ITU and the Radiocommunication Sector

Fabio LEITE
(fabio.leite@itu.int)
Deputy-Director
Radiocommunication Bureau

International Telecommunication Union

ITU in brief

- ✓ Founded on 17 May 1865

5 Elected Officials

Mr. François Rancy
Director, BR

Leading United Nations agency for ICTs

4 regional offices, 8 area offices
HQ in Geneva, Switzerland

- ✓193 Member States,
> 700 Sector Members , Associates & Academia
- ✓750 staff & 100 nationalities
- ✓Annual budget = US$180,000,000

http://www.itu.int

Radiocommunications
- regulations
- standards

Standardization

Development

ITU-R history in brief

1906 (Berlin)	**International Radiotelegraph Convention** (1st *Radio Regulations*)
1927 (Washington DC)	**CCIR** (International Radio Consultative Committee)
1932 (Madrid)	Telegraph & Radiotelegraph Conventions merged: the International Telegraph Union became the **International Telecommunication Union**
1947 (Atlantic City)	**IFRB** (International Frequency Registration Board) ITU as UN specialized agency
1992 (Geneva)	**ITU-R** (Radiocommunication Sector): ▪ **RRB** (Radio Regulations Board) ▪ **BR** (Radiocommunication Bureau)
2006	**100+ years of ITU *Radio Regulations***

Roles of ITU-R

international **regulations**

global **standards** & guidelines

assistance to administrations

- ✓ Rights of access to the spectrum
- ✓ Efficient use of spectrum
- ✓ Operation free from interference
- ✓ Economies of scale
- ✓ Interoperability and roaming
- ✓ Global harmonization
- ✓ Guidelines for national & regional regulations

GOOD QUALITY AND LESS COSTLY EQUIPMENT

MORE FAVORABLE INVESTMENT ENVIRONMENT (CLEAR & STABLE)

ITU-R mission

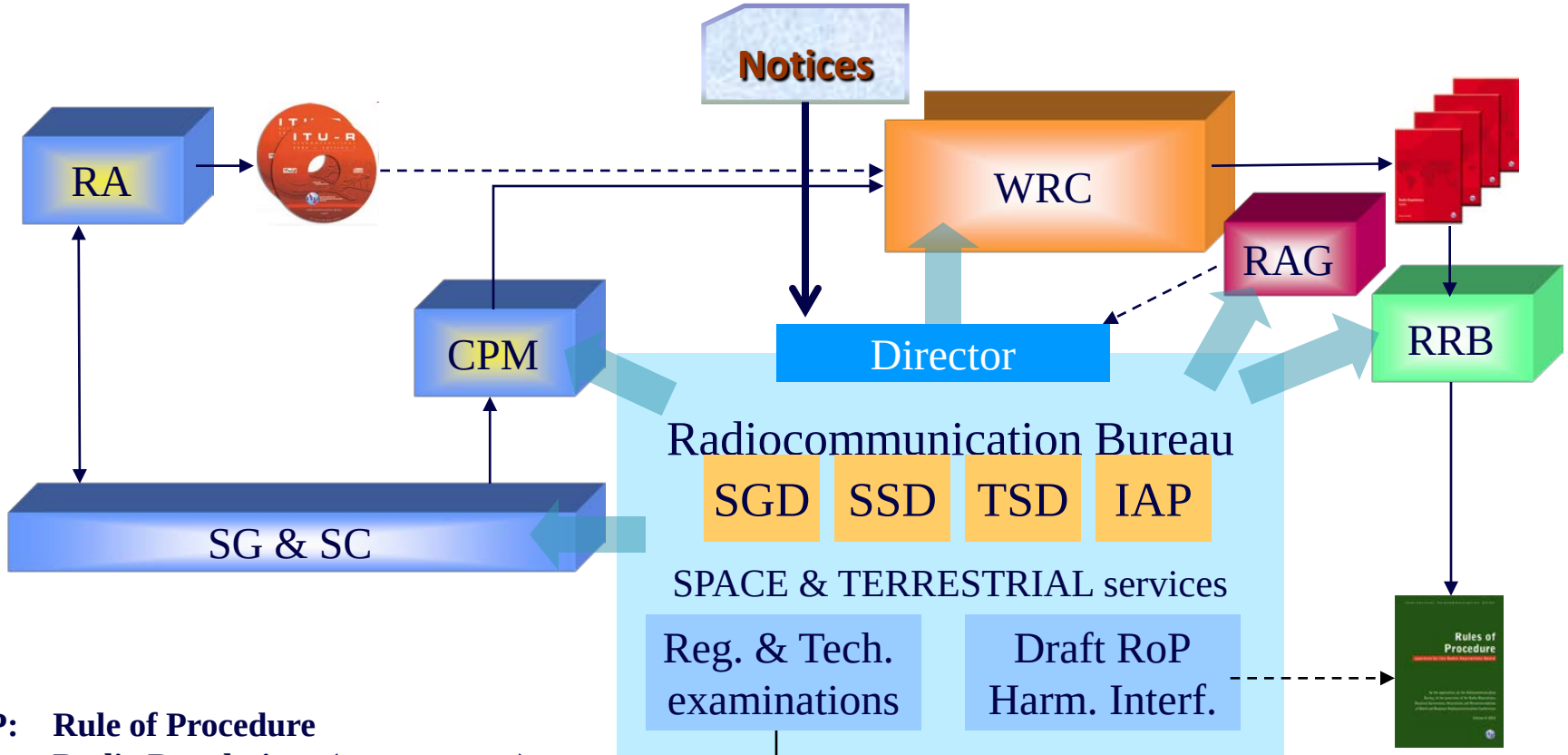
- To ensure **interference-free operations** of radiocommunication systems by implementing the Radio Regulations and regional agreements, as well as updating these instruments in an efficient and timely manner through the processes of world and regional radiocommunication conferences.
- To establish **Recommendations** intended to assure the necessary performance and quality in operating radiocommunication systems.
- To seek ways and means to ensure the **rational, equitable, efficient and economical use of the radio-frequency spectrum and satellite-orbit** resources and to promote flexibility for future expansion and new technological developments.

