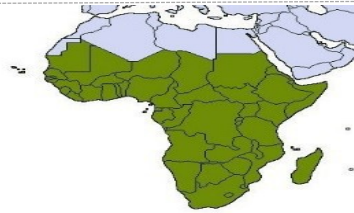




GE84 Plan optimization for Africa
Optimisation du Plan GE84 pour l'Afrique

Online workshop on GE84 Plan optimization
for Africa
African and neighbouring countries countries
19-21 April 2021

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



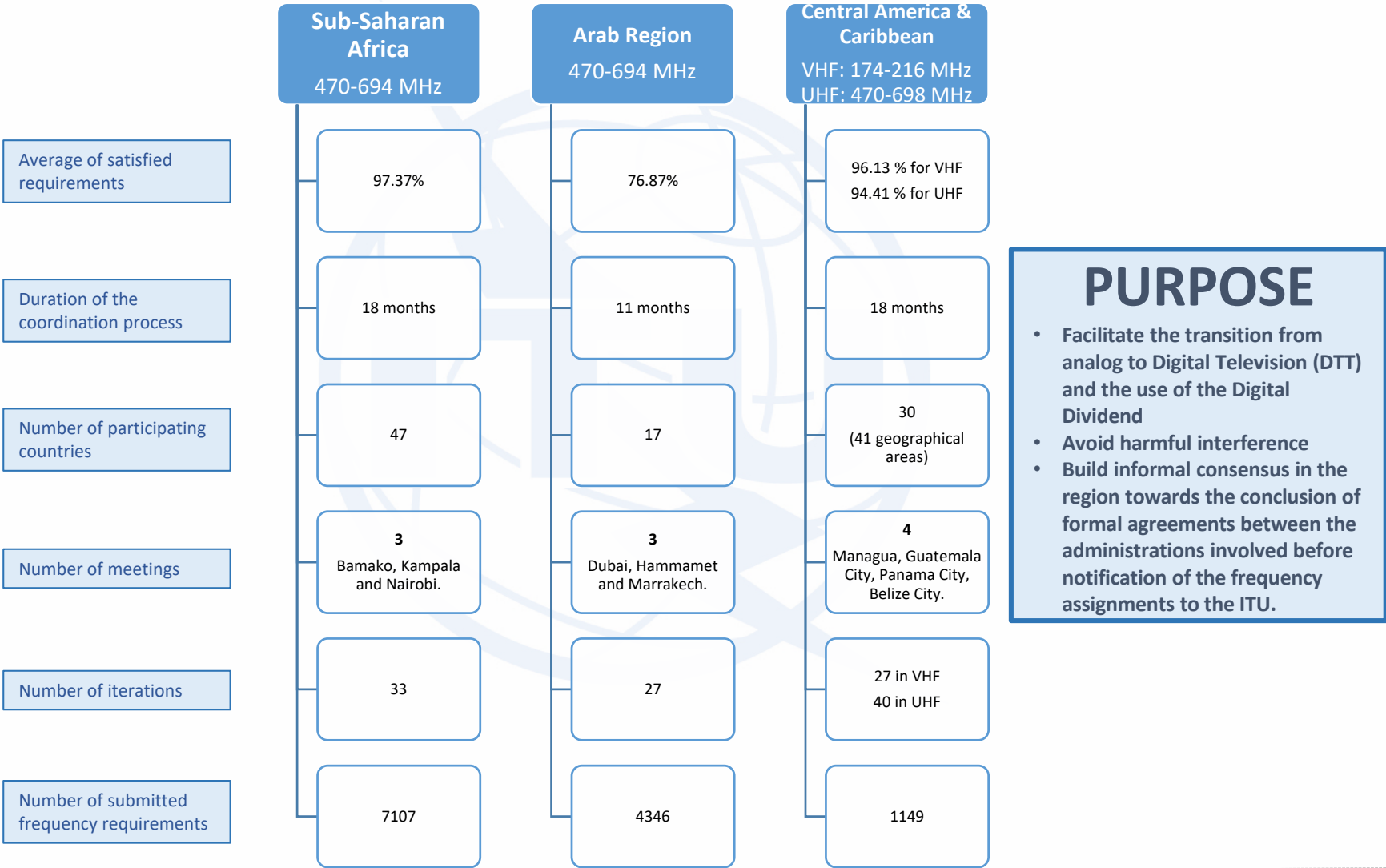
Central America & Caribbean (CITEL, COMTELCA, CTU)

Central American Summit on Digital Terrestrial Television and the Digital Dividend, El Salvador on 25 and 26 July 2016, and

