9th Americas Spectrum Management Conference 2020

October 12th - 16th 2020

Monday October 12 – DAY 1: Setting the Scene

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

09:10 – 09:40   **Keynote Presentation**

09:40 – 10:40   **Session 1: Covid-19 - what impact and lessons for the spectrum community?**

10:40 – 11:00   Introduce Yourself! Speed Networking Session

Break

11:30 – 12:40   **Session 2: The evolving shape of the US wireless landscape**

Tuesday October 13 – DAY 2: Shaping the future connected society

09:00 – 10:10   **Session 3: Developing a policy blueprint to deliver global 5G leadership – progress, challenges and opportunities**

10:10 – 10:55   Showcase Sessions 1

Break

11:20 – 12:40   **Session 4: Technology and policy tools to increase spectrum efficiency – what does the future hold?**

12:40 – 13:10   **HAVE YOUR SAY ...** *on the emerging shape of the future connected society*

Wednesday October 14 – DAY 3: Innovating to connect citizens and businesses everywhere

09:00 – 10:30   **Session 5: Not just for the cities: Deploying Broadband and 5G connectivity in Rural and Tribal Areas**

10:30 – 11:15   Showcase Sessions 2

Break

11:40 – 12:50   **Session 6: 'Coverage from the sky' - innovations and developments in the aerospace and satellite sector**

12:50 – 13:20   **HAVE YOUR SAY ...** *on delivering the required connectivity to citizens and businesses everywhere*

Thursday October 15 – DAY 4: A focus on key mid-bands (i)

09:00 – 09:20   **Opening Presentation – Building the 5G Spectrum Pipeline: Mid-band and beyond.**

09:20 – 10:40   **Session 7: Future shape of the 6GHz band - meeting the needs of both licensed and unlicensed users**

Break

10:55 – 12:10   **Session 8: CBRS band – examining the shape of the emerging new ecosystem**

12:10 – 12:55   Showcase Sessions 3

Friday October 16 – DAY 5: A focus on key mid-bands (ii)

09:00 – 10:15   **Session 9: Looking beyond the C-band auctions – timelines and future plans across the region**

10:15 – 11:00   Showcase Sessions 4

Break

11:20 – 12:35   **Session 10: Where next? What options exist to provide the required additional mid-band spectrum for 5G?**

12:35 – 13:00   **HAVE YOUR SAY …** on the key mid-bands

DAY 1: Setting the Scene

09:00 – 09:10
Welcome and Introductions

09:10 – 09:40   **Keynote Presentation**
Ajit Pai, Chairman, FCC (confirmed)

Session 1: Covid-19 - what impact and lessons for the spectrum community?
The impact of the Covid-19 pandemic put a huge amount of pressure on communication networks all across the Americas and the rest of the world. The imposed lockdowns and the resulting increase in home-working and use of web streaming and other services have significantly increased broadband traffic, as well as serving to highlight the critical importance of connectivity for business continuity and for everyday life. This session will look at the work that was done by industry and regulators in the US and across the region to keep societies connected, and at how access to spectrum was managed to help with this.

- How did the networks handle the crisis and the additional pressure that was created? What lessons were learnt and what examples of best practice in industry and regulators working together to find solutions were seen?
- What pressure was put on public safety communications networks and how did these stand up?
- To what extent has this shone a light on the importance of digital, and of digital inequalities that exist? Where can we go from here tackle some of these?
- Has the situation with Covid-19 affected what should be considered as minimum service level requirements in terms of speeds and latency?
- What challenges may still be ahead as we emerge from the crisis, particularly with things such as 5G rollout - is it going to be harder to secure investment?

Moderator: **Johanne Lemay**, Co-President, LYA (confirmed)

09:40 – 10:40   **Interactive Fireside Chat**
Miguel Munoz, PCC.II Specialist: Radiocommunication, CITEL (confirmed)
Tom Stroup, President, SIA (confirmed)
Scott Bergmann, SVP, Regulatory Affairs, CTIA (confirmed)
Mathew Berry, Chief of Staff to Chairman Ajit Pai, FCC (confirmed)

10:40 – 11:00   **Introduce Yourself! Speed Networking Session**

11:00 – 11:30   **Morning Refreshment Break**

Session 2: The evolving shape of the US wireless landscape – delivering security, innovation and competition
The Sprint and T-Mobile merger and the subsequent emergence of Dish as a new national carrier with the ambitions to build a 5G network using Open-RAN architecture has the potential to significantly change the shape of the US wireless landscape. This session will look at how the situation is evolving and what this might mean for the short-term and long-term future of the sector. It will look at the potential benefits and challenges that an Open-RAN model can provide, and the way in which it could potentially change the way spectrum is allocated and used and more broadly at how competition in the wireless space is viewed.

