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Communications Satellites & The EU Regulatory Framework

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Key issues in the EU review

- ITU relations
  - Role and broad framework set by ITU
  - Protect of satellite signals and services from terrestrial services
- Technology neutrality
- Licensing issues
  - 5 yearly review
  - Fees
- EU selection process

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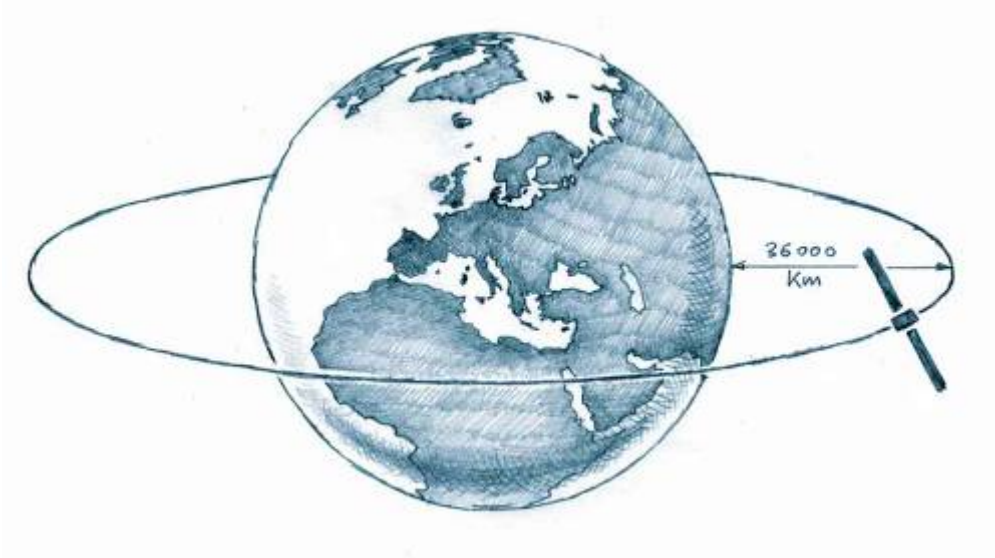
Signals from Space Travel Far & Need Protection



- Communications satellites obey physical laws of gravity - they move around the centre of the earth (over the equator) at a height of 36,000km
- They ‘fly’ at 3km/s in order to transmit to the same spot on earth all the time

