OFICINA DEL COMISIONADO
JAVIER JUÁREZ MOJICA
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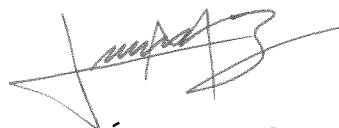
Ciudad de México, a 10 de julio de 2018.

DAVID GORRA FLOTA
SECRETARIO TÉCNICO DEL PLENO
P R E S E N T E

En cumplimiento a lo dispuesto en el artículo 23, fracción II, de la Ley Federal de Telecomunicaciones y Radiodifusión, y en el artículo 15, fracción I, del Estatuto Orgánico del Instituto Federal de Telecomunicaciones, me permito enviar para conocimiento del Pleno de este Instituto el informe sobre mi participación en el "Seminario Banda Ancha para todos", realizado por la empresa Ericsson, que tuvo lugar el 25 y 26 de junio del año en curso en Estocolmo, Suecia.

Se anexa el informe de actividades correspondientes al evento mencionado.

Sin otro particular, reciba un cordial saludo.

ATENTAMENTE

JAVIER JUÁREZ MOJICA
COMISIONADO

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Instituto Federal de Telecomunicaciones
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Col. Nochebuena, C.P. 03720
Delegación Benito Juárez,
México, D.F.
Tel. (55) 5015 4000

1 de 5

OFICINA DEL COMISIONADO
JAVIER JUÁREZ MOJICA

Ciudad de México, a 10 de julio de 2018.

PLENO DEL INSTITUTO FEDERAL DE TELECOMUNICACIONES
PRESENTE

Informe que presenta el Comisionado Javier Juárez Mojica, respecto a su participación en representación del Instituto Federal de Telecomunicaciones en el Seminario Banda Ancha para Todos en Estocolmo, Suecia, durante los días 25 y 26 de junio del 2018.

A partir de la invitación realizada por la empresa Ericsson, se asistió al seminario denominado "Banda Ancha para Todos".

Se participó como panelista en la mesa denominada "¿Podemos garantizar espectro para la introducción de 5G en una perspectiva de largo plazo?", en compañía del Dr. Antonio Nicita, Comisionado de AGCOM en Italia, Dr Stephen Unger, Miembro del consejo y Director de OFCOM en Inglaterra, Dr. Ahmed AlSohaily, Consejero en el CITC, en Arabia Saudita, Fiona Gilfillan, Viceministra en ISED en Canadá y moderado por Lasse Wieweg, Director de Relaciones Gubernamentales y de Industria de Ericsson.

Durante la intervención se habló de:

- ✓ Reforma Constitucional y los avances en crecimiento de la banda ancha móvil.
- ✓ Administración del espectro radioeléctrico.
- ✓ Operación del Comité técnico en materia del espectro radioeléctrico (CTER).
- ✓ Perspectivas de bandas bajas, medias y altas para su utilización en 5G.
- ✓ Avances en la liberación de la banda de 600 MHz.
- ✓ Definiciones pendientes para otras bandas por ejemplo 3.5 GHz y 28 GHz.
- ✓ Importancia del despliegue de infraestructura.

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2 de 5

Otras participaciones destacadas del seminario "Banda Ancha para Todos" son las siguientes:

> **Suecia:** La implementación de una estrategia nacional de digitalización 5G, así como la adopción de una estrategia para la inteligencia artificial (AI), no solo en la industria sino como una AI sustentable, impulsada por la ética, o como un foco de educación sostenible. *(Alf Karlsson, State Secretary, Ministry of Enterprise and Innovation, Suecia)*

> El reto de la inclusión digital; el tamaño del beneficio que la sociedad obtiene de la tecnología hace que ya no sea una opción estar desconectado. La brecha digital está siendo más compleja paulatinamente; el reto de cómo afrontar a los desconectados o desinteresados. (Dan, Sjöblom, PTS, Suecia.- Current trends)

> **Estados Unidos:** La expansión de banda ancha y del uso de Internet son prioridades para Estados Unidos (EUA); el 5G, impactará en mejores servicios y más calidad de vida para la población. Ciberseguridad es un asunto central para la National Telecommunications and Information Administration (NTIA), quien cuenta con grupos de trabajo para velar por la seguridad de las redes. En materia de espectro, si bien EUA está liderando la atribución de bandas altas para 5G dicha liberación no sólo será en altas frecuencias, sino también en bajas y medias. *(David Redl, Assistant Secretary, NTIA, DoC, US)*

> **Unión Europea:** BEREC contribuye a la coordinación entre autoridades y a la implementación del marco regulatorio para telecomunicaciones de los países europeos. El trabajo lo hacen los reguladores miembros, quienes tienen tres pilares: promover la competencia y la inversión, el mercado interno, y los intereses de los usuarios. Para 2019 un objetivo específico: la conectividad. *(Jeremy Godfrey, presidente de COMREG, Irlanda y próximo presidente de BEREC)*