- How is the wireless ecosystem in the US evolving, and what is the best way forward to deliver a competitive, innovative and secure wireless ecosystem that provides a level playing field for all?
- How could the emergence of Dish as a possible new nationwide carrier affect the shape of the US spectrum landscape in both the short-term and the long-term?
- What might the emergence of Open-RAN solutions mean for the future spectrum landscape and the development of 5G more broadly? What advantages could it bring and what challenges exist?
- As technologies and systems advance, what is the best way forward in order to deliver the robust ecosystem of trusted suppliers that is necessary to maintain a strong U.S. position in delivering secure wireless technology?

Moderator: **Ruth Milkman**, Partner, Quadra Partners LLC (confirmed)

11:30 – 11:50   **Presentation & Discussion**
Geoffrey Starks, Commissioner, FCC (confirmed)

11:50 – 12:40   **Interactive Fireside Chat**
John Hunter, Director for Spectrum Policy, T-Mobile (confirmed)
Diane Rinaldo, Executive Director, Open RAN Policy Coalition (confirmed)
David Stehlin, CEO, TIA (confirmed)

<u>**Day 2: Shaping the future connected society**</u>

Session 3: Developing a policy blueprint to deliver global 5G leadership – progress, challenges and opportunities
With commercial 5G deployment now underway all around the world, the West is considered by many to have fallen behind Asia in the competition for leadership in the 5G transition. Policymakers and industry representatives in the US are working hard to address this - the FCC's strategy to Facilitate America's Superiority in 5G Technology (the 5G FAST Plan) and the broader White House 'National Strategy to Secure 5G' both set out a blueprint for how this can be achieved. This session will look at the current situation regarding 5G roll-out in the US, the results and trends that have been seen to date, and ultimately the challenges and opportunities ahead as the global battle for 5G leadership continues.

- What results have been seen so far with mmWave spectrum - how is it being used and are applications getting traction?
- Where does the US currently sit globally when it comes to 5G leadership and what needs to be done going forward to ensure its position at the top-table going forward?
- What challenges are faced when it comes to delivering 5G rollout and leadership in the US and across North America and how can these be overcome?
- What policy measures have been seen so far as part of the FCC's '5G FAST' plan, and what new initiatives are in the pipeline?
- What specific opportunities and challenges are presented by the way in which the 5G market is developing in the US compared to other regions around the world?
- To what extent will recent and ongoing actions to make more mid-band spectrum available for 5G help to progress the US's global 5G position?
- What is the status of 5G planning and development in Canada and in the wider Americas region, and how can countries across the region work together to develop a world-leading 5G ecosystem?

Moderator: **Andy Hudson**, CEO, Spectrivity (confirmed)

09:00 – 10:10   **Panel Discussion**
David Willis, Senior Director, ISED Canada (confirmed)
Jennifer Manner, Global Spectrum & Regulatory Policy, Global Satellite Coalition (confirmed)
Patrick Welsh, Director, Federal Government Affairs, Verizon (confirmed)
Nese Guendelsberger, Deputy Bureau Chief, International Bureau, FCC (confirmed)

10:10 – 10:55   **Showcase Session 1**

10:55 – 11:20   **Morning Refreshment Break**

Session 4: Technology and policy tools to increase spectrum efficiency – what does the future hold?
Spectrum is of course a finite resource and is hugely sought after. The majority of bands have generally already been allocated, and with the shift to 5G and next generation services, this demand and usage is only going to increase. The only plausible way that these needs are going to be met is through a flexible spectrum ecosystem that integrates sharing technologies and increases spectrum efficiency. This session will look at the future, and at the emerging new technological and policy tools that can help deliver this. It will also look more broadly at the traditional spectrum regulatory regime and discuss whether it is sufficiently flexible to meet the requirements of an innovative and fast-moving sector, and ultimately at the best way forward to maximise efficiency and ensure fair and sustainable use of the radio spectrum for all.

- What policy and technological innovations are being seen that can help to increase spectrum efficiency?
- To what extent can refarming and the repurposing of both federal and non-federal bands help to increase efficiency, and how can regulators create incentives to encourage incumbents to make spectrum available?
- What new methods and techniques of spectrum sharing are emerging both in the US and elsewhere? How can these be best harnessed to increase efficiency and protect the rights of all users?
- Where is technology taking us and what does the future hold? How can technological advancements be harnessed to enable us to use spectrum more efficiently and meet future needs?
- Should there be a shift in approach from looking to always identify new spectrum to instead looking at the role of technology and policy tools to increase the efficiency of bands that are already allocated?
- Looking to the future, what is the 'next big thing' that is likely to deliver more efficient use of spectrum?

