AFRICAN TELECOMMUNICATIONS UNION
UNION AFRICAINE DES TÉLÉCOMMUNICATIONS

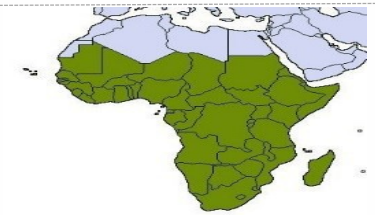
Online Meeting

1st frequency coordination meeting on GE84 Plan Optimization for Africa
Première réunion de coordination des fréquences sur l'optimisation du Plan GE84 pour l'Afrique
15 – 19 February 2021

And here we go!

www.itu.int/go/GE84OptimizationPlanforAfrica

Multilateral frequency coordination meetings



Sub-Saharan Africa (ATU)

- Digital migration and spectrum Ministerial Policy summits December 2011
- Digital migration and spectrum Ministerial Policy summit September 2012

Need to establish minimum spectrum requirements for broadcasting and broadband at the national level

Arab Region (ASMG)

- 35th meeting of the Permanent Arab Committee for Communications and Information (Cairo : 4-5/3/2014) ,
- Contributions of the Technical Secretariat of the Council of Arab Ministers for Communications and Information

Arab countries to ensure sufficient spectrum for broadcasting in the 470- 694 MHz to release the 700/800 MHz

Central America & Caribbean (CITEL, COMTELCA, CTU)

- Central American Summit on Digital Terrestrial Television and the Digital Dividend, El Salvador on 25 and 26 July 2016, and
- the “San Salvador Declaration” adopted by COMTELCA Members on 26 July 2016

To secure the operation of broadcasting stations and Enable the Digital Dividend

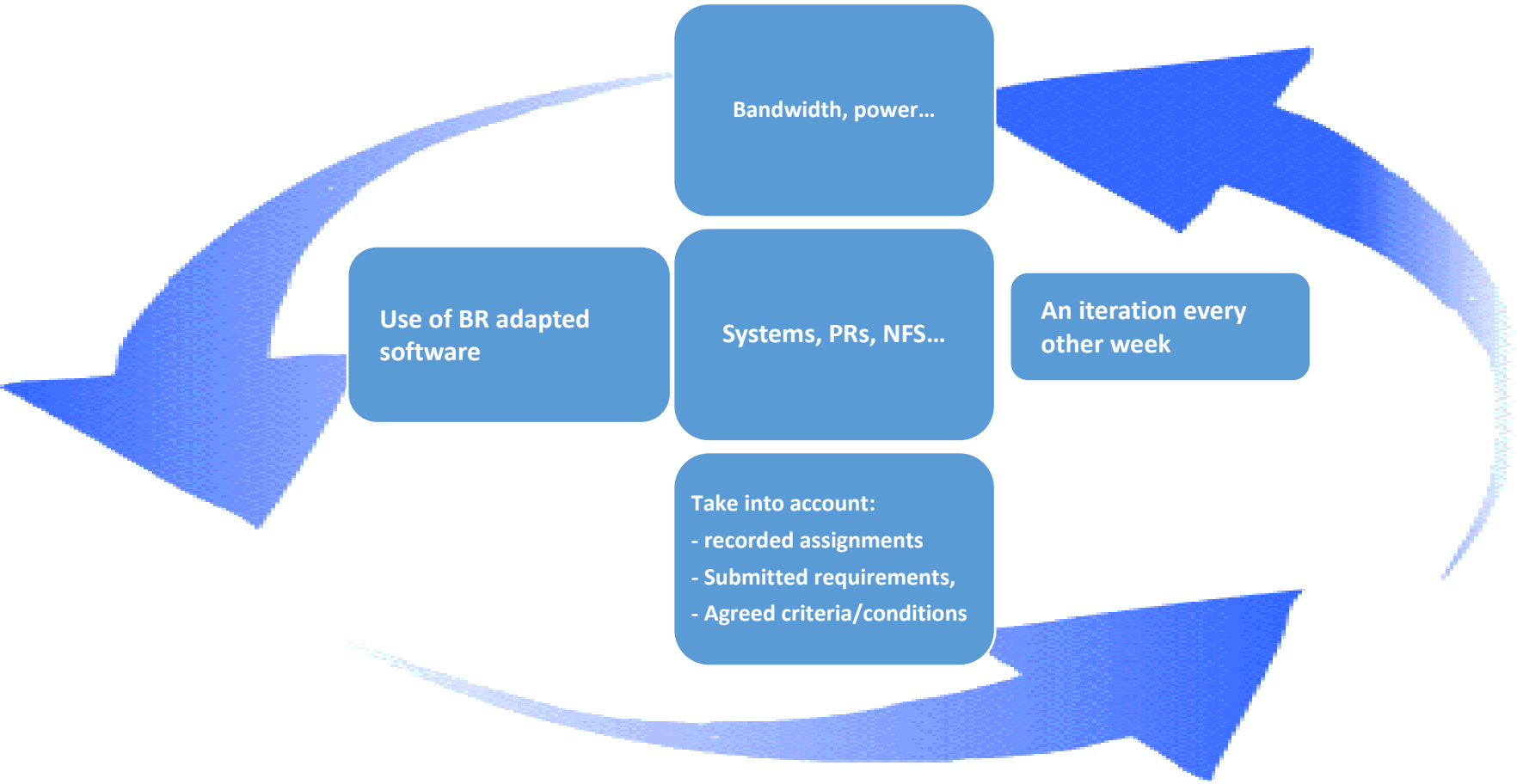
Coordination meetings process and results