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3 de 5

> **India**: Se destacó que, en la India, por primera vez, la que antes era política nacional de telecomunicaciones, ya fue rebautizada como política "Digital" nacional. Unos de los proyectos que fueron mencionados fue BharatNet Project, que consiste en una red troncal de fibra óptica financiada a través del fondo de cobertura universal. *(H.E Aruna Sundararajan, Presidente de la Comisión de Telecomunicaciones del Ministerio de Comunicaciones en India.)*

> **Reino Unido**: El objetivo primordial es desmitificar la ciberseguridad. En el marco de la National cyber security strategy, 2016-2021, se mencionan temas importantes como: que exista una sola autoridad para ciberseguridad, la intervención donde el mercado no funcione y cooperación internacional para reducir fishing. También hizo una reflexión sobre la falta de incentivos económicos de la industria para invertir y mejorar la seguridad. (Ian Levy, Director Técnico del National Cyber Security Centre, Reino Unido)

> **Francia**: El *New Deal* estableció cuatro principios: 1) en lugar de subastar el espectro, por primera vez el gobierno aceptó no licitar sino entregar el espectro a cambio de compromisos del operador y de tomar un importante reto; 2) los operadores se comprometen a una gradual mejoría de la cobertura en la vida diaria de la gente; 3) una solución para zonas específicas (los operadores usan sus fondos para zonas que el gobierno ha focalizado y 4) aceleración de la cobertura digital en el país con un alto estándar de calidad. (Pierre-Jean Benghozi, Comisionado de ARCEP)

> **Arabia Saudita**: Se consiguió aumentar en 200 MHz la disponibilidad y lograron asignar 160 MHz. Objetivo para el año 2020: poner a disposición al menos 1GHz en las bandas 700, 800, 900 1500 y 1800. *(Mohammed Alotaibi, TIC Commission)*

> **Ericcson**: La empresa anfitriona también realizó diversas presentaciones y talleres relacionados con 5G, casos de usos de 5G, network slicing y espectro para 5G.

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4 de 5

La participación en el seminario permitió intercambiar experiencias y puntos de vista con reguladores y actores relevantes en el ámbito internacional, lo que contribuye a la adquisición de información relevante para el desarrollo de las actividades del IFT, además de fortalecer los lazos de cooperación institucional deseables para implementar las mejores prácticas internacionales.

Este informe se acompaña con el programa de actividades del seminario referido.

ATENTAMENTE

JAVIER JUÁREZ MOJICA
COMISIONADO

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5 de 5

Broadband for all
- a trusted base for the digitalization of our societies

Seminar
June 25-26, 2018
Stockholm

Location
Royal Swedish
Academy of
Engineering
Sciences (IVA)
Grev Turegatan 16
Stockholm

- In a 5G world where industries and societies transform, which new requirements will emerge on spectrum regimes and other regulations?

- Which are the most significant policy actions in the Cyber-security area that national governments need to prioritize? What are the lessons learned to improve the effectiveness of policy implementation?

- What are the perspectives and best practices for successful broadband policies and regulations?

- In 2017, the seminar gathered 80 Government & Regulator representatives from 30 countries on all continents.

With contributions from the following speakers

PTS
Dan Sjöblom
Director-General
PTS, Sweden

NTIA
David Redl
Assistant Secretary, NTIA
Department of Commerce
United States

H.E. Aruna Sundararajan
Secretary DoT
India

BEREC
Johannes Gungl
BEREC Chairman
2018

National Cyber Security Centre
Ian Levy
Technical Director
NCSC, United Kingdom

Seminar – Morning session
Monday June 25, 2018

08:00 - 08:30	**Registration and morning tea - networking**
08:30 - 10:30	**Welcome and introduction** - Ulf Pehrsson, Vice President Government & Industry Relations, Ericsson

Keynote: Perspectives from United States
- David Redl, Assistant Secretary, NTIA, Department of Commerce, United States

Keynote: Perspectives from India
- H.E. Aruna Sundararajan, Telecom Secretary and Chairperson of the Telecom Commission, Ministry of Communications, India

Keynote: Perspectives from BEREC
- Johannes Gungl, BEREC Chairman 2018 and CEO Telecommunications & Postal Services Division, RTR, Austria

Keynote: Technology strategies and trends
- Erik Ekudden, Senior Vice President & CTO, Ericsson

10:30 - 11:00	**Coffee break - networking**
11:00 - 11:30	**Keynote: Perspectives on Cyber-security** - Ian Levy, Technical Director, National Cyber Security Centre (GCHQ), United Kingdom
11:30 - 12:15	**Panel debate: Which are the most significant policy actions in the Cyber-security area that national governments need to prioritize? What are the lessons learned to improve the effectiveness of policy implementation?**

