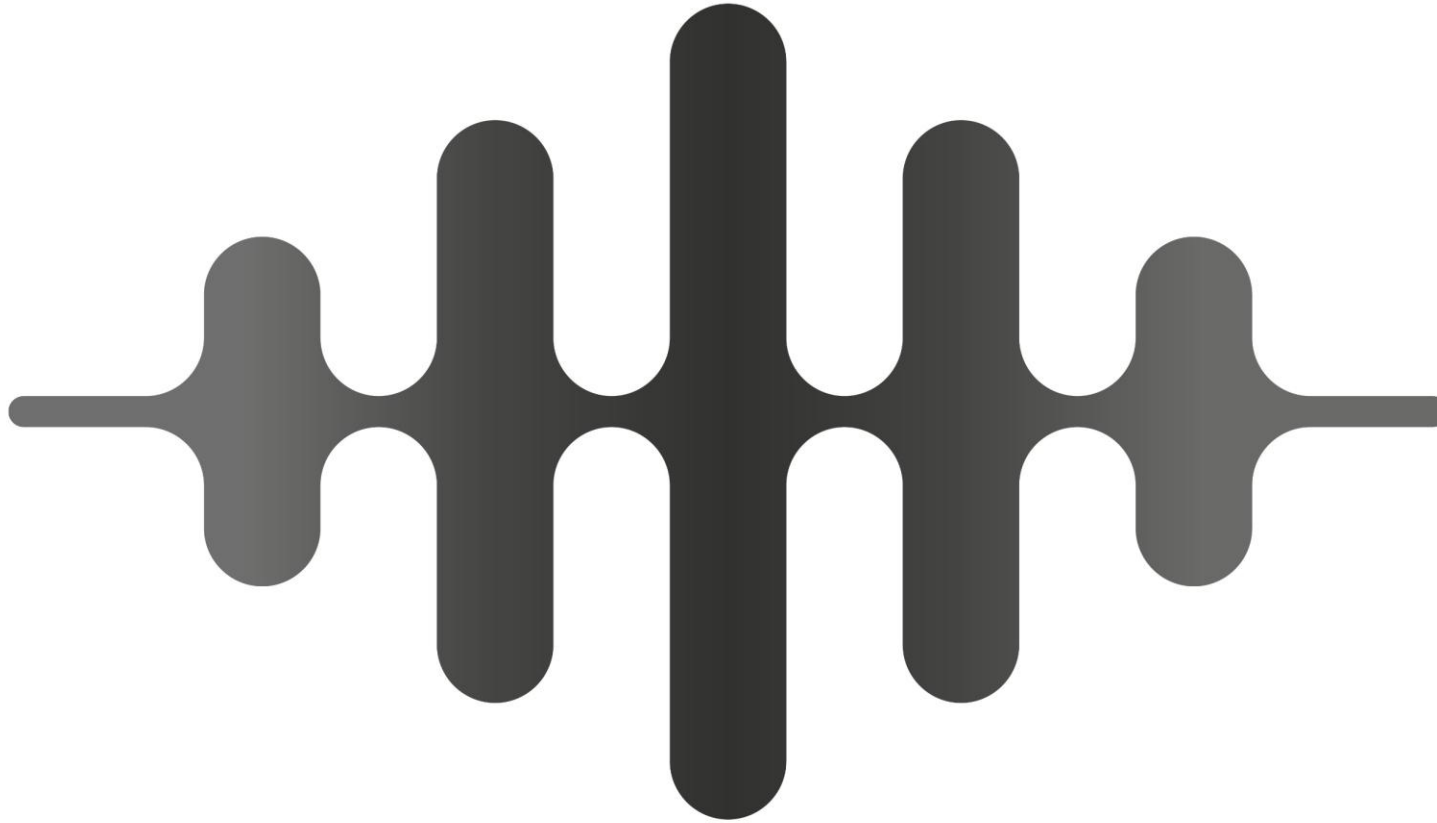
32ND ITU WORLD
RADIOCOMMUNICATION SEMINAR

ITUWRS GENEVA2026

7–11 December 2026
Geneva, Switzerland

itu.int/go/ITU-R/WRS-26
#ITUWRS



Organized by:

ITU

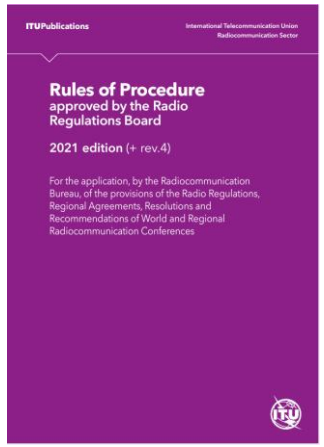
BR Space Software and Databases

Miroslav ĆOSIĆ
miroslav.cosic@itu.int
Informatics, Administration, and Publications Department

Purpose of Bureau's Space Services Applications

Radio Regulations (RR)





BR Space Software and Databases



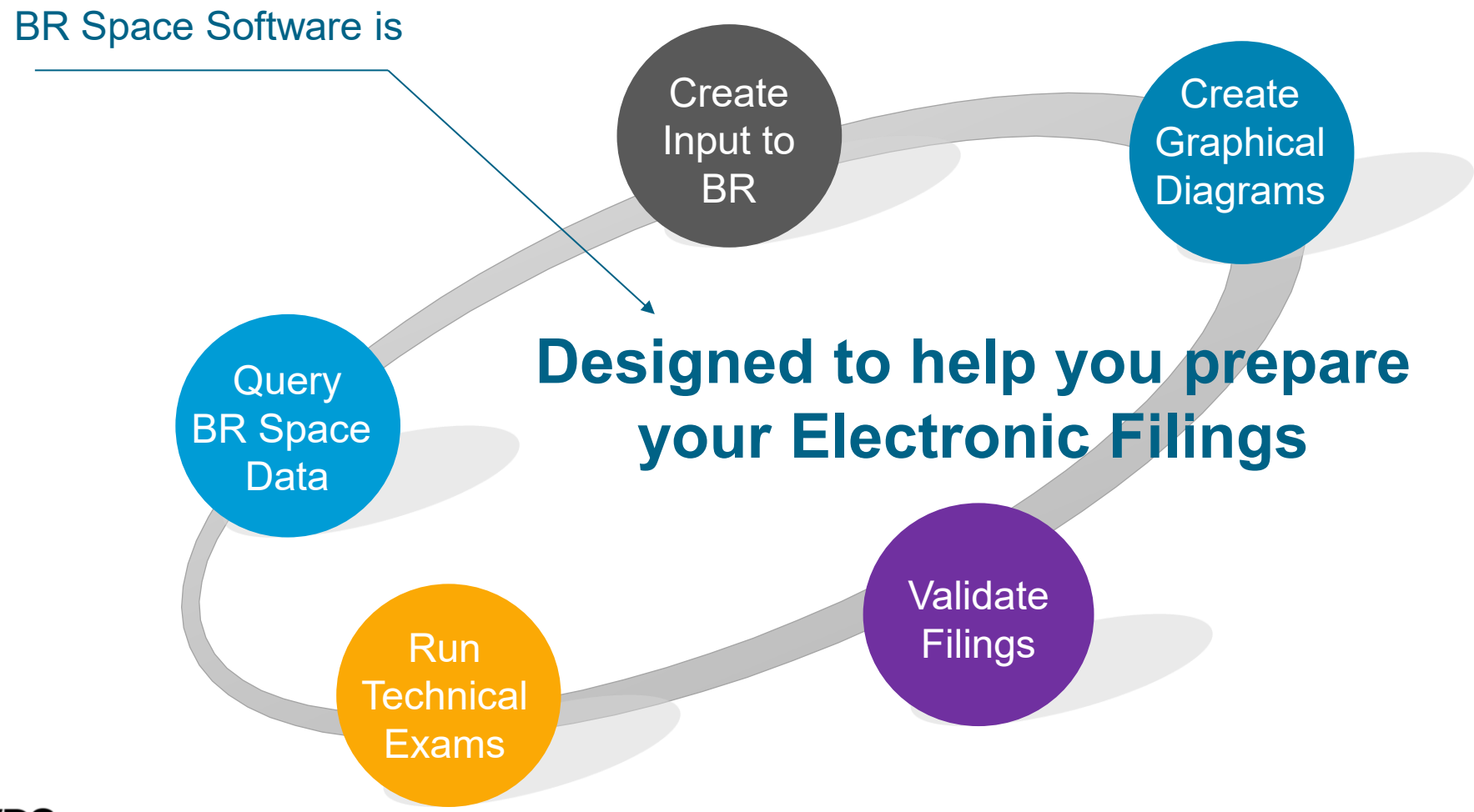
Streamline the Implementation of the RR and Rules of Procedure

