



ITUWRS
ONLINE2020

29TH WORLD RADIOCOMMUNICATION SEMINAR
30 November – 11 December 2020

BR Space Services Data Online Exploration

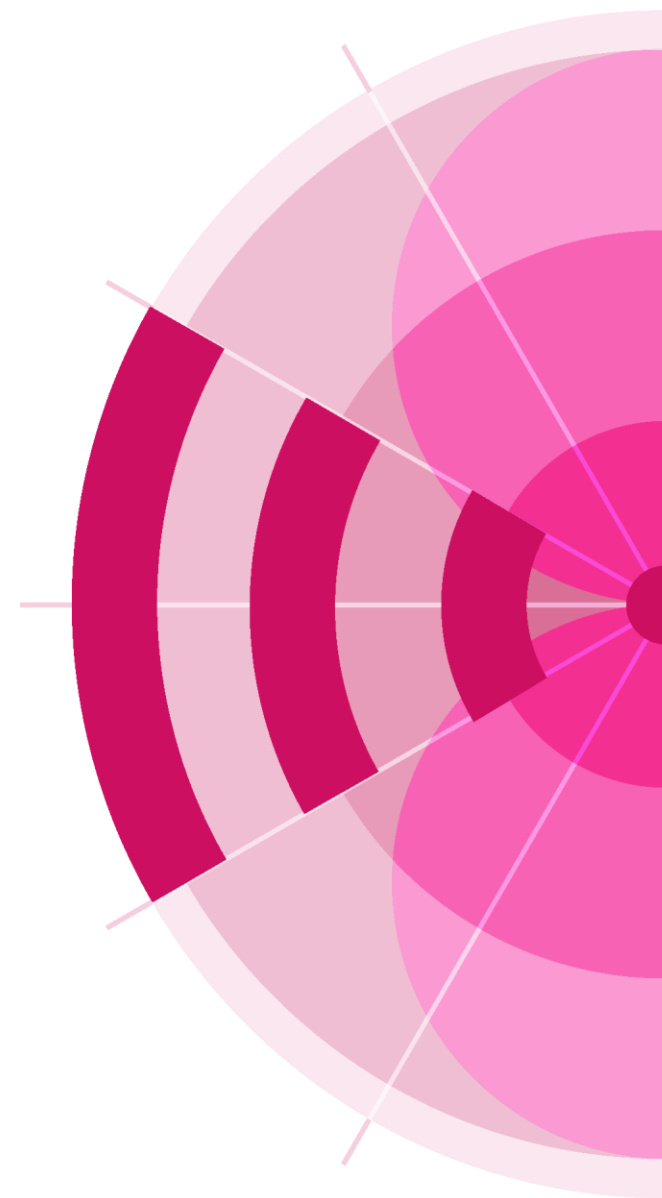
With SNS Online, SNL Online and ITU Space Explorer

Presented by Veronique Glaude

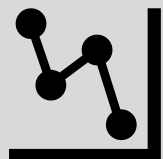
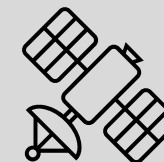
Space Services Department, Radiocommunication Bureau, ITU

www.itu.int/go/wrs-20

#ITUWRS



BR Space Services Data Exploration



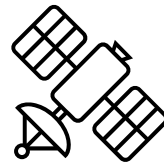
- Exploration of the use of the frequency spectrum and occupancy of the orbits
- Extraction of space data notices for ad hoc analysis
- Follow-up of the evolution of the Master Register, BR publications, Regulatory Status of filings

What are the space data to explore?