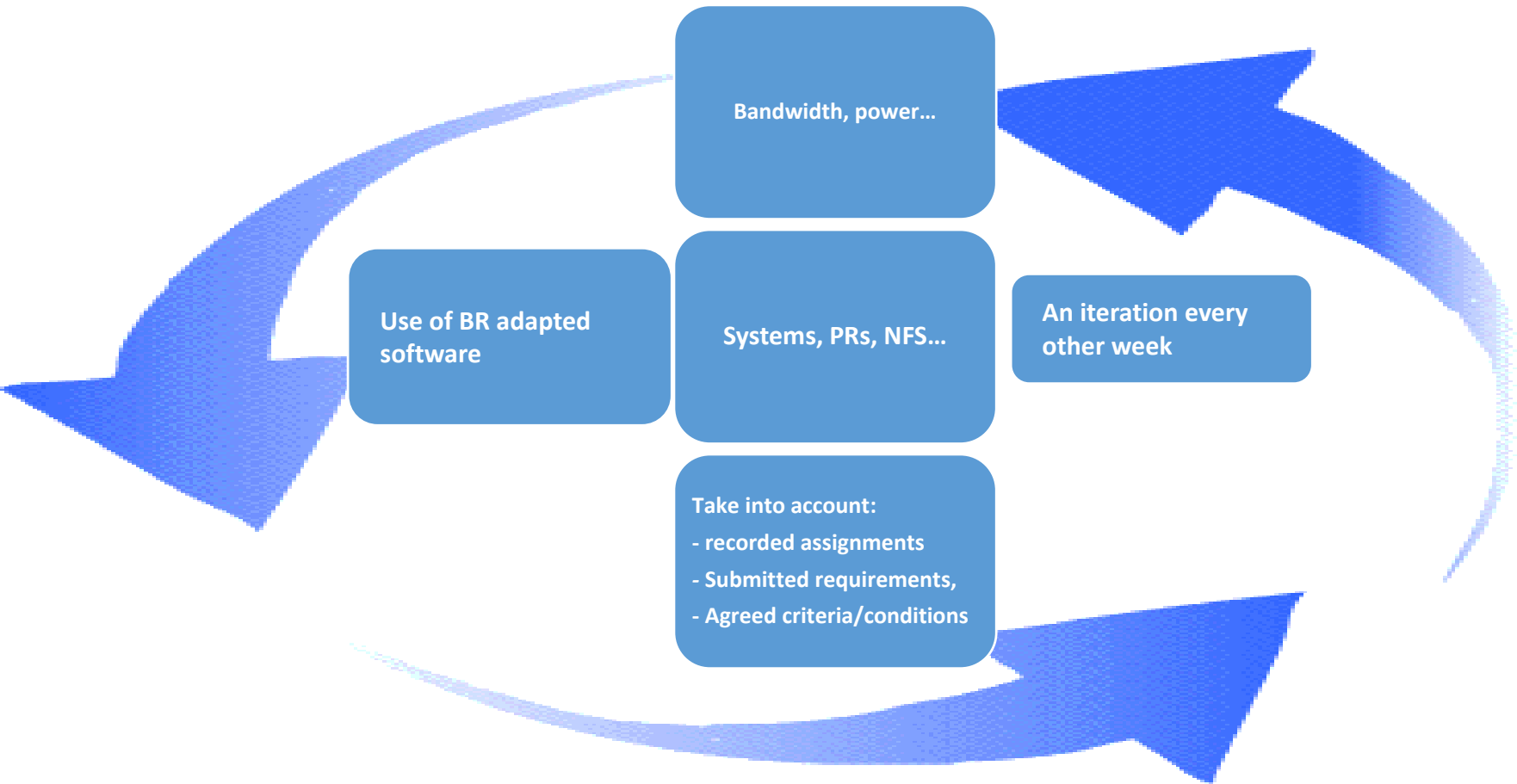
the "San Salvador Declaration" adopted by COMTELCA Members on 26 July 2016

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

Coordination meetings process and results



BR support in the coordination process



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

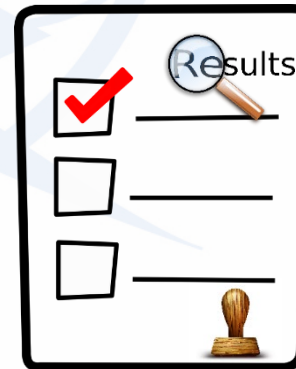
Outcome of the frequency coordination meetings

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!