Moderator: **Armand Musey**, President and Founder, Summit Ridge Group (confirmed)

11:20 – 12:40   **Panel Discussion**
Ira Keltz, Deputy Chief, Office of Engineering & Technology, FCC (confirmed)
Chris Pearson, President, 5G Americas (confirmed)
Chris Murphy, Associate General Counsel, Viasat (confirmed)
Andy Clegg, Spectrum Engineering Lead, Google (confirmed)
Priscilla Argeris, Representative, Facebook (confirmed)

12:40 – 13:10   **HAVE YOUR SAY …** *on the emerging shape of the future connected society*

Day 3: Innovating to connect citizens and businesses everywhere

Session 5: Not just for the cities: Deploying Broadband and 5G connectivity in Rural and Tribal Areas
Improving connectivity in rural and tribal areas is one of the key priorities for regulators all across the Americas. Billions of dollars are being ploughed into building and supporting rural broadband networks in the US, through initiatives such as the 5G fund for Rural America and the Rural Digital Opportunity Fund. Alongside this, measures were passed in 2018 to speed up state and local review of small cells, designed to remove barriers to the deployment of small cells and wireless infrastructure. And elsewhere similar actions are being taken – in Canada, for example, an ambitious connectivity strategy is in place which aims to extend high-speed access to hard to reach areas in order to harness economic development for rural communities. This session will look at the extent to which these efforts and initiatives across the Americas can finally make a difference in successfully closing the digital divide and helping to facilitate the adoption of IoT devices, autonomous vehicles, and connected cities (or towns) in more remote and hard-to-reach areas.

- What are the main barriers that have blocked the roll-out of broadband in rural and tribal areas to date, and to what extent can the policy measures and initiatives being put forward help to overcome these?
- Where do we currently stand with the ongoing court proceedings related to the FCC siting policy ruling, and what are the likely next steps in this area?
- What has the Covid-19 situation taught us about connectivity in underserved areas and the challenges that still remain ahead?
- What work is being done in Canada and elsewhere in the Americas to deliver rural connectivity and what success is being seen?
- To what extent do we have an accurate representation of connectivity black spots in rural America? What work has been done to improve mapping methodology and data and what challenges in this area still remain?
- What mix of technology can help deliver the required connectivity, and what are the key spectrum bands that can be used?
- How can the challenge of addressing the backhaul needs in the most remote areas by tackled, and what technologies and solutions offer the best approach to do this?
- What will future 5G connectivity in rural and tribal areas likely look like, and how may it differ from that in cities?

Moderator   **Stephan Sloan**, Director, Media Services Group (confirmed)

09:10 – 10:30   **Panel Discussion**
Kirk Burgee, Chief of Staff, Wireline Competition Bureau, FCC (confirmed)
Shreyas Ravi, Economist, Economists Incorporated (confirmed)
Steve Sharkey, Vice President, Government Affairs, Technology and Engineering Policy, T-Mobile (confirmed)
Claude Aiken, President & CEO, WISPA (confirmed)
Jennifer A. Manner, Chair of Network & Services Working Group, ESOA (confirmed)

10:30 – 11:15   Showcase Session 2

11:15 – 11:40   Morning Refreshment Break

Session 6: 'Coverage from the sky' - innovations and developments in the aerospace and satellite sector
The satellite sector has always been key in delivering connectivity to rural and outlying areas, complementing mobile and other technologies to increase overall coverage areas. This is more true today than ever before – innovations in the sector and the emergence of new technologies and solutions such as ESIMs, HAPS and HIBS innovations are making connectivity possible in the most remote, rural locations and on ships and aircraft around the world. This session will look at how the sector is evolving, and the impact that this is having on the ways in which companies are accessing and using spectrum.

- What new innovations and systems are being seen within the satellite sector?
- How are these innovations changing the spectrum requirements of the sector and how can it be ensured that these are met both now and in the future?
- Following the high-profile issues faced by companies such as LeoSat and OneWeb, what is the future for non-geo satellite systems, and how can companies deal with challenges of scaling up?
- What developments have been seen in ESIMs and emerging access systems such as HAPS and HIBS? How can these help to connect people and regions in the most hard to reach areas?
- What innovative new examples are being seen of satellite operators working directly with MNOs to deliver connectivity using LTE frequencies?
- What is the future of this new model of co-operation between satellite and mobile, and how can it be managed? To what extent is there/should there be a regulatory framework for these emerging new uses?

