Regulations, WRC-19: Challenges and Opportunities Ahead

Hazem Moakkit
Vice President, Spectrum Strategy

ITU International Satellite Symposium 2017
Bariloche, Argentina
29 May 2017

Intelsat is the Pioneer and Leader in Satellite Communications

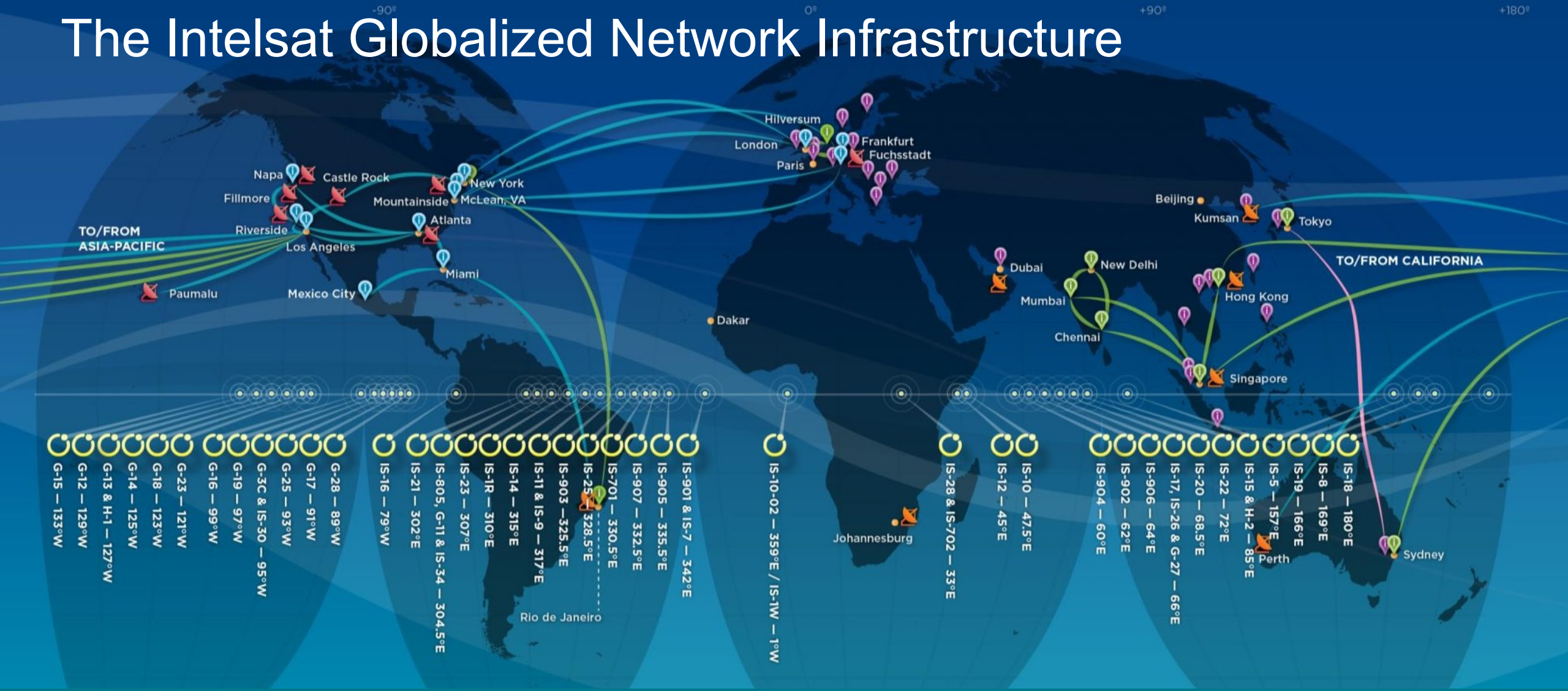
Intelsat is the largest satellite-based operator in terms of capacity and geographic reach.

Intelsat launched the first commercial global satellite communications system in 1965, and has been transmitting the biggest moments in the world for everyone to share, ever since.