	Sub-Saharan Africa 470-694 MHz	Arab Region 470-694 MHz	Central America & Caribbean VHF: 174-216 MHz UHF: 470-698 MHz
Average of satisfied requirements	97.37%	76.87%	96.13 % for VHF 94.41 % for UHF
Duration of the coordination process	18 months	11 months	18 months
Number of participating countries	47	17	30 (41 geographical areas)
Number of meetings	**3** Bamako, Kampala and Nairobi.	**3** Dubai, Hammamet and Marrakech.	**4** Managua, Guatemala City, Panama City, Belize City.
Number of iterations	33	27	27 in VHF 40 in UHF
Number of submitted frequency requirements	7107	4346	1149

PURPOSE

- **Facilitate the transition from analog to Digital Television (DTT) and the use of the Digital Dividend**
- **Avoid harmful interference**
- **Build informal consensus in the region towards the conclusion of formal agreements between the administrations involved before notification of the frequency assignments to the ITU.**

BR support in the coordination process



Capacity building (training on BR software, compatibility analysis, frequency assignments…) and assistance all along the process

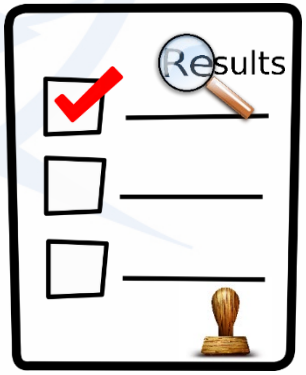
Outcome of the frequency coordination meetings

Toward a successful coordination process

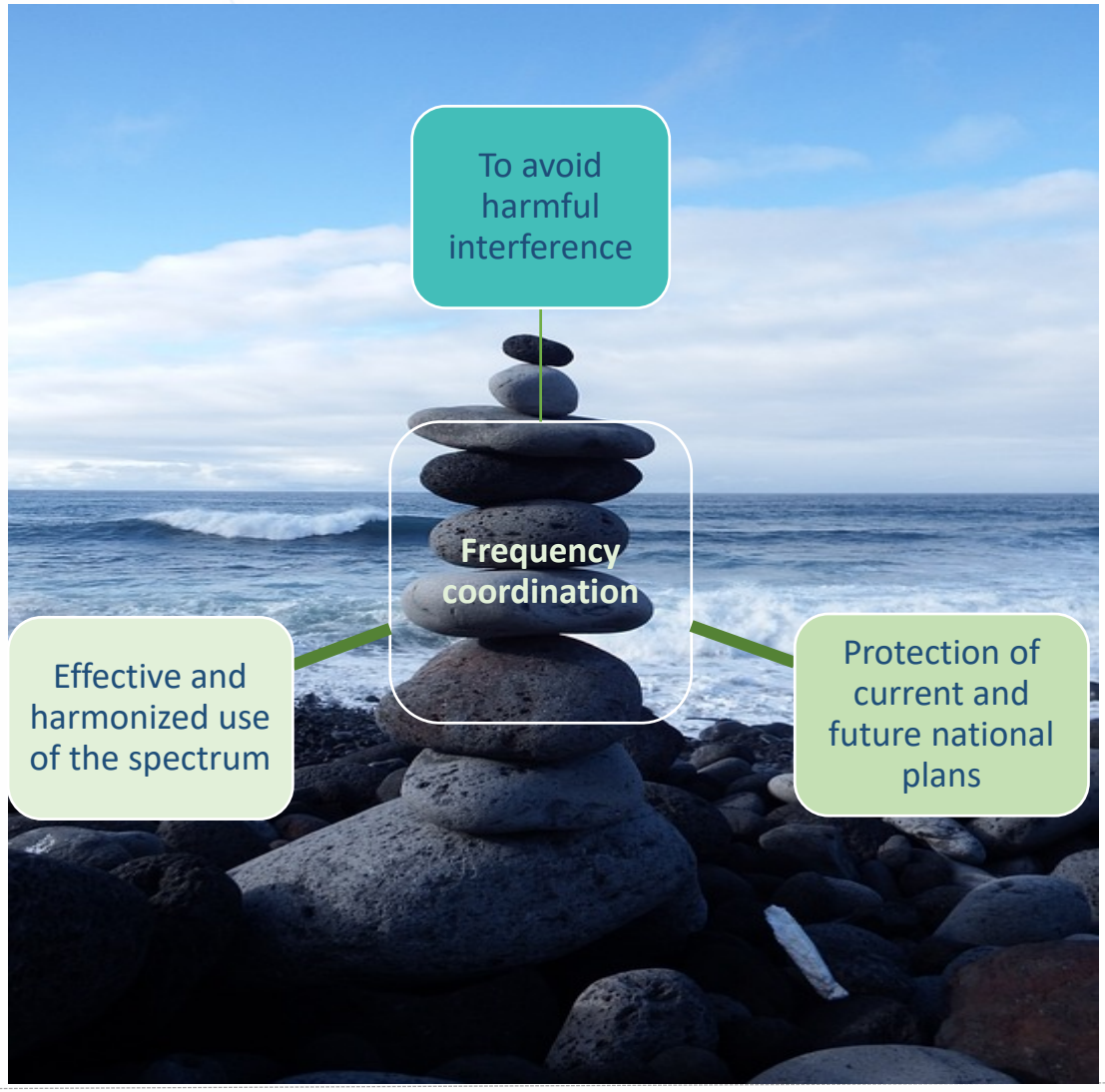
- General agreed criteria and interference level
- Achieved frequency coordination for cases outside the agreed conditions on bi-lateral level