The **Space Network System (SNS)** in force:

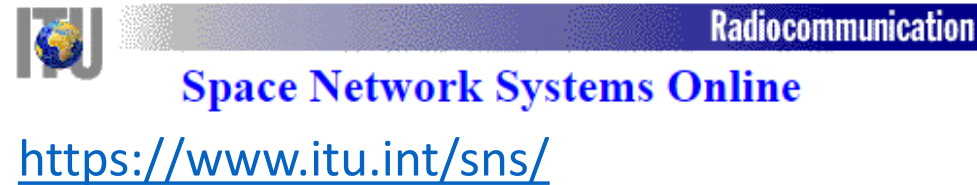
- The Master Register
- The BSS/FSS Plans data
- The satellite networks filings
- The earth stations filings
- Radioastronomy stations filings

The **history** of the BR publications in the Parts and Special Sections of the BR Circulars: previous **WICs** and today's **BR IFICs**



TWO interconnected online query tools :

SNS online



SNL online

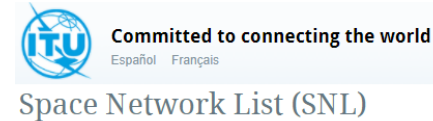


The right access to explore data



SNS online

Available with a **TIES**
account or with a
yearly **subscription**



SNL online

Available to all for
free

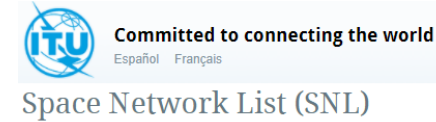
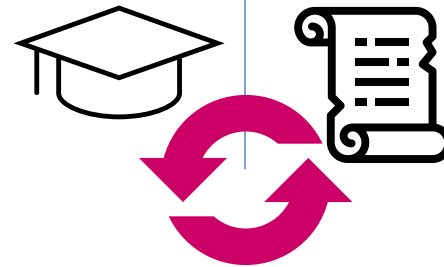
The data and update



SNS online

“Active Notices” in SNS

All regulatory
and technical data
with latest status



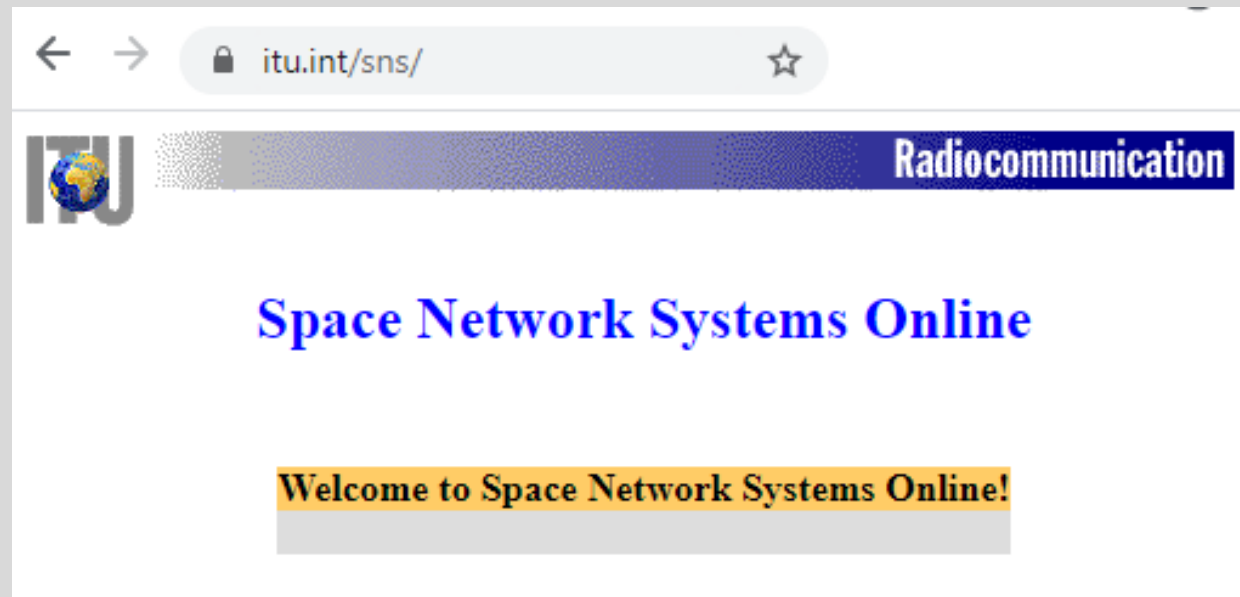
SNL online

All BR Space publications

including
History

Data update (addition, modification, suppressions of notices) is done
with each publication of BR IFICs every 2 weeks

How to explore space data in SNS online?