Help you prepare electronic ITU filings compliant with the RR

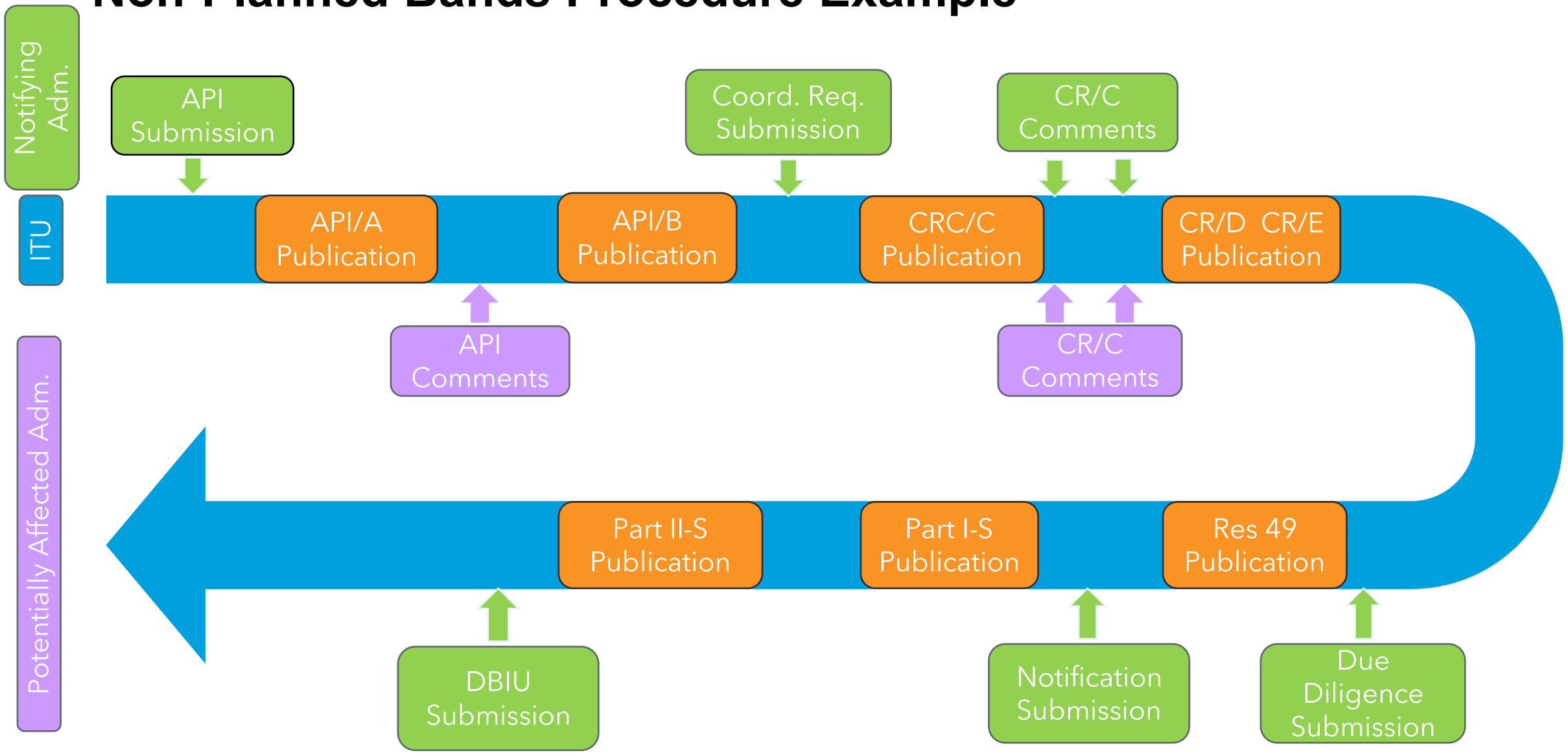
Process the electronic ITU filings submitted to the Bureau

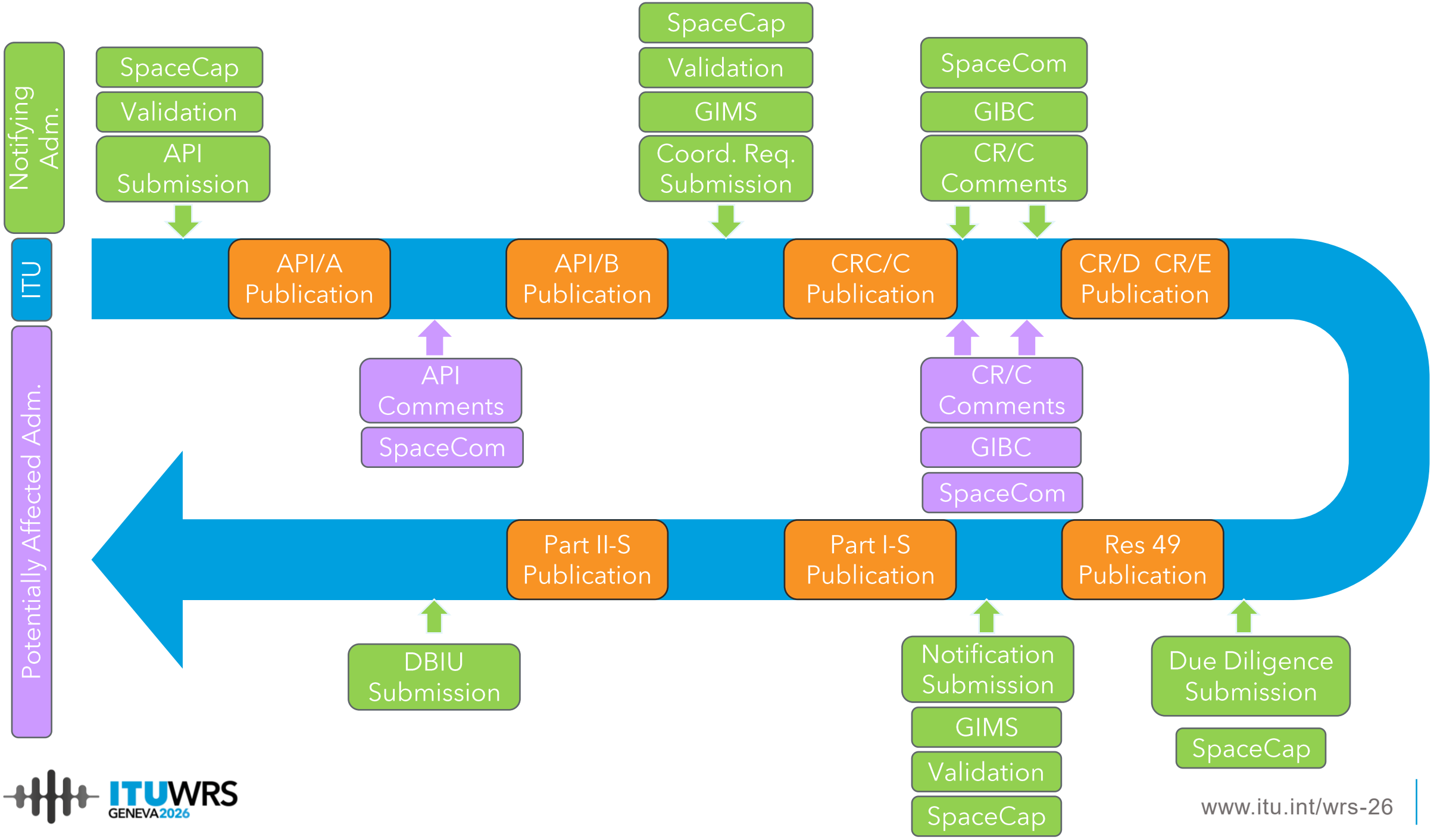
Prepare publications in BR IFIC

Purpose of BR Space Software



Non-Planned Bands Procedure Example




Notifying Adm.
ITU
Potentially Affected Adm.
SpaceCap
Validation
API Submission
SpaceCap
Validation
GIMS
Coord. Req. Submission
SpaceCom
GIBC
CR/C Comments
API/A Publication
API/B Publication
CRC/C Publication
CR/D CR/E Publication
API Comments
SpaceCom
CR/C Comments
GIBC
SpaceCom
Part II-S Publication
Part I-S Publication
Res 49 Publication
DBIU Submission
Notification Submission
GIMS
Validation
SpaceCap
Due Diligence Submission
SpaceCap