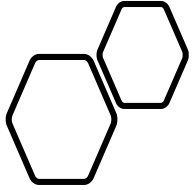
**GE84 Plan
Optimization**

**for African
countries**

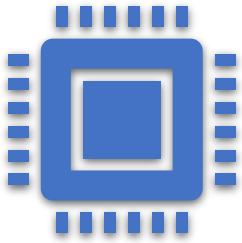
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Why optimize GE84 Plan for Africa?

- 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 Thursday 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(μ V/m),

Min/Max number of layers,

Take into account the polarization discrimination,

...

The generated FLEX requirements by the BR

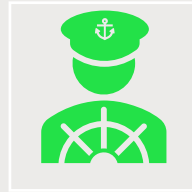


General

Based only on RECORDED Plan Entries

Consider a 2 km tolerance

1 requirement per site

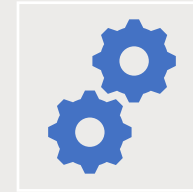


Administrative part

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.

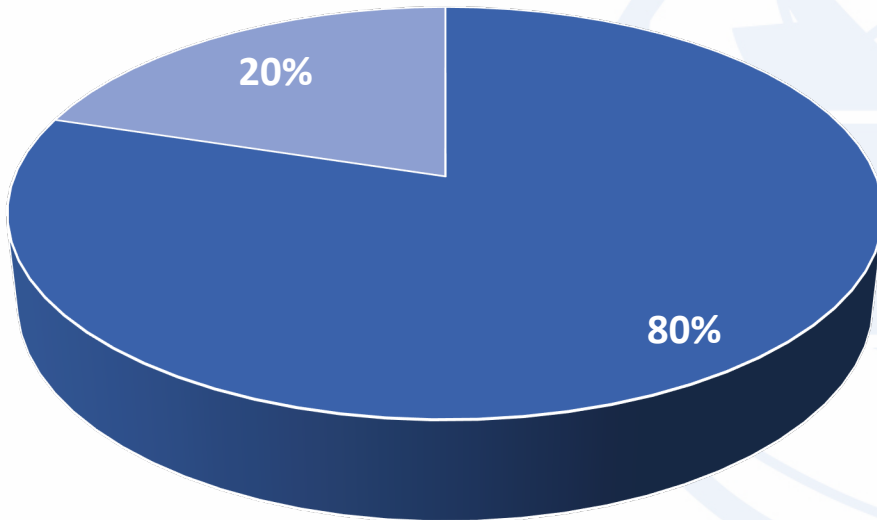
For requirements with system 4, BDW= 300 kHz.

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

GE84 Plan statistics for Africa

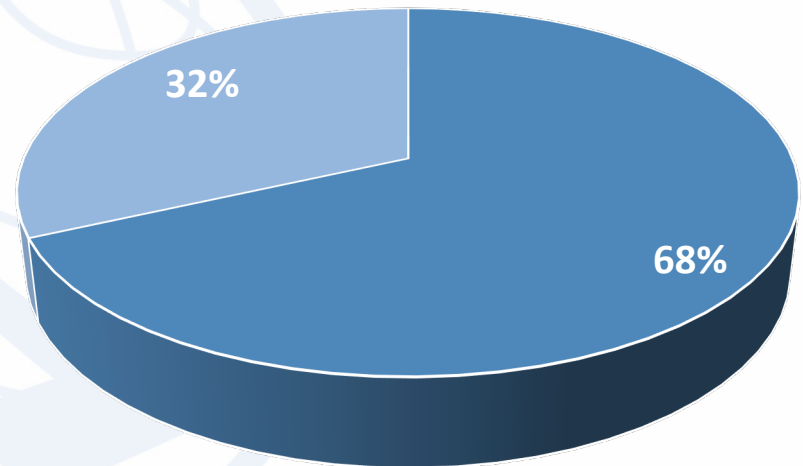
(September 2020)

Recorded in GE84 Plan



- Toutes les administrations parties de GE84
- Les administratoins d'Afrique (54 administrations)