Role conducted through *(inter alia)*:

- ✓World and Regional Radio-communication Conferences
- ✓Radiocommunication Study Groups
- ✓Radio Regulations Board
- ✓Radiocommunication Bureau

In implementing this mission, the actions in ITU-R aim at creating the conditions for harmonized development and efficient operation of existing and new radiocommunication systems, taking due account of all parties concerned.

ITU-R structure & activities



RoP: Rule of Procedure
RR: Radio Regulations (treaty status)
RRB: Radio Regulations Board
SG: Study Group
WRC: World Radiocommunication Conference
CPM: Conference Preparatory Meeting
MIFR: Master International Frequency Register
RA: Radiocommunication Assembly
RAG: Radiocommunication Advisory Group
Rec: Recommendations (international voluntary standards)
IFIC: International Frequency Information Circular

BR IFIC

Key issues in ITU-R

- **WRC-12: implementation of decisions**

  (e.g., Rules of Procedure, software development)

- **WRC-15: preparations**
  - (e.g., Study Group activities, regional preparations, secretariat preparations, information meetings)

- **Wireless broadband (IMT) spectrum : additional bands, channelling arrangements**

- **Assistance: migration to digital TV, digital dividend, spectrum harmonization**

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

Radio Regulations

Status
RIGHT for international recognition
OBLIGATION to eliminate harmful interference
Art7-8

Frequency
TABLE
(9k-275GHz)
Art4-6

Interference
& monitoring
Art15-16
App9-10

Definitions – Art1-3, App14, 42
Administrative
Secrecy/Licences/
Interception/Identification of stations/
call signs/Service Publications
Art 17-20
Bureau & RRB – Art13-14

Procedures
Coordination,
Notification &
Recording
Art9, 11
App4-8

Limits
technical/operational
Arts21, 22
Apps1-3

Services
Aeronautical – Art35-45
Maritime – Art46-58
Amateur, broadcasting,
fixed, radiodetermination,
standard freq. & time - Art12, 23-29
App11-13, 16, 19

Plans
Maritime HF, VHF (App17-18)
Maritime coast stations (App25)
Aeronautical (OR) (App26)
Aeronautical (R) (App27)
Broadcasting-satellite (App30-30A)
Fixed-satellite (App30B)

MIFR
(register)

GMDSS
Art30-34
App15

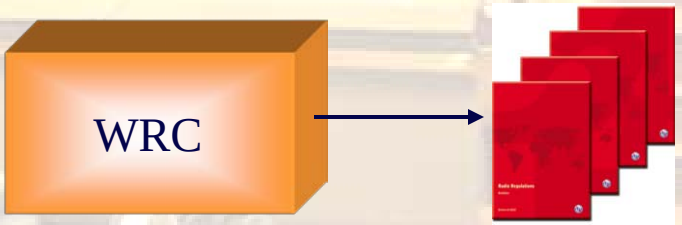
World Radiocommunication Conference

✓ **Updates the Radio Regulations** *(treaty status)*

- **Spectrum Allocation**
- **Notification procedures**
- **Administrative and operational procedures**