Chair: Rene Summer, Director, Government and Industry Relations, Ericsson
- Ian Levy, Technical Director, National Cyber Security Centre (GCHQ), United Kingdom
- Francis Castonguay, Director General, Partnerships and Risk Mitigation, Communications Security Establishment, Canada
- Luisa Franchina, President, Italian Association of Critical Infrastructure experts, AIIC, Italy
- Hosuk Lee-Makiyama, Director, European Centre for International Political Economy
- Koji Ina, Deputy Director, Cybersecurity Division Commerce and Information Policy Bureau Ministry of Economy, Trade and Industry (METI), Japan

12:15 - 13:30	**Lunch - networking**

Chatham House Rule

Seminar – Afternoon session
Monday June 25, 2018

13:30 - 15:30

Broadband for all in Sweden
- Dan Sjöblom, Director-General, PTS, Sweden

Broadband for all in France
- Pierre-Jean Benghozi, Board member, ARCEP, France

Broadband for all in Africa and Single Digital Market
- Jean-Philbert Nsengimana, Special Advisor, Smart Africa Alliance and former ICT Minister, Rwanda

Spectrum perspectives in the Arabic speaking region
- Dr Mohammed Al Otaibi, General Manager of Frequency Spectrum, CITC, Saudi Arabia

Implementing the Port of the Future: the digital agenda at the Port of Livorno
- Paolo Pagano, Director of CNIT / Port of Livorno joint laboratory, Italy

15:30 - 16:00

Coffee break - networking

16:00 - 17:00

Panel debate: Can we secure spectrum for the 5G introduction and in the perspective of longer-term?
Chair: Lasse Wieweg, Director, Government & Industry Relations, Ericsson
- Antonio Nicita, Commissioner, AGCOM, Italy
- Dr Stephen Unger, Board Member and Group Director, OFCOM, United Kingdom
- Dr Ahmed AlSohaily, Chief Technology Adviser, CITC, Saudi Arabia
- Fiona Gilfillan, Assistant Deputy Minister, ISED, Canada
- Javier Juarez, Commissioner, IFT, Mexico

17:00 – 17:10

Concluding remarks
- Ulf Pehrsson, Vice President Government & Industry Relations, Ericsson

17:30 – 22:00

Dinner networking cruise on M/S Blue Charm. Boarding: Strandvägen, Quay 17 at 17:30. Departure 18:00 sharp.

Chatham House Rule

Bilateral meetings
Tuesday June 26, 2018

We are pleased to offer a number of activities that you can select from to match your interests and thereby ensure maximum value of your visit to Stockholm. On request we can also arrange for other meetings to respond to specific needs.

Your individual program will be created based on your choice of activities:

- Bilateral meeting with the **Swedish Regulator PTS**
- Dialogue about the **ITU leading up to the WRC-19**
- 40 min bilateral meetings with **Ericsson experts** in the fields of spectrum, technology and cyber security
- A three hour **Technology Briefing** including technology demonstrations
- A one and a half hour **PTS Seminar** on spectrum
- A two hour **Seminar** on Cyber-security issues in a 5G context

09:00 – 17:00 PTS Headquarter	PTS bilateral meeting – regulations (general) - Dan Sjöblom, Director-General, PTS

08:00 – 09:00 Room: Operation Center	Dialogue about the ITU study period leading up to the WRC-19 - Håkan Ohlsén, Director, Spectrum and Radio Technology Strategy, Ericsson - Lasse Wieweg, Director, Government & Industry Relations, Ericsson
09:00 – 12:00 Room: Jeanne	PTS bilateral meeting – regulations (spectrum) – 40 min - Jonas Wessel, Director of Spectrum Department, PTS - Bo Andersson, Chief Economist, PTS
09:00 – 12:00 Room: Diana	Bilateral meeting – Meet Ericsson's Cyber-security experts – 40 min - Mikko Karikytö, Head of Ericsson Network Security - Anna Kåhre, Strategic Product Management Radio Access Networks - Patrik Palm, Portfolio Manager Security
09:00 – 17:00 Room: Niklas	Bilateral meeting – Spectrum & technologies – 40 min - Håkan Ohlsén, Director, Spectrum and Radio Technology Strategy, Ericsson -. Lasse Wieweg, Director, Government & Industry Relations, Ericsson
12:00 – 13:00	Lunch is served at the Ericsson Studio

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5G Technology briefing
Tuesday June 26, 2018

A digital transformation is taking place in almost every industry. 5G will expand the broadband capability of mobile networks and help consumers and enterprises boost the efficiency of their lives and their business. New business models using distributed cloud services and programmable networks will allow an unprecedented level of information sharing and collaboration among all kinds of industries and sectors in society. The result is an unprecedented capacity for individual empowerment, entrepreneurship and innovation as well as a vehicle for entire industries to transform, that gives rise to a new era - the connected society.