Today, we maintain a global fleet of 50 in-service satellites covering 99% of the earth's populated regions.

INTELSAT

The Intelsat Globalized Network Infrastructure



Approximately 50 satellites plus IntelsatOne, a fully-integrated ground infrastructure incorporating teleports, points of presence and IP/MPLS fiber network

Intelsat Fiber · BT Fiber & Point of Presence · Sales Office · Satellite Deployed · Intelsat Point of Presence · PCCW Point of Presence · Teleport · Partner Teleport

Our latest satellites in the Americas

Intelsat 29e

Intelsat 35e (soon)

Intelsat is fully committed to serve the Americas – two more EpicNG launches this year

GEO

- Wide beams
- HTS overlay for high density areas
- Global Coverage

Premium Spectrum

Ku-band

Flexible high-performance Interoperable User terminals

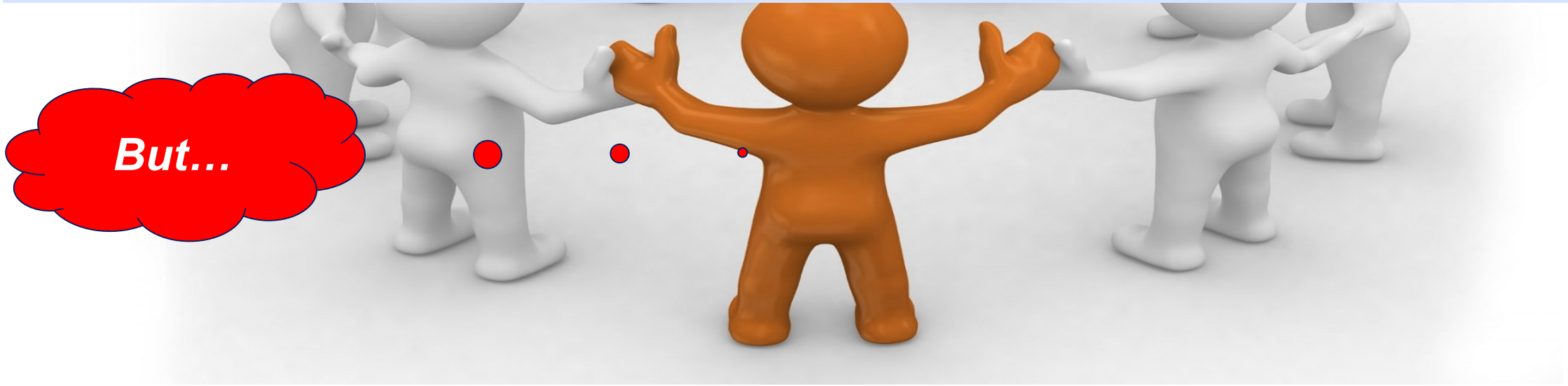
- Additional capacity
- High look angle
- Low latency
- Pole-to-pole coverage

LEO

From WRC-15 to WRC-19

Why do we go to WRC?

1. ***Harmonize Global Spectrum: to create economies of scale, efficiencies, and interoperability;***
2. ***Achieve regulatory certainty for the telecommunications industry to grow and flourish;***
3. ***Understand the broader spectrum needs of all regions and how it all comes together***



Adhering to WRC Consensus is Important

INTELSAT

Guiding principles towards WRC-19

1

INDUSTRY TRANSFORMATION

- Satellite Innovation
- Ground Segment Innovation
- Increased Demand

2

ADHERE TO WRC CONSENSUS

- Harmonization
- Economies of Scale
- Regulatory Certainty

3

REGULATORY FLEXIBILITY

- Open Sky Policy
- Flexibility
- Simplified licensing regimes
- Free circulation of terminals

Spectrum is a rare and valuable resource – allocating it must be done carefully

INTELSAT

WRC-15 Outcome: Identification of frequency bands for IMT (AI 1.1)

Outcome:

