

# Policies to promote infrastructure deployment

ITU workshop: 5G and new technologies

September 2019

Lomé, Republic of Togo

# Agenda

About Cullen

A few words about 5G

Policies to promote infrastructure deployment (and sharing)

Europe: the Broadband Cost Reduction Directive

The Americas: Latin America and the US

Conclusion

# About us



who we are  
**in brief**

**regulation**  
made simple

**>30**

Years of  
Experience

**>60**

Countries Covered

**4x4**

Covering  
4 Sectors Across  
4 Continents

**>40**

Team Members

**5**

Practices

**21**

Different  
Nationalities

**>250**

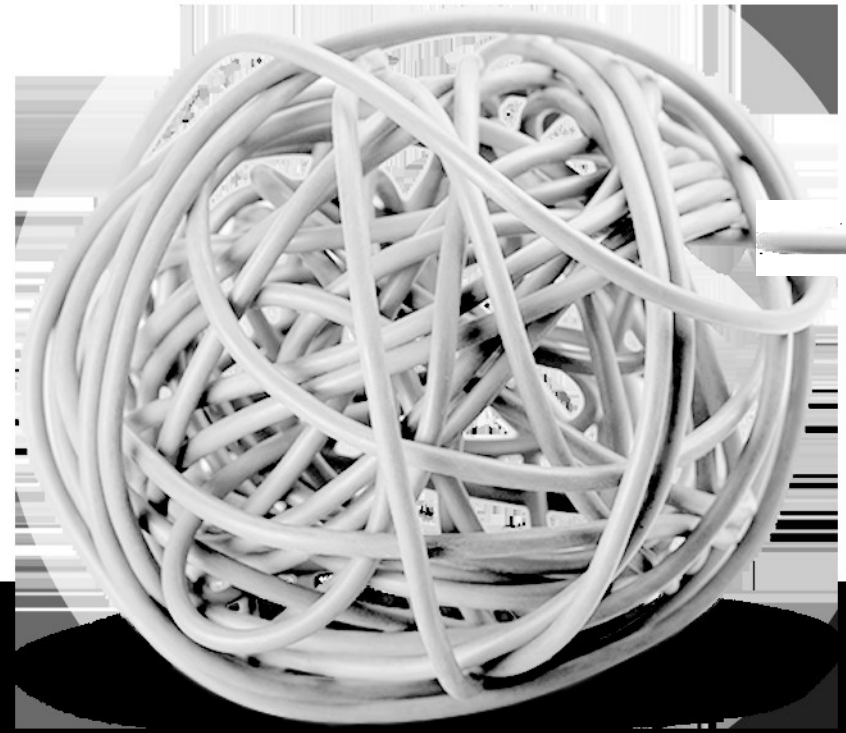
Clients

**22**

Different  
Languages

# how we can help

regulation made simple



Cutting through the complexity of regulation in:



telecommunications



media



digital economy



postal

and



competition law

as applied in the above sectors



News Alerts



Monitoring



Benchmarks



Databases



Enquiries

# where we are

## active



# A few words about 5G

# A few words about 5G: new services and applications





# A few words about 5G: potential capabilities

<b>5G feature</b>	<b>Expected 5G performance</b>	<b>Applications of 5G</b>
Enhanced Mobile Broadband (eMBB)	Speeds faster than 10 Gbps	Virtual reality, 8K Ultra High Definition televisions, UHD TV streaming
Low latency	1 millisecond (ms)	Instant response time, enabling remote surgery, connected cars, smart factories and robotics, detection of faults in energy grids...
Massive Machine to Machine Communication (mMTC)	Serving 1m devices per km <sup>2</sup> simultaneously	Enabling the internet of things (IoT)
Flexible applications	Wide application of network function virtualization (NFV) and software-defined networks (SDN)	Ability to accommodate different business models with different requirements by industrial users
Flexible spectrum use	Combination of licensed and unlicensed bands	Tailor-made connectivity offers

# A few words about 5G: an ecosystem

## Previous technologies



Internet



Network  
core



ANTENNA



Phones

# 5G

More complex architecture:  
coordination between networks



Internet



Network  
core



ANTENNA



antennas



Phones



Cars



What else?