ITU Space Radiocommunication Services Data Entry Software

SpaceCap

Capture

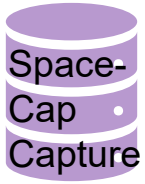
Enter/Capture Characteristics of the radio links



Res8/Res35

Capture

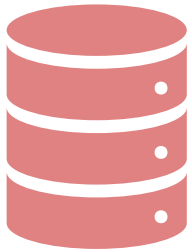
Enter/Capture Res8 or Res35 data into SNS formatted database



GIMS

Capture

Enter/Capture Geographical data



BRSIS-Validation

Data Validation In conformity with RR Appendix 4



SpaceCom

Capture

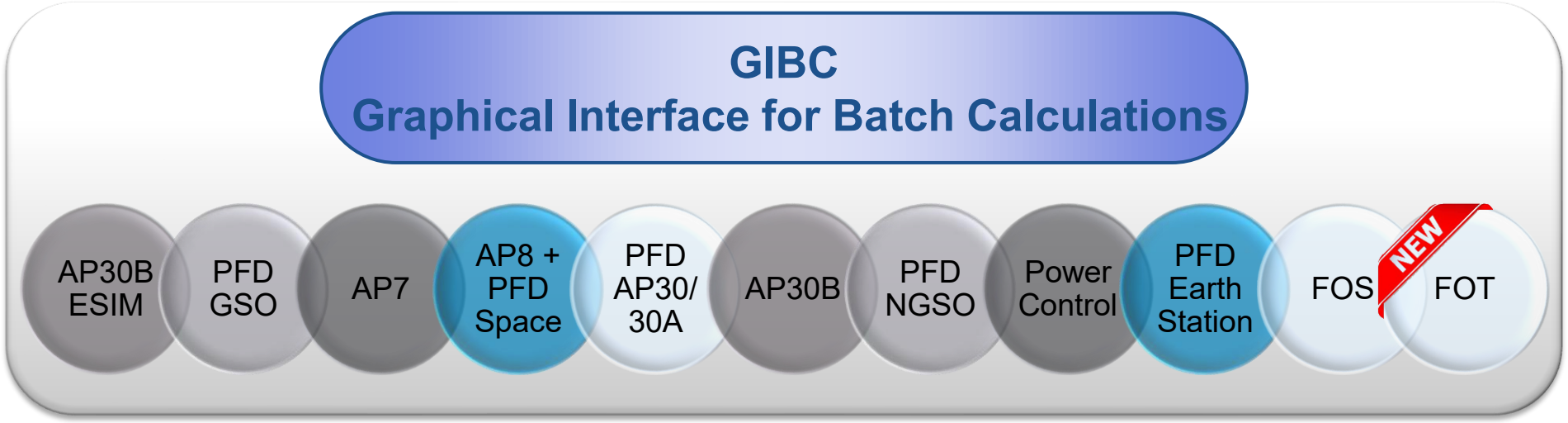
Enter/Capture requests for coordination



ITU Space Radiocommunication Services Data Query Software

BRSIS-SpaceQry	ITU SpaceExplorer Query & Extract	BRSIS-Publication	GIMS Graphics
Query **Satellite network/system, Earth stations, Radio Astronomy Stations** **in the radio space services from** **Databases** **Desktop application**	**Query** **Satellite network/system, Earth stations, Radio Astronomy Stations** **in the radio space services from** **Databases** **Web application**	**Print** **Satellite network/system, Earth stations, Radio Astronomy Stations** **in the radio space services from** **Databases containers**	**Query/Visualise** **geographical data from** **Databases containers**

Space Radiocommunication Services Technical Exams Software

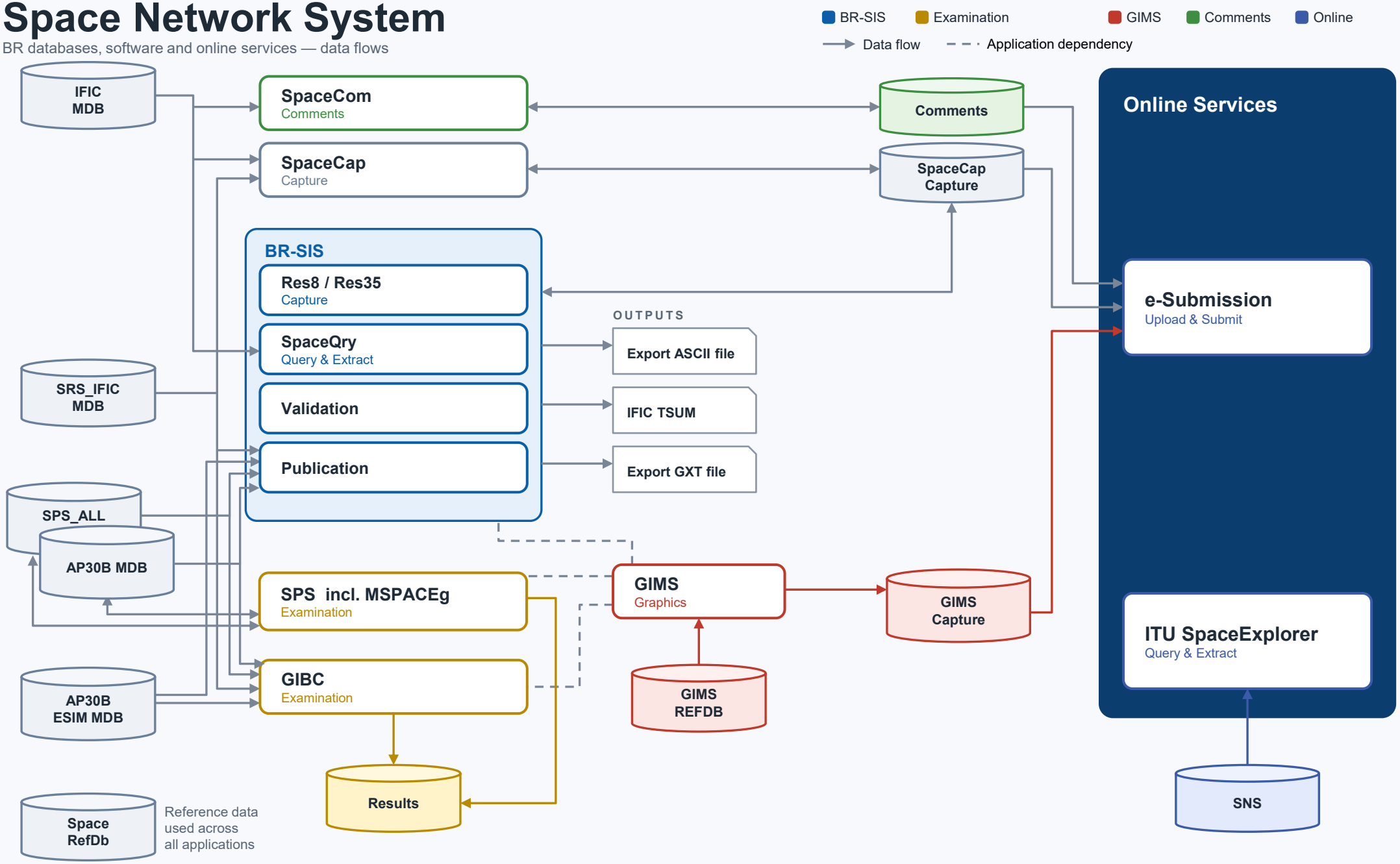


SPS
the *space plans* software (including "MSPACEg")