- Satellite signals have to travel the long distance back to earth & get weaker along the way: thus they need protection against interference from stronger terrestrial signals
- 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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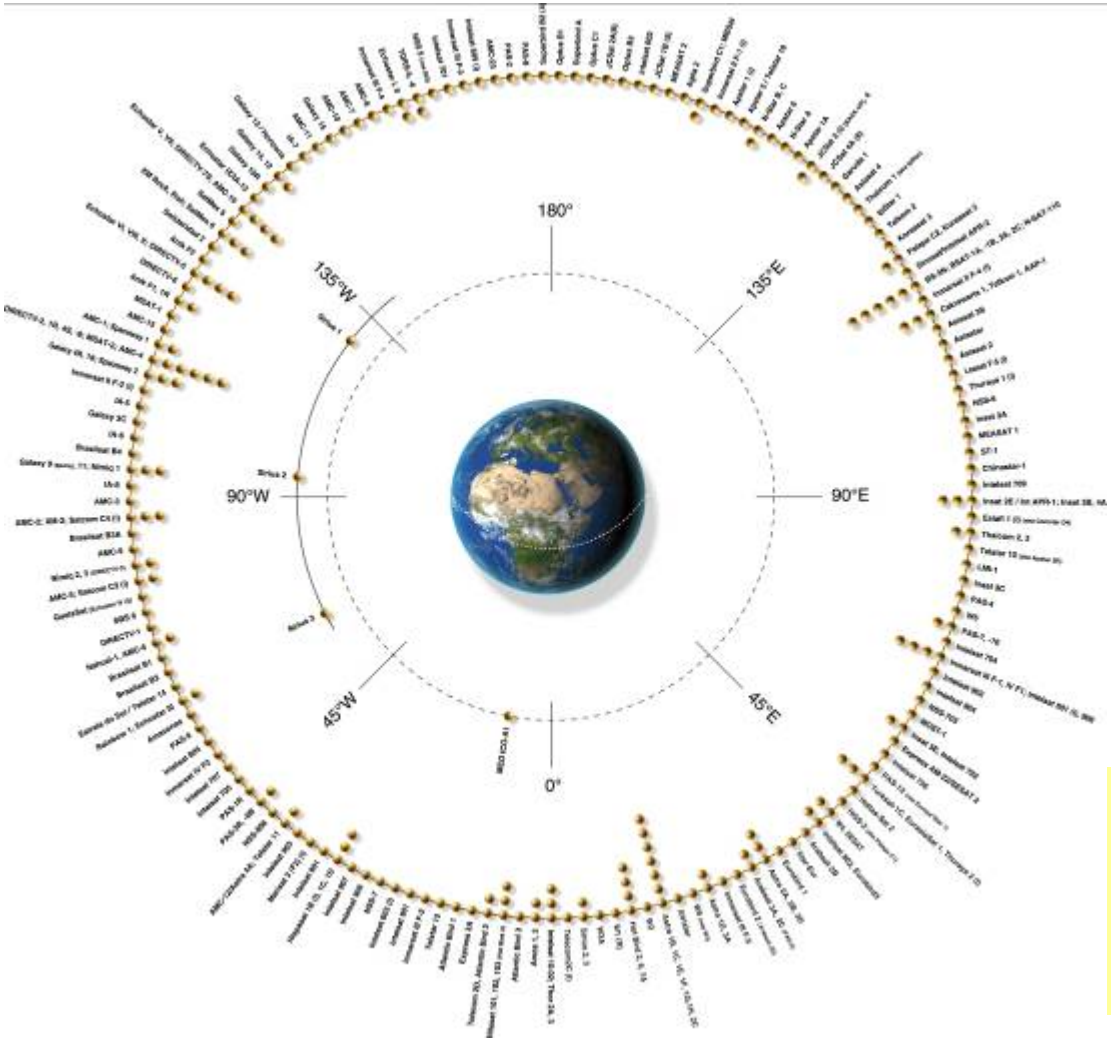
“International” Telecoms Services Need International ‘ITU’ Harmonisation



- The ITU provides vital access to orbital positions
- Satellite operators are not just companies: Member States represent them as their Managing administration
- The orbital Arc is crowded, not withstanding sharing of positions
- Commercial Satellites orbit the earth for up to 15-20 years
- ***The ITU system of registering orbital slots & associated frequencies should not be compromised***

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ITU relations

ESOA favours:

- Explicit reference to the ITU framework in order to ensure consistency of all EC actions
- A consolidated approach, lead by ITU definitions & principles with additional EU definitions for electronic communications services
- A continued role for ITU national competency for MS that are the managing administrations

IMPORTANT NOTE:

- **Non EU satellites cover EU countries and EU satellites cover not EU Countries also**

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Technology Neutrality

Technology neutrality (TN) should:

- Achieve equivalent treatment between technologies
- Not harm interference environment for other services

Applying identical rules to all technologies
may have a different effect on each one