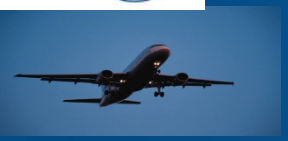
✓ **Adopts Resolutions**

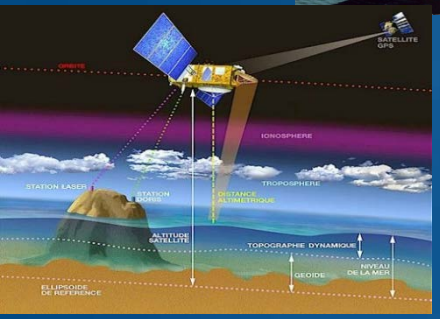
✓ **Held every 3-4 years**

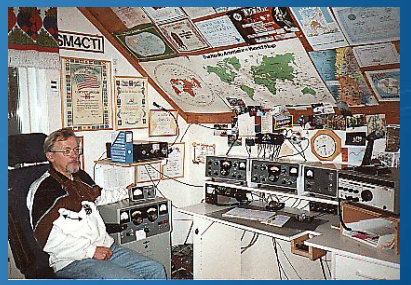


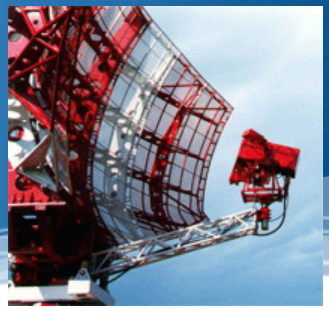
WRC-12

9 kHz > proposals > 1000 GHz





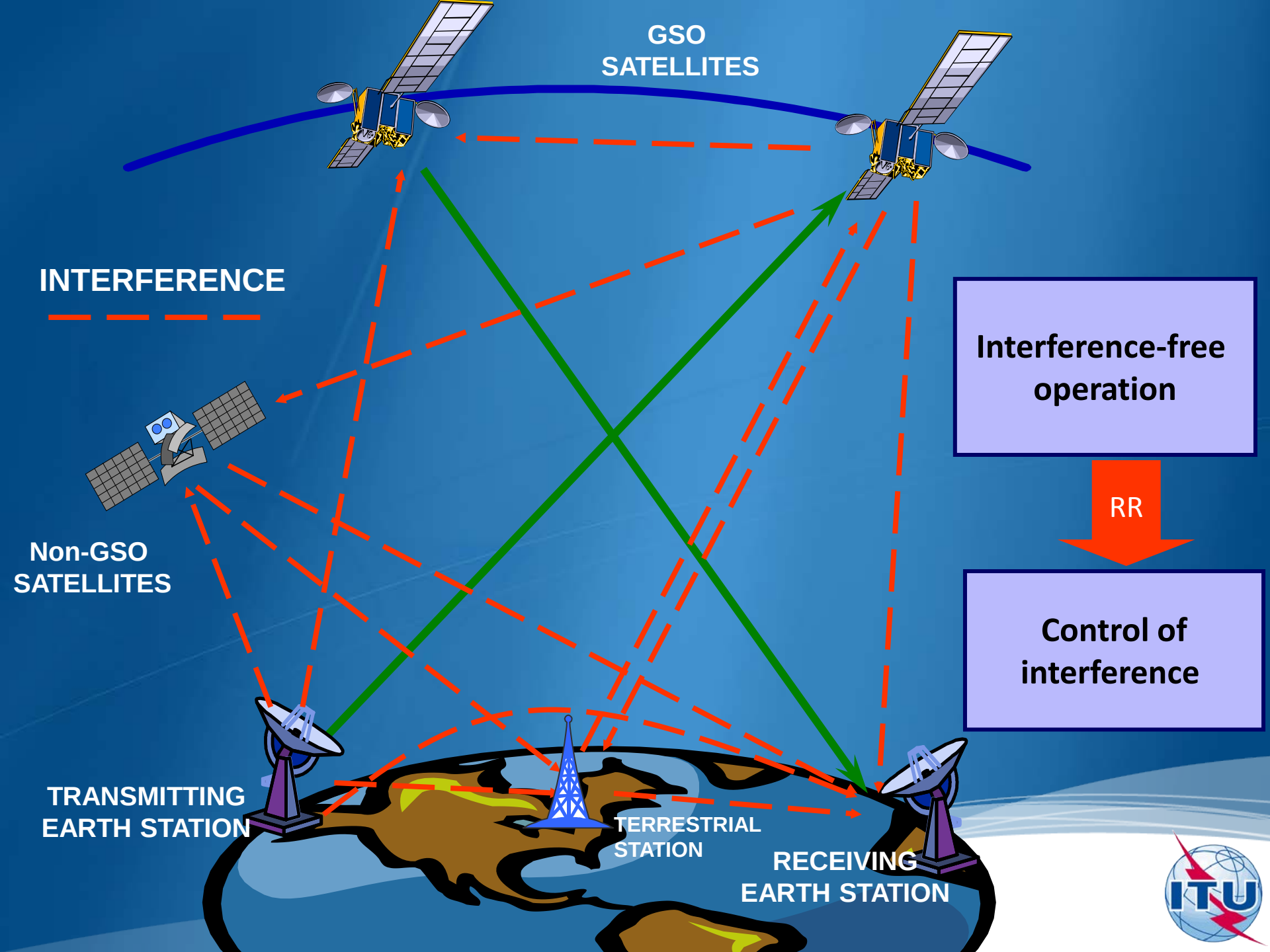




http://www.itu.int/ITU-R/go/WRC-12

Space Services

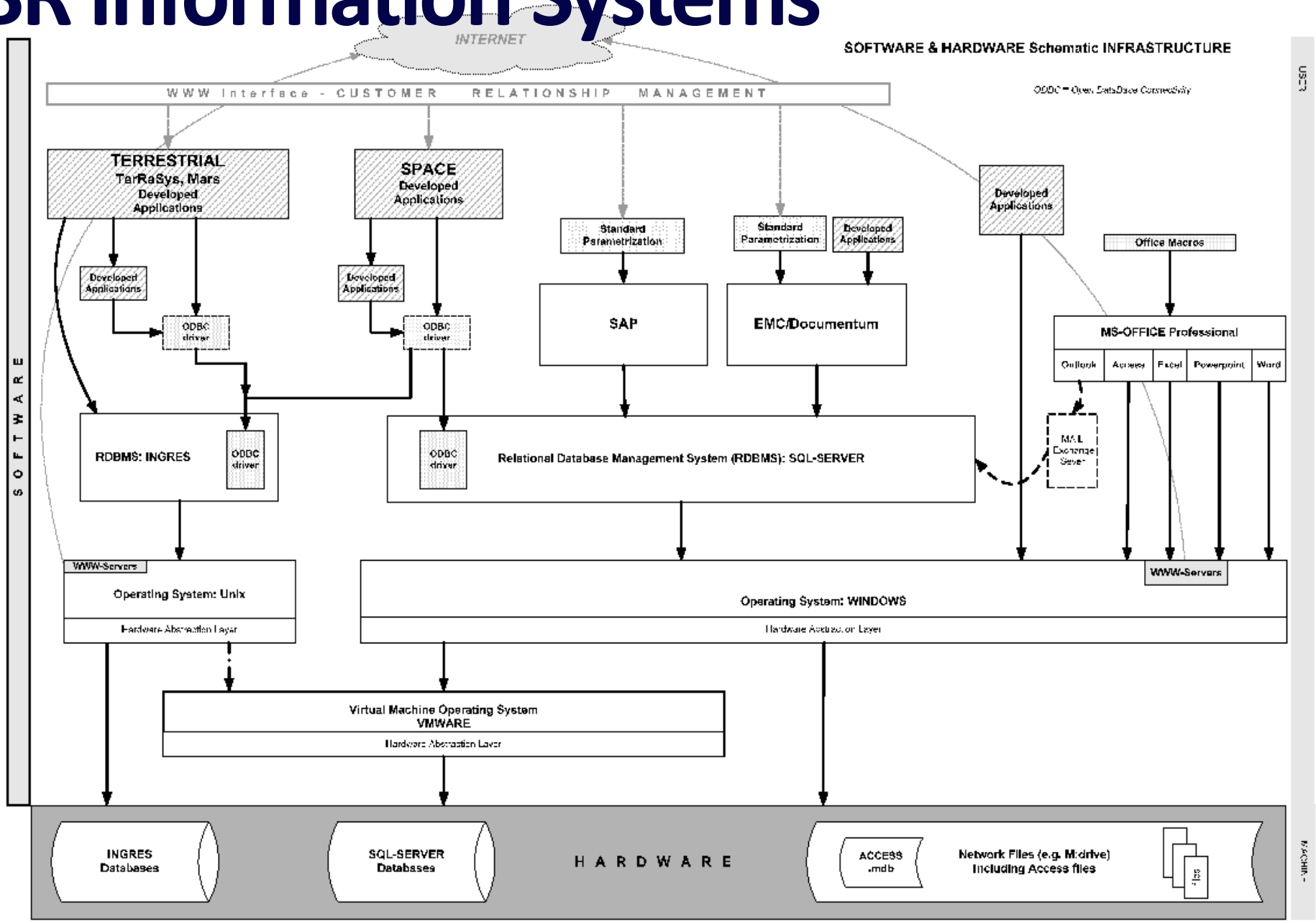
- ✓ ***Coordination and recording*** **procedures for space systems and earth stations: capture, processing and publication of data and examination of frequency assignment notices submitted by administrations for inclusion in the formal coordination procedures or recording in the Master International Frequency Register (MIFR).**
- ✓ **Procedures for space related assignment and allotment *plans***
- ✓ ***Assistance*** **to administrations on all of the above issues**


GSO
SATELLITES
INTERFERENCE
Non-GSO
SATELLITES
TRANSMITTING
EARTH STATION
TERRESTRIAL
STATION
RECEIVING
EARTH STATION
Interference-free
operation
RR
Control of
interference

