



OFICINA DEL COMISIONADO ARTURO ROBLES ROVALO

18:10

Ciudad de México a 08 de octubre de 2019

**PLENO DEL INSTITUTO FEDERAL DE TELECOMUNICACIONES
PRESENTE**

Se presenta, en cumplimiento de lo dispuesto por el artículo 15, fracción I del Estatuto Orgánico de este Instituto Federal de Telecomunicaciones (IFT), en relación con el artículo 23, fracción II de la Ley Federal de Telecomunicaciones y Radiodifusión (LFTyR), el informe del Comisionado Arturo Robles Rovalo respecto a su participación en representación del IFT en la "Sexta Conferencia Anual de Administración del Espectro en Latinoamérica" y en el "Taller sobre redes comunitarias del Sector de Desarrollo de la UIT en el marco de la Comisión de Estudio", que tuvieron lugar en Lima, Perú, del 18 al 20 de septiembre de 2019.

Durante la Conferencia el Comisionado participó en dos sesiones donde se presentaron los avances y objetivos del Instituto respecto a la Banda de 600 MHz y las medidas de eficiencia espectral. En lo particular, en la sesión 6 se expuso la gran importancia que tiene para los operadores de telecomunicaciones el espectro que se encuentra por debajo de 1 GHz y la necesidad de armonizar lo más posible el uso de la Banda de 600 MHz en la región de América. Asimismo, durante la sesión 9ii se compartió la experiencia y los avances que ha tenido el Instituto respecto a las Medidas de Eficiencia Espectral.

En lo que respecta al taller de redes comunitarias, el Comisionado asistió a las distintas sesiones del programa y expuso la experiencia en México, por lo que se compartieron las experiencias y mejores prácticas en América Latina para el desarrollo de redes comunitarias.

Finalmente, es de destacarse que la participación del IFT en la conferencia contribuyó al posicionamiento de la política de administración del espectro del país en la región, así como su liderazgo en la promoción de la Banda de 600 MHz.

Se anexa el programa de la "Sexta Conferencia Anual de Administración del Espectro en Latinoamérica" y el "Taller sobre redes comunitarias".

ATENTAMENTE



**Arturo Robles Rovalo
Comisionado**

ANEXO I

The 6th Annual Latin America Spectrum Management Conference

September 18 – 19

Lima, Peru

Session 1: Introductions and Keynote Presentations

09:00 – 09:15 **Welcome & Conference Opening**

High level representative, **Ministry of Transport and Communications, Peru** (tbc)

09:15 – 09:25 **Keynote Presentation**

Oscar Leon, Executive Secretary, CITEL (confirmed – via video link)

09:25 – 09:45 **Keynote Presentation**

Mario Maniewicz, Director, BR, ITU (confirmed)

Session 2: Towards WRC-19 and beyond

With WRC-19 now only a few weeks away, positions on the key agenda items are now mostly finalised both in the Americas and around the rest of the world. This session will provide an update on the CITEL positions (following the final preparatory meeting which took place in Canada in August), and will then look beyond WRC-19, to the key agenda items and candidate bands that are to be set for WRC-23.

Moderator: **Mario Maniewicz**, Director, BR, ITU (tbc)

09:45 – 10:00 **Key CITEL Positions and Priorities ahead of WRC-19**

Hector Bude, Representative, WG for WRC19 preparation, CITEL (confirmed)

10:00 – 10:15 **Key European Positions and Priorities ahead of WRC-19**

Alexander Kuhn, Chairman of WRC19 working group, CEPT (confirmed)

10:15 – 11:25 **'State your Case': Beyond WRC-19 – key agenda items for WRC-23**

Even as we continue the final preparation for WRC-19, work has already begun on WRC-23. Provisional agenda items have been set, and the first preparatory meeting (CPM23-1) will take place immediately after the conclusion of WRC-19. This session will invite key industry representatives to 'state their case' and provide an overview of their key priorities, aims and objectives for WRC-23.

Audience members will also be invited to contribute to the discussion through the use of interactive voting pads.

- What is your sector's 'wish-list' for WRC-23 and why?

- What are likely to be the key agenda items for your sector and what candidate bands are likely to be up for discussion?

- If you had to give **one** main objective for the WRC-23 meeting, what would it be?

