

# 6th Annual MENA Spectrum Management Conference

30<sup>th</sup> June & 1<sup>st</sup> July 2022

## Day 1

### Session 1: Keynote Presentations

09:00 – 09:10 **Welcome and Introductions**

09:10 – 09:25 **Keynote Presentation**

**Olfa Jammeli**, General Director, Frequency National Agency (ANF – Tunisia) (confirmed)

09:25 – 09:40 **Keynote Presentation**

**Mario Maniewicz**, Director, Radiocommunication Bureau, ITU (confirmed)

09:40 – 09:55 **Keynote Presentation**

**Tariq Al Awadhi**, Chairman, Arab Spectrum Management Group (ASMG) (confirmed)

### Session 2: WRC-23 - Are preparations on track?

The last edition of the MENA Spectrum Management Conference was held in February 2020, when the region was still at a very early stage in the preparations for WRC-23. Delegates at that event were asked what they thought would be the most prominent issue at WRC-23, and overwhelmingly voted for the UHF band (40%), with 3.3-3.8GHz (21%) in second place, and 6GHz (21%) third. Now almost 18 months on and with preparations for WRC-23 moving ahead at pace, this session will bring together experts from across different stakeholder groups to discuss the progress that has been made on preparatory work and preliminary studies in these key areas and more. With Covid restrictions meaning that preparatory meetings and discussions have been taking place online rather than in person, it will look at the challenges that this has caused, at the extent to which progress is on track, and the work that still needs to be done to ensure a successful outcome for WRC-23 for the ASMG region and more broadly. At the end of the session, delegates will once again be asked to vote on what they see as being the most prominent issue at WRC, to see whether opinions have changed.

- What are the latest updates with regards to the work that is being done to prepare for WRC-23 in the ASMG region? What results are starting to emerge from preliminary studies?
- What were the key takeaways from the first inter-regional workshop (which was held at the end of 2021), and what positions are starting to emerge in other regions?
- In which areas are we seeing consensus starting to emerge across the ASMG region and more broadly?
- Which issues are expected to be the most challenging in finding agreement?
- What impact has the pandemic had on preparation for WRC-23, and are we on track with regards to progress with preparatory studies that have been taking place and the drafting of text for the CPM?
- What are the key challenges that remain as we start to approach the final stages of WRC-23 preparation, and how can these be addressed now that meetings are starting to move back to an in-person format?

Moderator: **Khalid AlAwadhi**, Representative, Arab Spectrum Management Group (ASMG) (confirmed)

09:55 – 11:05 **Panel Session**

**Mohamed Moghazi**, Chairman, ASMG WG 1 & Executive Director, National Radio Spectrum Management. NTRA of Egypt (confirmed)

**Ross Bateson**, Special Government Adviser, GSMA (confirmed)

**Mohamed Juwad**, Global Spectrum & Regulatory Policy, GSOA (confirmed)

**Walid Sami**, Senior Project Manager, EBU (confirmed)

**Fatima Karim**, Chairwoman, GSA ASMG Spectrum Team (confirmed)

11:05 – 11:30 **Refreshment Break**

### **Session 3: Continuing the journey - A roadmap for the rollout and evolution of 5G across the MENA region**

Countries across the MENA region were amongst the first in the world to award 5G spectrum and start the rollout of networks. And whilst others in the region are a little further back in their 5G journey, progress is continuing at pace across the region to identify spectrum for 5G and start the development of national 5G roadmaps. With the rollout and evolution of 5G services continuing to move forward in this way, this session will take stock and provide an update of where we currently are and look at examples of best practice and lessons that can be taken from experiences in 5G rollout so far. It will also look at the next stages in 5G evolution across the region, and the expected timeframe ahead.

