



Orbit Spectrum Allocation Procedures ITU Registration Mechanism

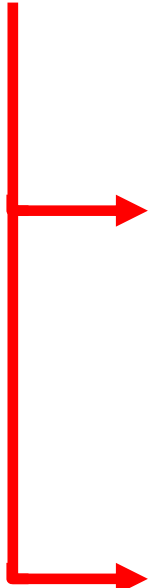
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Wroclaw, Poland, 12 June 2008



- United Nations Outer Space Treaty (1967)



Outer space free for exploitation and use by all states in conformity with international regulations

States retain jurisdiction and control over objects they have launched into outer space



- United Nations Outer Space Treaty (1967)
- International Telecommunication Union
 - Principles of use of orbit/spectrum
 - Allocation of frequency bands
 - Procedures, Plans, operational measures
 - Instruments (CS, CV, RR, RoPs, Recs)



“To ensure rational, equitable, efficient and economical use of the radio frequency spectrum by all radiocommunication services -- including those using the geostationary satellite orbit or other satellite orbits -- and to carry out studies on radiocommunication matters”

Constitution of the ITU, Article 12



Article 44



Radio frequencies & satellite orbits
are limited natural resources



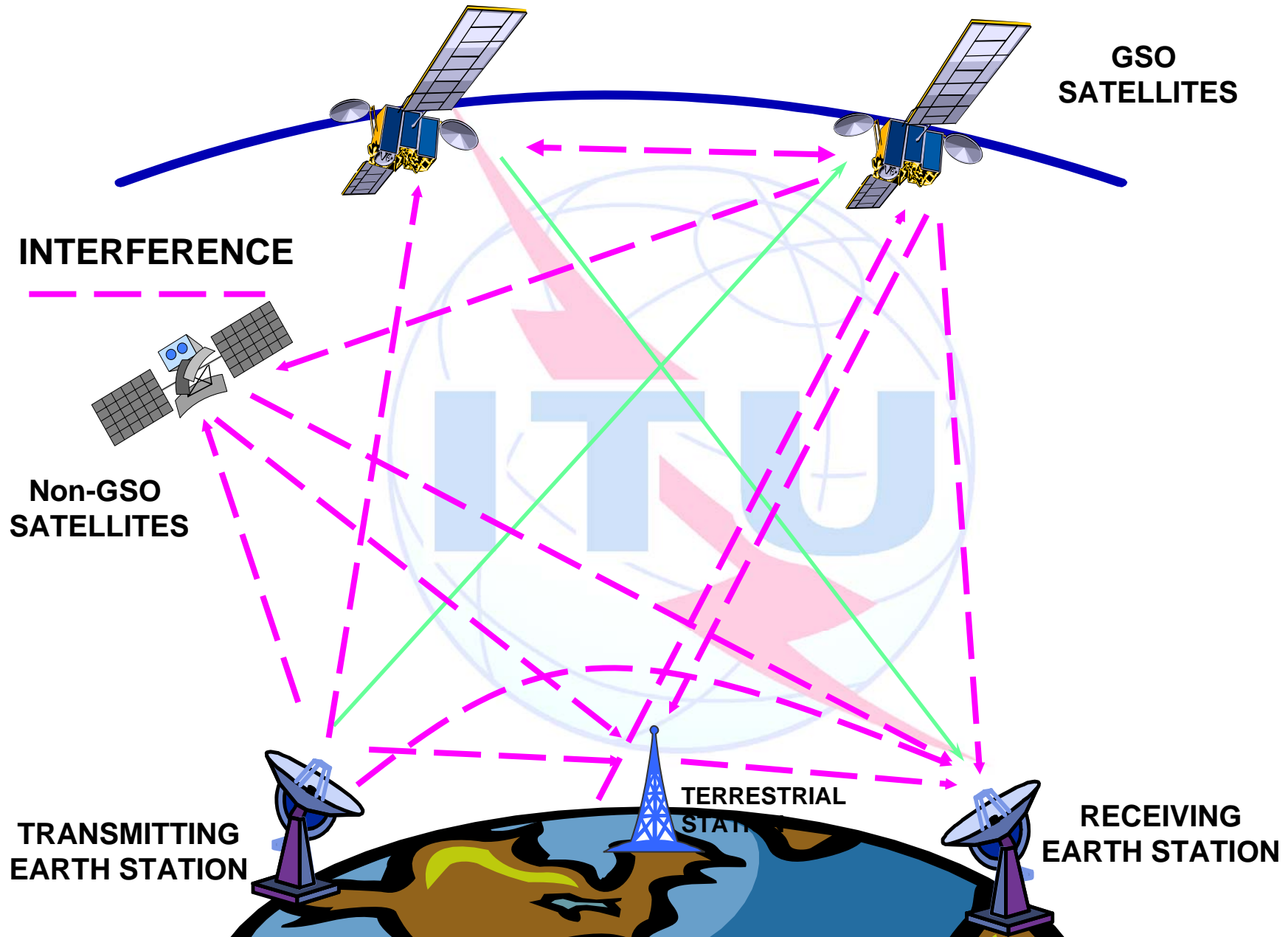
Rational, Efficient, Economical Use



Equitable Access



International
Telecommunication
Union





Propagation of Radio waves



- Laws of physics
- Radio waves do not stop at national borders

Interference



- possible between radio stations of different countries
- This risk is high in Space Radiocommunications

Radio Regulations (RR)

- One of its main purposes - Interference-free operation of RadioComms



Control of Interference

ALLOCATION

Frequency separation of stations of different services

POWER LIMITS

PFD to protect TERR services / EIRP to protect SPACE services / EPFD to protect GSO from Non-GSO

REGULATORY PROTECTION

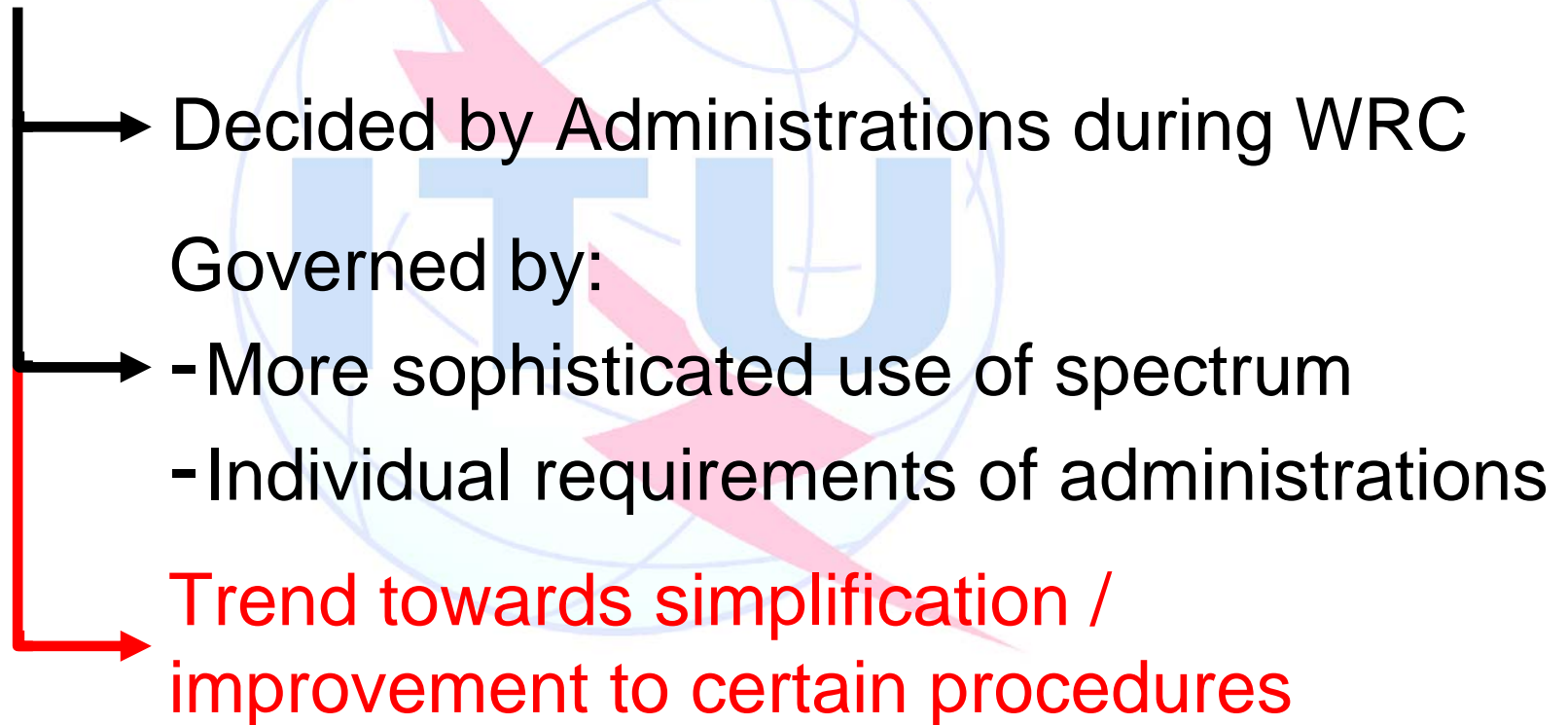
e.g. No. 22.2: Non-GSO to protect GSO (FSS and BSS)