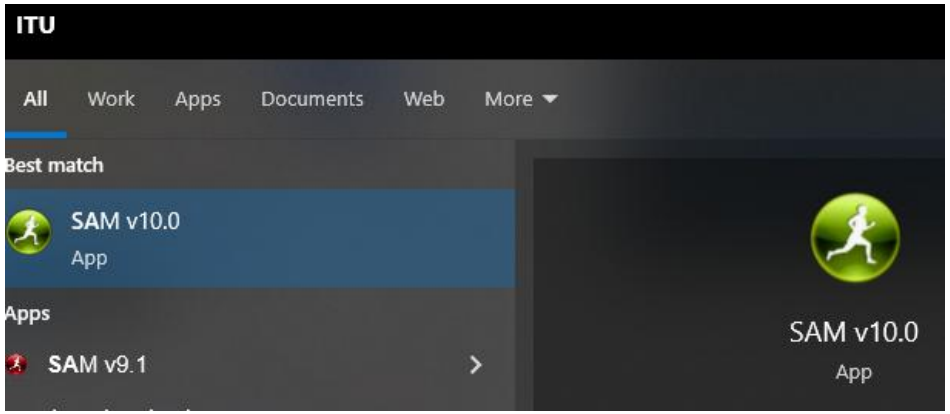
Determination of the coordination requirements for the Plans for space networks in Appendices 30 and 30A of the Radio Regulations

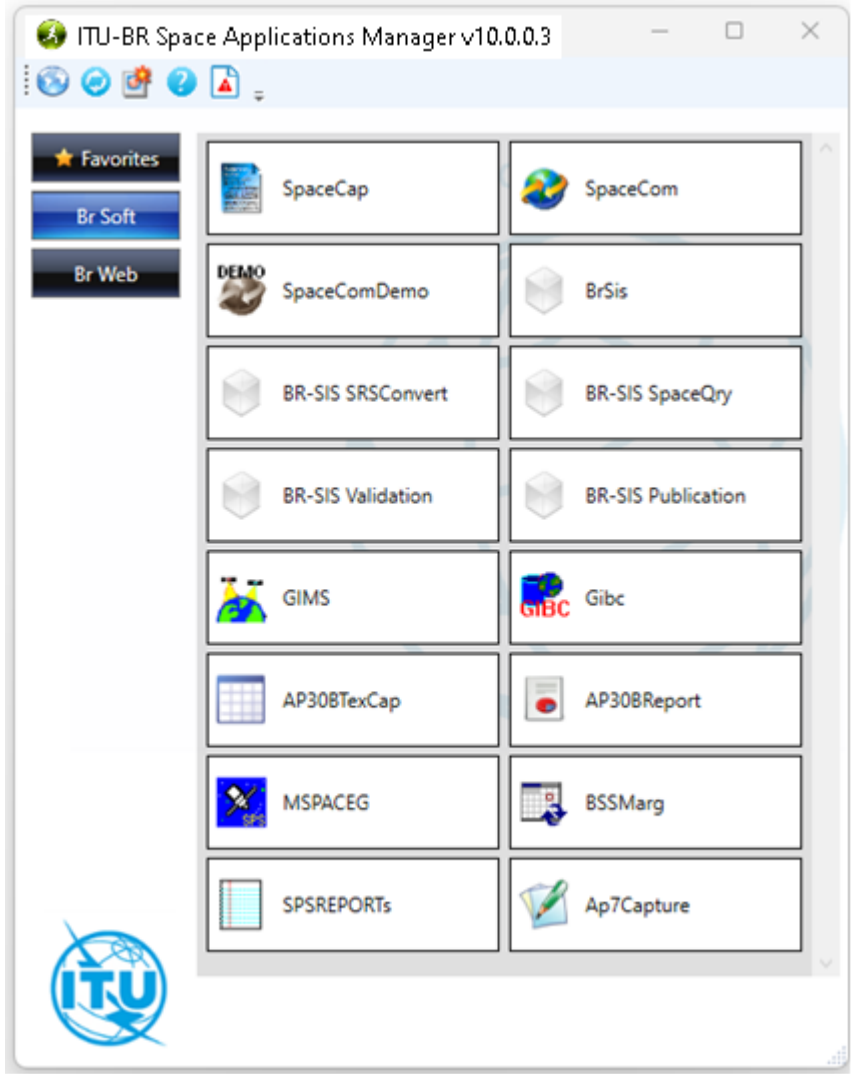
Space Network System

BR databases, software and online services — data flows



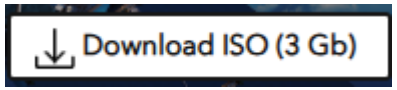
Space Application Manager





Latest ITU Space Radiocommunication Services Software Version





Download from https://www.itu.int/ITU-R/go/space-software/en

or

Install from ISO image folder **BR_Soft**

- **Installation requires administrator privileges**
- **Your network administrator may need to whitelist some legacy software components**

  More details: BR_Soft\Notes on installing ITU BR Space Applications.pdf

BR Space Software and DB Schema Version

Each World Radiocommunication Conference introduces new resolutions and changes to the Radio Regulations

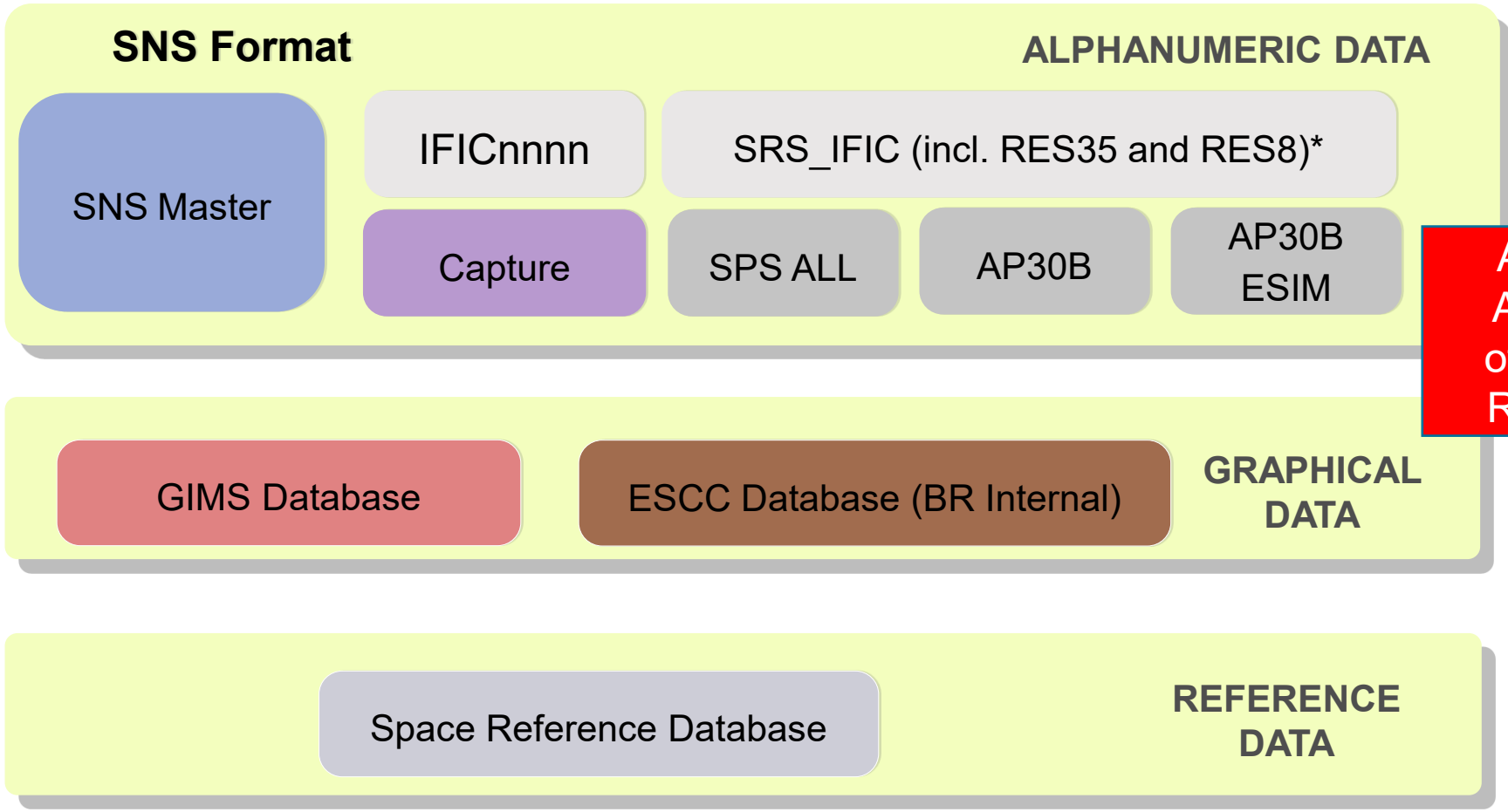
Software and Database Version	Description	Period	IFIC	Circular Letter
9.0	Decisions taken at WRC-19 (first phase of implementation and database schema change: support for NGSO constellations)	Dec 2019 – Aug 2020	IFIC 2926 - Aug 2020	CR/464
	Adding new features to v9 software throughout the mid-2020 to mid-2022 period (RES35, coordination agreements capture, FOS, etc.)	Sep 2020 – Nov 2022		
9.1	Second WRC-19-related database schema change (Multiple configurations identifiers for Non-GSO, excluding geographic areas from service area, etc.)		IFIC 2985 – Nov 2022	CR/493
10	WRC-23 decisions (including Aeronautical and maritime ESIM (Res 121, 123, 169), Post-deployment orbital tolerances (Res 8), Inter-satellite links (Res 679)	Dec 2023 – Dec 2024	IFIC 3037 – Jan 2025	CR/511
11	152.574 €	152.574 €	TBA	TBA