- What is the latest state of play with regards to 5G rollout across the region? What awards have taken place so far, and what plans and roadmaps are being set for future releases?
- What are the steps that countries need to go through in order to reach the goal of widespread 5G adoption? What examples of best practice in 5G licencing and network deployment have been seen, and what lessons can be learnt from experiences so far?
- What work is being done to promote and find the required investment in 5G across the region and how can regulators help to facilitate an environment that encourages this?
- How should countries be looking to balance the need to bring 5G spectrum to market alongside the continuing priority of rolling out 4G across the region?
- How can administrations ensure that mobile and other access network operators such as satellite work together with local connectivity providers such as Wi-Fi to successfully deliver the 5G future?
- What are the next steps in 5G deployment and rollout? What timeframe can be expected for the full benefits of 5G to be felt across the region, including for 5G standalone and use cases requiring mMTC or URLLC services?

Moderator: **Hichem Besbes**, Professor, Supcom University of Carthage (confirmed)

#### **11:30 – 12:40 Panel Discussion**

**Mohammad Sadeq**, Manager, Spectrum Management, CRA Qatar (confirmed)

**Luiz Felipe Zoghbi**, Senior Spectrum Policy Manager, GSMA (confirmed)

**Asmae Lachhab**, Senior Marketing and Solution Manager, 5G Development and Spectrum Regulation & Policy covering North Africa Region, Huawei Technologies (confirmed)

**Sihem Tajouri**, Radio Planning & Engineering Director, Telecom Tunisia (confirmed)

**Laith Hamad**, Global Spectrum & Regulatory Policy, GSOA (confirmed)

#### **12:40 – 13:40 Lunch**

#### **13:40 – 14:00 Thinking Point: The Metaverse and the evolving connectivity requirements**

**Bruno Cendon Martin**, Senior Director of Wireless Technologies, META (confirmed)

### **Session 4: A focus on key frequency bands – finding the right balance**

The next 3 sessions will take the opportunity to focus in detail on 3 frequency ranges that are amongst the most sought after bands across Arab countries and globally – the 6GHz band, the 3.8-4.2GHz band and the 470-694MHz band. What's the future of these key bands and of the industry players who are competing over access to them?

#### **Session 4i: What does the future hold for the 6GHz band in the Arab region?**

The debate surrounding the future of the 6GHz band continues – it has become one of the most hotly contested frequency ranges across the Arab region and elsewhere around the world. The WiFi community argue that there are numerous social and economic benefits of making the band available on a licence-exempt basis, and that it is vital to help address the digital divide, improving rural connectivity and accelerate economic innovation. At the same time however, with demand for spectrum for mobile on the rise, the IMT community has argued that the potential that the 6GHz band has to provide contiguous bandwidth of 1200 MHz as an ideal option to provide mid-band capacity for the expansion of 5G. With positions now emerging in countries across the ASMG region and globally on their approaches on the future of the band, this session will look at the current situation in the

region and discuss the best way forward for countries looking to make the optimal use of the valuable bandwidth that is available.

- What approaches to the 6GHz band are being seen from different countries across the region and what trends are emerging?
- How can the socio-economic benefits of the 6GHz band be best maximised for countries in the MENA region?
- How can regulators ensure a 'future-proof' approach to the band, which ensures the best use of this key spectrum in the short, medium, and long-term future?
- With spectrum already available for 5G in the region both across the C-band and also in other bands such as the 2.3GHz and 2.6GHz bands, how much additional spectrum is still required to meet the full socio-economic benefits of mid-band 5G spectrum?
- To what extent is co-existence between incumbent and potential new users such as WiFi and 5G feasible? What potential challenges would this present and how could these be overcome?
- Is there a solution that would ensure that sufficient spectrum in the band is available for both WiFi and IMT users?

Moderator: **Cameron Currin**, Manager, Aetha Consulting (confirmed)