Veena Rawat, Senior Spectrum Advisor, GSMA (confirmed)

Osamu Kamimura, Vice President and Head of Spectrum Policy Office, Softbank (confirmed)

Representative, Ericsson (tbc)

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Representative, SES (tbc)

11:25 – 11:45 **Morning Coffee**

Session 3: A model for rural connectivity - Working together to deliver digital inclusion

Despite a huge amount of money and effort being invested into tackling the digital divide across Latin America, a large percentage of the population still lacks adequate access to mobile and broadband services. And some say that the gap between the digital haves and the digital have-nots is widening rather than narrowing. In a bid to tackle this issue, technology companies, mobile operators and other key partners who may traditionally have been competitors are increasingly starting to work closer together, collaborating on the development of innovative new projects and solutions that it is hoped will finally start to make some concrete progress in delivering connectivity to rural communities. This session will look at the work in this area that is being done, and the progress that is being made. Focussing on some of the successful projects that are emerging, it will look at how different technology providers can come together to overcome the barriers to rural deployment and deliver a sustainable model to deliver the connectivity that is so desperately needed.

- What tangible progress to narrowing the digital divide in Latin America has been seen over the past few years?
- How can Governments, regulators ensure that they are truly understanding the connectivity requirements of these rural communities, and then work with the private sector to meet these?
- How are technology companies, connectivity providers and other key stakeholders collaborating to help deliver connectivity in rural areas?
- What concrete examples are being seen, and where models are proving successful, what should be the next steps in scaling these up across the region?
- How can it then be ensured that the required resources and investment is available to deliver on these needs? What incentives can be used to help with this?
- What are the spectrum requirements, and how can it be ensured that access to the necessary bandwidth is available?

Moderator: **Raul Garcia**, Executive Director, National Telecommunications Program (PRONATEL)

(confirmed)

11:45 – 13:00 **Panel Discussion**

Gabriela Lago, Director, Regulatory Affairs, OneWeb (confirmed)

Fernando Villanueva, Director of Business Development, LatAm, UbiquitiLink (confirmed)

Teresa Gomes de Almeida, Chief Executive Officer, Internet para Todos Peru (confirmed)

Representative, Microsoft (confirmed – speaker name tbc)

Representative, Huawei (tbc)

13:00 – 13:55 **Lunch**

Session 4: The path to innovation – planning ahead to deliver the 5G future

If harnessed in the right way, 5G has the potential to enable long-term digital transformation and contribute to the emergence of smart societies all across Latin America. In order for this potential to be reached, there needs to be a concrete and deliberate plan in place both at regional and national levels that takes into account the needs of all users. Amongst other things, this will help deliver the regulatory certainty that is required to encourage the

significant investment and capital expenditure that is required for 5G. This session will look at the progress that has been made to date on the planning and preparation for 5G, and the obstacles that still need to be overcome. It will look at the levels of investment that are required in areas such as R&D, spectrum licence acquisition and infrastructure deployment, and at whether there are ways in which operators, regulators and network providers can work together to reduce these costs and minimize risk.

- What examples of roadmaps and concrete plans for 5G rollout are being seen in countries across Latin America, and what are the key bands being identified as most important for initial 5G launch?
- How can regulators plan ahead to ensure that they are not left behind when it comes to 5G?
- How important is it that a co-ordinated approach is seen across the region and what work is being done in this area?
- What levels of investment will be required to deliver the roll-out of 5G networks and what impact can regulatory certainty have on helping to encourage this?
- What prices are being seen for the acquisition of 5G spectrum licences, and are these fair? How can regulators make it easier and cheaper to deploy mobile infrastructure and support investment in the required network densification and extension?

13:55 - 15:20 Panel Discussion

Allan Ruiz, Executive Secretary, COMTELCA (confirmed)

Jose Aguilar, General Director of Policy and Regulation on Communications, Ministry of Transport and Communications, Peru (confirmed)

Hector Marin, Senior Director, Government Affairs, Qualcomm (confirmed)

Jose Ayala, Head of Government and Industry Relations for Latin America, Ericsson (confirmed)

15:20 – 15:40 Afternoon Coffee

15:40 – 16:00 Thinking Point: Ensuring sustainable spectrum pricing which fosters the development of mobile broadband and 5G

Stefan Zehle, CEO, Coleago (confirmed)

Session 5: Bringing the required spectrum to market: recent and planned spectrum awards

A number of key spectrum awards have taken place in Latin America, with others scheduled for the coming months. In addition to the continued release of 4G frequencies, a number of awards focussing on 5G bands have also been announced. This session will look at some of the awards that have taken place and the results that have been seen, as well as looking forward to awards scheduled for the coming months and addressing the issue of introducing 'coverage obligations' as part of award design, and how to balance this with revenue generation. examples that are being seen of this around the world, and whether this can also be used as a way of increasing the rural connectivity.