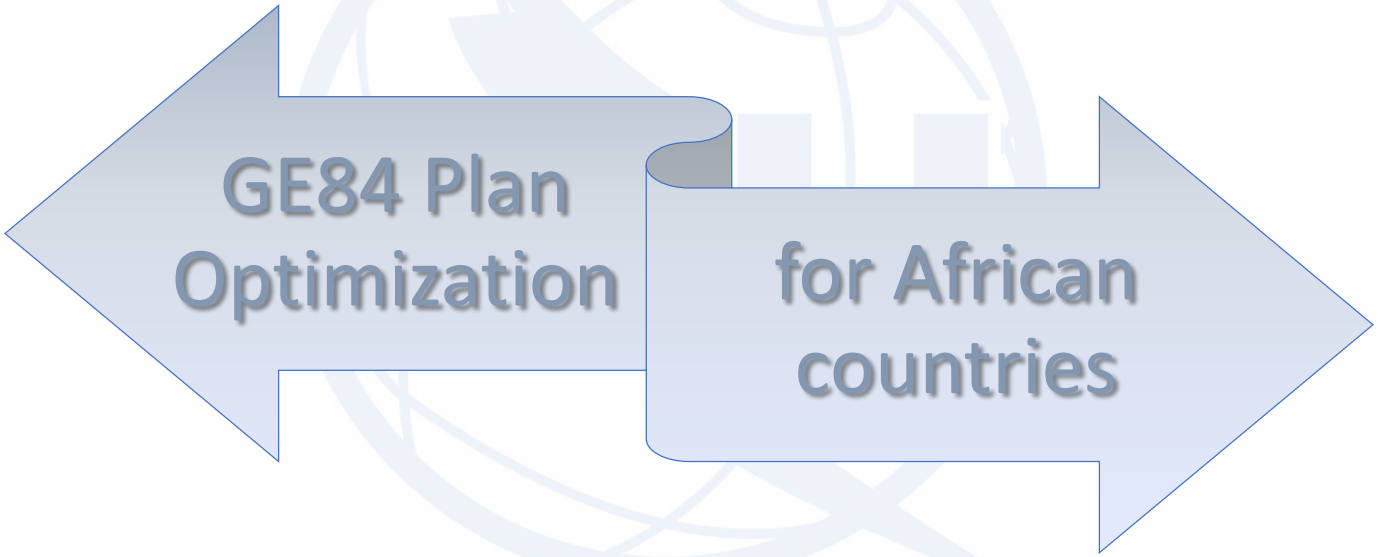
- Reasonable number of requirements, especially close to the borders;
- Suppress the Plan assignments that are not intended to be operated.

Assignments free of interference



Frequency Coordination is Key!




GE84 Plan
Optimization
for African
countries

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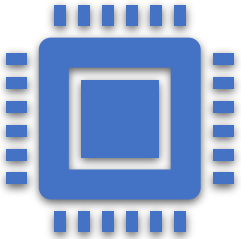
Why optimize GE84 Plan for Africa?

- Address the **increasing demand** for new FM radio stations by enabling the assignment of new frequencies,
- GE84 Plan is **congested**, therefore, it is needed to:
  - Ensure an efficient use of the 87.5-108 MHz band for analogue sound broadcasting, by accurately reflecting the situation of the FM band in the Region, by reviewing the:
    - *GE84 Plan entries, and*
    - *corresponding entries in the MIFR.*
  - Ensure **compatibility** among the existing and new broadcasting frequency assignments,
  - Facilitate potential future introduction of digital sound broadcasting.

Planning basis for GE84 optimization



Technical criteria used for compatibility calculations – GE84 Agreement

Uniform 100 kHz frequency step (spacing): Section 3.2 of Chapter 3 of Annex 2 of the Agreement,

protection ratios: Section 3.4 of Chapter 3 of Annex 2;

propagation model: Chapter 2 of Annex 2.

Assignments to be taken into account:

- The ones recorded in the GE84 Plan and the ones published in Part A of Special Sections GE84 : **Yes**
- Assignments to other primary services in adjacent bands: **No**

Compatibility analysis software

ITU has adapted the existing GE84 software to a large-scale compatibility analysis necessary for the GE84 Plan optimization

This software will be further adapted according to the agreed planning and coordination criteria.

Proposals to be approved !

Procedural

To stop any modification to the GE84 Plan until the end of the coordination meetings.