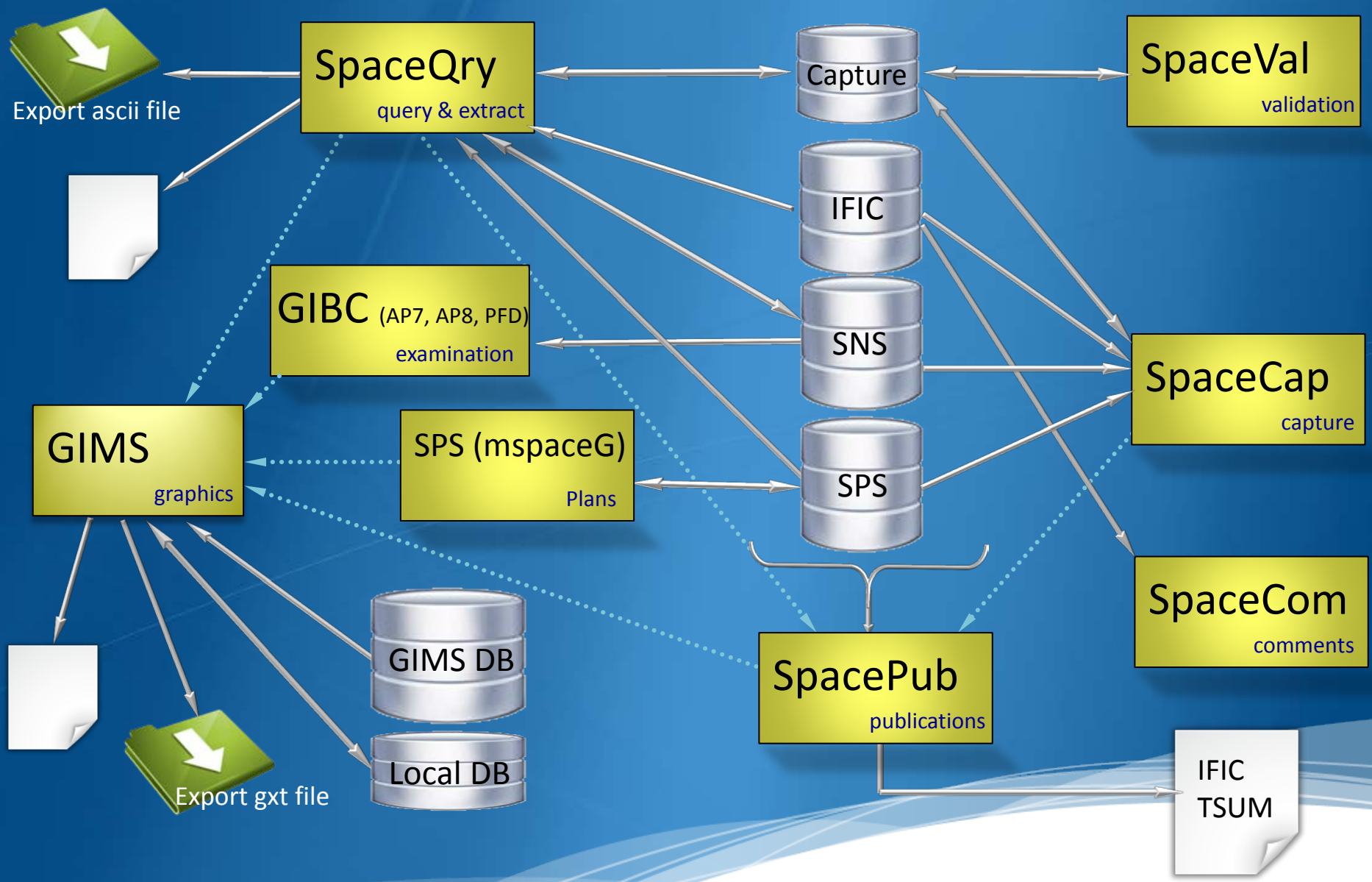
Terrestrial Services

- ✓ **Regulatory and Technical Functions**
  - Broadcasting / Fixed and Mobile / Maritime Mobile / Aeronautical Mobile
- ✓ **Terrestrial Plans**
  - AP25, AP26, AP27, ST61, GE75, RJ81, GE84, GE85M, GE85N, RJ88, GE89, GE06
- ✓ **HF Broadcasting (Art.12)**
- ✓ **Administrative and Operational Procedures**
  - International means of identification
    - call sign series / maritime identification digits / blocks of selective call sign numbers
  - Service Documents
    - Ship stations / coast stations / radio determination / call signs / MARS, etc
- ✓ **Harmful interference & monitoring programs**