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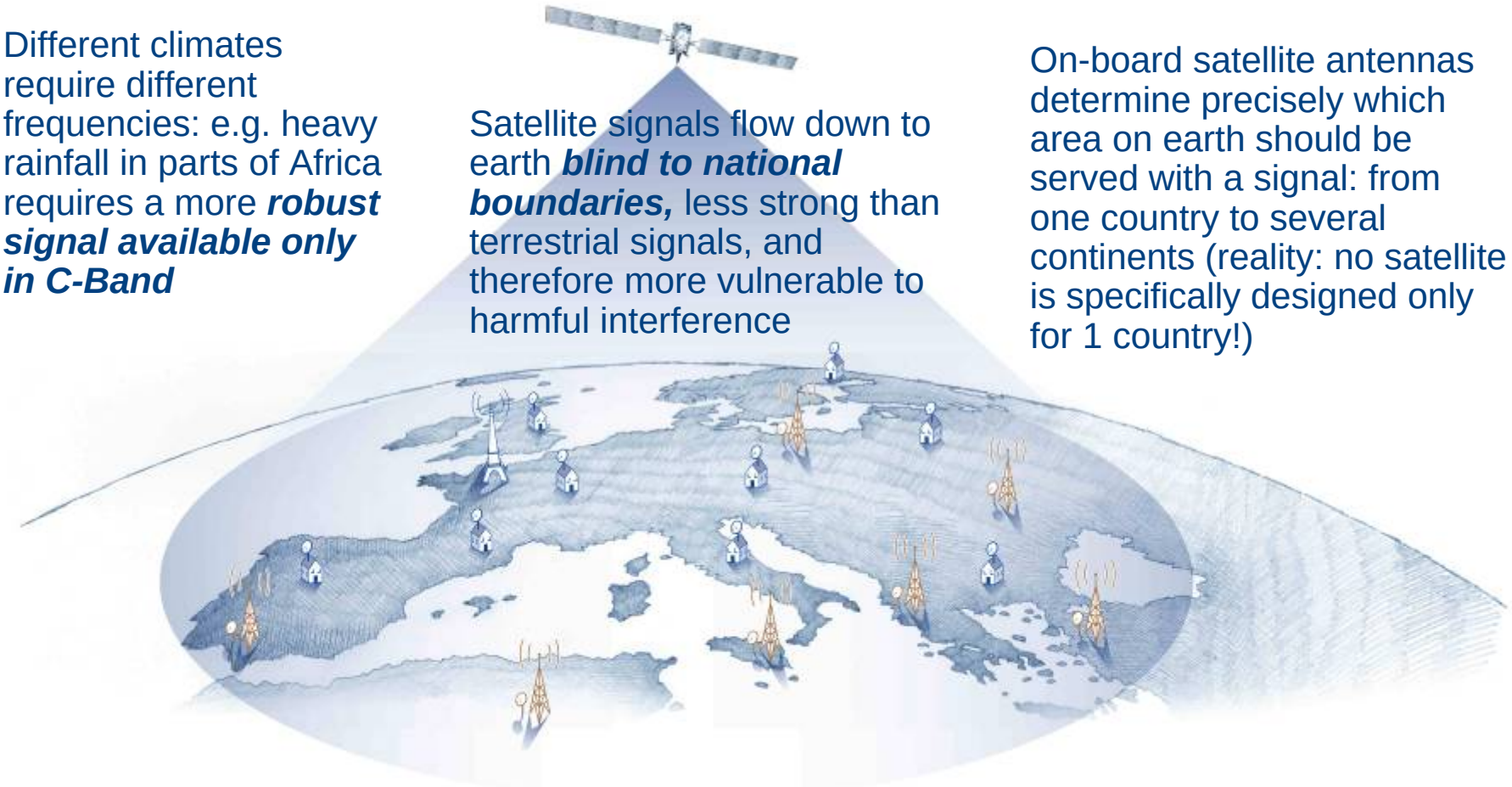
Limits to technology neutrality

"To each their own frequency"

Different climates require different frequencies: e.g. heavy rainfall in parts of Africa requires a more ***robust signal available only in C-Band***

Satellite signals flow down to earth ***blind to national boundaries,*** less strong than terrestrial signals, and therefore more vulnerable to harmful interference

On-board satellite antennas determine precisely which area on earth should be served with a signal: from one country to several continents (reality: no satellite is specifically designed only for 1 country!)



A competitive, cross-border technology that relies on (i) international coordination for frequencies (ITU), & due & proper consideration of its technical requirements in spectrum management

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Further considerations In Imposing Neutrality: - Shrinking Satellite Spectrum - Identical Rules

Satellite spectrum in Europe is shrinking

- Unlike for terrestrial services, satellite access to spectrum requires international harmonisation: this necessarily places satellite at a disadvantage when competing for spectrum
- In Europe, the terrestrial mobile sector sees disproportionate gains
- Large amounts of spectrum of the satellite sector are assigned to terrestrial services in the name of flexibility (in UHF TV, S, L or C Bands)
- Newly available spectrum (e.g. digital dividend) is not made accessible for satellite services

Identical rules for all technologies has in effect severely limited spectrum access for satellite services

Unequal access to spectrum shows this policy is not technology neutral & impacts competition in Europe

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Further considerations In Imposing Neutrality:
- Shrinking Satellite Spectrum
- ESOA Event Geneva 24th October 2007

