European Satellite Operators Association

Satellites & The ITU

European Satellite Operators Association
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The Role of the ITU in Satellite Operations

Satellite operators make business plans based on markets they can serve that are within the coverage zone of their "Orbital Slots"

After securing the Orbital Slot and Associated Frequencies, they start the 4-5 year process of specifying, ordering, launching & insuring the satellite, which once launched, will operate for up to 15 years and can no longer be modified

- The ITU is mandated by its Constitution to "allocate spectrum & register frequency assignments, orbital positions & other parameters of satellites"
- ITU Radio Regulations comprise an international treaty establishing the framework for the utilization of radio frequencies and satellite orbits among ITU member countries
- ITU registers "Orbital Slots" to Administrations who apply for them on behalf of satellite operators
- The Orbital Slot is associated with frequencies and must be used for a given category of ITU service within a given timeframe
- Electronic communication services are not the same as ITU services

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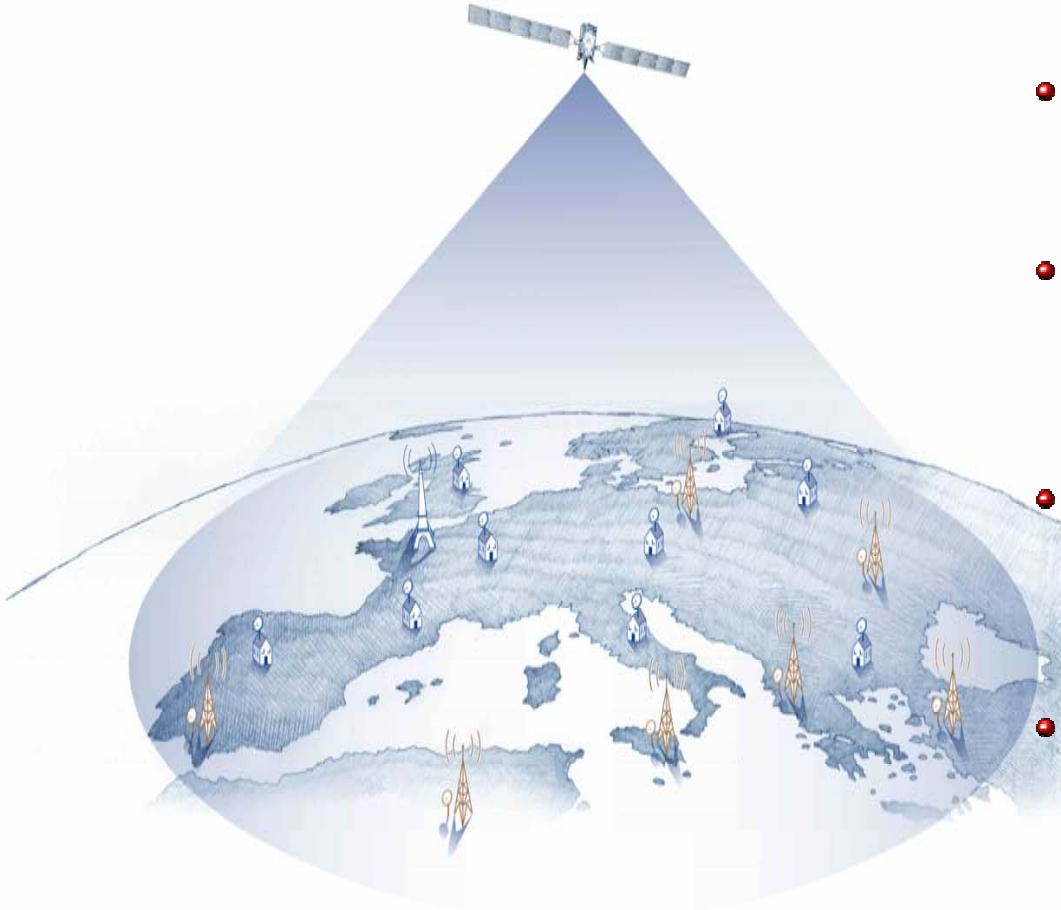
Why do Satellites Need the ITU: (I) Coordination



