Role of the Radiocommunication Sector (ITU-R) in Bridging the Digital Divide

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Key issues in ITU-R

- **WRC-11** World Radiocommunication Conference 2011
  Information Meeting for Africa, Geneva, 14-16.9.09

- **WRC-07** implementation of results
  Software development: Appendix 30B (FSS Plan)

- **RRC-06** implementation of results
  Software development: GE06 (BS Digital Plan)

- **IMT-Advanced** ITU global standard for international mobile telecommunications
  Radio technology evaluation process

- **Space regulations** BR Workshop on the efficient use of the spectrum/orbit resource, Geneva, 6 May 2009

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ITU-R history in brief

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
<th>Notes</th>
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<tr>
<td>1906</td>
<td>International Radiotelegraph Convention (1st Radio Regulations)</td>
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<td>1927</td>
<td>CCIR (International Radio Consultative Committee)</td>
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<td>1932</td>
<td>Telegraph &amp; Radiotelegraph Conventions merged: the International Telegraph Union became the International Telecommunication Union</td>
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<td>1947</td>
<td>IFRB (International Frequency Registration Board)</td>
<td>ITU as UN specialized agency</td>
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| 1992 | ITU-R (Radiocommunication Sector):  
  - RRB (Radio Regulations Board)  
  - BR (Radiocommunication Bureau) |       |
| 2006 | 100 years of ITU Radio Regulations |       |
ITU-R mission

“To ensure rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including those using satellite orbits, and to carry out studies and adopt recommendations (standards) on radiocommunication matters.”

International regulatory framework:

→ to facilitate equitable access to and rational use of the natural resources of the radio-frequency spectrum and the geostationary-satellite orbit;
→ to ensure the availability and protection from harmful interference of the frequencies provided for distress and safety purposes;
→ to assist in the prevention and resolution of cases of harmful interference between the radio services of different administrations;
→ to facilitate the efficient and effective operation of all radiocommunication services;
→ to provide for and, where necessary, regulate new applications of radiocommunication technology.

How ITU-R implements these functions?

- Fulfilling international spectrum management functions (through the Radiocommunication Bureau and the Radio Regulations Board) in accordance with the Radio Regulations and Regional Agreements/Plans, including:
  - processing frequency assignments/allotments submitted by Administrations;
  - determination of coordination requirements;
  - maintenance of the Master International Frequency Register (MIFR) and Regional Plans; etc.

- Developing and implementing ITU-R standards on:
  - radio devices/applications/systems/networks;
  - procedures, rules and algorithms for development, introduction and maintenance of radio applications/devices/systems/networks.
**ITU-R structure & activities**

Committed to Connecting the World

Yogyakarta, Indonesia, 27-29 July 2009

- CPM: Conference Preparatory Meeting
- MIFR: Master International Frequency Registry
- RA: Radiocommunication Assembly
- RAG: Radiocommunication Advisory Group
- Rec: Recommendations (international voluntary standards)

**WRC**

World Radiocommunication Conference

- Updates the Radio Regulations (treaty status)
  - Spectrum Allocation
  - Notification procedures
  - Administrative and operational procedures
- Adopts Resolutions
- Held every 3-4 years

http://www.itu.int/ITU-R/go/wrc
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WRC-07 Participation
(Member States of ITU Region 3)

- Afghanistan
- Korea, DPR
- Malaysia
- Pakistan
- Australia
- India
- Maldives
- Papua New Guinea
- Bangladesh
- Indonesia
- Micronesia
- Philippines
- Bhutan
- Brunei Darussalam
- Cambodia
- China, P.R.
- Japan
- Korea, Rep.
- Malaysia
- Micronesia
- Myanmar
- Nepal
- New Zealand
- Pakistan
- Papua New Guinea
- Philippines
- Brunei Darussalam
- Cambodia
- China, P.R.
- Japan
- Korea, Rep.
- Malaysia
- Micronesia
- Myanmar
- Nepal
- New Zealand
- Pakistan
- Papua New Guinea
- Philippines
- Brunei Darussalam
- Cambodia
- China, P.R.
- Japan
- Korea, Rep.
- Malaysia
- Micronesia
- Myanmar
- Nepal
- New Zealand
- Pakistan
- Papua New Guinea
- Philippines