Practical

To submit the requirements every other Friday to brbcd@itu.int for iterations;

An iteration every two weeks.

If an administration does not submit its requirements, the requirements used for the previous iteration will be taken;

For absent administrations, the BR will generate requirements and try to contact them.

To avoid drastic changes to the requirement file, starting iterationX

Technical

Maximum acceptable Nuisance Field Strength (NFS) value is 54 dB(μV/m),

Min/Max number of layers,

Take into account the polarization discrimination,

…

The generated FLEX requirements by the BR

General

Based only on RECORDED Plan Entries

Consider a 2 km tolerance

1 requirement per site

Administrative part

Insert in each generated notice a unique Adm code like BR_sitename (N.B. site name may be truncated due to max size of 20 characters for this field)

t_freq_assgn should be set to 87.7

t_station_id should be set to FLEX

COORD information is not copied.

Technical part

if t_hgt_agl =0, replace the value with 50m

fmtv_ant_hgt : where missing, SRTM3 was used.

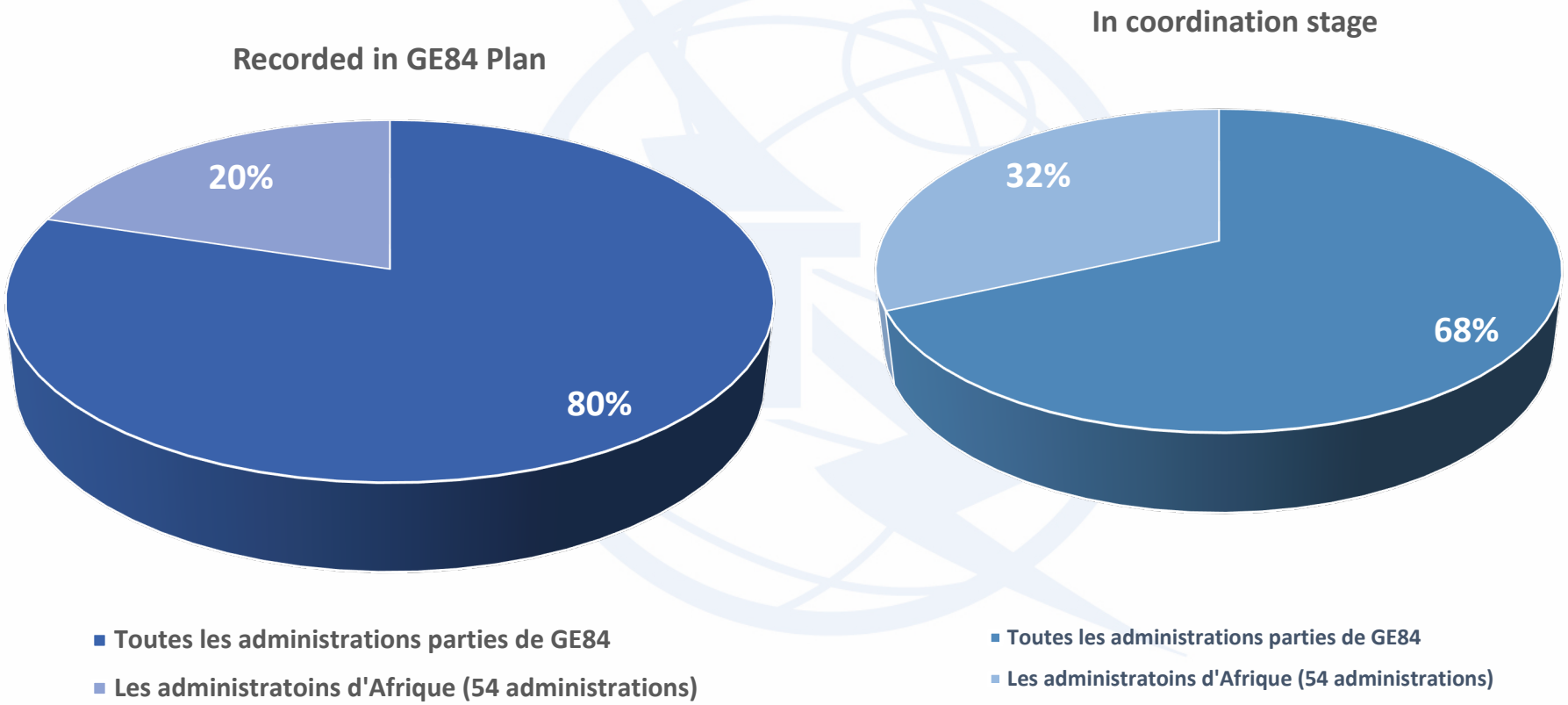
Max effective antenna height was replaced accordingly.

For requirements with system 4, BDW= 300 kHz.

Add in the remarks the replacements made by BR for t_hgt_agl =0, fmtv_ant_hgt and BDW.