- Other communications signals can usually be confined within EU boundaries
- Satellite operators draw on the global nature of a geostationary satellite which sees & serves up to 1/3 of the earth's surface
- Therefore satellite operators often fly global constellations with their signals spread over numerous countries (including non-EU)
- ITU provides the generic framework for coordination between ITU Member States

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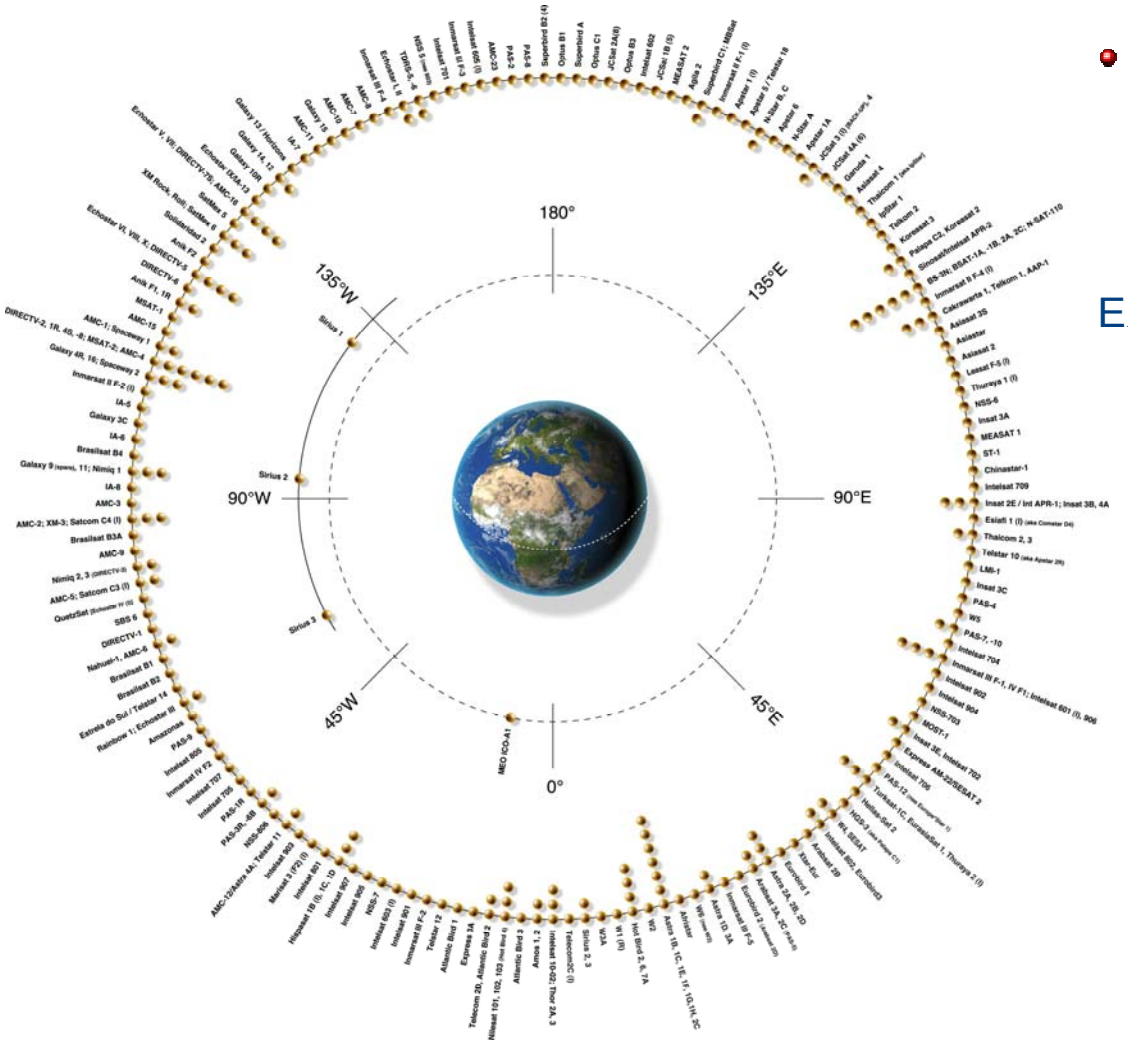
Coordination Under the ITU Framework