14:00 – 15:10 **Panel Discussion**

**Olfa Jammeli**, General Director of National Agency of Frequencies, ANF Tunisia (confirmed)

**Mohammad Sadeq**, Manager, Spectrum Management, CRA Qatar (confirmed)

**Detlef Fuehrer**, Senior Manager, Spectrum Management and Regulatory Affairs, EMEA, HPE (confirmed)

**Fatima Karim**, Mobile vendors (Huawei, Ericsson & Nokia) (confirmed)

#### **Session 4ii: The future use of the C-band – meeting the needs of existing users and emerging technologies**

The 3.3 - 4.2GHz C-band contains some of the most sought after mid-band spectrum for both IMT and satellite users in the Arab region and across the rest of the world. It is seen as one of the critical bands for the launch of 5G services, and also for the delivery of satellite services across large sections of the Arab states. This session will look at the current shape of the band, and future plans for its use by different stakeholders. It will look at progress that has been made in the 3.4 - 3.6 GHz portion of the band, where 5G networks have been rolled out in a number of countries in the region following its allocation for IMT at WRC-19, but where spectrum still remains unallocated in other countries. It will also look at discussions around the 3.3 - 3.4 GHz and 3.6 - 3.8 GHz bands, which are being studied for co-primary use for IMT at WRC-23. And finally, will examine the long-term future of the 3.8 - 4.2 GHz frequencies, where discussions in Europe and elsewhere have been taking place on possibly licencing parts of the band for 5G use on either a local or national basis. What balance should be taken across the 3.4 - 4.2GHz band to meet the needs of all key users, and to ensure the best use of the available spectrum for stakeholders across the Arab region?

- Where should the balance lie between satellite and 5G users across the entire 3.3 - 4.2GHz band in the MENA region, and how can the needs of all these key services be met?
- What is the state of play across the region in the 3.4-3.6GHz portion of the band, and what plans and timeframes are expected for those countries in which spectrum has not been allocated or 5G networks have not been rolled out?
- With this band already allocated on a primary basis to IMT across the region, 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?
- What potential could opening up the 3.8 - 4.2 GHz band alongside the 3.3 - 3.8GHz band provide in facilitating large contiguous blocks of spectrum for mobile operators and increasing spectrum efficiency?
- What work is being done around the world to explore options to use the band for vertical connectivity? Where should the balance lie between the allocation of 5G licences on a local and a national (light licenced) basis?

- To what extent is coexistence possible between 5G services (either high power or industrial low-to-medium power) and incumbent users in the band, such as satellite earth stations and terrestrial fixed links?
- How can any interference between 5G services and as well as spectrum users in adjacent bands (such as radio altimeters on aircraft using 4.2 - 4.4 GHz) be avoided?
- To what extent is there a need to look at additional coordination of the approach across the band in the region, and how can this be balanced with the needs to take account of national differences across different countries?

Moderator: **Cameron Currin**, Manager, Aetha Consulting (confirmed)

15:10 – 16:15 **Panel Discussion**

Representative, satellite (tbc)

**Sami Derouiche**, Director of Spectrum Refarming Unit, ANF Tunisia (confirmed)

**Sultan AlBalooshi**, Manager, Spectrum Policy, TDRA UAE (confirmed)

**Branimir Stantchev**, Head of Sector, Spectrum for Wireless Broadband, European Commission (confirmed)

**Ali Cheema**, Head of Government & Industry Relations Middle East & Africa, Ericsson (confirmed)

16:15 – 16:40 **Refreshment Break**

**Session 4iii: The future shape of the 470-694 MHz band - Balancing the needs of all key users**

The 600MHz (470-694) band has historically been allocated for terrestrial TV both across the Arab region and most of the world. Moves have been taken in some countries however to look to reallocate this spectrum to provide additional low-band coverage for 5G. In the Arab region, Saudi Arabia have become the first country to move forward with these plans, with an auction in the band expected in mid 2022. This session will look at the current thinking across the region with regards to the future of this key band. It will examine the extent to which there is a requirement in the region for additional low-band converge spectrum for 5G, and at how the needs for this can be met alongside safeguarding the needs of other key users of UHF spectrum such as broadcasters, PPDR and PMSE.

- What is the current thinking regarding the 470-694 MHz band in countries across the Arab region?
- To what extent is there still a need to identify additional spectrum in these lower bands as coverage bands for IMT?
- What potential is there for spectrum sharing to be introduced in the UHF frequencies, and what different models and techniques could be explored to deliver this?
- How important is the 600MHz band for terrestrial broadcasters across the region? How can the needs of broadcasters, PPDR, PMSE and other key users of UHF spectrum be safeguarded whilst also meeting the need for low-band coverage spectrum for 5G?
- What band plans and frequency arrangements are being seen in countries around the world who have taken the decision to allocate the 470-694 MHz band for IMT?