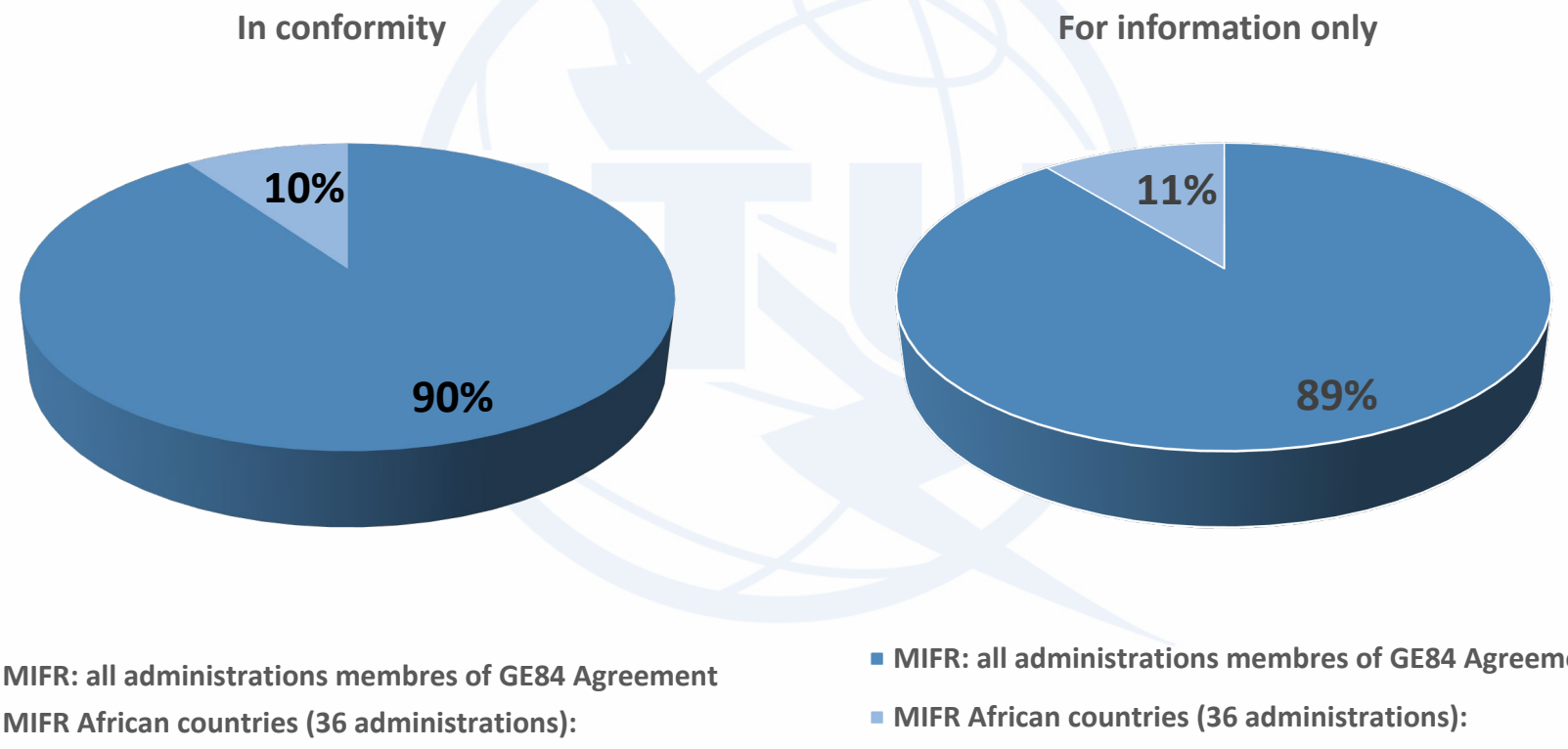
GE84 Plan statistics for Africa

(September 2020)



MIFR statistics for FM

(September 2020)



Ensure success!

The success of this optimization will require:

Intensive involvement by administrations in:

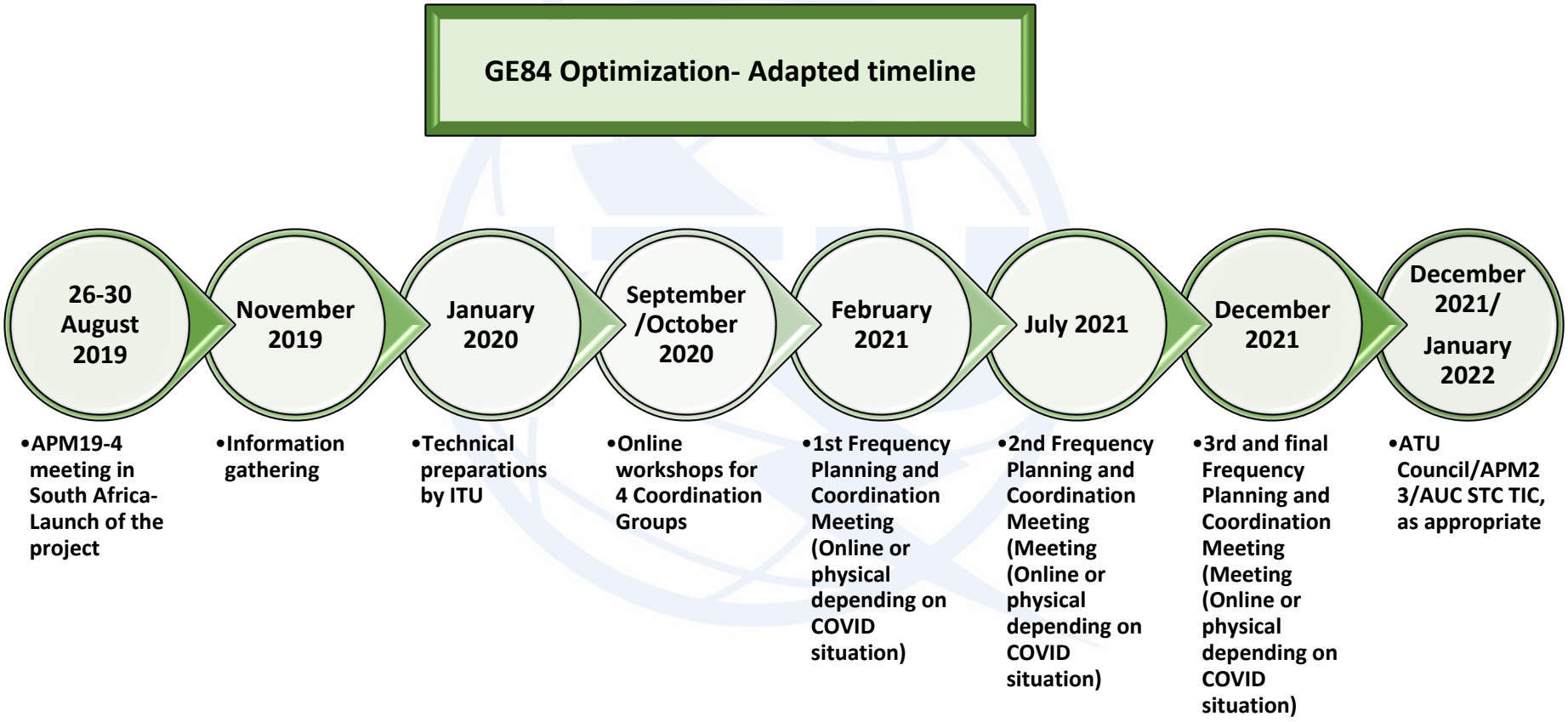
- updating the GE84 Plan,
- updating the MIFR,
- providing the necessary data/requirements,
- mastering the software and tools provided by ITU,

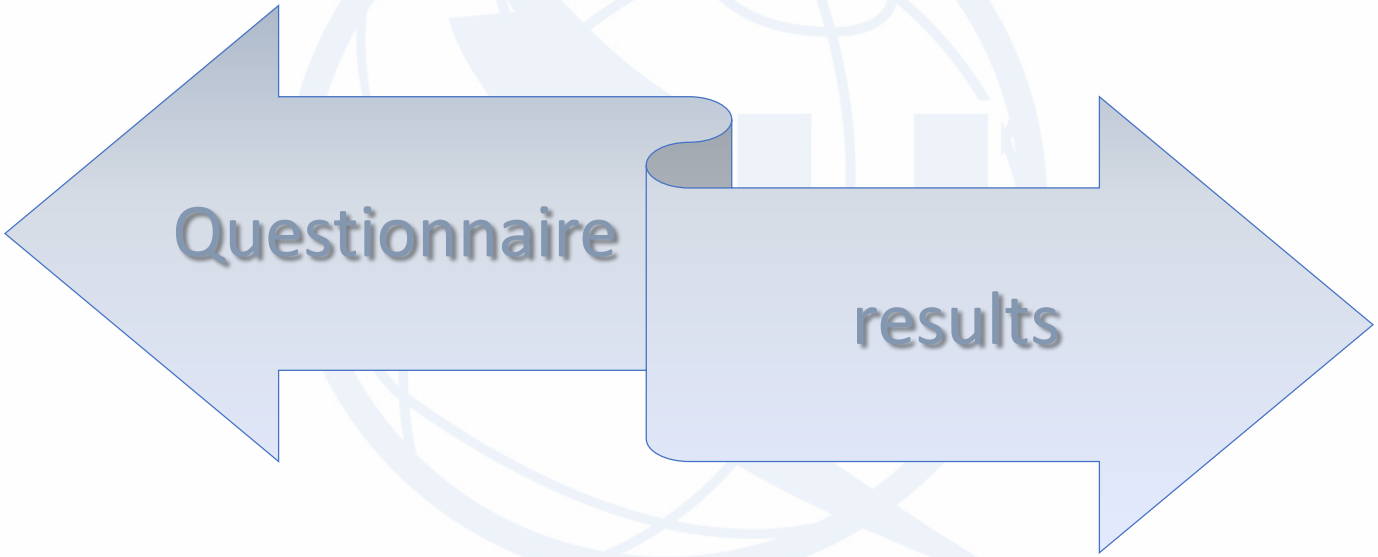
Active and fruitful participation in the future frequency coordination meetings

- Engineers in charge of the GE84 Plan and/or frequency assignment for FM radio,
- Same participating experts from all administrations involved along the process,

To identify additional mutually compatible assignments.