- A European Satellite operator may have to coordinate with non-EU neighbours to avoid harmful interference between different signals:

EXAMPLE:

- Hellas-Sat 2, physically located at 39°E “over Kenya”
- Hellas-Sat 2 delivers DTH TV to all Europe
- To operate legally over Europe, it required coordination with Pakistan, Russia, Turkey & France:
- Matter of diplomatic negotiation & bilateral agreements depending on political relations between countries

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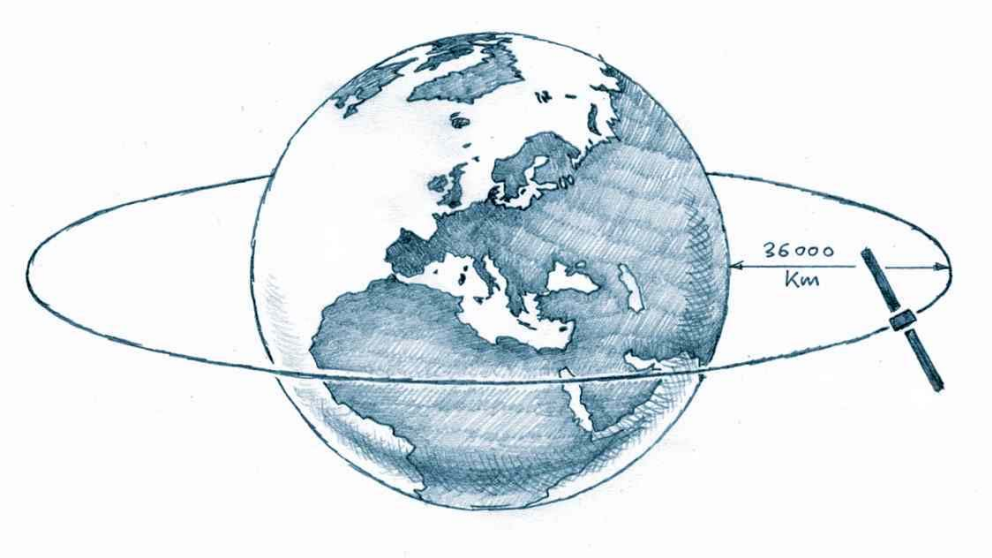
Why do Satellites Need the ITU: (II) The risk of Harmful Interference



- Satellite signals are transmitted from a height of 36,000km above the earth's surface
- The signal is strong enough to travel this distance but is delicate and susceptible to interference when it lands on earth
- At ITU level, band classification (exclusive or shared) & service category (primary/secondary status) lay the basis for this protection in specific bands