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Other Considerations In Imposing Neutrality: - License Fees

Fees

- 'All shall pay fees' is not necessarily consistent with equal treatment
- Consistency is needed between numbering & spectrum fees – only the former recognizes fees are not always needed

Recommendation

Maintain the principle that fees are not required where only minimal risk of harmful interference or no scarcity exists

Introduce the same limiting language for spectrum fees as for numbering fees

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License Reviews

Re-assessment of existing rights of use

Satellites:

- Deliver international services
  - ➔ Re-assessment of national licences means a massive cost/ administrative burden
- Require huge upfront investment amortized over periods up to 20 years
  - ➔ Re-assessment threatens sunk costs & denies operators the legitimate & equal right to realise a return
- Are based on a 15-20 year business plan:
  - ➔ A 5 year review introduces substantial, detrimental business uncertainty

Competing communications technologies & services do not have these features which are unique to satellite technology

The application of this process is therefore not neutral & as such should be reassessed

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Communications Satellites:

"From start to Finish"

2 - 4 yrs

12 - 15 yrs

Order	**Manufacture** *€100m - €400m*	**Launch** *Ca. €100m* **& Insurance** *12-15% of total investment*	**Operations** *Living on solar energy*
Customers include: • Governments/ govt bodies, or • Private entities: satellite operators	Satellite manufacturers: • Employ a few *thousand* persons • Generate revenues of ca. €… p.a.	Commercial launches: Require insurance in case of: • Launch failure OR • Satellite failure = Satellite operator's cost	Satellite operators: • Own & manage satellites • Typically employ a few *thousand* persons • Contract with service providers to deliver solutions to users

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Communications Satellites:

"Serving Them All - Naturally" (I)

Information Society Objectives:

- Cross border Digital Transmission, spectrum efficiency
  - Live broadcasting of events of global interest to 2 out of 3 European households at the same time (57m directly & another 50m where satellites feed cable)
  - Digital from day 1, now delivering in high-definition: the 'next generation' digital format
  - New compression techniques to become even more spectrum efficient
- Digital divide & broadband access for all, Connecting Africa
  - "Satellites reach the parts other technologies just cant reach" - bridging the Digital Divide in Europe, Africa, Asia (ca. 100 transponders over Africa, 75 more to come in the next 3-5years)
  - Tele-medicine, tele-education, etc
- Mobile TV, mobile communications
  - Maritime or in-flight [mobile] communications
  - Next generation communications

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Communications Satellites:

"Serving Them All - Naturally" (II)

- Civil Protection, equipping EU peace-keeping & defence forces
- Disaster Relief, crisis management, emergency communications
- Robust, reliable infrastructure (very high business continuity rate)

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Communications Satellites:

“Serving Them All - Naturally” (II)

- Civil Protection, equipping EU peace-keeping & defence forces
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No Communications Satellites!

"Back to Basics"

If there were no communications satellites:

- Live Transmission:
  - UEFA cup final: "If you haven't got a ticket, you will have to see it later or fly to the venue to see it on local TV"
- Connecting Africa:
  - "Lets roll out cables & install power plants across the whole continent - it might cost a bit and take some time"
- Tsunami & other disasters:
  - "Sorry, you'll have to wait until lines are repaired or mobile networks are less congested - it could take months"
- Maritime Transport:
  - "Back to letter-writing between sailors and their families & Morse code for the crew"
- Security & Defence:
  - "The enemy is coming, light the fires and release the pigeons…"

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Satellite Solutions are here and NOW! Let us contribute to Sustainable Development And Technological Progress of EU

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Communications Satellites:

"So what do we make of it?"

GENERAL

- A competitive technology that responds to key public sector objectives
- A significant upfront investment by private industry
- Unique technical advantages & constraints

SPECTRUM:

Satellites rely on CERTAINTY in the availability of INTERNATIONALLY HARMONISED spectrum

- Because once launched they can't be changed for 10-15 years, &
- Because reception of signals from space is sensitive to harmful interference
- Because the business plan consists of international communications

Satellites use certain spectrum often for technical reasons: e.g. in Africa, or for security or emergency communications

- Therefore such spectrum cannot be made subject to market based economic management
- 'Technology neutrality' may lead to inappropriate spectrum usage constrains

Satellites need orbital slots and necessarily serve multiple nations

- Therefore rely on International Coordination Procedures (ITU)

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Specific Amendments

(i) Concerning Article 9

References to the 2002 EC Spectrum Decision & the ITU Radio Regulations are essential to ensure:

- *Consistency between EU rules*
- *Compliance of EU rules with international rules reflected in national frequency allocation tables*

The effective management of spectrum is the responsibility of the NRA and requires compliance with ITU rules, procedures and definitions.

