



International Telecommunication Union

Space-related Activities

28th United Nations Inter-Agency Meeting on Outer Space Activities
Geneva, Switzerland
16-18 January 2008

Helping the world communicate



The ITU in brief

- UN specialized agency, concerned with the development of telecommunication networks and services worldwide
- 142 years old (Founded on 17 May 1865)
- 191 Member States, 700 Sector Members
- 750 staff / 71 nationalities
- Website: <http://www.itu.int>

Helping the world communicate



ITU is the leading United Nations agency for information and communication technology (ICT)

- bridging the digital divide;
- stewardship of the radio spectrum;
- adopting international telecommunication standards;
- building confidence and security in the use of information and communication technologies (ICTs);
- emergency communications.

Helping the world communicate



ITU and Space Radiocommunications

"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

Helping the world communicate



ITU Radiocommunication Sector

- Plays a vital role in global management of international radio frequency-spectrum & satellite orbits, an important components of any space-related activities
- Ensures development of legally binding Worldwide Agreements and Standards, for more than 100 years:

- The Radio Regulations
- The ITU-R Recommendations Reports and Handbooks



Helping the world communicate



World Radiocommunication Conference 2007



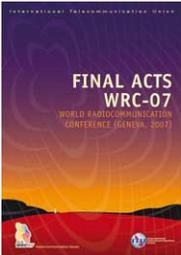
'bringing all radio services together'

**(Geneva, 22 October –
16 November 2007)**

At the dawn of a new radio century

Helping the world communicate

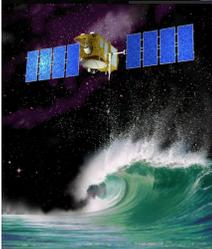




The Radio Regulations is updated every 3/4 years at WRCs (... , 2003, 2007, 2011, 2015...) reflecting latest technological achievements

Space-related activities (RA/WRC-07 decisions)

- Extend frequency allocations for Earth Exploration by satellite
 - facilitating research and exploration of Earth resources and environmental elements,
 - for key services to monitor the planet and predict and monitor disasters, meteorology and climate change.
- Call for urgent studies on Spectrum Management and ICT aspects for early warning, disaster mitigation and relief operations – ITU Database of available frequencies

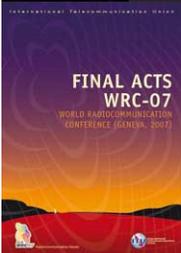


Helping the world communicate



Space-related activities (RA/WRC-07 decisions) (2)

- Reflect the latest technological achievements in the worldwide allocated spectrum/orbit resources for satellite applications such as communications, TV, Internet, etc.
- Set future course for wireless with spectrum identification for IMT — concept embracing advanced broadband mobile wireless technology for use on a global basis
- Other important decisions related, for example, to:
 - use and further development of satellite systems using highly inclined orbits,
 - To ensure interference compatibility between different space & terrestrial services sharing the same bands



Space-related activities (studies for **WRC-11**)

■ **New frequency allocations for Science Services:**

- for high-resolution sensors of Meteorological satellites, essential for whether forecast, climate changes, etc.
- for the Space research, to support the increased data requirements of planned manned and scientific missions (e.g. Moon exploration, etc.)
- For the needs of passive systems for lightning detection in Meteorological Aids
- for the oceanographic radar applications
- for the future development of passive services between 275 and 3000 GHz

Space-related activities (studies for WRC-11) (2)

■ Other space services and other activities:

- Ensure long-term spectrum availability for the new requirements of the Aeronautical Mobile by satellite
- Finalized the spectrum usage around 22 GHz for the High-Definition TV Broadcasting by satellite
- Identify global frequency allocation around 2.5 GHz for the radio-determination by satellite
- Additional allocations for advanced broadband mobile technology by satellite (the satellite component of IMT)
- Enhancement of the International Regulatory Framework and studies of new software-oriented tools for spectrum management (Cognitive Radio)
- Electronic News Gathering, Short Range Devices, etc.

ITU Radiocommunication Sector's Activities

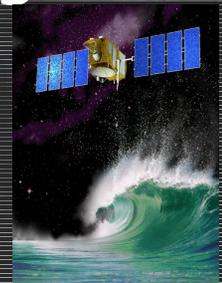
Other Space-related activities (regular basis)

- Development of Recommendations and Reports on
 - ✓ describing radiocommunication features of space research systems, and
 - ✓ providing guidelines on use of such systems in deep space research operations and on planets exploration
- Continue development of Handbook for the Spectrum monitoring of space emissions
- Continue frequency coordination activity for Satellite systems providing positioning and location capabilities
- Processing of satellite filings
- Provide assistance and support to Administrations and BR customers

Helping the world communicate

ITU and Emergency Radiocommunications

- Disaster prediction, Detection, Alerting and Disaster relief.
- ITU-R studies include:
 - ▶ identification of suitable frequency bands to be used on a global/regional basis for public protection and disaster relief (Res.647 (WRC-07));
 - ▶ facilitating cross-border circulation of equipment intended for use in emergency and disaster relief situations (Tampere Convention)



ITU Bridging the Digital Divide

- ICTs are omnipresent tools (e-Commerce, e-government, e-learning, and e-Health, e-community development...)
- Global issues that will shape our common future in the 21st century.
- Success in finding viable and sustainable solutions to bridging the digital divide will determine to what extent we are able to fulfill the World Summit on the Information Society (WSIS)

Helping the world communicate



A satellite with two large solar panel arrays is shown in space, orbiting the Earth. The Earth's blue and white clouds are visible in the background, along with a portion of the dark, cratered surface of the Moon in the upper right corner.

■ ITU's ambition:
to 'Connect the World'

To achieve that goal, we need to work in partnership with other UN organizations, at first place, governments, private sector and civil society.

Helping the world communicate



A satellite with a large parabolic dish antenna and a grid-like structure is shown in space. The Earth is visible in the background, along with the Moon. The text "International Telecommunication Union" is overlaid in white.

International Telecommunication Union

Valery Timofeev

valery.timofeev@itu.int

Director, Radiocommunication Bureau

Helping the world communicate

