focus on other key themes for Africa at WRC-23**
Looking beyond IMT issues, there are also some key agenda items for Africa at WRC-23 relating to other sectors and themes. This thinking point will provide the opportunity to focus on these in a bit more detail.
Usman Aliyu, Chair, WRC-23 Working Group 1B, ATU (tbc)
Hilario Tamele, Chair WRC-23 Working Group 2, ATU (tbc)
Mostafa Mousa, Chair, WRC-23 Working Group 4A, ATU (tbc)

Session 7: Continuing the path towards a harmonized continental 5G strategy
At the last 3 editions of this conference, key stakeholders have gathered together for a discussion on the progress being made and the challenges ahead as we look to deliver a harmonized continental strategy to deliver the successful implementation of 5G across the region. This session will continue this discussion. It will examine the work that is being done by the African Union Commission/Africa Telecommunications Union and other stakeholders, at the progress that has been made in the last 12 months, and the challenges that still lie ahead.

10.30 – 11.55   **Presentations and interactive discussion – format and speakers to be confirmed**

12.00 – 12.45   **Showcase Session 3**

12.45 – 13.30   **Lunch**

Session 8: What role for mmWave frequencies in Africa's digital future?
One of the key focusses at WRC-19 was to identify spectrum for IMT in the mmWave bands, and on the back of this, the shape of the future mmWave landscape is now starting to emerge in regions around the world. The vast majority of countries across Sub-Sahara have not yet started to explore options in these frequencies, with the one exception being South Africa, who last year became one of the first 'wave' of counties around the world to launch a commercial 5G mmWave network. This session will look at the global outlook for mmWave spectrum, and at what this might mean for Sub-Saharan countries in the short and the longer term. It will examine the expected future demand for 5G services in these frequencies across the region, when this may start to emerge, and how this can be balanced with non-terrestrial and other key services in the bands.

- What is the latest status regarding mmWave 5G spectrum licencing and network deployment around the world, and to what extent is an economically viable mmWave ecosystem now starting to emerge?
- How much of a role is mmWave spectrum likely to play in Africa's digital future, and when may demand for 5G spectrum in the band start to emerge?
- Should regulators and Governments across the region be starting to consider building a plan for mmWave frequencies into broader roadmaps for spectrum release, and what likely timeframes are ahead?
- Beyond the rollout of 5G services in mmWave frequencies in South Africa, what progress has been made in planning for trials and other commercial launches?
- How may the future mmWave landscape in Africa differ to those starting to emerge elsewhere around the world?
- What specific 5G use cases could mmWave frequencies offer for developing countries and what socio-economic benefits could it bring?

13.30 – 14.40   **Panel Discussion**

14.40 – 15.00   **Break**

Session 9: The evolving shape of the spectrum landscape in Africa – bringing the required spectrum to market
A key challenge for regulators not only in Africa but also around the rest of the world, is to identify and release available spectrum bands and to bring them to market in an efficient and timely manner, and at a fair price. A number of different models and approaches are being seen across the region, and national broadband plans and roadmaps for release are emerging as regulators look to provide the regulatory certainty that mobile operators crave. This session will look at some of the different approaches and plans that are being seen, and at how these are shaping the spectrum landscape across the region. It will also look at the impact that spectrum licencing decisions can have on the rollout of networks and the delivery of connectivity to consumers, as well as the best way forward to make spectrum work for Africa.

- Where does Africa sit in terms of amount of spectrum currently available in the market compared to other regions?
- To what extent can the spectrum that is currently available meet growing needs in terms of coverage and capacity?
- What different models and award techniques are being seen to allocate spectrum to the market and what examples of best-practice can be seen?
- What pricing models are being used to value spectrum, and where does the best practice lie in ensuring fair prices in awards?
- What national broadband plans and roadmaps for spectrum release are being seen across African nations, and what impact can regulatory certainty in this way help to encourage long-term investment?
- Given the scarcity of spectrum as a natural resource, what mechanisms may exist for policymakers to ensure that it is not left lying fallow?
- To what extent should countries be looking to implement a 'use-it-or-lose-it' policy to increase the overall efficiency of spectrum use?
- How can countries best strike the balance between the ever-increasing spectrum needs of mobile and those of other users?
- How can it be ensured that spectrum is available for use immediately once it has been auctioned and awarded, and how should the clearing of bands be arranged to achieve this?

15.00 – 16.10   **Panel discussion**

16.10 – 17.00   **Closing Ceremony**