BR Space Software and DB Schema Version

- Where to find information on the SNS Format (DB schema)?
  - **Section III of the Space Preface:** Description of the SNS format
    http://www.itu.int/en/ITU-R/space/Preface/preface_e.pdf

- As WRC decisions force changes to the database, the BR also takes the opportunity to improve the schema, as resources allow

Categories of BR Space Databases

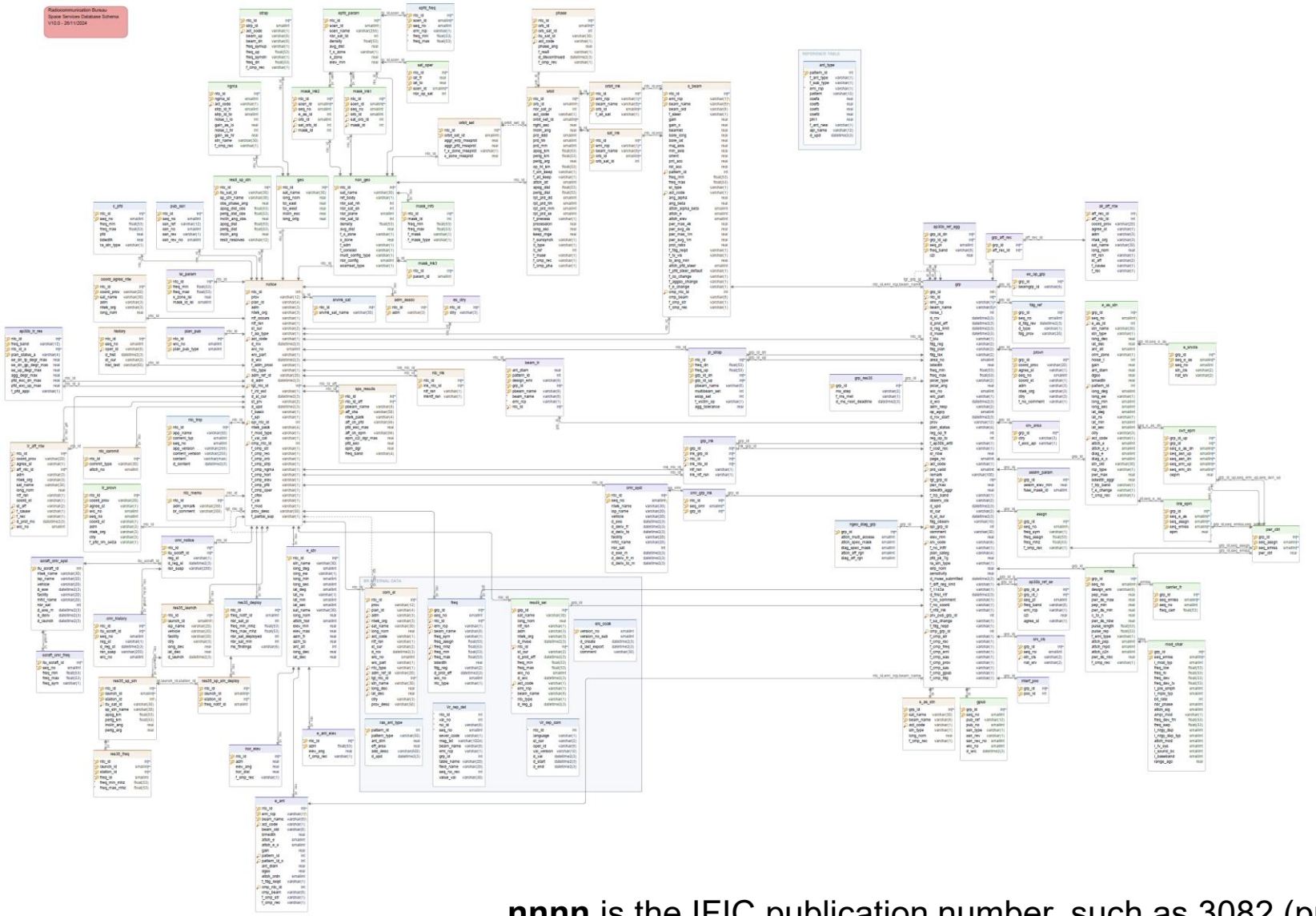


* RES35 data was published in a separate database prior to IFIC 3037

Annex 2 of Appendix 4 of the Radio Regulations

Other BR space databases: EPFD masks; EPFD results; AP8 examination results; Other technical examination results;