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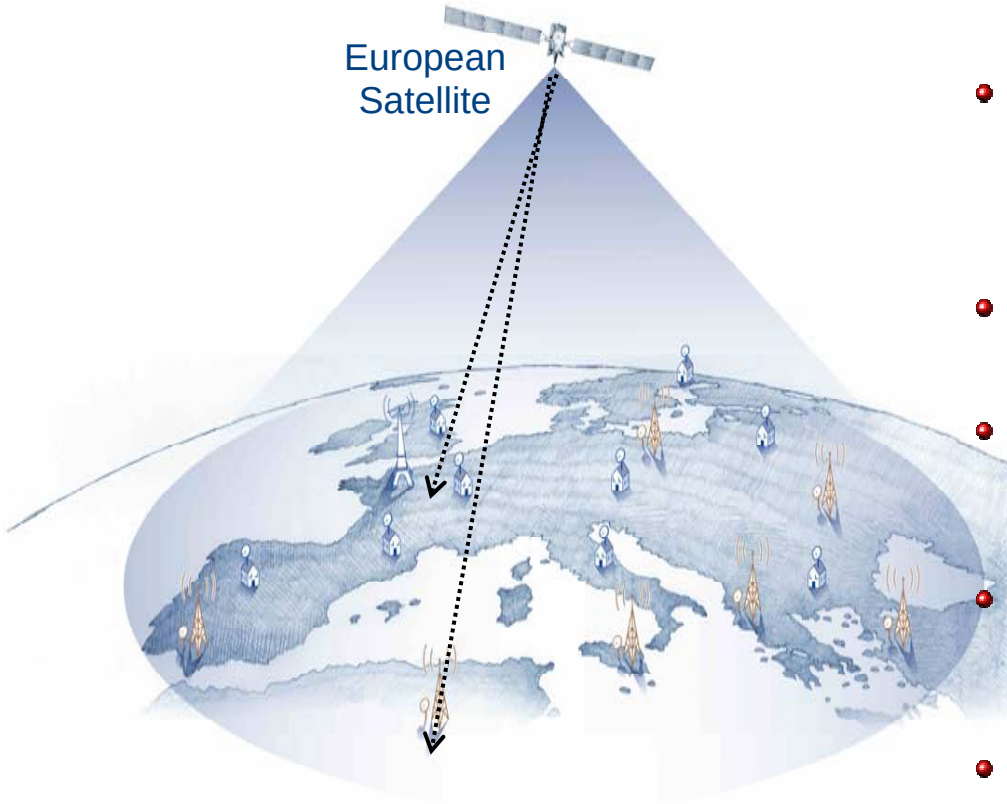
Regulating Global Satellite Services
A Case Study



- An EU satellite may provide connectivity between Europe & Africa
- Serving Africa often requires transmission in C-band as the only band that can withstand the heavy climatic rainfall of the African region
- The ITU confirmed that C-band should remain a satellite band
- The EC decided that C-band in Europe should be shared with terrestrial services such as WIMAX
- Such stronger terrestrial signals risk wiping out delicate satellite signals: HARMFUL INTERFERENCE
- Therefore decisions designed by Europe or any other region may have negative consequences beyond the region's borders: International Regulation is the only solution