GE84 Optimization- Adapted timeline




Questionnaire
results

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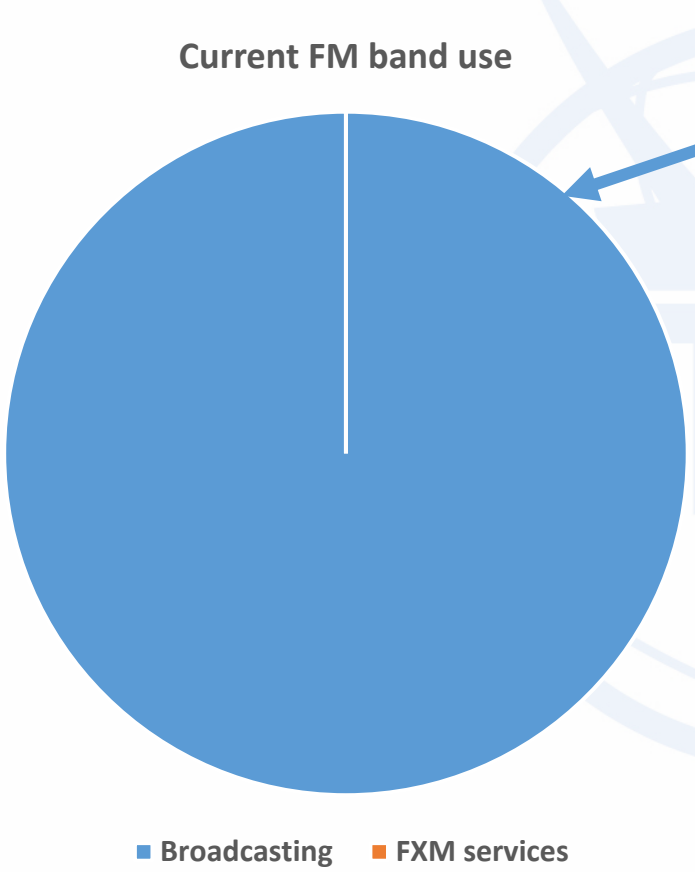
Statistics on FM Band