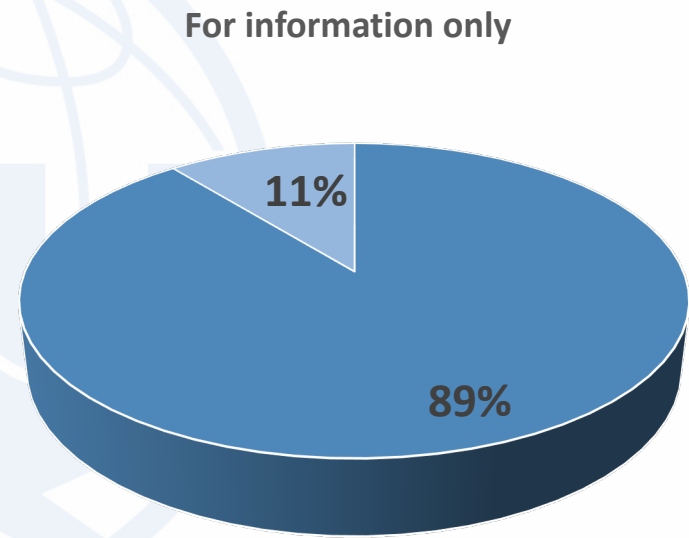
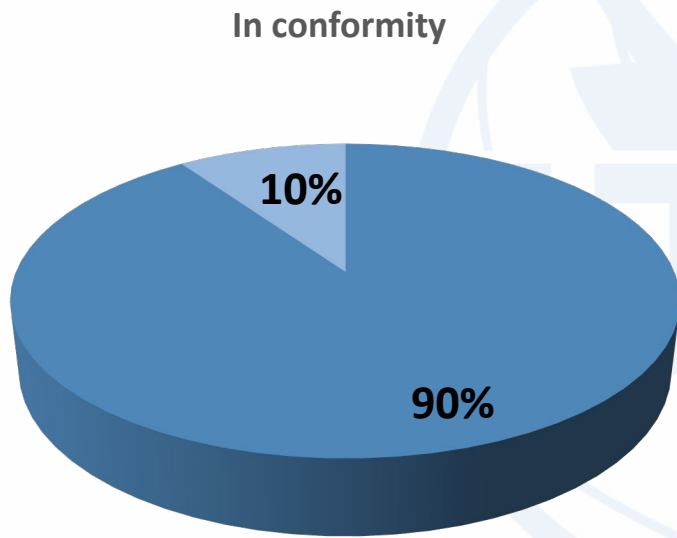
In coordination stage



- Toutes les administrations parties de GE84
- Les administratoins d'Afrique (54 administrations)

MIFR statistics for FM

(September 2020)



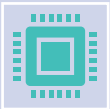
- MIFR: all administrations membres of GE84 Agreement
- MIFR African countries (36 administrations):

- MIFR: all administrations membres of GE84 Agreement
- MIFR African countries (36 administrations):

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

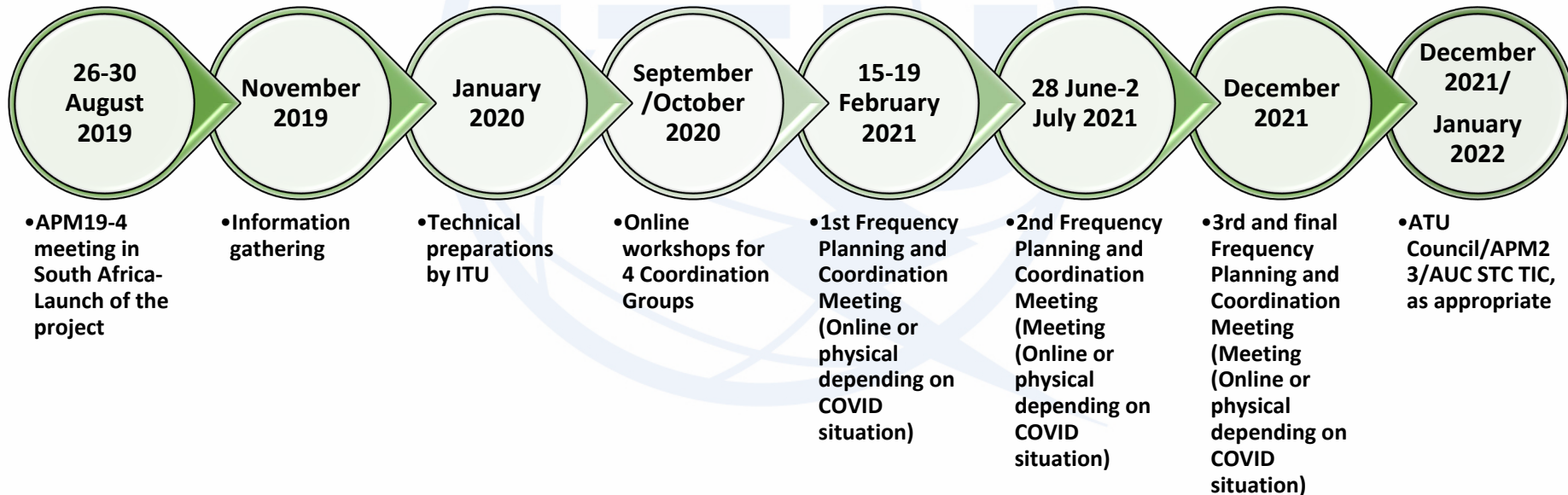
Engineers in charge of the GE84 Plan and/or frequency assignment for FM radio,
Same participating experts from all administrations involved along the process,



To identify additional mutually compatible assignments.