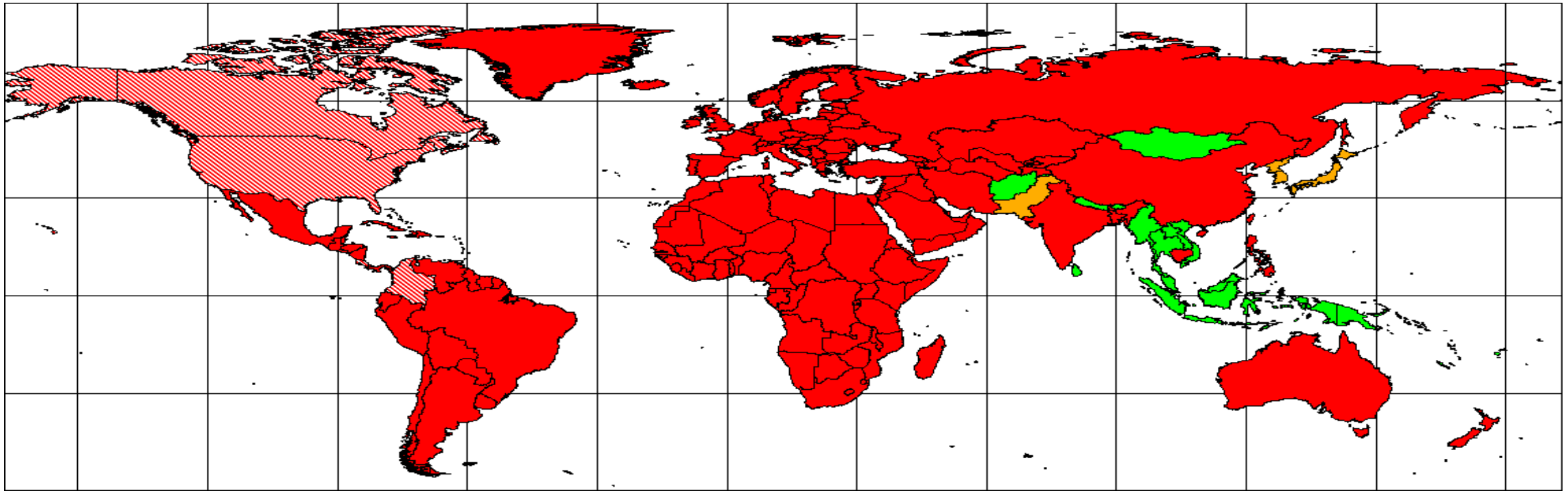
- 3400 - 3600 MHz has a nearly global identification for IMT
- 3600 - 3700 MHz identified for IMT in 4 countries only
- **3700 - 4200 MHz is preserved for FSS globally**
- Mobile services remains secondary in the band 3600 - 4200 MHz

- The mobile industry now has at 200 MHz of globally identified for IMT
- **The Americas Region was *instrumental* in preserving this band, ensuring the continued growth in C-band**

