

ITU Workshop on the Efficient Use of the Orbit/Spectrum Resource,  
Danang Vietnam – 29 September 2015

# Opportunities For New Entrants

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# Who we are

- ▲ A world-leading satellite operator, providing reliable and secure satellite communication solutions
- ▲ Reach of over 312 million households world-wide
- ▲ Over 1,230 employees around the globe at 23 locations worldwide
- ▲ Listed on NYSE Euronext Paris and Luxembourg Stock Exchange under the ticker symbol SESG.
- ▲ Leading role in defending existing and seeking new additional satellite spectrum

# Overview

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1. **Radio Regulations for Space Services**
2. **Non-planned bands or Planned bands?**
3. **Maintaining/Expanding Access to Satellite Spectrum for Incumbents/Newcomers**
4. **Transparency in Market Access Regulations**

# Radio Regulations for Space Services

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- ▲ **Satellite regulations needs to be efficient and stable for new entrants**
  
- ▲ **World Radiocommunication Conference (WRC) decides if changes to the Radio Regulations (RR) are necessary. Any potential changes to the RR are considered under Agenda item 7 and/or Agenda item 9.2**
  
- ▲ **Clear regulatory environment, increased transparency, and ability of the BR to seek clarification under No 13.6 are essential**
  
- ▲ **Due to the complexity of the regulatory regime, every proposed change should be carefully studied for its benefits and drawbacks**
  - **Failure of a satellite during the bringing into use (BIU) period: case by case basis by Radio Regulations Board (RRB)**
  - **One satellite to BIU multiple orbital locations: information on BIU and suspension of networks available at ITU website. Query under No. 13.6**
  
- ▲ **SES's perspective: the current regulatory regime may not be entirely perfect but it works!! Improvements are welcomed but not complete overhaul of regulations**
  - **Example: Improving the suspension rules, be timely on informing the BR about suspension or else face penalty**

# Non-planned or Planned bands? (1)

- ▲ Orbit/spectrum resources are limited in nature, what are the options for new entrants?
- ▲ Based on Radio Regulations – 2 ways to share orbit/spectrum:

Non-planned space services	Planned space services
First come first served principle	Predetermined allocation of spectrum /orbit resources
Rights obtained through coordination	Equitable access
Article 9, 11 of the RR	AP 30/30A and AP30B
C band 5725-5850 MHz (R1), 5 850-6 725 MHz/3 400-4 200 MHz	AP 30/30A 14.5-14.8 GHz (R1/R3 except Europe), 17.3-17.8 GHz (R2), 17.3-18.1 GHz (R1/R3) /11.7-12.2 GHz (R3), 11.7-12.5 GHz (R1), 12.2-12.7 GHz (R2)
Ku band 13.75-14.5 GHz/10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz (R2), 12.2-12.5 GHz (R3), 12.5-12.75 GHz	AP30B 6 725-7 025 MHz/4 500-4 800 MHz 12.75-13.25 GHz/10.7-10.95 GHz, 11.2-11.45 GHz
Ka band 18.1-18.4 GHz, 24.65-24.75 GHz (R1/R3), 24.75-25.25 GHz, 27.0-27.5 GHz (R2/R3), 27.5-31.0 GHz / 17.3-21.2 GHz, 21.4-22.0 GHz	

## Non-planned or Planned bands? (2)

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### ▲ Non-planned bands

- Efficient and economical approach. No limitation in coverage area. Coordination procedure more straight forward compared to planned bands
- Late comers may encounter difficulty in coordination – congestion in some bands

### ▲ Planned bands

- Guaranteed access to spectrum/orbit resources for national usage - less congested
- National service area only but possibility to expand - any usage outside of Plan requires complex coordination procedure

### ▲ Each category has its benefits and drawbacks

### ▲ New entrants could explore the option of having a joint partnership / collaboration

- Co-own satellite or having hosted payload
- Significant cost and time savings, lowers the risks. Payload tailored to specific requirements
- Leverage on the expertise and knowledge of experienced partners

## Non-planned or Planned bands? (3)

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▲ Examples of SES partnerships, which could be in the non-planned and/or planned bands:

- O3b
- Thaicom
- Ciel (Canadian satellite operator)
- YahSat with YahSat 1A satellite
- Echostar with SES-11 / Echostar 105 satellite
- Space Systems International Monaco (SSI-Monaco) with MonacoSat satellite



# Maintaining/Expanding Access to Satellite Spectrum for Incumbents/Newcomers (1)

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- ▲ **Non-planned C and Ku bands are heavily used and congested. New entrants face tremendous challenges not to mention external spectrum threats**
  
- ▲ **Spectrum threat from the terrestrial community complicates the use of the already congested bands:**
  - **C band: Identification of IMT in any part of the band constrains the deployment of FSS earth stations and puts the satellite service at the risk of receiving harmful interference**
  - **Ku band: Targeted to be studied as candidate bands for IMT 2020 and beyond under future WRC Agenda item**
  - **Ka band: Less congested compared to C and Ku bands, but experiencing rapid growth due to broadband applications. Also targeted to be studied as candidate bands for IMT 2020 and beyond**
  
- ▲ **We need to assist new entrants and the satellite industry as a whole but how?**



# Maintaining/Expanding Access to Satellite Spectrum for Incumbents/Newcomers (2)

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- ▲ **No identification of IMT in C band and exclude the Ku, Ka satellite bands from consideration under future WRC Agenda item**
- ▲ **In Regions 2 and 3, there is a lack of 250 MHz and 300 MHz spectrum in the uplink respectively, when comparing the amounts of spectrum allocated to the uplink and downlink of existing non-planned FSS allocations in the 10-15 GHz range**
- ▲ **Lack of non-planned FSS uplink frequency band restricts efficient use of spectrum to cope with the increasing spectrum demand for the unplanned FSS, which is extensively used for myriad of applications**
- ▲ **SES supports the modification of the existing FSS allocation in 14.5-14.8 GHz to cope with the lack of non-planned FSS uplink spectrum**
- ▲ **Administrations could consider opening up the BSS Planned bands for use by satellite services – not yet widely used in Asia Pacific and could help meet the spectrum requirements of DTH market**

# Transparency in Market Access Regulations

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- ▲ **Market access is fragmented: different countries have different regulatory environments while a single satellite will generally serve multiple countries**
- ▲ **How do we assist new entrants and the satellite industry as a whole?**
- ▲ **Reduce ambiguity, increase commonality in policy and regulatory framework regarding landing rights**
- ▲ **By removing regulatory barriers, this improves market access – promotes healthy growth of the satellite industry**
- ▲ **Harmonisation of market access regulations helps new entrants gain access to the space segment**
- ▲ **Contributes to the achievement of a fully competitive satellite communications marketplace**

## So the Conclusion on how we could help New Entrants....

- ▲ Whether it's Non-planned or Planned bands, collaboration/partnership is a viable option
- ▲ Key elements for Radio Regulations – efficiency, stability, clarity!
- ▲ Safeguard our spectrum, more non-planned FSS uplink, opening up the BSS Planned bands
- ▲ Harmonise the market access regulations