Moderator: **Richard Womersley**, Managing Director, LS Telcom (confirmed)

16:40 – 18:00 **Panel Discussion**

**Scott McKenzie**, Director, Coleago Consulting (confirmed)

**Ulrich Rehfuss**, Head of Spectrum Policy, Nokia (confirmed)

**Jean Pierre Faisan**, Chair, Communications Working Group, BNE (confirmed)

**Ibrahim Al-Hawas**, Telecommunication Engineer, CITC Saudi Arabia (confirmed)

**Hasan Mohamed Hasan**, Director of Wireless Licenses, Frequencies and Monitoring, TRA Bahrain (confirmed)

**Nada Abdelhafez**, Representative, APWPT (Confirmed)

## Day 2

### **Session 5: Delivering a flexible spectrum policy framework to encourage innovation**

A key objective of all regulators and spectrum policymakers is to provide a regulatory framework that enables regulatory certainty for existing spectrum users to grow and innovate whilst also enabling the opportunity for new services to emerge. Strategies to deliver this must be flexible enough to react to changes and developments in the market and in technologies, but also provide the regulatory certainty to encourage investment. This session will look at how the goals can be delivered, and at the extent to which traditional spectrum regulatory and licencing regimes are sufficiently flexible to meet the requirements of an innovative and fast-moving sector. It will explore options for administrations looking to streamline models for spectrum licencing, access and general regulation, and how this can help contribute to innovation and growth within the mobile, satellite and other key sectors.

- What new innovations and technologies are emerging within communication stakeholders in mobile and other key sectors?
- How are these technological developments and innovation driving demand for spectrum, and to what extent is there a need to revisit the approach to spectrum management across the region to ensure the regulatory and licencing frameworks can keep pace?
- What can regulators across the region be doing to help deliver an environment that encourages both innovation and competition to thrive?
- What examples of best practice in forward looking and flexible spectrum regimes are being seen both across the Arab region and elsewhere, and what impact has been seen in helping innovation to thrive? What lessons from these examples can be taken?
- How can it be ensured that fees that are set for access to spectrum are kept at a realistic and affordable level, and more broadly, that an environment that encourages the required investment into new and existing services is delivered?

Moderator: **Richard Womersley**, Managing Director, LS Telcom (confirmed)

09:00 – 09:50 **Fireside Chat**

**Mohammad Al Janoobi**, Radio Communication Engineer, Spectrum Management Department, CITC Saudi Arabia (confirmed)

**Claire Lyons**, Head of European Spectrum Policy, Ofcom (confirmed)

**Jinane Karam**, Senior Manager for Government Affairs, Qualcomm (confirmed)

### **Session 6: The path beyond 5G – delivering the spectrum to power the next generation of wireless connectivity**

Whilst the rollout of 5G networks continues, attention around the world is already starting to switch to what comes next, and the path towards B5G and eventually 6G/IMT2030. As the journey towards this next phase of future wireless connectivity begins, this session will focus on what this evolution of the connectivity landscape will look like, and at what needs to be done to ensure that the power of wireless can continue to push our world forward. It will look at the expected evolution of services over the next decade, and the expectations and visions for next generation technologies.

- What is the path beyond 5G going to look like, and what early work is already being done around the world to shape this?
- What new use cases are going to emerge as we move towards next generation environments, and how may their connectivity requirements differ from those of 5G? What mix of low, mid and high frequency spectrum will be needed to meet these?
- With demand for spectrum set to continually increase as we move beyond 5G, how can a 'squeeze' be avoided? Can this be alleviated by moving into the terahertz frequencies and other bands that have traditionally been considered as unusable?
- What role can spectrum sharing and other methods of increasing spectrum efficiency play?
- How can the needs of other users in key frequencies be balanced with the bandwidth that is required for IMT as we move beyond 5G?
- What role can non-terrestrial technologies play in helping to deliver cost-effective and high-capacity connectivity in future wireless networks?
- What scope is there for increased collaboration between mobile and satellite providers, and the emergence of hybrid terrestrial-satellite systems?