BR Information Systems



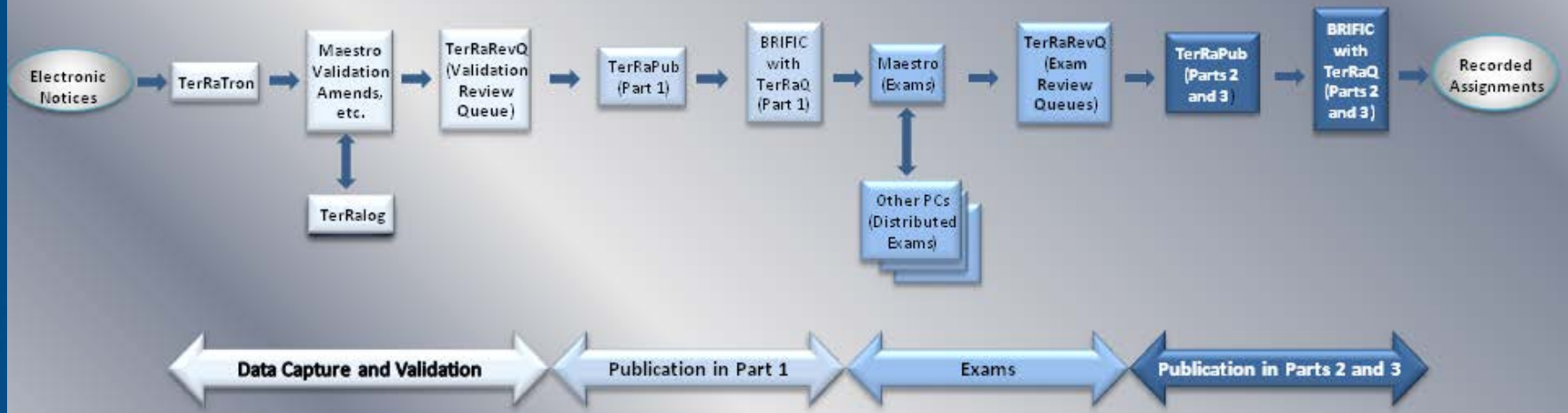
Space Services Software



http://www.itu.int/ITU-R/software/space

BR Terrestrial Software

TerRaSys Overview



Utilities

TerRaPriv | TerRaRef | TerRaConfig

Use Any time

TerRaQ | TerRaNV | TerRaNotices | TerRaRevFdg | TerRaBench

AUGUST 2010

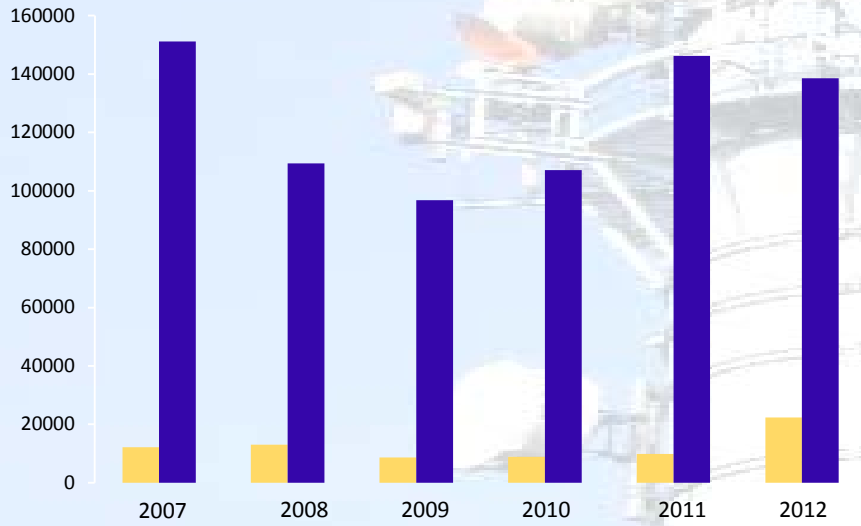
TerRaSys

Inside ITU

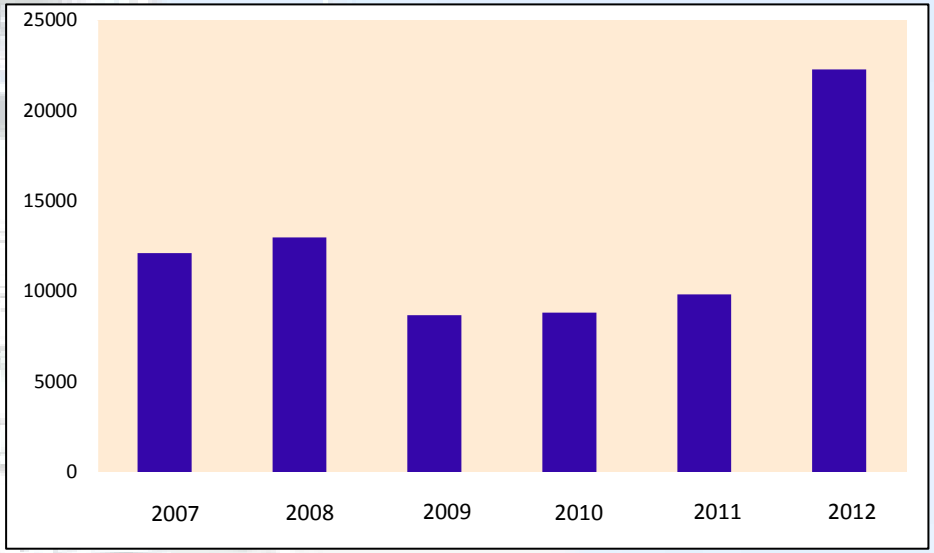
Handles the processing of *all* terrestrial notices to the BR

Outside ITU

Provides software to assist membership in their work.



Notices received per year



Notices processed per year

Current development: GE06 Agreement(Digital) – LF/MF

Coming development: GE85-MM-R1 agreement (T16); Adaptive Systems (T17); TerRaSys on the WWW

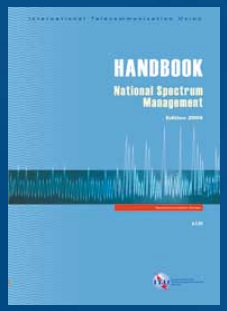
ITU-R Study Groups

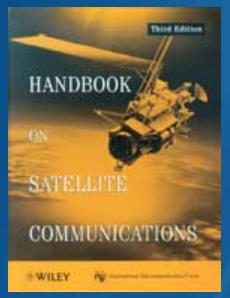
SG 1: Spectrum management
SG 3: Radiowave propagation
SG 4: Satellite services
SG 5: Terrestrial services
SG 6: Broadcasting service
SG 7: Science services

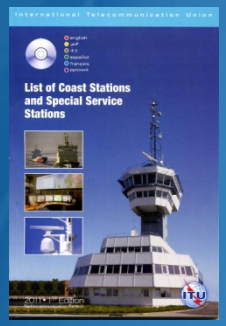
- ✓ >900 Recommendations
- ✓ "Standards" in areas of spectrum management and radio technology
- ✓ Result of consensus from meetings of world-wide experts
- ✓ Some referred to in RR
- ✓ Used by spectrum planners and system designers

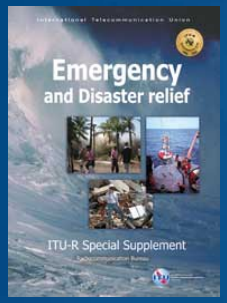
In addition:
CCV: Coordination Committee for Vocabulary
CPM: Conference Preparatory Meeting
SC: Special Committee on regulatory and procedural matters