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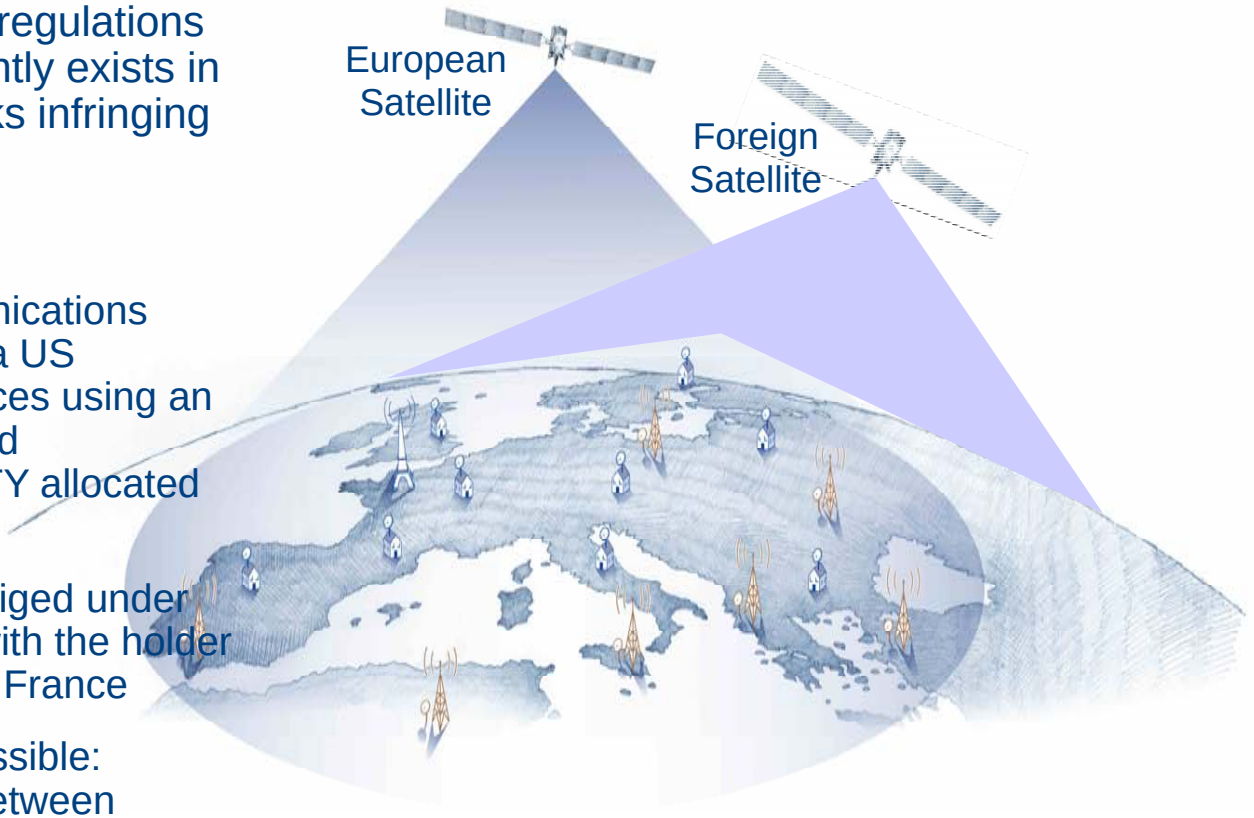
DENIAL of the ITU Framework

- Applying regional/ national regulations to a technology that inherently exists in an international context risks infringing international law

EXAMPLE:

- The US Federal Communications Commission authorised a US operator to provide services using an orbital slot and associated frequencies not PRIORITY allocated to the US
- The US operator was obliged under ITU rules to coordinate with the holder of the primary allocation: France
- Coordination was not possible: Following negotiations between France & the US: the US operator pays significant penalties for the lifetime of the satellite (15 years)



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CONSEQUENCES of the ITU Framework

- "European" satellites serve Europe & beyond
- "Foreign" satellites also serve Europe & beyond

LEVEL PLAYING FIELD

- The EU needs the ITU framework to prevent harmful interference on EU territory
- The inability to enforce EU regulations against foreign satellites could distort the EU market

E.g. MSS selection process - if another satellite operator (EU/ non-EU) relies on his ITU priority & offers services outside the EU in the same band as the EU selected operator, any spill-over of his signal may interfere & constrain a selected operator's ability to serve the EU market thus defeating an EU objective. Therefore mandatory coordination under ITU rules will be necessary

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CONCLUSIONS & PROPOSALS

1. Satellites are specific by reference to their reliance on the ITU Framework - this should be recognized, e.g. Recital wording

   - *"Efficient use and effective management of spectrum requires recognition of the technological requirements of satellite space stations, which provide services of a global nature and rely on international technical standards, orbital registrations and spectrum allocations"*

2. Satellite signals are susceptible to harmful interference & services in the EU (especially at EU borders) can be affected by harmful interference: clear references to the ITU should note the responsibility of all parties (EU & ITU MSs) to ensure this is avoided

   - EU legislation I: The EU should play a clear role in encouraging MS's to be consistent in their national actions with ITU regulations (reference to Radio Spectrum Decision wording: Article 6)

   - EU legislation II: The EU should regulate to prevent ***the risk of*** harmful interference, which can specifically also affect services at EU border regions