BR SNS Format Databases



SNS Master Database

SRS_IFICnnnn.mdb

IFICnnnn.mdb

SPS_ALL_IFICnnnn.mdb

AP30Bnnnn.mdb

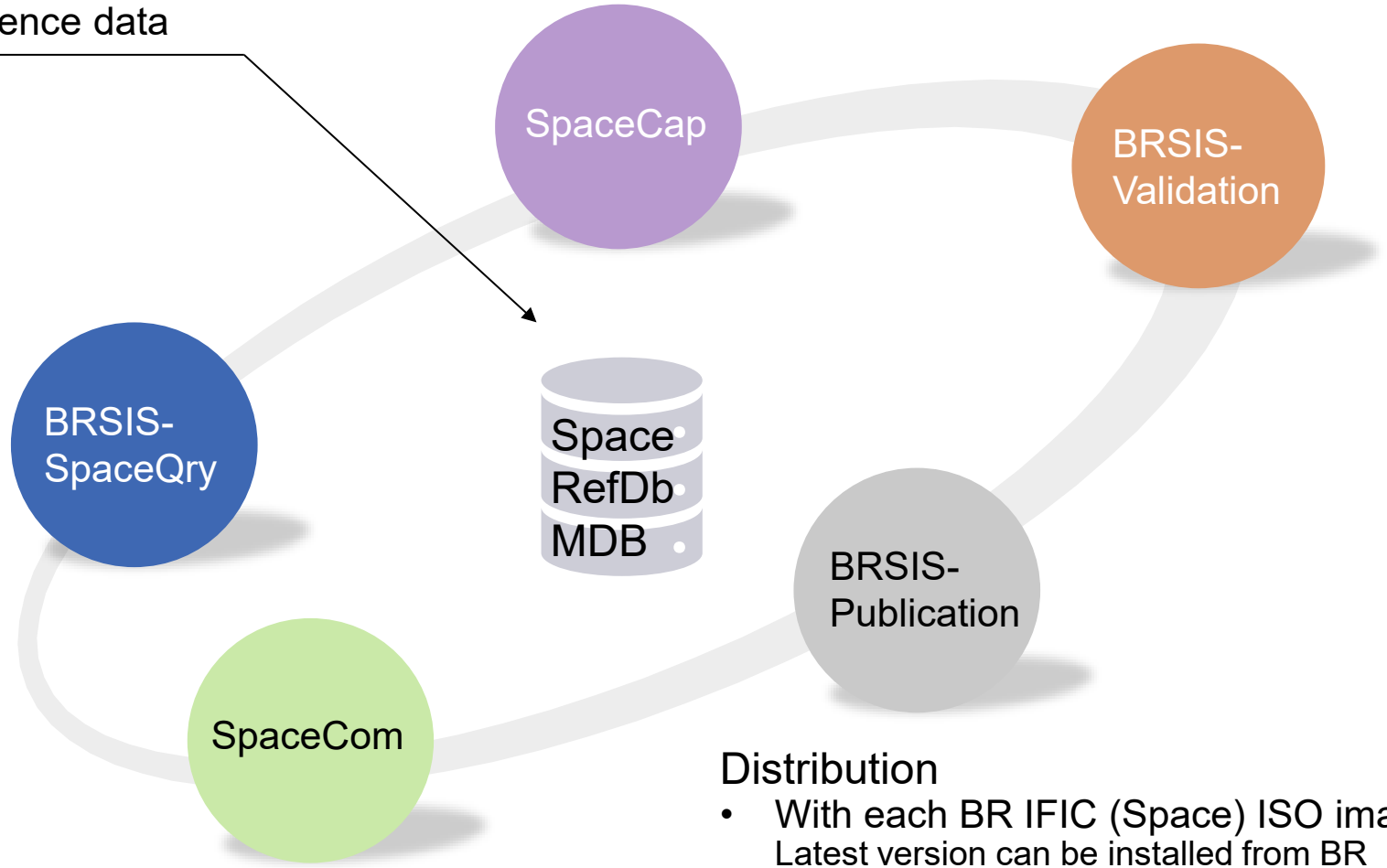
AP30BESIMnnnn.mdb

Capture.mdb

nnnn is the IFIC publication number, such as 3082 (published 13 Oct 2026)

Space Reference Database

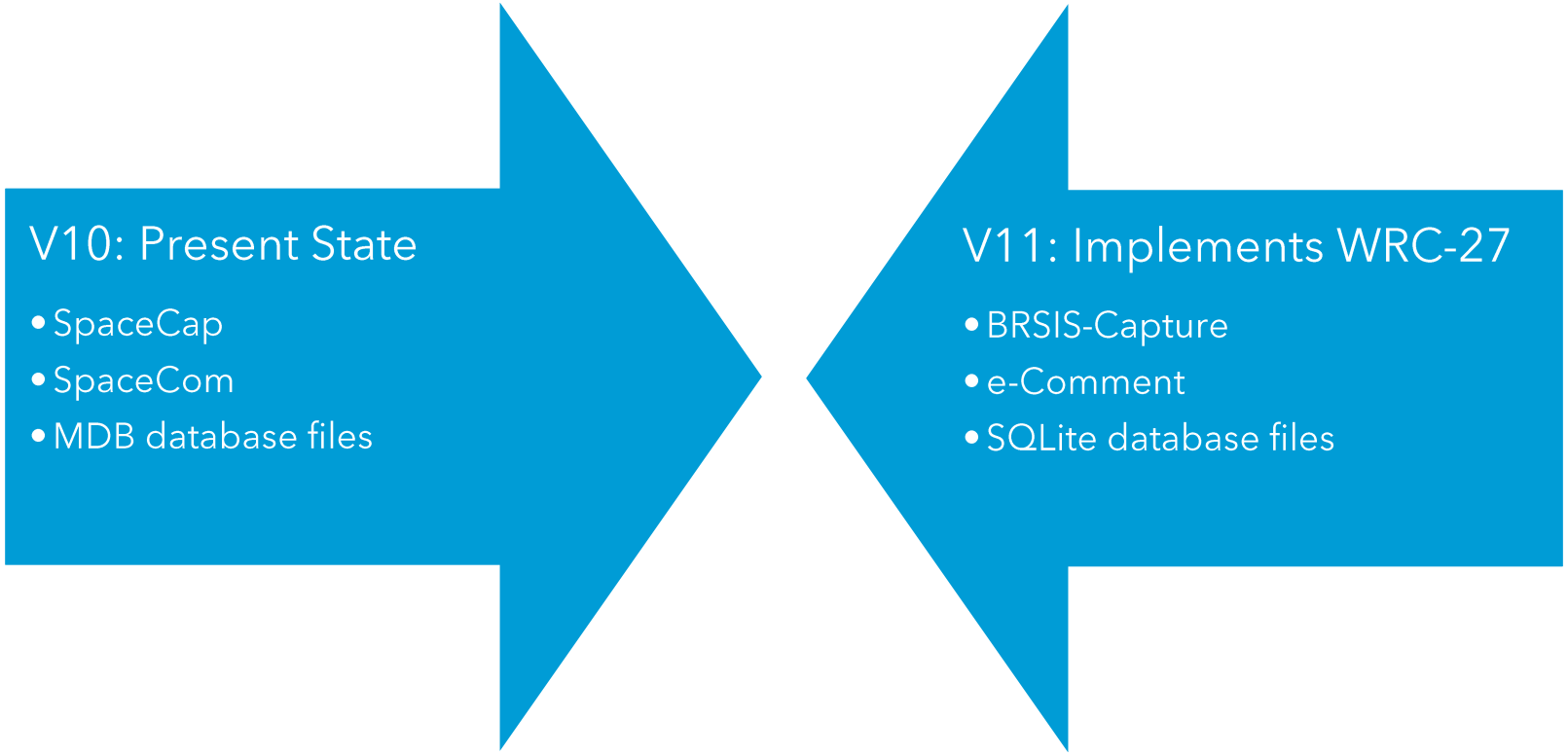
Ensures all BR Space Software use the same reference data