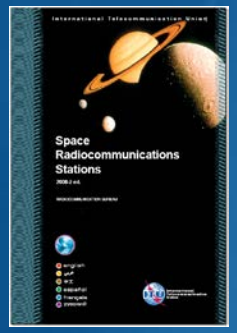
ITU-R Publications

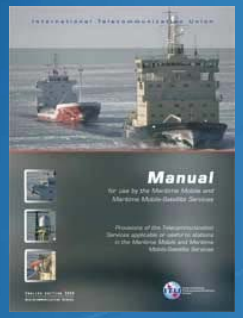


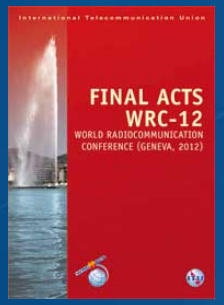


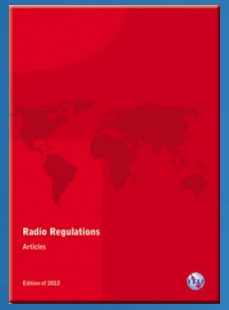












- Radio Regulations (RR)
- Service documents
  - e.g., BR International Frequency Information Circular (IFIC)
- ITU-R Recommendations
  - Online subscriptions
  - CD/DVD-ROM
  - Paper
- Handbooks & Reports

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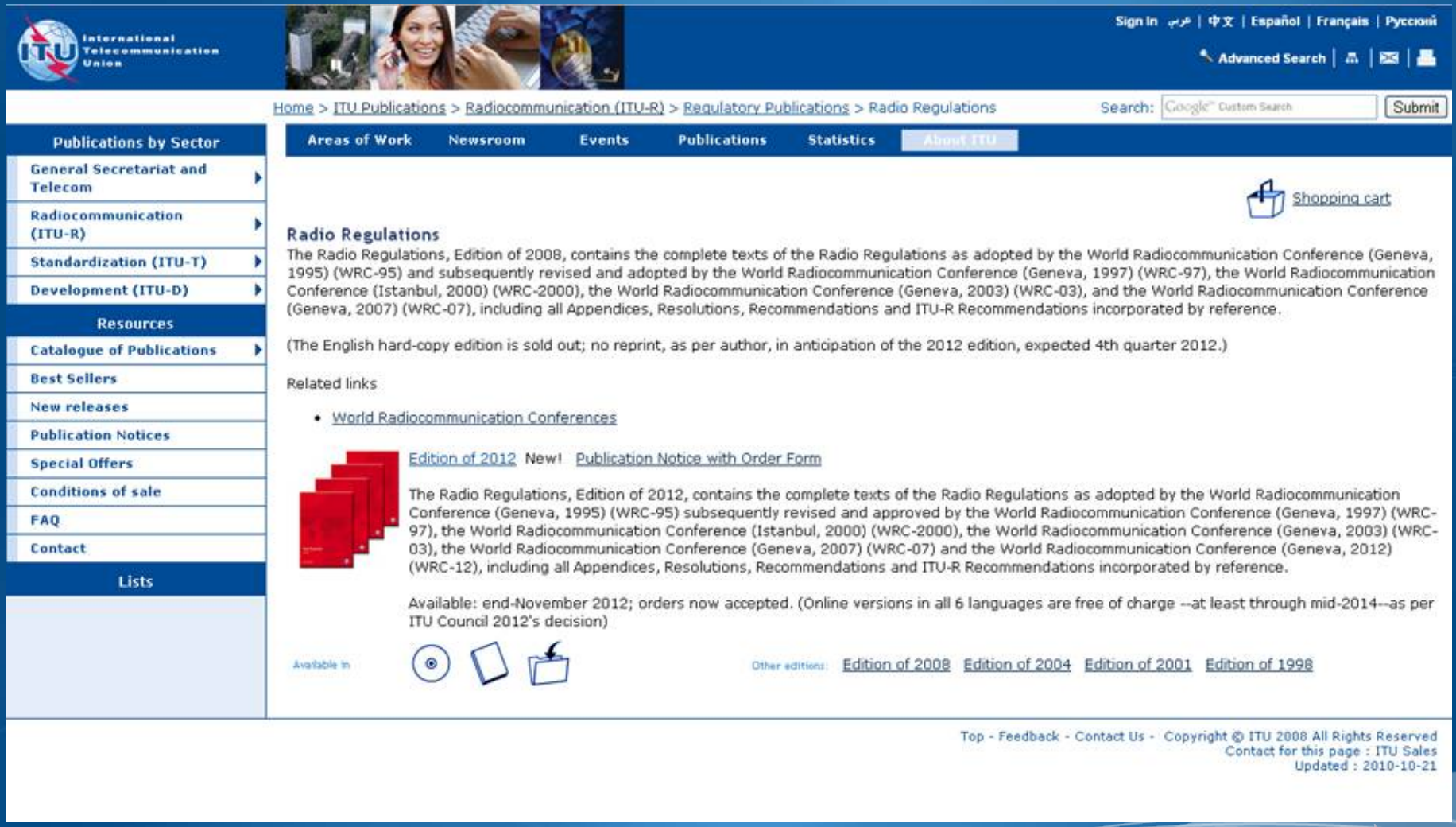
ITU-R Publications

- **Radio Regulations (RR)**



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Radio Regulations

The Radio Regulations, Edition of 2008, contains the complete texts of the Radio Regulations as adopted by the World Radiocommunication Conference (Geneva, 1995) (WRC-95) and subsequently revised and adopted by the World Radiocommunication Conference (Geneva, 1997) (WRC-97), the World Radiocommunication Conference (Istanbul, 2000) (WRC-2000), the World Radiocommunication Conference (Geneva, 2003) (WRC-03), and the World Radiocommunication Conference (Geneva, 2007) (WRC-07), including all Appendices, Resolutions, Recommendations and ITU-R Recommendations incorporated by reference.

