



30TH WORLD RADIOCOMMUNICATION SEMINAR

24 – 28 October 2022

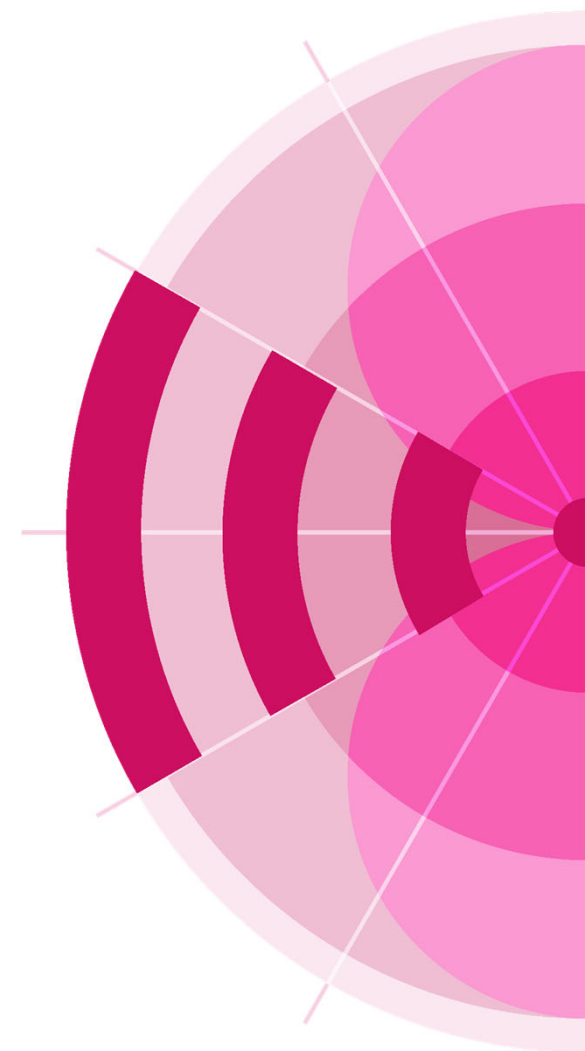
Geneva, Switzerland

Overview of terrestrial radiocommunication services

ITU Radiocommunication Bureau

www.itu.int/go/wrs-22

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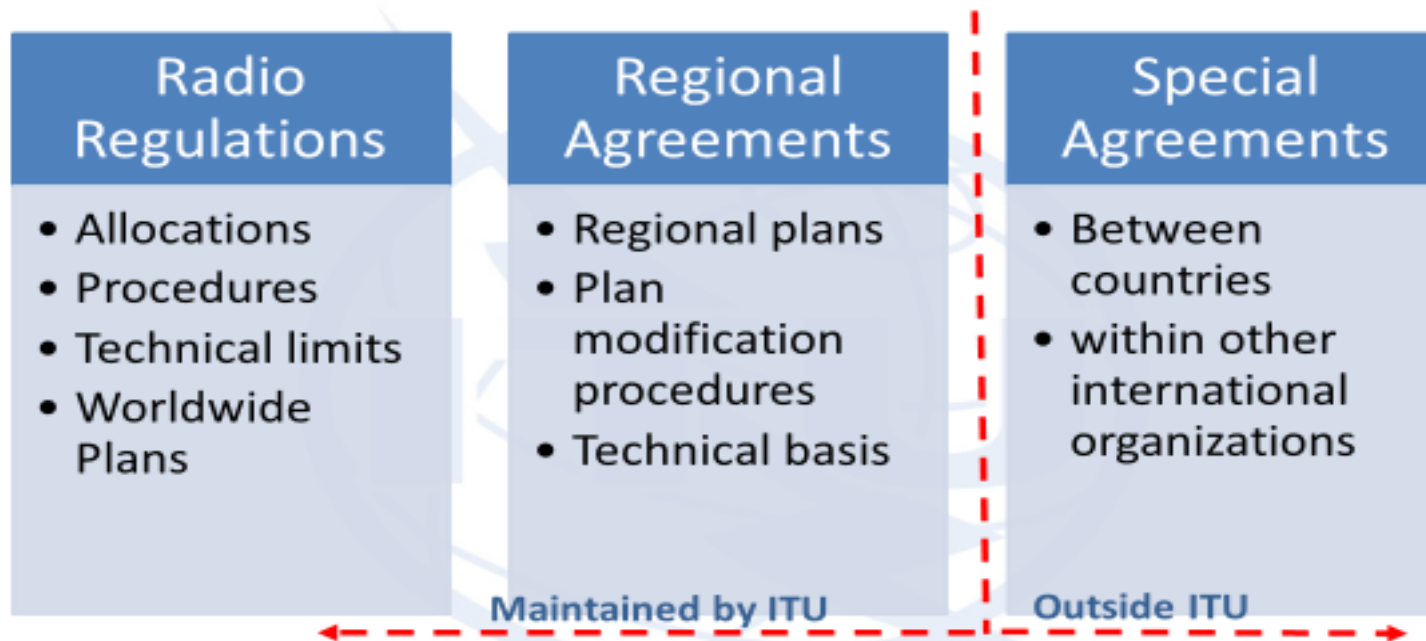
Terrestrial radiocommunication Services