WRC-15 re-confirmed the need to protect critical C-band spectrum for satellite

INTELSAT

WRC-15 AI 1.1: IMT Identification in 3.4-3.7 GHz



3400 – 3600 MHz IMT Identification

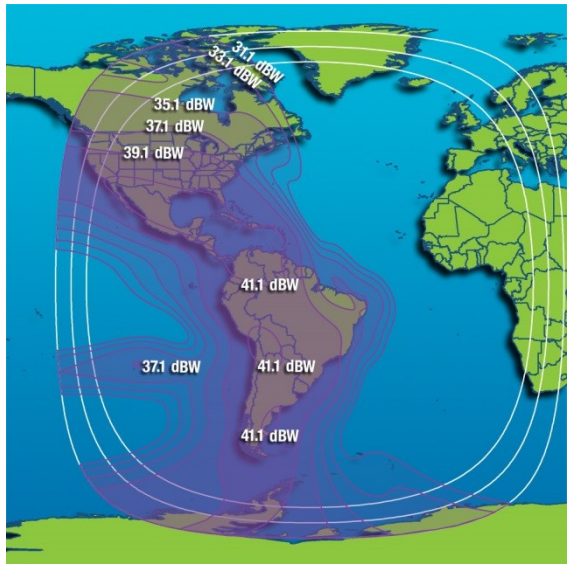
3400 – 3700 MHz IMT Identification

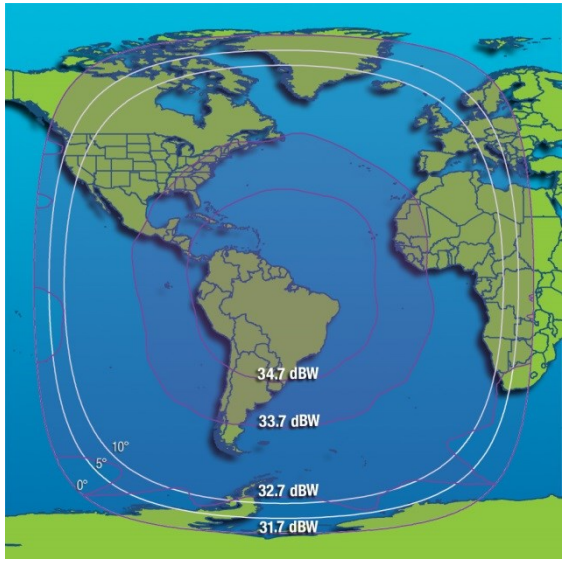
3500 – 3600 MHz IMT Identification

No IMT Identification 3400 – 3700 MHz

INTELSAT

Why C-Band Remains Important for the Americas?





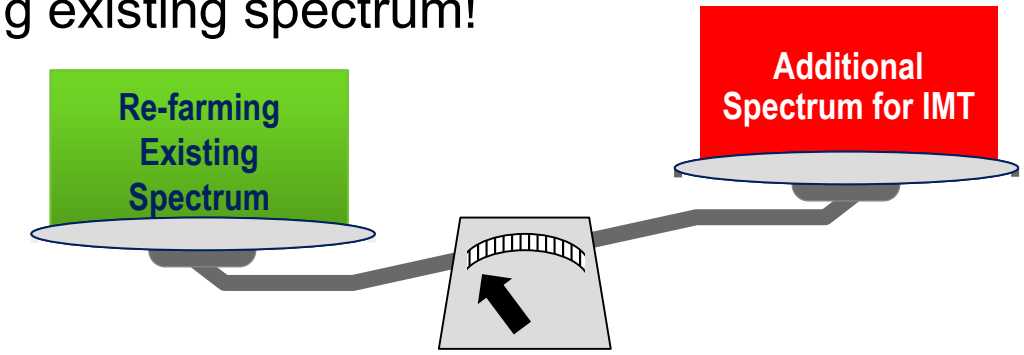
- ✓ Wide coverage
  - ✓ Large beams allow for economically viable coverage in low density areas and facilitate intercontinental and global communications
- ✓ Propagation characteristics
  - ✓ Not susceptible to rain fade
- ✓ Availability
  - ✓ Over 180 satellite deployed globally and NextGen satellites
- ✓ Reliability
  - ✓ Proven technology used time and again

The unique advantages of C-band cannot be replicated in other satellite bands or via terrestrial means

INTELSAT

Is More C-band spectrum really needed for IMT?