COORDINATION

between Administrations to ensure interference-free operations conditions



- Lengthy & complex procedure





- Lengthy & complex procedure
- + Efficient use of spectrum
- + Equitable access
- + Opportunity to resolve interference before operation
- + Prevents loss of investment, customers & revenue by minimizing unusable capacity due to interference



- Rights & obligations + applicable procedures
- Two mechanisms of sharing orbit / spectrum:



Coordination Approach

Efficiency \Leftrightarrow First come, first served for actual requirements

Planning Approach

Equitable access \Leftrightarrow Plan for future use



“First Come, First Served” Procedure

- Rights acquired through **coordination** with administrations concerning **actual usage**
- Efficient spectrum / orbit management
- Dense/irregular orbital distribution of space stations
- Continuing responsibility for the networks



Article 9 (Sect.I, II)
(Coordination procedure)

Article 11
(Notification procedure)

Article 21, 22
(Limits)

App. 4
App. 5

Res 49

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Procedural Approach
Objectives

Exchange of
information



Coordination



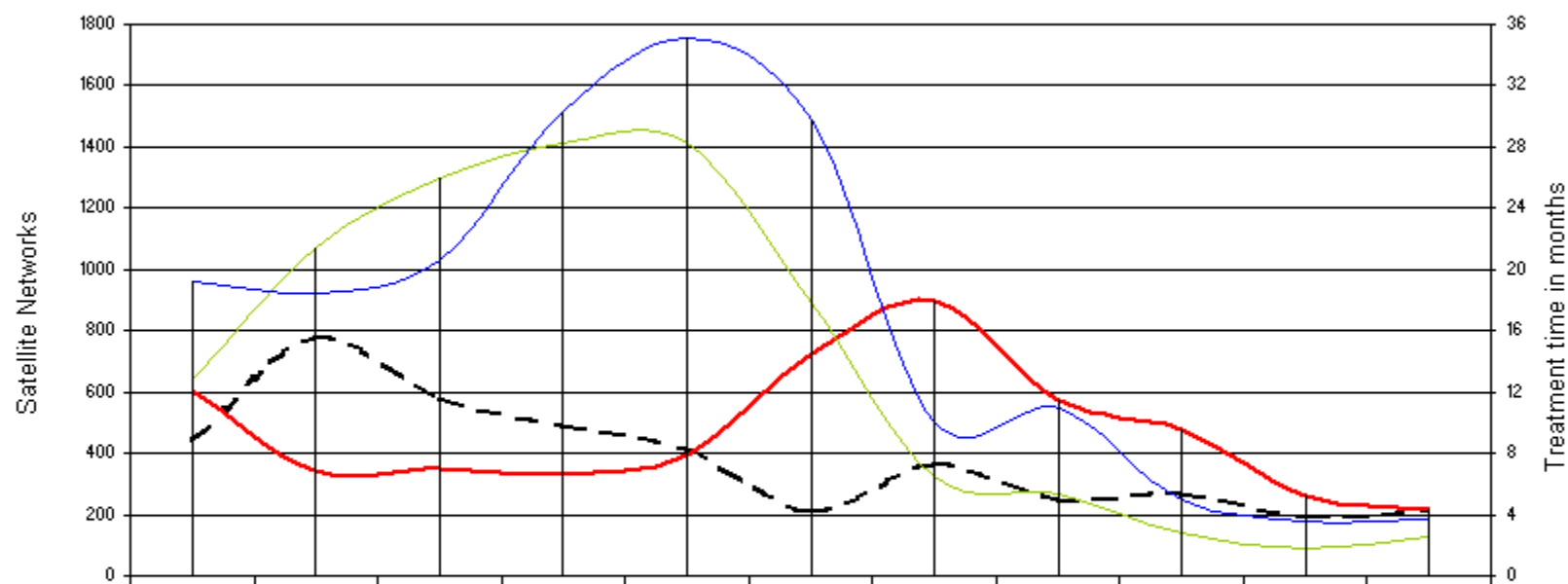


Plan Procedure

- Congestion of the GSO
- Frequency / orbital position plans
- Guarantee for equitable access to the spectrum / orbital resources
 - Spectrum set aside for future use by all countries
 - Predetermined orbital position & frequency spectrum