Distribution

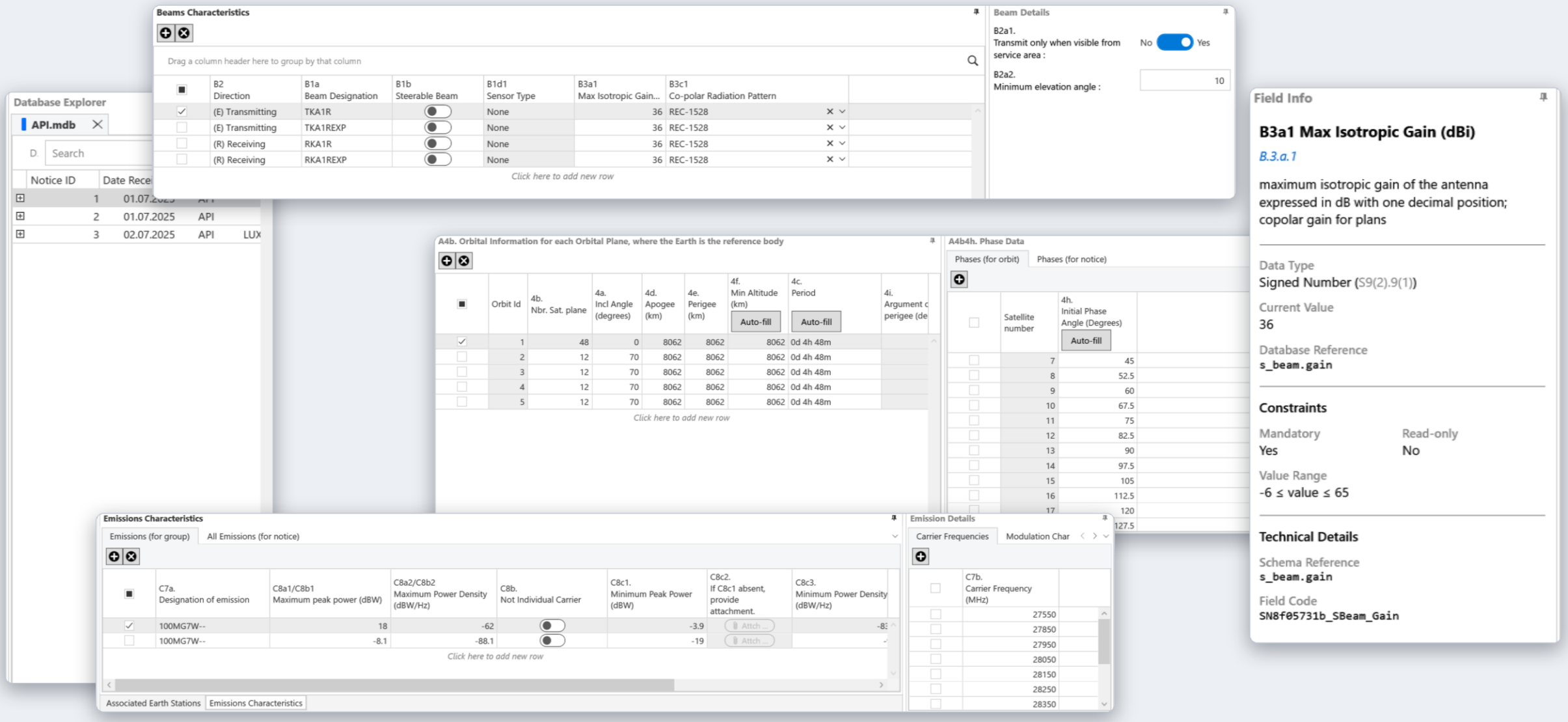
- With each BR IFIC (Space) ISO image
  Latest version can be installed from BR_Soft\SpaceRefDB folder
- Downloadable from the ITU Web Site
  https://www.itu.int/en/ITU-R/software/Pages/spacerefdb.aspx

Future of BR Space Software



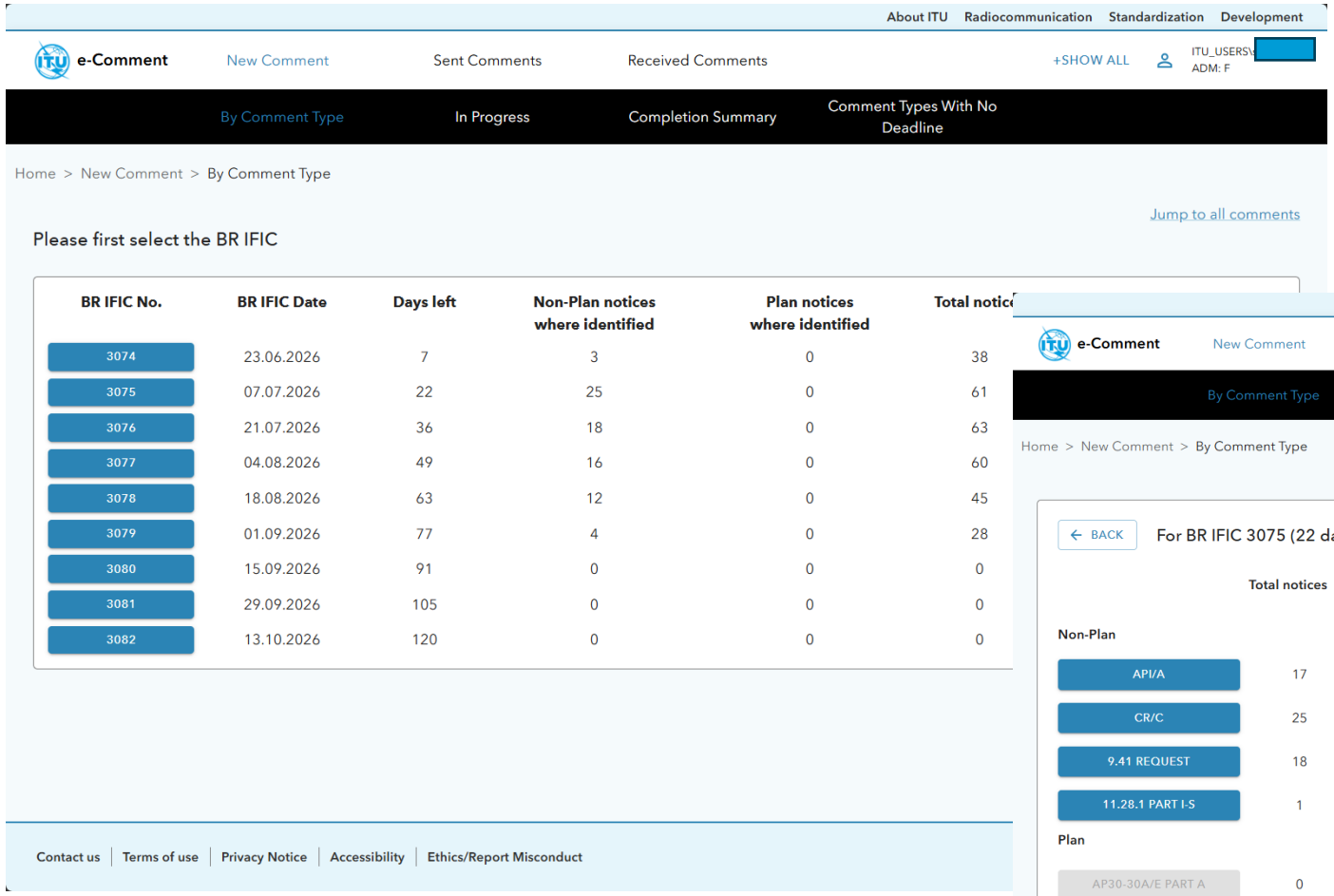
Migration from SpaceCap to BRSIS-Capture

- Existing BRSIS-Capture module (Res 35 and Res8) to be extended to include all of current SpaceCap functionality
- Capture and validate AP4 space services data in a user-friendly way
- Retirement of SpaceCap should improve user satisfaction and confidence in the BR Space Software suite, removing dependencies on legacy third-party components (some unsigned)
- BR is looking for volunteer beta testers to guide and improve features