- How can stakeholders in the MENA region work together to ensure that the leadership position that the region currently holds in 5G deployment carries over as we move to next-generation systems?

Moderator: **Ilham Ghazi**, Head, Broadcasting Services Division, ITU (confirmed)

**09:50 – 11:00 Panel Discussion**

**Philip Marnick**, General Director, TRA Bahrain (confirmed)

**Mohamad Ayoub**, Spectrum Manager, TRA Lebanon (confirmed)

**Abdulhadi AbouAlmal**, Director, Technology Standardization & Spectrum Management, Etisalat (confirmed)

Representative, Mobile Vendor (tbc)

**Sergio Bovelli**, Head of Spectrum Management Aero-Connectivity, Airbus (confirmed)

**11:00 – 11:20 Refreshment Break**

**Session 7: Connectivity from the sky - Finding the required connectivity for the next generation of non-terrestrial services**

The shape of non-terrestrial connectivity is evolving. A rapidly increasing number of NGSO and SmallSat networks are being launched alongside more traditional GSO networks. Earth Stations in Motions (ESIMs) connectivity is making huge advancements driven by innovation both on the ground and in space. High Altitude Platform Systems (HAPS) and HAPS as IMT base stations (HIBS) are increasingly being considered as viable options to provide broadband connectivity in remote locations. This brings a range of new exciting opportunities, but also a number of regulatory challenges as policymakers look to ensure that the licencing rules and frameworks that govern access to spectrum for these key technologies keeps pace with the needs of this rapidly evolving and increasingly crowded sector. This session will explore the connectivity needs of the innovative new non-terrestrial technologies and business models that are emerging today. It will discuss the best way forward to ensure a future-proof and flexible licencing system to meet these needs and deliver the next generation of space based connectivity.

- What licencing models and rules currently guide access to spectrum for non-terrestrial systems?
- How is the connectivity landscape in the satellite bands (L-band, S-band, C-band, X-band, Ku-band and Ka-band) evolving, and what needs to be done to ensure that the available bandwidth is utilised in the most efficient way possible?
- To what extent are changes needed to balance the connectivity requirements of new NTN business models and technologies (NGSO satellites, HAPS/HIBS, ESIMs etc) with those of traditional GSO satellite systems?
- Should NGSO satellites be allowed to operate within the same spectrum bands as GSO satellites, and to how can interference between the two in this scenario be mitigated?
- What bands offer the best options to meet the connectivity requirements of ESIMs? Should the focus be around the use of the Ka-band to maximise bandwidth, or is a flexible approach more appropriate and future-proof?
- What bands offer the best options to meet the connectivity requirements of HAPS and HIBS-based technologies? What potential do they have to deliver 4G/5G services to unconnected and rural communities?
- What role can NTN technologies play in emerging 5G wireless ecosystems, and how can increasingly crowded satellite spectrum bands be best managed to maximise the needs of all these key stakeholders?

Moderator: **Mohammed Alabdulqader**, General Manager, Radio Spectrum Services, (CITC), Saudi Arabia (confirmed)

**11:20 – 11:30 Status of NTN technologies in 3GPP**

**Aarti Holla - Maini**, Secretary General, GSOA (confirmed)

- 11:30 – 11:40 **Presentation – meeting the evolving connectivity requirements of GSO satellite systems**  
**Zeina Mokaddem**, VP, Regulatory and Market Access, Inmarsat (confirmed)
- 11:40 – 11:50 **Presentation – meeting the evolving connectivity requirements of NGSO satellite systems and new-space**  
**Laith Hamad**, VP, Government and Regulatory Engagement, OneWeb (confirmed)
- 11:50 – 12:00 **Presentation – title to be confirmed**  
**Mohaned Juwad**, Director Spectrum Policy, Intelsat (confirmed)
- 12:00 – 12:30 **Panel Discussion**
- 12:30 – 12:40 **Closing Remarks**
- 12:40 – 13:40 **Lunch**