# Policies to promote infrastructure deployment (and sharing)

# Europe

# The Broadband Cost Reduction Directive

## Single Information Point and Dispute Settlement Body

Ducts, poles,  
cabinets, etc.

Fair and  
proportionate terms

Access to existing  
infrastructure  
and  
transparency

Coordination of  
civil works and  
transparency

Utilities to  
coordinate with  
operators

Especially if  
financed by  
public resources

Permits obtained via  
a Single Information  
Point

Decisions made  
within 4 months











Permit-granting  
procedure

In-building  
passive  
infrastructure

Newly constructed or  
majorly renovated  
buildings must  
include passive  
infrastructure

# The Americas

# Different approaches to promote rollout

Country	General policy to ease network rollout		
AR 	Connectivity and Infrastructure	Code of best practices, ranking One stop shop (u.i.)	Yes, price set by national government
BR 	General targets	Antenna Law, ranking	Yes, for free
CL 	General targets	Antennas Law	Yes
CO 	Incl. in action plan and NDP	Code of best practices, one stop shop	Sharing ducts and poles
CR 	Action plan	Sharing in natural areas	Yes
EC 	White paper on deployment	-	Sharing in public properties
MX 	General guidelines and OECD recommendations	IFT guidelines and assessment of local rules	Federal buildings (SCT, Promtel) and IFT guidelines
PY 	NDP	Conatel guidelines	Only for basic services
PE 	Yes	Antennas law, ranking	Proposed by Osiptel
US 	Yes, 5G fast plan	23 state-law on mobile 5G and small cell	-

# Awareness campaigns and rankings



Antenas Amigables Preguntas Frecuentes Salud Control y Regulación Mapa de mediciones Municipios Amigables Normativa



## MUNICIPIOS AMIGABLES

En Enacom trabajamos junto a todos los municipios del país para mejorar el funcionamiento de la telefonía móvil.

Nuestro equipo viaja por todo el territorio nacional para informar sobre aspectos técnicos y ambientales con el objetivo de llevar tranquilidad a la población.

También hacemos mediciones inteligentes de RNI y calidad de servicio y asesoramos a vecinos y autoridades locales sobre aspectos normativos.

CONOCÉ A LOS MUNICIPIOS QUE YA FIRMARON EL CONVENIO:



### Una Aventura con Tú Amigo Espectrín



**Si se reduce el número de antenas fijas, los teléfonos móviles tendrán que usar más potencia para mantener su conexión, aumentando la exposición del público en general.**