(The English hard-copy edition is sold out; no reprint, as per author, in anticipation of the 2012 edition, expected 4th quarter 2012.)

Related links

- World Radiocommunication Conferences

Edition of 2012 New! Publication Notice with Order Form

The Radio Regulations, Edition of 2012, contains the complete texts of the Radio Regulations as adopted by the World Radiocommunication Conference (Geneva, 1995) (WRC-95) subsequently revised and approved by the World Radiocommunication Conference (Geneva, 1997) (WRC-97), the World Radiocommunication Conference (Istanbul, 2000) (WRC-2000), the World Radiocommunication Conference (Geneva, 2003) (WRC-03), the World Radiocommunication Conference (Geneva, 2007) (WRC-07) and the World Radiocommunication Conference (Geneva, 2012) (WRC-12), including all Appendices, Resolutions, Recommendations and ITU-R Recommendations incorporated by reference.

Available: end-November 2012; orders now accepted. (Online versions in all 6 languages are free of charge --at least through mid-2014--as per ITU Council 2012's decision)

Available in

Other editions: Edition of 2008 | Edition of 2004 | Edition of 2001 | Edition of 1998

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Radiocommunication Bureau (BR)

François Rancy, Director

Yvon Henri
Chief, Space Service Dept. (SSD)

Alberto Mendez
Chief, Terrestrial Service Dept. (TSD)

Ben Ba

TPR: Registration & Data Publication

Registration
Data capture
Validation
Master Register
Publication
Service documents
Harmful interference
Monitoring programs

Pham Hai

BCD: Broadcasting

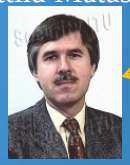
Plans: ST61, GE75, RJ81, GE84,RJ88, GE89, GE06
Art. 12 (HFBC)

Nikolai Vassiliev

FMD: Fixed & Mobile

Land
Maritime
Aeronautical
Amateur
Radiodetermination

Attila Matas



SPR: Publication & Registration

Registration
Data Capture
Validation
Publication
Cost recovery,
IFIC, SNL, WEB,
Master Register

S. Venkatasubramanian

SSC: Space Systems Coordination & Notification

RR Arts. 9 & 11

Mitsuhiro Sakamoto

SNP: Space Plans

Apps. 30/30A/30B

Fabio Leite
Deputy-Director,
Chief, Informatics,
Administration (IAP)
& Publication Dept.

Bachar Abouchanab

TAS: Terrestrial Application Software

TerRaSys
BR IFIC
VHF/UHF
LF/MF
FXM and others

Barbara Warren

SAS: Space Application Software

SNS database
Space capture, Validation, Publication & Update
SNS-online, SNL, SpaceQry , BR IFIC
Technical examinaion

Joaquin Restrepo

OPS: Outreach & Publication Services

Communication & promotion
Seminars
Assistance
Membership

William Ijeh

ADM: Administration

Finance
Personnel
Planning
Document control
Delegate registration

Colin Langtry
Chief, Study Group Dept. (SGD)

SG 1 Spectrum Management
SG 3 Propagation
SG 4 Satellite
SG 5 Terrestrial
SG 6 Broadcasting
SG 7 Science services
Special Committee
CPM

www.itu.int/en/ITU-R/Pages/default.aspx

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ITU Radiocommunication Sector

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WRS-12

ITU World Radiocommunication Seminar 2012
Geneva, 3-7 December 2012
More

Elements | Highlights

- World Radiocommunication Conferences (WRC)
- Radiocommunication Assemblies (RA)
- Radio Regulations Board (RRB)
- Study Groups (SGs)
- Radiocommunication Advisory Group (RAG)

SPACE SERVICES

BRIFIC | SNL | SNS | Space Plans

International coordination, notification and recording procedures for **space systems and earth stations** and examination of frequency assignment notices submitted by Administrations (Membership) for inclusion in the **Master International Frequency Register (MIFR)**.

Manages procedures for space-related ITU assignment or allotment plans for launching of satellites.

TERRESTRIAL SERVICES

BRIFIC | GLAD | MARS | WISFAT

International coordination, notification and recording procedures for **terrestrial systems** and examination of frequency assignment notices submitted by Administrations (Membership) for inclusion in the **Master International Frequency Register (MIFR) and Plans**.

Application of administrative procedures dealing with allocation of international means of identification (**call sign series**, **MIDs**) and with safety of life, processing submissions for various service publications and corresponding online information systems.

Meetings | Conferences | Seminars/Workshops

SG 5 - Confirmed
2012-11-19 - 2012-11-20 GENEVA, SWITZERLAND

JTG 4-5-6-7 - Confirmed
2012-11-21 - 2012-11-28 GENEVA, SWITZERLAND

WRS-12 - Confirmed
2012-12-03 - 2012-12-07 GENEVA, SWITZERLAND

WP 5D - Planned
2013-01-30 - 2013-02-06 GENEVA, SWITZERLAND

RRB-13.1 - Confirmed
2013-03-18 - 2013-03-22 GENEVA, SWITZERLAND

1 - 5

More Events >

QUICK LINKS

- Radiocommunication Sector (ITU-R)
- Intersector Activities
- Other information

RADIOCOMMUNICATION STUDY GROUPS

RADIO REGULATIONS

Publications | Recommendations | Circulars

WRC-12 Final Acts