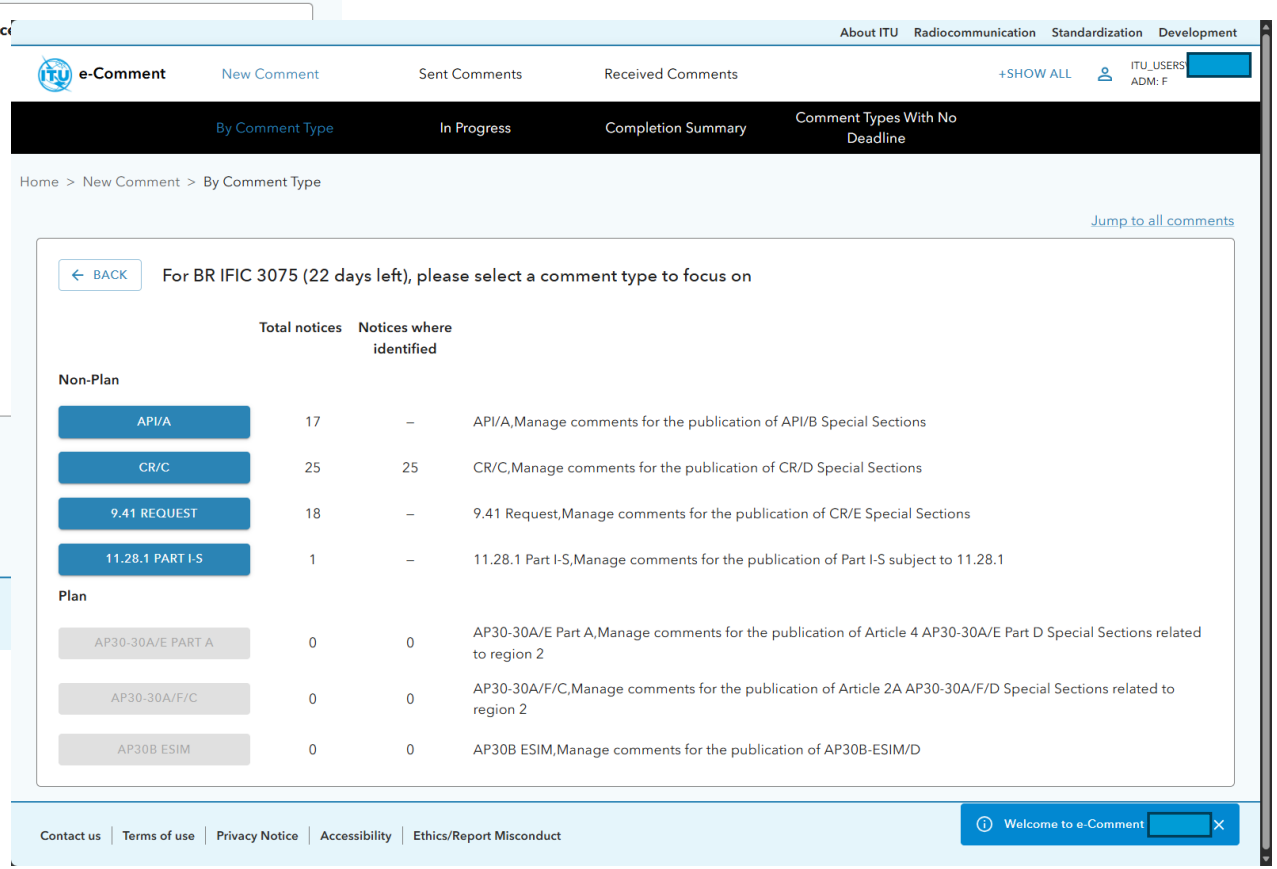

Beams Characteristics
Drag a column header here to group by that column
B2 Direction
B1a Beam Designation
B1b Steerable Beam
B1d1 Sensor Type
B3a1 Max Isotropic Gain...
B3c1 Co-polar Radiation Pattern
(E) Transmitting TKA1R None 36 REC-1528
(E) Transmitting TKA1REXP None 36 REC-1528
(R) Receiving RKA1R None 36 REC-1528
(R) Receiving RKA1REXP None 36 REC-1528
Click here to add new row
Beam Details
B2a1. Transmit only when visible from service area : No Yes
B2a2. Minimum elevation angle : 10
Database Explorer
API.mdb
Search
Notice ID
Date Rece
1 01.07.2025 API
2 01.07.2025 API
3 02.07.2025 API LUX
A4b. Orbital Information for each Orbital Plane, where the Earth is the reference body
Orbit Id
4b. Nbr. Sat. plane
4a. Incl Angle (degrees)
4d. Apogee (km)
4e. Perigee (km)
4f. Min Altitude (km)
Auto-fill
4c. Period
Auto-fill
4i. Argument of perigee (de
1 48 0 8062 8062 8062 0d 4h 48m
2 12 70 8062 8062 8062 0d 4h 48m
3 12 70 8062 8062 8062 0d 4h 48m
4 12 70 8062 8062 8062 0d 4h 48m
5 12 70 8062 8062 8062 0d 4h 48m
Click here to add new row
A4b4h. Phase Data
Phases (for orbit)
Phases (for notice)
Satellite number
4h. Initial Phase Angle (Degrees)
Auto-fill
7 45
8 52.5
9 60
10 67.5
11 75
12 82.5
13 90
14 97.5
15 105
16 112.5
17 120
127.5
Emissions Characteristics
Emissions (for group)
All Emissions (for notice)
C7a. Designation of emission
C8a1/C8b1 Maximum peak power (dBW)
C8a2/C8b2 Maximum Power Density (dBW/Hz)
C8b. Not Individual Carrier
C8c1. Minimum Peak Power (dBW)
C8c2. If C8c1 absent, provide attachment.
C8c3. Minimum Power Density (dBW/Hz)
100MG7W-- 18 -62 -3.9
100MG7W-- -8.1 -88.1 -19
Click here to add new row
Associated Earth Stations
Emissions Characteristics
Emission Details
Carrier Frequencies
Modulation Char
C7b. Carrier Frequency (MHz)
27550
27850
27950
28050
28150
28250
28350
Field Info
B3a1 Max Isotropic Gain (dBi)
B.3.a.1
maximum isotropic gain of the antenna expressed in dB with one decimal position; copolar gain for plans
Data Type
Signed Number (S9(2).9(1))
Current Value
36
Database Reference
s_beam.gain
Constraints
Mandatory
Yes
Read-only
No
Value Range
-6 ≤ value ≤ 65
Technical Details
Schema Reference
s_beam.gain
Field Code
SN8f05731b_SBeam_Gain

e-Comment

- New web application to completely replace SpaceCom legacy desktop application
- Capture, submit and check received comments in a user-friendly way
- Users: Operators, Administrations, IGSO, BR processing
- Highlights
  - Fully online - no MDBs – all BR IFIC and comment data in the online app
  - Can submit individual Special Sections as they are ready
  - Receiver immediately views submitted comment before BR IFIC deadline (submitted comment can be updated/withdrawn at any time up to deadline)
    - Administrations view and merge submissions of their operators
    - Notifying Administrations view submissions of commenting administrations
- BR is looking for volunteer beta testers to guide and improve features



Simple interface to find and access Special Sections for commenting.



Special Sections that are available for commenting as they are within the 4 month deadline.
Comments can be updated at any time while the deadline is not past.
Review columns (flags and notes) are not part of comments and can only be seen and edited by users in your organization.

Open | Closed | All

Results: 295

RESET | HINTS | REFRESH | FORMAT | REVIEW | EXPORT

BR IFIC from: From - BR IFIC to: To | Notice ID | Satellite or Station Name | Notifying Adm. / Org. | GSO | Non GSO | PLAN | Non PLAN

Comment Type | Comment Characteristics | Comment Status | ▼ More filters

Legend

Special Section							Comment					Review	
BR IFIC	Days Left	Notice Id	Notif. Adm. / Org.	Satellite Name \ Station Name	Longitude (degrees)	Special Section & Revision	Comment Type	Comment Characteristics	Comments Draft Status	Comments Sent Status	Last Change On	Last Change By	
3074	7	119545232	CHN	TYSAR-01		API/A/12472 M1	API/A		In progress	Submitted to BR	22.09.2026	[redacted]	✓
3074	7	124545327	D	CLOUDCT		API/A/13854 M1	API/A		In progress		07.09.2026	[redacted]	
3074	7	125545384	USA	LOXSAT		API/A/14220 M1	API/A		In progress		11:19	[redacted]	⚑
3074	7	126545060	J	AE4LA		API/A/14331 M1	API/A		Not started				
3074	7	126545034	USA	KRAKEN SATELLITE		API/A/14367	API/A		Not started				
3074	7	126545069	CHN	GD-B		API/A/14368	API/A		Not started				
3074	7	126545072	CHN	LUNAR-R1		API/A/14369	API/A		Not started				
3074	7	126545073	CHN	LUNAR-R2		API/A/14370	API/A		Not started				
3074	7	126545074	CHN	LUNAR-R3		API/A/14371	API/A		Not started				
3074	7	126545075	CHN	LUNAR-R4		API/A/14372	API/A		Not started				

Page Size: 10 | 1 to 10 of 295 | Page 1 of 30

Welcome to e-Comment [redacted]

Feedback

Migration from Microsoft Access MDB to SQLite

Legacy format

Considered to be a security risk (macros, VBA)

Size restriction: 2 GB max file size, must use linking

Proprietary file format

Obstacle to 64 bits migration



SQLite test databases available in Q3 2027

BR Space Software to support SQLite (in **v10** BETA mode) in Q3 2028

SQLite becomes the official database format for BR Space Software with the release of **v11** in January 2029

Popular

Free

Multiplatform

Reliable (100% test coverage)

Free tools available

Native or ODBC connectivity

Removes the 2GB size restriction

BR will provide a mechanism to support MDB use by third-party legacy applications, as has been the case for the BR IFIC (Terrestrial)

Thank you!

ITU – Radiocommunication Bureau

Questions to brsas@itu.int