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ITU-R Study Group Activities



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Presentation



- Objectives of ITU-R Study Groups
- Structure of Study Groups
- Radiocommunication Assembly
- Scope of Study Groups
- CPM - Conference (WRC) process
- ITU-R Recommendations, Reports and Handbooks



Role of ITU-R

- ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including those using the geostationary-satellite or other satellite orbits,...
- carry out studies without limit of frequency range and adopting Recommendations on radiocommunication matters.

(ref. Article 12 of Constitution)



Role of ITU-R

Role conducted through (*inter alia*):

- World (and Regional) Radiocommunication Conferences
- Approval of Recommendations by Member States

Technical studies are required
which are conducted in **Study Groups**



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Objectives of ITU-R Study Groups

Develop technical bases for
WRCs and RRCs



e.g. CPM process
for WRCs

Develop Recommendations



International voluntary *Standards* on:

- spectrum management, satellite orbits, frequency sharing
- system characteristics and operation



ITU-R represents:

**International focal point for standardization
of wireless systems**

Compile Reports and Handbooks



ITU-R Study Groups

- Groups of experts (> 1500) from ITU membership

- Currently 6 Study Groups

- Subordinate to:

- Working Party

- Technical Group

- Study Group

UN bodies

e.g. WHO, WMO

- International Commission for Vocational Co-operation

- International Telecommunication Regulatory Laboratory

- WP 3K: Point-to-area propagation

- WP 3A: Point-to-point propagation

e.g. WiMAX

Member States

Sector Members

Associates

SG 1: Spectrum management

SG 3: Radiowave propagation

SG 4: Satellite services

SG 5: Terrestrial services

SG 6: Broadcasting services

SG 7: Science services

WP 5D: IMT

Regional/National

SDO's

e.g. ETSI, IEC

WP 1C: spectrum monitoring

Regional Frequency

Management

e.g. CEPT

WP 4A: Orbit/spectrum utilization



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ITU-R Study Groups

- SG 1: Spectrum management
- SG 3: Radiowave propagation
- SG 4: Satellite services
- SG 5: Terrestrial services
- SG 6: Broadcasting service
- SG 7: Science services

Supported by Counsellors
and Assistants in Study
Group Department of BR



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Study Group Department (SGD)

- HoD + Assistant
- 6 Counsellors
 - engineering expertise
 - secretarial/organisational support
 - scrutiny (and “polishing”) of texts
- 5 Assistants + Head (of Assistants)
 - support to Counsellors
 - text processing, document control, circular letters
- 1 Clerk
- 1 Draughtsman



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Radiocommunication Assembly

- convened every 3-4 years
- associated in time and place with WRCs

(Article 13 of Constitution)

- Adopts SG work programmes
- Approves ITU-R Resolutions
 - working procedures
 - specific aspects of SG responsibility
- Approves Recommendations
- Establishes ITU-R Study Groups (and elects their chairmen/vice-chairmen)



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Study Group 1

Spectrum management

Principles and techniques for

- spectrum management
- sharing criteria
- spectrum monitoring
- long-term strategies for spectrum utilization

- Short Range radio Devices (SRD)
- International spectrum regulatory framework



Study Group 3

Radiowave propagation

- Propagation in ionized and non-ionized media
- Development of prediction methods

- Characteristics and mapping of propagation medium
- Propagation prediction methods
e.g. for terrestrial digital broadcasting (RRC-06)



Study Group 4

Satellite services

- Systems and performance in FSS, BSS, MSS and RDSS
- Efficient orbit/spectrum utilization for FSS, BSS, MSS and RDSS
- IP Global broadband Internet access via satellite
- Early warning and relief operations

- Technical characteristics for systems and networks in the RNSS
- Satellite radio interface of IMT-2000



Study Group 5

Terrestrial services

- IMT-2000 and IMT-Advanced
- Fixed, mobile, portable and nomadic communications, including BWA, RLANs, HAPS
- Maritime and aeronautical services
- Radiodetermination service
- Amateur service
- SDR and CRs

- Next generation mobile access “IMT Advanced”
- Spectrum issues for maritime and aeronautical services



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Study Group 6

Broadcasting service

- Programme production
- Programme assembly
- Delivery
- Reception quality

- Sharing issues at UHF
- Multimedia and data broadcasting for mobile reception



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Study Group 7

Science services

- Systems for space operation, space research, Earth exploration and meteorology
 - Radio astronomy
 - Standard frequency and time signals
- EESS including meteorological satellite service for disaster prediction and detection, and for climate monitoring
 - Protection of passive services, e.g. Radio astronomy



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ITU-R Study Groups on Internet

ITU Radiocommunication Sector (ITU-R) - Study Groups

Home : [ITU-R](#) : Study Groups

Radiocommunication Sector (ITU-R)

Scope

More than 1 500 specialists, from telecommunication organizations and administrations throughout the world, participate in the work of the Study Groups concerned with:

- ▶ [drafting Technical bases for Radiocommunication Conferences](#)
- ▶ [developing Draft Recommendations](#)
- ▶ [compiling Handbooks](#)

General Information

- ▶ [Scope](#)
- ▶ [Study Groups Structure](#)
- ▶ [Brochure](#)
- ▶ [Chairmen and Vice-Chairmen](#)
- ▶ [Chairmen and Vice-Chairmen Meetings](#)