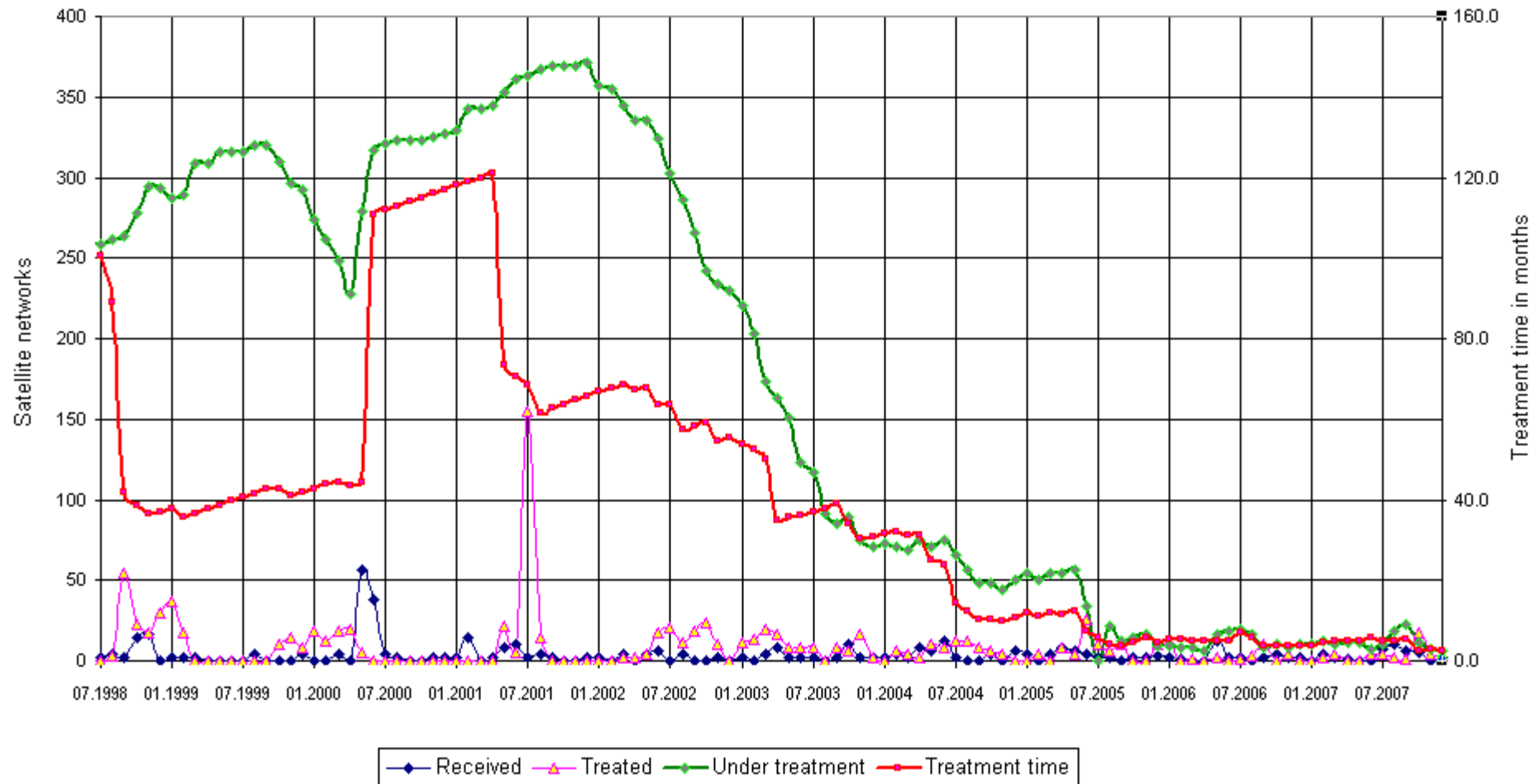
CR/C filings and processing trends for the year 1997-2007



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
— Filings Received	447	773	576	489	416	208	365	249	268	190	209
— Filings Published	605	346	350	328	394	728	898	570	475	258	217
— Under Treatment	642	1069	1295	1410	1409	890	324	269	143	91	127
— Treatment Time (Months)	19.2	18.4	20.6	30.3	35.1	29.8	10	10.9	5	3.6	3.7



Treatment of Article 4 AP30/30A for the 1998-2007 period





	Number of Satellite Networks	Number of Orbital Positions
Coordination Request	1215	724
Notification	792	385

(as of 23.05.2008)



Efficient Use of Orbit / Spectrum by satellite systems

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