WRC-07 & WRC-11

WRC-07 (22.10-16.11.2007)
- 30 agenda items, 3100 proposals, 2800 del.
- almost all services (terrestrial: FS, MS, BS, Amat.S, RAS, RLS, space: FSS, BSS, MSS, EESS, SRS, SO, MetSat, Amat.Sat)
- several applications: IMT, HAPS, HF, GMDSS

WRC-11 (03-28.10 or 24.10-18.11.2011)
- 33 agenda items,
- again almost all services (terrestrial: RLS, AM(R)S, passive S, FS, BS, MS, Maritime MS, Amat.S, space: AMS(R)S, SRS, BSS, MSS, MetAids, RDSS, MetSat) and other issues (Res.951, SRDs, Cognitive Radio)
- and many applications and systems: UAS, ENG, HAPS, oceanographic radar, ...
**Radio Regulations (RR)**

The Radio Regulations (international *treaty*) incorporates the decisions of the World Radiocommunication Conferences, including all Appendices, Resolutions, Recommendations and ITU-R Recommendations incorporated by reference.

- Frequency block allocations to defined radio services (Article 5);
- Mandatory or voluntary regulatory procedures (coordination, plan modification, notification, recording) that are adapted to the allocation structure.

Yogyakarta, Indonesia, 27-29 July 2009

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**Radio standardization**

**Objectives of ITU-R Study Groups**

- Develop technical bases for radio conferences
- Establish Recommendations
- CPM process for WRCs
- International voluntary *standards* on:
  - spectrum management
  - system characteristics and operation
- ITU-R represents:
  - International focal point for standardization of wireless systems
- Compile Reports and Handbooks

Yogyakarta, Indonesia, 27-29 July 2009
**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

- In addition:
  - **CCV:** Coordination Committee for Vocabulary
  - **CPM:** Conference Preparatory Meeting
  - **SC:** Special Committee on regulatory and procedural matters

- [http://www.itu.int/ITU-R/go/rsg](http://www.itu.int/ITU-R/go/rsg)

**ITU-R Recommendation**

- **Definition:**
  «An answer to a Question or part(s) of a Question which, within the scope of existing knowledge and studies, recommends specifications, data or guidance; provides a recommended way or ways of undertaking a specified task; or a recommended procedure or procedures for a specified application and which is considered to be sufficient to serve as a basis for international cooperation in a given context in the field of radiocommunications.»

*Source: Resolution ITU-R 1-5 (§ 6.1.2)*

Yogyakarta, Indonesia, 27-29 July 2009
Radio standardization - reducing the gap

RESOLUTION 47 (Doha, 2006): Enhancement of knowledge and effective application of ITU Recommendations in developing countries

noting
- the difficulties in understanding ITU Recommendations and related international standards to apply new technology to the network appropriately and effectively;
- the lack of practical information on the application of ITU Recommendations and related standards of other countries, and the lack of guidelines on applying these technical documents,

**ITU is instructed**
- to promote participation in training courses and workshops on best-practice application of ITU Recommendations for developing countries;
- to establish a database containing information on new technologies that are standardized and develop guidelines on applying ITU Recommendations.

**Administrations are encouraged**
to establish and maintain active national structures to provide for coordination of internal preparation and follow-up, and coordination of participation in external regional and international standardization bodies (e.g., ITU-R), to protect their government & industry interests.
ITU-R Publications

- BR International Frequency Information Circular (IFIC)
- Space Radiocommunication Stations on DVD-ROM
- Radio Regulations
- Service documents
- ITU-R Recommendations
  - Online subscriptions
  - CD/DVD-ROM
  - Paper
  - Handbooks

http://www.itu.int/publications
Thank you!