16:00 – 16:15 An overview of recent 4G & 5G awards – lessons learnt

Representative, **FTI Consulting** (confirmed – speaker name tbc)

16:15 – 16:30 Balancing revenue generation and coverage obligations in award design

Hector Lopez, Senior Consultant, NERA (confirmed)

16:30 – 16:45 **Country Case Study: Peru**

Nadia Villegas, General Director of Programs and Projects on Communications,
Ministry of Transport and Communications, Peru (confirmed)

16:45 – 17:00 **Country Case Study: Brazil**

Agostinho Linhares, Manager of Spectrum, Orbit and Broadcasting Division,
ANATEL (confirmed)

17:00 – 17:15 **Operator Perspective**

Catherine Bohill, Director, Spectrum Strategy, Telefonica (confirmed)

17:15 – 17:40 **Discussion**

Day 2

Session 6: A focus on...low-band spectrum: The changing shape of the lower-frequency spectrum landscape

Low-band spectrum is key for mobile operators looking to deliver nationwide coverage and help to tackle the digital divide. Traditionally the 800 / 850 MHz band has been used for mobile broadband, and this has recently been supplemented by the 700MHz band, which has now either been awarded or is in the process of being awarded to mobile operators across most countries. This session will look beyond these band and more broadly at the low frequency bands, and at how the needs of both incumbent and new users can best be met. It will look at the extent to which this is still need for additional low-band spectrum to meet growing requirements and of course the needs of 5G, and if so, then where this can be found. Focus will be given to the 600MHz band, which Mexico is now looking at making available for 5G (following a similar approach in US and Canada), but which many other countries are against, given its wide use for broadcast; as well as looking at other options and the future shape of the landscape more generally.

- To what extent will the low-band spectrum already allocated to mobile be sufficient to enable them to meet the coverage requirements of today and tomorrow?
- Is there still a need for additional spectrum, and if so then what bands could provide options for this?
- How can it be ensured that the requirements of the broadcast community and other key incumbent users can continue to be met?
- What is the situation in the 600MHz band across the region and in other important bands such as the 1500MHz (which was recently allocated to mobile by some countries in Europe)?
- How important is the 600MHz band for broadcasters, and what would it mean for these key users if countries did start to look at also making this available for 5G?

09:00 – 10:10 **Panel Discussion**

Agostinho Linhares, Manager of Spectrum, Orbit and Broadcasting Division,
ANATEL (confirmed)

Arturo Robles, Commissioner, IFT Mexico (tbc)
Representative, Broadcast

Representative, ASIET (tbc)

Session 7: A focus on...mid-band spectrum for 5G: Defining the future shape of the C-Band in the Americas

Discussions across Latin America are continuing about the future plans for the C-Band. The 3.4-3.6 GHz portion of the band has been identified as primary 5G spectrum in the region, and regulators are now assessing the feasibility of making this and other parts of C-band available to mobile services. Meanwhile the future of the 3.6-4.2 GHz portion of the band is less clear, with a different approach currently being taken in the U.S. to that seen in Latin America and elsewhere. C-band spectrum is intensively used by satellite services across the region, with their usage rights in the band protected.

In the US, satellite operators have agreed to engage in a market-based process to re-purpose a segment of the 3.7-4.2 GHz band for mobile use, while at the same time defining power levels, designing filters and other technical considerations that will be essential to ensuring that existing applications in C-band can continue with required high quality and reliability. Whilst they emphasize that this a U.S. specific situation and not feasible in other countries, others have said that the upper portion of C-band is a natural extension to the 3.4-3.6 GHz 5G band and that in the medium to long term, some or all of this spectrum could be wanted for mobile broadband. This session will look at views from both sides about the future of the C-band across the region, and the best approach to meet the vital needs of both the satellite and mobile sectors.