Moderator   **Scott Wallsten**, President and Senior Fellow at the Technology Policy Institute (confirmed)

11:40 – 12:50   **Panel Discussion**
Tom Sullivan, Chief, International Bureau, FCC (confirmed)
Amy Mehlman, Vice President, US Government Affairs and Policy, Viasat (confirmed)
Jameson Dempsey, Government Affairs Counsel, Loon (confirmed)
Elisabeth Neasmith, Director, Spectrum Development, Telesat (confirmed)

12:50 – 13:20   **HAVE YOUR SAY …** *on delivering the required connectivity to citizens and businesses everywhere*

Day 4: A focus on key mid-bands (i)

09:00 – 09:20   Opening Presentation – Building the 5G Spectrum Pipeline: Mid-band and beyond.
Tom Power, SVP and General Counsel, CTIA (confirmed)

Session 7: Future shape of the 6GHz band - meeting the needs of both licensed and unlicensed users
Earlier this year, rules were adopted by the FCC to make the entire 6GHz band (5.925 – 7.125 GHz) available for unlicensed use – a decision that made 1200MHz of spectrum available for technologies such as Wi-Fi. These new unlicensed users in the band will share the spectrum with a number of incumbent licensed users, who use the band to provide fixed wireless services to support things such as utilities, public safety, and wireless backhaul. This session will look at what this decision will mean both for the future of Wi-Fi services and also at the measures that have been taken to avoid interference with these incumbent services. It will look at the different models that could be employed in the band to provide and manage the access to the available spectrum, and the best way forward to enable both licensed and unlicensed users in the band to thrive.

- What will the new rules mean for the future of Wi-Fi and what new next generation services may this help to enable?
- When can it be expected to see Wi-Fi or other technologies operating in the band? What can be expected going forward with low-power indoor access points and other scenarios?
- To what extent will the rules and conditions that have been set be successful in preventing harmful interference to fixed services?
- How would an AFC approach be employed in the band and how would this work in practice?
- What approach to 6GHz is being seen in other regions around the world?

Moderator   **Mark Eschenburg**, Partner, Aetha Consulting (confirmed)

09:20 – 10:40   Panel Discussion
Jayne Stancavage, Global Executive Director, Digital Infrastructure Policy, Intel (confirmed)
Mark Gibson, Senior Director, Business Development & Spectrum Policy, Commscope (confirmed)
Veena Rawat, Senior Spectrum Advisor, GSMA (confirmed)
Megan Stull, Counsel, Google (confirmed)
Alan Norman, Director, Public Policy, Facebook (confirmed)
Tim Harrington, Chairman, UWB Alliance (confirmed)

10:40 – 10:55   Morning Refreshment Break

Session 8: CBRS band – examining the shape of the emerging new ecosystem
This summer saw a key step in the development of the new ecosystem in the CBRS band, with the completion of the priority access license (PAL) auction opening up 70MHz of spectrum in the 3.55-3.65 GHz band. The innovative new 'tiered' model of sharing offers access to a wide range of different users on both a licensed and unlicensed basis, and has the potential to facilitate innovative new business models and use cases. This session will look at the results that have been seen from the auction, and what this has told us about the new ecosystem in the band that is emerging. Looking forward, it will look at what the next steps are likely to be as deployments in the band now begin, and at the challenges that may still remain.

- What results have been seen from the auction? What licences have been assigned and to whom?
- What is the ultimate use of the band going to be, and how is the spectrum in the band going to be used?
- How can the different stakeholders and users in the band best take advantage of the available spectrum for next generation deployments?

- To what extent is this going to help deliver some of the much-needed mid-band capacity for 5G?
- What number of deployments and acts of deployment have been seen in the GAA tier?
- What devices have been authorised and what use cases do these enable?
- To what extent is a secondary market of PAL licences likely to be seen and what will this likely look like?
- Is there a risk that high powered new C-band systems may interfere with CBRS systems, and how can this be avoided?

Moderator: **Rob Yates**, Co-President, LYA (confirmed)

10:55 – 12:10   **Panel Discussion**
Derek Khlopin, Senior Advisor, Office of the Assistant Secretary, NTIA (confirmed)
Philip Marnick, Group Director Spectrum, Ofcom (confirmed)
Jennifer McCarthy, VP, Legal Advocacy, Federated Wireless (confirmed)
Dave Wright, President, CBRS Alliance (confirmed)

12:10 – 12:55   **Showcase Session 3**

Day 5: A focus on key mid-bands (ii)