GE84 Optimization- Adapted timeline

GE84 Optimization- Adapted timeline



GE84 Plan Optimization Workshop



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



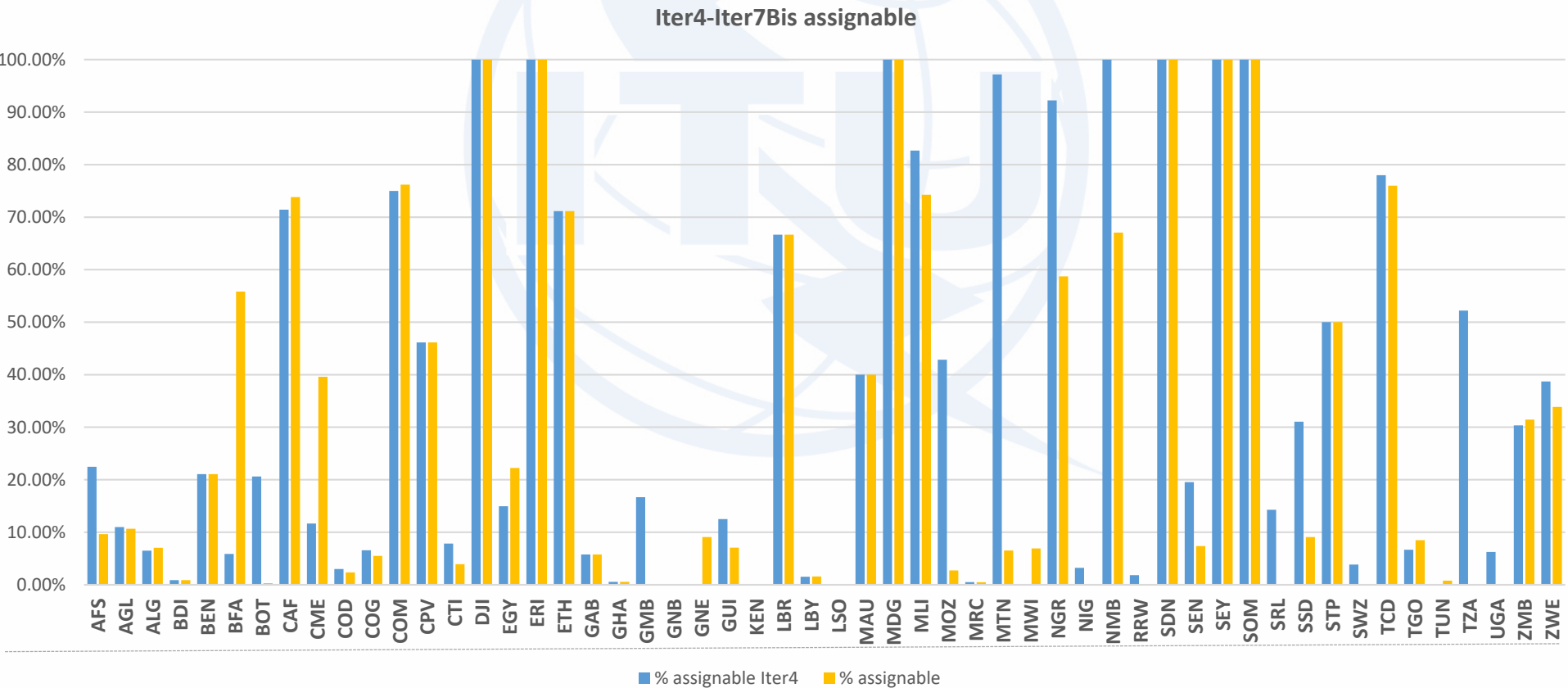
- **The workshop is to provide an online training based on demonstrations and presentations on the project, its mainstems, the use of BR software, and provide learning materials. Presentations and demos will be done on:**
 - the tools adapted by the BR to run compatibility analysis of new requirements,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



www.itu.int/go/GE84OptimizationPlanforAfrica

Status so far

➤ Latest Iteration 7Bis: 16 April 2021



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>
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Thank you!