This transformation will put new demands on the networks, with requirements varying radically between different use cases but also between different devices. The imminent 5G mobile network systems – will provide global, wireless, connectivity with superior performance for people and machines, with capabilities to handle very large data rates and data volumes, while being very reliable to allow for critical industrial and societal applications. The 5G systems also need to accommodate for IoT devices with limited capabilities where device cost, power consumption or coverage (range) are among the key properties.

This briefing will address the latest developments in 5G research & network evolution to meet the future requirements on user services and network efficiencies, as well as, offer insights into the EMF area related to the introduction of 5G.

08:30 - 09:00	**Registration and morning tea**
09:00 - 09:10	**Welcome and introduction** - Mikael Halén, Director, Government & Industry Relations
09:10 - 09:40	**5G and network slicing** - Håkan Djuphammar, Technology & Architecture, CTO Office
09:40 - 10:10	**5G and radio network efficiency** - Magnus Frodigh, Research Director, Ericsson Research
10:10 - 10:30	**Coffee break and networking**
10:30 - 11:00	**5G and EMF** - Christer Törnevik, Senior expert, Ericsson Research
11:00 - 12:00	**5G Technology demonstrations**
12:00 - 13:00	**Lunch is served at the Ericsson Studio**

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PTS Spectrum seminar
Tuesday June 26, 2018

Sweden is one of the leading countries when it comes to progressive spectrum management. The Swedish market is in many regards unique even though it shares many regulatory challenges with the rest of the world. The Radio Spectrum Policy Group (RSPG) is the key EU advisor consisting of the relevant authorities from all 28 EU member states.

5G is one of the key areas of work for European spectrum managers, both nationally, regionally and globally. During this seminar PTS will share the latest news and information on what is happening on EU and national level when it comes to spectrum to enable 5G. There will also be time for a Q&A session.

• The need for harmonization and long term policy on spectrum issues

• Spectrum for 5G on national, regional and global level

• Identification of spectrum related challenges such as spectrum sharing, usage and licensing

• The Swedish large scale 5G test and trial plan

13:00 - 13:30   Jonas Wessel, Director of Spectrum Department, Swedish Post and Telecom Authority, PTS and Chairman, Radio Spectrum Policy Group, RSPG

13:30 - 14:00   Bo Andersson, Chief Economist, Swedish Post and Telecom Authority, PTS
Rapporteur RSPG working group on 5G

14:00 - 14:30   Q&A and discussion

Chatham House Rule

Seminar:

Cyber-security in a 5G context
Tuesday June 26, 2018

Connected devices and mobile applications require wireless network access that is resilient, secure and able to protect individuals' privacy, and the 5G system is designed with these requirements in mind. This seminar provides an overview of the properties that contribute to the trustworthiness of the 5G system: resilience, communication security, identity management, privacy and security assurance. Ericsson believes that these properties of the 5G system contribute toward creating a trustworthy communications platform that is an ideal foundation on which to build large-scale, security-sensitive systems, including those used in industrial settings.

Moderator: Rene Summer, Director, Government & Industry Relations, Ericsson

Introduction: Rene Summer:

Presenter #1:   **Network Cyber-security threats**
Mikko Karikytö, Head of Ericsson Network Security
As part of the critical infrastructure, an operator today faces multitude of cyber threats. In today's presentation we will describe the threat landscape from Ericsson Product Security Incident Response Team (PSIRT) point of view. We will also present our analysis on common risks identified in PSIRT investigations.

Presenter #2:   **5G Security evolution**
Anna Kåhre, Strategic Product Management Radio Access Networks
The 5G system will be an enabler for IoT and other digital services that will make the critical role of mobile systems even stronger than it is today. At the same time, the cyber security landscape is evolving with an increased amount of attacks and threats. Even though the application layer may hold security properties, the characteristics of the underlying communication infrastructure can introduce weaknesses in a system as a whole, if not properly taken care of. In this presentation, we will go through the security measures needed in the underlaying 5G communication infrastructure to meet tomorrow's cyber-attacks.

Presenter #3:   **Ericsson's approach to enhancing cyber resilience in products & solutions**
Patrik Palm, Portfolio Manager Security
In order to meet the continuously growing demands on cyber resilience in the products and solutions in the Ericsson portfolio, we have created the Ericsson Security Reliability Model as our company-wide approach. This model is well aligned with the efforts in 3GPP and GSMA focusing on Security Assurance, and is also aligned with the EU security certification efforts. Vulnerability management from components to solutions is an essential building block in mitigating existing and potential threats.

Conclusions: Rene Summer, Director, Government & Industry Relations, Ericsson

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The program is arranged by Ericsson