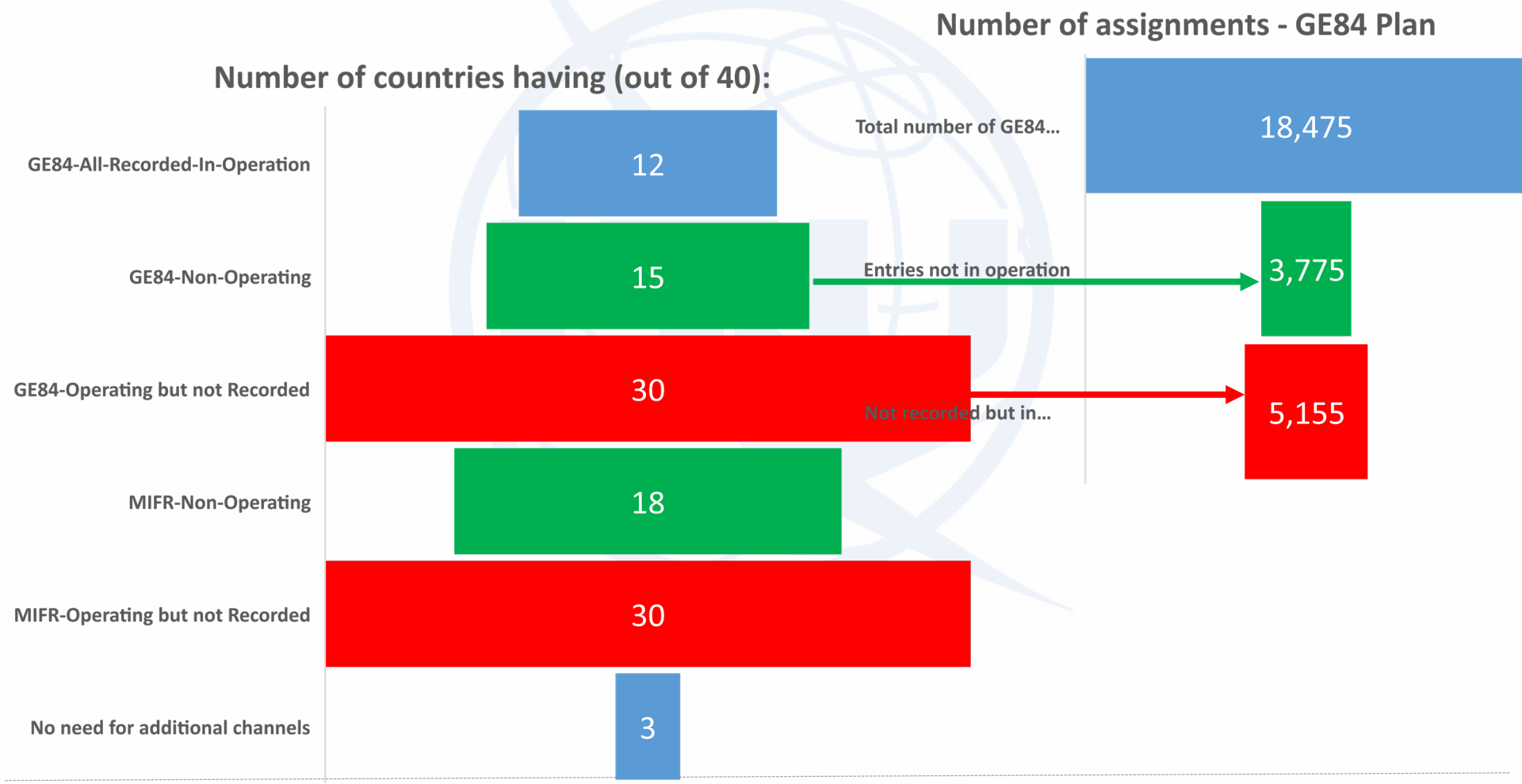
All analogue

DSB

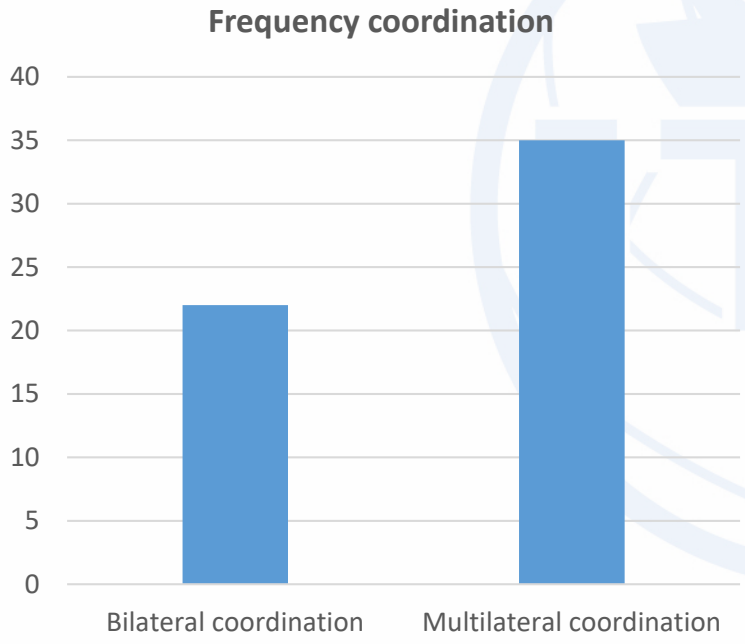
1 Administration started DAB+

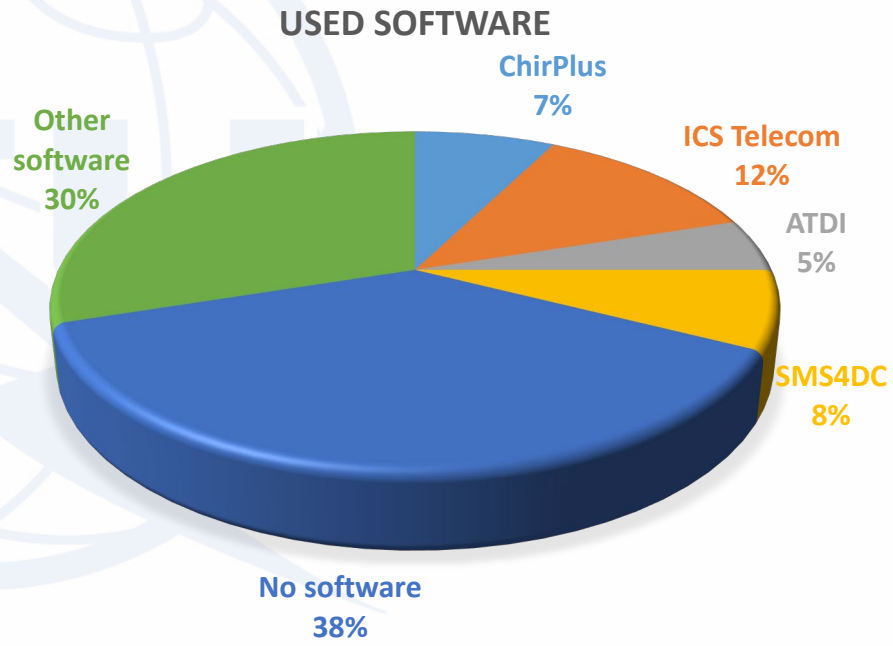
1 Administration installed a pilot network DAB

Frequency assignments status- Plan and MIFR



Statistics on frequency coordination





GE84 Plan Optimization Workshop

Online Workshop
GE84 Plan optimization for African countries
September - October 2020

- **The workshop is to provide an online training based on demonstrations and presentations on the project, its mainstreams, the use of BR software, and provide learning materials. Presentations and demos will be done on:**
  - the tools adapted by the BR to run compatibility analysis of new requirements,
  - General view on the GE84 Agreement applicable procedures

www.itu.int/go/brafricaworkshop

GE84 Optimization- main information

- Web page: https://www.itu.int/en/ITU-R/terrestrial/broadcast/africa/Pages/default.aspx
- GE84 online workshop material (September-October 2020): https://www.itu.int/en/ITU-R/terrestrial/broadcast/africa/Pages/Workshop.aspx
- GE84 Software, part of eBroadcasting: https://www.itu.int/ITU-R/eTerrestrial/eBroadcasting
- Final Acts of the GE84 Agreement: https://www.itu.int/pub/R-ACT-RRC.5-1984/en

Let us score!

Thank you