#AntenasBuenaOnda



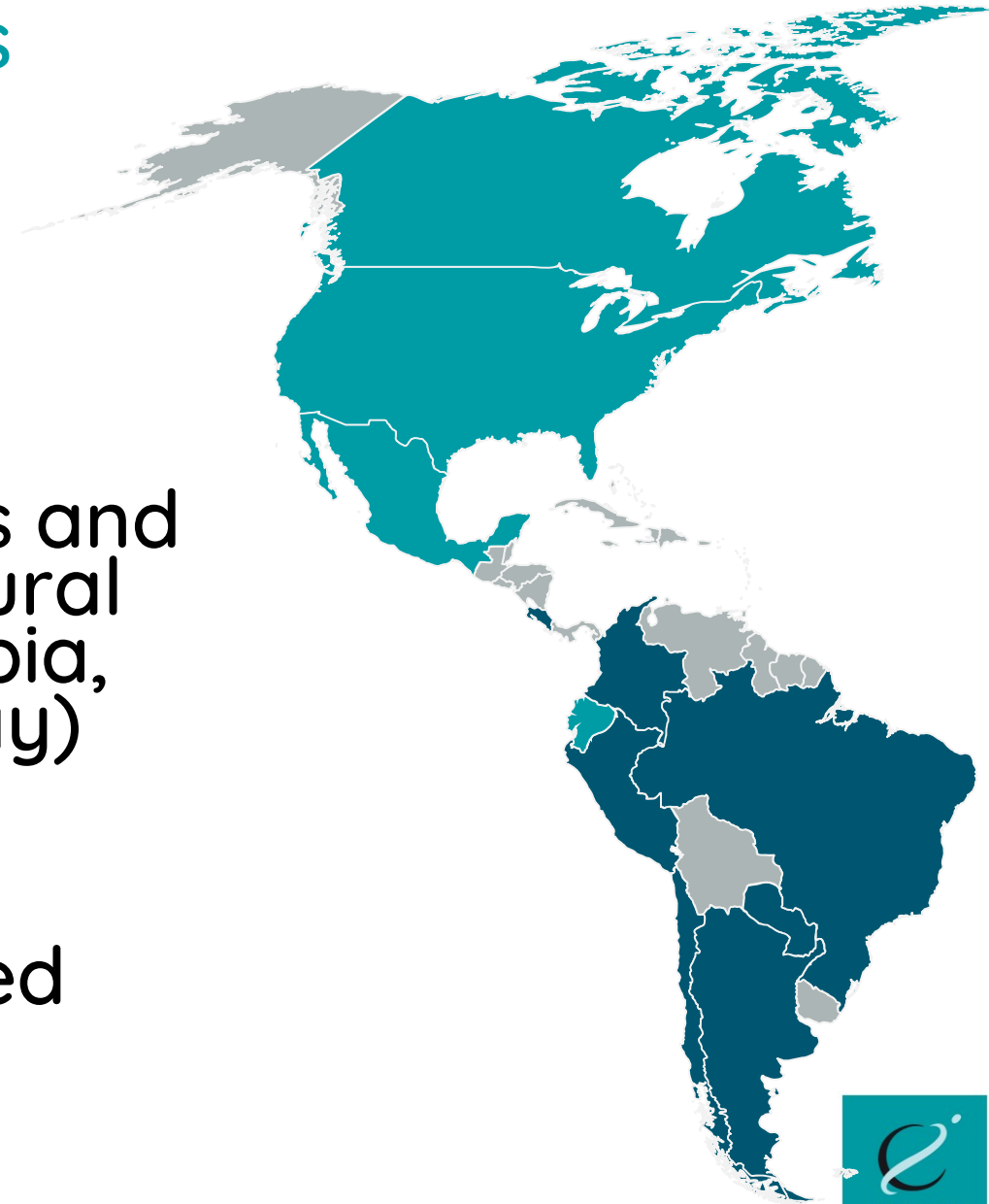


# Spectrum comes with obligations

All countries in the Americas set coverage obligations

Different approaches:

- detailed coverage requirements and schedule, including roads and rural areas (Argentina, Brazil, Colombia, Chile, Costa Rica, Peru, Paraguay)
- coverage requirements as a percentage of the population (Canada, Ecuador, Mexico, United States).



# Keep what you serve

## FCC approach to coverage obligations

Coverage obligations in the 700 MHz band licensed for commercial use

Block	Bandwidth	Pairing	Coverage obligations per local area	
			Interim target (2013)	End-of-licence term (2019)
A	12 MHz	2x6 MHz	35% of the geographic area	70% of the geographic area
B	12 MHz	2x6 MHz		
E	6 MHz	Unpaired		
C	22 MHz	2x11 MHz	40% of the population	75% of the population

## China's approach for 5G infrastructure

- China adopted infrastructure sharing as a priority for 5G network deployment: standalone network (not upgrade) sharing everything (sites, masts, RAN equipment)
- Similarly to South Korea: Korea 5G Day in March 2019

# Challenges

- **Coordination -> One stop shop recommended by OECD**
  - Industry and government
  - Different government levels
  - Telecom operators
  - Public utilities company
- **Definition of standards and harmonisation**
- **Knowledge sharing and awareness campaigns**
- **New 5G challenge: small cells deployment (US, CO)**



Thank you!

[andre.gomes@cullen-international.com](mailto:andre.gomes@cullen-international.com)