Session 9: The changing shape of the C-band landscape – timelines and future plans across the region
Across North America, plans for the reallocation of C-band spectrum for mobile use are starting to become clearer. In the US, auctions are planned for the end of 2020, with the aim of freeing 100 MHz by December 2021 and an additional 180Mhz of spectrum in the band by December 2023. The US Government also recently announcing that an additional 100 MHz will be made available in 3.45-3.55 GHz via auction in December 2021. In Canada, an auction of spectrum in the C-band is also scheduled for 2021, whilst in Mexico, plans for the band are also on their way to being formulated. The slightly varied approaches that are being seen in different countries however has led to some concerns that it may result in a somewhat piecemeal approach across North America, with different bands, power levels and types of use. This session will look at the extent to which this is a legitimate concern, and if so then how it can be dealt with. More broadly, it will examine the likely configuration in the C-band that is going to emerge, the timeframes that can be expected, and at the extent to which the bandwidth that is being made available for 5G will be sufficient to solve the scarcity issues in the mid-band.

- What is the situation in the US, and are we on schedule for the proposed 'accelerated clearing' timeframe and reallocation of the C-band following the auction?
- How helpful will the additional 100 MHz announced in August (i.e. 3.45-3.55 GHz) be in meeting the needs of mid-band spectrum for 5G?
- How is the broader C-band landscape evolving in North America, and what is the situation in Canada and Mexico? Where are there similarities and where are there differences in the approaches being seen?
- To what extent is it likely that there will be a fragmented approach across regional boundaries, and in this case, how can this be best dealt with?
- How are the approaches being taken in North America likely to affect countries in the wider LatAm region? How important is it that a co-ordinated approach is seen?
- What next for the rest of the C-band? Is there any way that any additional spectrum could be released, and if so, what approach could be used?

Moderator: **Richard Marsden**, Managing Director, Nera Consulting (confirmed)

09:00 – 10:15   **Panel Discussion**
Ramiro Camacho, Commissioner, IFT Mexico (confirmed)
Chantal Davis, Director, Spectrum Regulatory Best Practices, ISED Canada (confirmed)
Jared Carlson, Vice President, Government Affairs and Public Policy, North America, Ericsson (confirmed)
Giulia McHenry, Chief, Office of Economics and Analytics, FCC (confirmed)
Haz Moakkit, Vice President, Spectrum Strategy, Intelsat (confirmed)

10:15 – 11:00   **Showcase Session 4**

11:00 – 11:20   **Morning Refreshment Break**

Session 10: Where next? What options exist to provide the required additional mid-band spectrum for 5G?
In previous sessions, we have looked at a number of key bands that could provide options to meet the big demand for additional mid-band spectrum for 5G. Spectrum in the C-band, CBRS band, and 3.45-3.55 GHz should soon be becoming available to start to ease the urgency of this, while 6GHz band has been made available for unlicensed use. This session will look beyond these bands to explore the other potential solutions to provide the required large contiguous blocks of spectrum that are required for 5G. Focus will begin on the

3.1 - 3.45 GHz band, which is currently used by the military and federal incumbents, and on whether that could provide a possible option, before looking in detail at other bands and options. It is widely accepted that finding additional mid-band spectrum is key for the US to deliver 5G leadership. Where should the short-term and the long-term priorities lie in finding this?

- How much additional mid-band for 5G is actually required, beyond that which is already available or in the short-term pipeline?
- To what extent will the spectrum that will become available in both the C-band and CBRS band help to meet these needs?
- To what extent is their potential for any spectrum in the 3.1 – 3.45 GHz band to be reallocated or shared between commercial wireless services and federal incumbents?
- What would be the challenges in doing this and how much spectrum could potentially be made available?
- What other bands and options exist to provide the required additional bandwidth in the medium to long-term and where should the priority lie for regulators and for operators? What potential could bands such as the 4.9GHz, 5.9GHz and 7Ghz offer, or even the L-band (now that this has been approved for 5G use)?
- What challenges exist with these bands and others, and how can it be ensured that the needs of all crucial (federal and non-federal) users in these bands are balanced and met?

Moderator   **Amit Nagpal**, Partner, Aetha Consulting (confirmed)

11:20 – 12:35   Panel Discussion
Rachael Bender, Vice President & Associate General Counsel, Federal Regulatory & Legal Affairs, Verizon (confirmed)
Alejandro Navarette, Head, Radioelectric Spectrum Unit, IFT (confirmed)
Charles Cooper, Associate Administrator, Office of Spectrum Management, NTIA (confirmed)
Nick Degani, Senior Counsel to Chairman Ajit Pai, FCC (confirmed)
Campbell Massie, Advocacy Manager, North America, GSMA (confirmed)

12:35 – 13:00   HAVE YOUR SAY … on the key mid-bands