Terrestrial services: all radio stations at ground, sea, in the air, up to ≈ 50 km



Radio Regulations define the rules mainly for radiocommunication services, rather than applications, except few technologies, e.g. IMT, HAPS, RLANs

Main regulatory instruments



- Other ITU instruments:
 - **Rules of Procedure** that explain some difficult RR provisions
 - **ITU-R Recommendations**: technical standards containing system characteristics, channeling arrangements, mitigation techniques, etc.

Radio Regulations (RR)

RR - main instrument of international regulations. Based on 2 concepts:

- Blocks of frequency allocations to compatible services (Articles 1 and 5)
- Regulatory procedures: for coordination, notification to the MIFR, resolving interference, distress communications etc.
- Some bands are subject to worldwide frequency plans (AP 25, 26 and 27)
- RR contain technical conditions for stations and channeling arrangements
- RR objectives:
 - Interference-free operation of stations
 - Stable planning environment for administrations and industry
 - Harmonization of spectrum usage

How to share spectrum

Approaches

Frequency Coordination

- Coordination of frequencies with neighbours
- Based on real frequency needs
- Flexible and efficient spectrum use
- RR coordination procedures are in Article 9

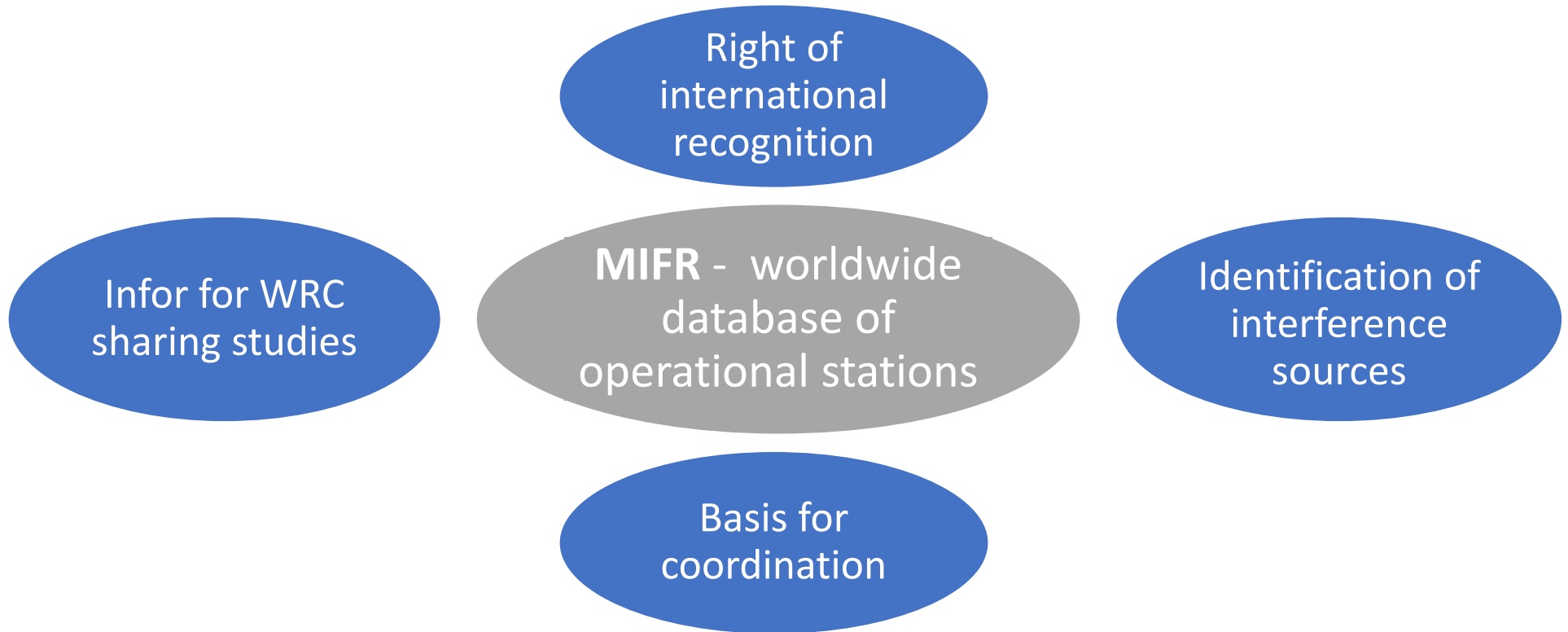
Frequency Planning

- Distribution of frequencies between countries or stations
- Objective: equitable access to spectrum
- Satisfies long term needs in frequencies
- Sometimes not ideal for efficient spectrum use