Structure

- ▶ [Study Group 1 \(SG 1\) - Spectrum management](#)
- ▶ [Study Group 3 \(SG 3\) - Radiowave propagation](#)
- ▶ [Study Group 4 \(SG 4\) - Satellite services](#)
- ▶ [Study Group 5 \(SG 5\) - Terrestrial Services](#)
- ▶ [Study Group 6 \(SG 6\) - Broadcasting service](#)
- ▶ [Study Group 7 \(SG 7\) - Science services](#)
- ▶ [Coordination Committee for Vocabulary \(CCV\)](#)
- ▶ [Conference Preparatory Meeting \(CPM\)](#)
- ▶ [Special Committee \(SC\)](#)
- ▶ [Special Committee \(SC\)](#)

Disbanded Groups

- ▶ [Study Group 8 \(SG 8\) - Mobile, radiodetermination, amateur and related satellite services](#)
- ▶ [Study Group 9 \(SG 9\) - Fixed service](#)

See: <http://www.itu.int/ITU-R/go/rsg>

SG Web Page Structure (using SG 1 as a sample)



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Scope	Next meeting
<p>Spectrum management principles and techniques, general principles of sharing, spectrum monitoring, long-term strategies for spectrum utilization, economic approaches to national spectrum management, a...</p> <p>More...</p>	<p>▶ Invitation</p> <p>ITU-R Meetings schedule - Meeting sessions</p>
General Information	Structure
<p>▶ Brochure </p> <p>▶ Chairmen and Vice-Chairmen</p> <p>▶ Counsellor</p> <p>▶ Contributions submission: rsq1@itu.int</p> <p>▶ Mailing lists - FTP server TIES</p> <p>▶ ITU-R Electronic facilities</p> <p>▶ Mailing lists - FTP server TIES</p>	<p>▶ Working Party 1A (WP 1A) - Spectrum engineering techniques</p> <p>▶ Working Party 1B (WP 1B) - Spectrum management methodologies and economic strategies</p> <p>▶ Working Party 1C (WP 1C) - Spectrum monitoring</p> <p>▶ Working Party 1A (WP 1A) - Spectrum engineering techniques</p>
Publications	Documents
<p>▶ ITU-R Questions - SG 1</p> <p>▶ Recommendations - ITU-R SM Series</p> <p>▶ Reports - ITU-R SM Series</p>	<p>▶ Contributions TIES XML ?</p> <p>▶ Study Group 1 Summary Record (Meeting: 26-27/06/08) TIES</p> <p>▶ Administrative Documents (ADM)</p> <p>▶ Information Documents (INFO)</p> <p>▶ Temporary Documents (DT) TIES</p> <p>▶ Circular Letters (LCCE) TIES XML ?</p> <p>▶ Administrative Circulars (CA) XML ?</p> <p>▶ Administrative Circulars (CACE) XML ?</p> <p>▶ Administrative Circulars (CAR) XML ?</p> <p>▶ Archives</p>



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Study Group Products

- **Technical bases for WRC (and RRC)**
 - ➔ **CPM Report**
- ITU-R Recommendations
- Reports and Handbooks



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Study Group Products

- Technical bases for WRC (and RRC)
 - ➔ CPM Report
- **ITU-R Recommendations**
- Reports and Handbooks



ITU-R Recommendation Series

- **BO:** Satellite delivery
- **BR:** Recording for production, archival and play-out; film for television
- **BS:** Broadcasting service (sound)
- **BT:** Broadcasting service (television)
- **F:** Fixed service
- **M:** Mobile, radiodetermination, amateur and related satellite services
- **P:** Radiowave propagation
- **RA:** Radio astronomy
- **RS:** Remote sensing systems
- **S:** Fixed-satellite service
- **SA:** Space applications and meteorology
- **SF:** Frequency sharing and coordination between fixed-satellite and fixed service systems
- **SM:** Spectrum management
- **SNG:** Satellite news gathering
- **TF:** Time signals and frequency standards emissions
- **V:** Vocabulary and related subjects



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Study Group Products

- Technical bases for WRC (and RRC)
 - ➔ CPM Report
- ITU-R Recommendations
- **Reports and Handbooks**



Example Reports from ITU-R

- Economic aspects of spectrum management
- Fixed-service applications using free-space optical links
- Means of calculating low-orbit satellite visibility statistics
- Guidelines for evaluation of radio interface technologies for IMT-Advanced
- Transition from analogue to digital terrestrial broadcasting



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Example Handbooks from ITU-R

- National Spectrum Management
- Spectrum Monitoring
- Satellite Communications (FSS)
- Radiowave Propagation information for designing terrestrial point-to-point links
- Use of radio spectrum for meteorology; weather, climate monitoring and prediction
- Digital terrestrial TV broadcasting
- Land mobile including wireless access
- Frequency adaptive systems

Concluding remarks

- **ITU-R** represents focal point for standardization of radiocommunication services and systems
- **ITU-R Study Groups** are the “home” for the technical studies required by the Sector
- Technical forum for discussion amongst experts
- Principal products:
 - Technical bases for Radio Conferences
 - Recommendations, Reports and Handbooks



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Thank you!