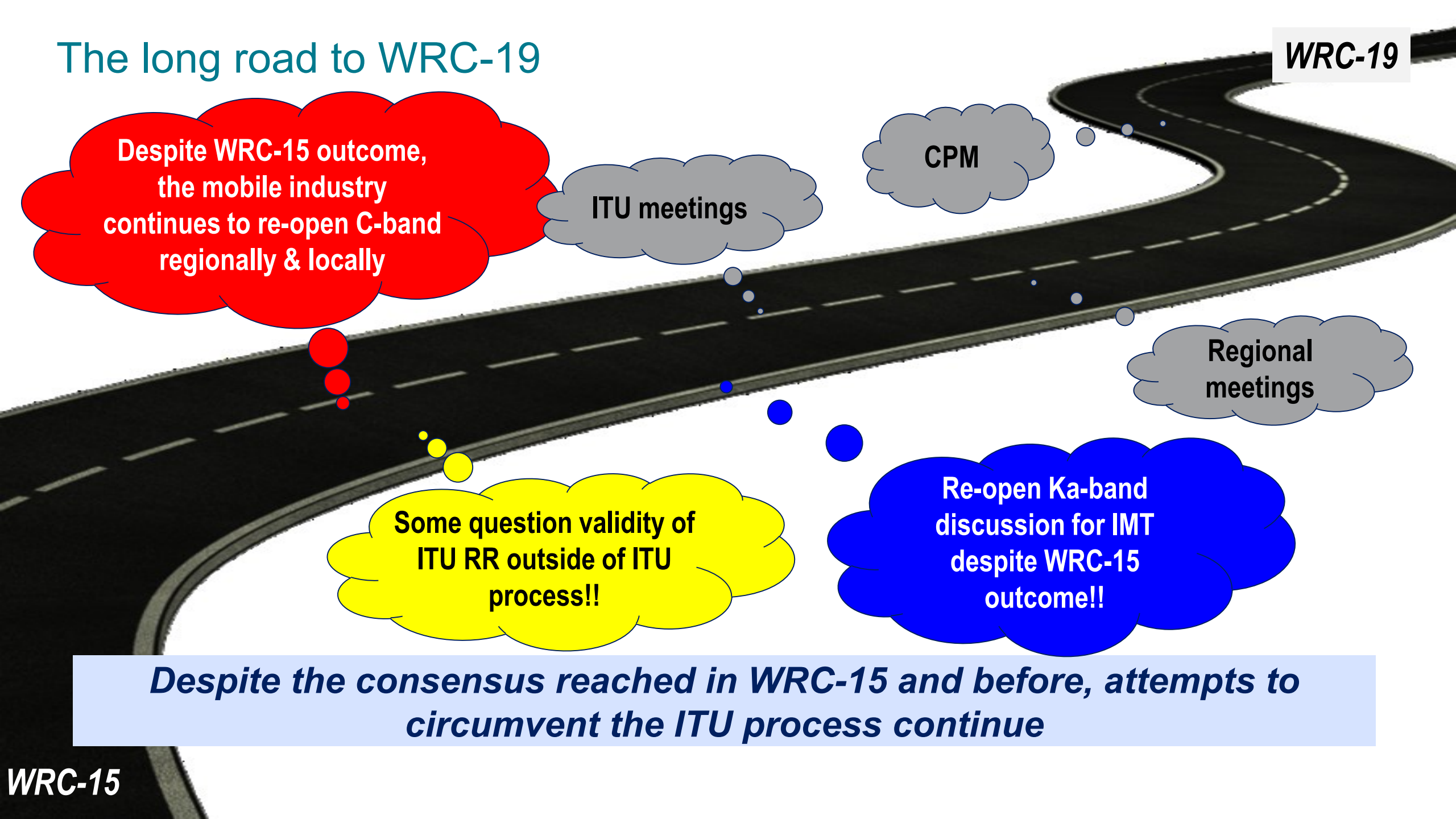
- Considerable potential still remains for increasing 4G spectrum adoption in many countries, 4G network is expected to account for much of the $1.7 trillion of investment by MNO between now and 2020. (GSMA)
- MNOs will continue to focus on generating a return on investment from 4G (and 3G) networks, whilst expansion of WiFi/ WiGi and integration with cellular will be key in supporting greater data rates of the 5G ecosystem.
- Not all of the spectrum licensed to mobile operators is actually used to provide services to users. IMT can still grow using existing spectrum!



Spectrum allocation decisions should be done very carefully and should consider economic & social value

INTELSAT

The long road to WRC-19



Despite the consensus reached in WRC-15 and before, attempts to circumvent the ITU process continue

Thank you!