Frequency plans for terrestrial services

- **Worldwide** HF allotment plans for maritime mobile and aeronautical mobile services in RR Appendixes 25, 26, 27
- **Regional/sub-regional** (concluded under the auspices of ITU)
 - LF/MF/UHF sound and TV broadcasting : GE84, ST61, GE89, GE06, GE75, RJ81, RJ88
 - LF/MF maritime and aeronautical: GE85M, GE85N
- **Seasonal planning High Frequency Broadcasting:** ART 12 of the RR
- **Other organizations plans:** ICAO (VHF pilot voice coms.), IALA (LF maritime beacons)

Master International Frequency Register (MIRF)



3.1 million terrestrial assignments. Notification to MIFR mandatory in some cases and essential in others (e.g., in border areas, in bands shared with space)

Importance of notification to the MIFR

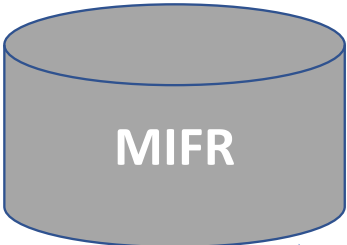
- **International recognition:** other countries should take station in consideration
- **Assigning frequencies:** e.g. MIFR assists in finding available frequencies in HF band
- **Coordination :** when applying No. 9.21 coordination, in case of objections BR checks MIFR. Objections should be based only on station in use (in MIFR)
- **Useful data for decisions at WRCs, RRCs**
 - **RRC-06:** only recorded non-broadcasting assignments were eligible for protection
 - **WRC-12:** protecting recorded aeronautical beacons from new amateur service
 - **WRC-19:** account for recorded TV stations for allocation to amateur service
 - **WRC-23:** MIFR parameters are used in sharing studies under several agenda items

Other terrestrial activities

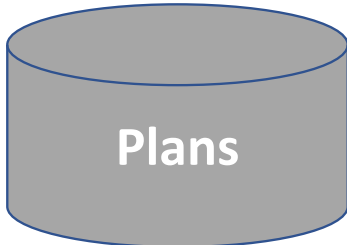
- Publishing List of Coast Stations (List IV), List of Ship Stations (List V) and maintenance of the related [Maritime Access and Retrieval Database](#) (MARS) – RR Article **20**
- Allocation of Means of Identification for stations (call sign series, Maritime Identification Digits, etc.) published in [Global Administrative Database](#) (GLAD) – RR Article **19**
- [Radiomonitoring programmes](#) in HF band and in 406-406.1 MHz; Publishing monitoring results. Publishing List of International Monitoring Stations (List VIII) – RR Article **16**
- Maintenance [database of emergency and disaster relief communications](#) (Res. **647**)
- Maintenance of the [database of oceanographic radars](#) (Resolution **612**(Rev.WRC-12))
- Assistance to countries: regulatory, technical, coordination meetings, best practices

Databases, software and online tools

Frequency databases

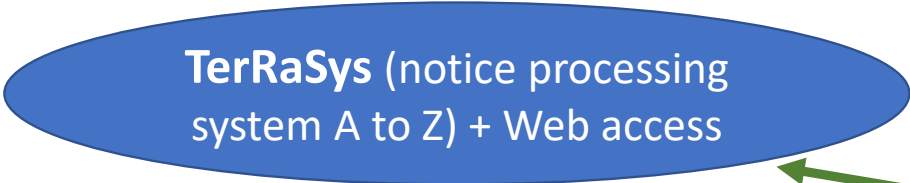
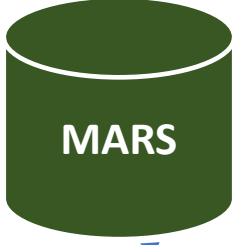


- worldwide
- all services
- all bands



- worldwide/regional
- specific services
- planned bands

Administrative and reference databases



Trend --> migration to WEB tools



Terrestrial web tools

Now



eTerrestrial: an online Portal for terrestrial services

The eTerrestrial platform provides **secure web-based services to TIES users** . The following tools are available:

eMIFR eMIFR: Online query system of the MIFR for all terrestrial services Go to eMIFR >	eValidation eValidation: Validation of frequency notices before their official submission via WISFAT Go to eValidation >	eBroadcasting eBroadcasting Portal: Online platform for broadcasting services. Go to eBroadcasting >
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eQuery	ePub	eTools	MyAdmin
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Future
addition of:

eFXM(Fixed/Mobile)

WISFAT

ePropagation

Moving TerRaSys to WEB: BR plans to provide TerRaSys programs on WEB, in addition to the current software in BRIFIC on DVD



Thank you!

ITU – Radiocommunication Bureau

Questions to brmail@itu.int