- What services are currently provided by satellites in C-band, and what are their long-term prospects?
- What role will the C-band play as infrastructure is developed to support the roll-out of 5G services in the Latin American region?
- How much C-band spectrum will mobile operators realistically need in the next ten years? To what extent can other 5G mobile bands, both at lower frequencies and in mmWave spectrum, substitute for C-band?
- What examples have already been seen across the region of clearing and reallocating spectrum in the band, and what lessons can be taken?
- What measures are required to protect and preserve satellite users and other incumbents in the band? How important is C-band to satellite in the region for the foreseeable future?
- With advancing technologies and innovative authorisation models, to what extent could coexistence of satellite and mobile services in the 3.6-4.2GHz band be a feasible option in the mid- to long-term?
- Could a market-based approach such as that seen in the U.S. ever be an option for Latin American countries to release spectrum for 5G in C-band?

Moderator: **Barlow Keener**, Managing Director, Summit Ridge Group (tbc)

10:10 – 11:20 **Panel Discussion**

Veena Rawat, Senior Spectrum Advisor, GSMA (confirmed)

Richard Womersley, Director, Spectrum Consulting, LS telcom (confirmed)

Representative, Ministry of Transport and Communications, Peru (confirmed – speaker name tbc)

Daniel Castro, Director General of Quality, SUTEL, Costa Rica (tbc)

Representative, Intelsat (confirmed – speaker name tbc)

11:20 – 11:40 **Morning Coffee**

Session 8: High-band spectrum for 5G - Shaping the emerging mmWave landscape

The mmWave frequencies are seen as providing some of the most important spectrum for 5G, and particularly for delivering the high capacity coverage that is required in urban areas. Some countries across Latin America have already made moves to look at following the US approach of initially focussing on the 28GHz band - Uruguay have already launched services in this band, and countries such as Chile, Colombia and Mexico are also considering this. Whereas others, for example Brazil, are supporting the 26Ghz band, which is expected to be identified as a global 5G pioneer band at WRC- 9, this also offers an option to providing the required high-range spectrum. This session will look in more detail at the importance of mmWave spectrum for 5G in both the short term and the long term, and at the options that regulators have to provide the spectrum that is required. It will look at what needs to be done to balance the needs of both existing and new users in these frequencies, and assess the optimal timing of award for different bands to help deliver the full benefits of 5G.

- What factors should regulators be looking to take into account when making a decision on initial frequencies to focus on for 5G within the mmWave bands?
- What is the current situation across the region, and is it likely that a co-ordinated approach will emerge?
- What are the pros and cons of initially focussing efforts on launching services in the 26GHz and 28GHz bands respectively?
- To what extent could a combined approach of making both the 26Ghz and 28GHz bands available for 5G even be a realistic option? What would this mean for the rollout of 5G services in the region, but also for existing users in the band?
- How can the needs of mobile and satellite services in the mmWave bands best be met, and to what extent is co-existence a viable option?

Moderator: **Marc Eschenburg**, Partner, Aetha Consulting (confirmed)

11:40 – 12:50 **Panel Discussion**

Fernando Carrillo, Senior Principal Engineer - Regulatory Affairs, Echostar/Hughes
(confirmed)

Hector Bude, Head of Spectrum Management Department, URSEC (confirmed)

Representative, FCC (confirmed – speaker name tbc)

Representative, Qualcomm (tbc)

Representative, SUBTEL, Chile (tbc)

12:50 – 13:45 **Lunch**

Session 9: Delivering a spectrum environment that meets the needs of all

Session 9i: Satisfying the connectivity requirements of vertical industries

5G is going to bring with it a wide range of new use cases, with some very varied spectrum requirements. The challenge for regulators is to develop a spectrum regime that meets the (sometimes complex) requirements of all these cases, and of all existing and new users. This sesión will look at the work that has been done in this area, the best options to provide the ultra-reliable 'industrial' grade connectivity that is required by key vertical sectors, and at the types of network that should be deployed and by whom.

- What new and emerging use cases are going to be enabled by 5G, and what spectrum requirements are likely to be seen?
- What spectrum bands can be used to meet the requirements and what mix of licenced, unlicensed and shared spectrum will be required?
- Should there be dedicated spectrum made available, and what challenges would be associated with this approach?
- Can a similar licensing model as has been used for 4G still be relevant in the emerging 5G world, or is there a need for a rethink?
- Can traditional mobile operators provide all the connectivity requirements for 5G and IoT or is here an argument to allow industry stakeholders to build/own/operate their own locally selfcontrolled wireless networks?
- To what extent is a co-ordinated approach important in this area, and what role can CITELE and other international organisations play in delivering this?