A policy of technology & service neutrality as well as "flexibility" raises the issue of how satellite and terrestrial (particularly mobile) technologies can operate in the same or adjacent bands in a way that is practicable and sufficiently protects the sensitive satellite signals.

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Specific Amendments

(ii) Concerning Article 9a

The forced review of existing rights is likely to introduce major business uncertainty, discourage investment & ignores the commercial reality for many operators

A review of existing rights for the use of radio spectrum must:

- *Take account of the business models of certain sectors of the communications industry, for example satellite operators; &*
- *Encourage investment and innovation in such sectors for the benefit of European industry*

For example, several years of design and construction time are invested in a satellite system. After launch, a satellite has an expected lifetime of 15-20 years. To ensure business certainty, investment & innovation it is vital that there is a legitimate expectation of continued validity of authorization for that period

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Specific Amendments
PROPOSED NEW TEXT
(iii) Concerning Article 9d

1. The Commission shall monitor developments regarding radio spectrum in third countries & in international organisations, including the ITU, which may have implications for the implementation of this Directive

2. Member States shall inform the Commission of any difficulties created, de jure or de facto, by existing international agreements with third countries or international organisations, including the ITU, in relation to the implementation of this Directive

3. The Commission shall report regularly on the results of the application of paragraphs 1 to 3 to the European Parliament & the Council & may propose measures with the aim of securing the implementation of the principles and objectives of this Directive, where appropriate. When necessary, common policy objectives shall be agreed to ensure Community coordination among Member States

4. Measures taken pursuant to this Article shall be without prejudice to the Community's & Member States' rights and obligations under relevant international agreements

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Specific Amendments
PROPOSED NEW TEXT
Justification for Article 9d

To ensure efficient spectrum use it is essential that operators comply with & can rely on the filing & coordination procedures under internationally binding rules & procedures of the ITU in order to ensure that a network or system can be successfully coordinated & used. The international rights & obligations of administrations regarding their own & other administrations' frequency assignments are derived from the recording of the assignments in the ITU Master International Frequency Register, or the conformity of the assignments with an ITU frequency plan.

Band classification and service category as defined in the ITU frequency allocation table are proven and recognized instruments to ensure avoidance of harmful interference.

This Amendment only makes sense if Amendment 58

(repeal of the Decision 676/2002/EC) is adopted

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Specific Amendments

Authorisation Directive

Concerning Article 5

The proposed mechanism to review existing rights is not realistic, as justified for the amendments to Article 9a of the Framework Directive

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Specific Amendments

Authorisation Directive

Concerning Article 6a

EU harmonisation of conditions for grant of individual spectrum rights & general authorisations may facilitate wireless services deployment & promote investment & innovation to benefit end-users; if conforming with 2002 Radio Spectrum Decision.

Mutual recognition of licenses suits satellite services particularly well.

Transnational does not necessarily mean pan-European. It is not appropriate or proportionate for the Commission to have power or responsibility to select undertakings to benefit from spectrum rights.

Article 11 of EECMA Proposal (COM(2007)699) shall be amended accordingly.

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What is ESOA?

- ESOA represents ALL European satellite operators
- The Association works with policy-makers & other stakeholders to ensure that commercial satellite technology & services continue to play a key role in the delivery of policy & commercial objectives for the benefit of as many citizens as possible, in Europe & all over the globe
- The availability of satellite services depends on political support, a favourable regulatory environment, a fair industrial policy and awareness
- The Members of ESOA are:

EADS astrium, EUROASIASAT, eutelsat, HELLAS SAT, hispasat, inmarsat Total Communications Network™, SES, SIRIUS, telenor, TELESPAZIO A Finmeccanica / Thales Company