13:45 – 14:55 Panel Discussion

Hector Huici, Secretary of Information and Communication Technologies, Ministry of Modernization, Argentina (confirmed)

Heli Frosterus, Spectrum Policy Principal, Ofcom, UK (confirmed)

Paola Marquez Mantilla, Regulation Manager, Entel (confirmed)

Representative, Huawei (confirmed – speaker name tbc)

Representative, Bosch Brazil (tbc)

Session 9ii: Country Case Studies – delivering an efficient and inclusive spectrum environment

Key targets for policymakers and regulators all across the Americas is to deliver a spectrum environment that meets the needs of all users and ensures that bands are utilised in the most efficient way possible. This next session will focus on country case studies and provide an opportunity to hear from regulators on the tools and techniques that are being used to deliver this.

First of all, a focus will be on the US and the innovative methods that are being employed to ensure the needs of all users are being met. Following this, attention will be switched to work that is being done across the region to define, measure, and ultimately increase spectrum efficiency; with two further case studies focussing on Mexico and Peru.

14:55 – 15:15 Case Study – Spectrum policy to meet the needs of all in the US

Representative, FCC (confirmed – speaker name tbc)

15:15 – 15:35 Case Study: Measuring and delivering spectrum efficiency in Mexico

Arturo Robles, Commissioner, IFT Mexico (tbc)

15:35 – 15:55 Case Study: Measuring and delivering spectrum efficiency in Peru

Representative, Ministry of Transport and Communications, Peru.



TALLER SOBRE REDES COMUNITARIAS

Lima, Perú - 20 de septiembre del 2019

Las redes comunitarias son objeto de estudio del Sector de Desarrollo de la UIT en el marco de la Comisión de Estudio 1. La cuestión de Estudio 5/1 Telecomunicaciones/TIC para las zonas rurales y distantes fue confirmada en la última Conferencia Mundial de Desarrollo de las Telecomunicaciones en 2017 y, en consecuencia, la presente actividad contribuirá a la obtención de los objetivos definidos. En ese marco se procurará contemplar estrategias de fomento de operadores comunitarios que contribuyan a conectar zonas y poblaciones que no cuentan aún con servicios.

En este taller se analizarán redes comunitarias que se encuentran dando servicios con el objetivo de entender las condiciones operativas, regulatorias y económicas en las que los modelos puedan ser sustentables y replicables.

08:00 – 09:00	Registro
09:00 – 09:30	Palabras de Bienvenida y Apertura <ul style="list-style-type: none"> • UIT/ISOC/CAF • Ministerio de Transporte y Comunicaciones, Perú
09:30 – 11:00	Sesión 1. Modelos de desarrollo de expansión de redes Presentación de redes, modelos de operación, oportunidades, desafíos y necesidades. Panel <ul style="list-style-type: none"> • Perú: Red Dorsal Nacional y Regional • Proveedores de Redes Comunitarias • Prestador de servicios Debate abierto y comentarios
11:00 – 11:30	Café
11:30 – 13:00	Sesión 2: Gestión del Espectro Alternativas para el aprovechamiento del espectro radioeléctrico en zonas desatendidas. Panel <ul style="list-style-type: none"> • Cobertura móvil en zonas rurales de Perú. Normativa especial • Redes Comunitarias • Operador satelital Debate abierto y comentarios
13:00 – 14:00	Almuerzo
14:00 – 15:30	Sesión 3: Impacto de Redes Comunitarias. Educación, salud, inclusión financiera. Panel <ul style="list-style-type: none"> • Gobierno • Casos de impacto económico

	<ul style="list-style-type: none">• Casos de impacto social Debate abierto y comentarios
15:30 – 16:00	Café
16:00 – 17:30	Sesión 4: Posibilidades de cooperación con redes comunitarias La provisión de conectividad y servicios en zonas rurales y no rentables sigue siendo un desafío para proveer banda ancha de manera sustentable. Se convierte en un espacio oportuno para la asociación público-privada y la exploración de modelos alternativos que apuesten al desarrollo integral de las zonas desatendidas. Presentaciones <ul style="list-style-type: none">• Operador de servicios móviles• Operador de servicios fijos• LACNIC, Frida Debate abierto y comentarios
17:30 - 18:00	Conclusiones y Cierre <ul style="list-style-type: none">• ISOC/CAF/UIT• Ministerio de Transporte y Comunicaciones