SNS online

Space Network System

<https://www.itu.int/sns/>

- Exploration of the technical and regulatory data from the App. 4 and BR examination results and from the BSS & FSS Plans
- Latest updated data published in a BR IFIC – latest MOD included and latest suppression removed
- Possibility to download a notice in SNS v9 format
- General/Special/Customs queries available

SNS online

<https://www.itu.int/sns/>

- ☐ Query non-planned bands
- ☐ Query planned bands
- ☐ Advance Publication Query
(Regulatory deadlines)
- ☐ Resolution 49 Query
(Due Diligence Information)



BR Spa

Welcome to Space Network Systems Online!

SNS Online gives access to the **Space Networks Systems Database** of the Radiocommunication Bureau of the ITU. The database contains AP4 data of geostationary satellite filings, non-geostationary satellite filings and earth station filings.

SNS Online is a yearly [subscription service](#). It is available as a free service for [TIES](#) registered users.

Note: SNS Online will only be available 48 hours after registering for TIES.

Try the [demo pages](#) and if you are not a TIES registered user [subscribe](#) to the service.

As a subscriber to the service you have access to the following features:

SNS Database

[Description \(Pdf document: see Section III\)](#)

View the description of the SNS database (INGRES and MS/ACCESS) in a PDF document: Section III of the Preface

[SNS Database Changes](#)

View the description of structural changes to SNS database (INGRES and MS/ACCESS)

Query Systems

[General Query System
\(non-planned bands\)](#)

Navigate through SNS database using predefined queries to retrieve a list of satellites or earth stations. Select a specific satellite or earth station and view all the beams/antennas, frequencies, emissions, coordination information for the selection.

[Space Plans Query System](#)

allows you to navigate through the SNS database (planned services) using predefined queries. Use the system in case you want to retrieve a list of satellites in the planned services and then "navigate" through a specific satellite. View all the beams, frequencies, emissions, coordination information of the selected station.

[Suppressed and Removed Notices Query System](#)

Display notices in the SNS database which have been suppressed or removed. Use the query in case you want to retrieve a list of suppressed or removed satellites or earth stations.

[Advance Publication Query System](#)

Retrieve advance publication data from the database. Based on your input parameters retrieve a list of satellites and get the summary information of your selection.

To get information on API subject to coordination, use the next link [SpaceWISC API Query](#).

[SpaceWISC API Query](#)

Retrieve advance publication subject to coordination data submitted through the SpaceWISC Web Application. Based on your input parameters retrieve a list of satellites and get the summary information of your selection.

[Res49/Res552 Publication Query System](#)

Retrieve Due Diligence publication data from the database. Based on your input parameters retrieve a list of satellites and get the summary information of your selection

SNS online

<https://www.itu.int/sns/>

Query by:

- ☐ Plan / Non-planned services (From the main menu)
- ☐ Satellite network, Administration, Notice ID
- ☐ Orbital position
- ☐ Submission reason (API, Coordination, Notification)
- ☐ Processing status (**Recorded in the MIFR** / under examination)

NETWORKS/EARTH STATION INFORMATION
Enter data and select category and satellite/station type

Satellite/Earth Station Name:

or enter Notice identifier:

Notifying Administration:

Network Organization:

Longitude (from):

Longitude (to) :

Notification reason: ☐ Coordination ☐ Coordination(Earth) ☐ Notification ☐ All

Processing Status: ☒ Recorded (MIFR) ☐ All

Satellite/Earth Station: ☒ Geostationary ☐ Non-Geostationary ☐ Earth Station ☐ Radio Astronomy

SNS online

<https://www.itu.int/sns/>

Result of the query:

- ✓ List of networks
- ✓ Link to the network characteristics
- ✓ Category: **A** (Advance publication), **C** (Coordination), **N** (Notification), **U** (Due diligence)
- ✓ Status for notification: **50 (Recorded in the MIFR, PART II-S)**

<u>SATELLITE NAME</u>	<u>CATEGORY</u>	<u>ADM</u>	<u>NTWK ORG</u>	<u>LONGITUDE</u>	<u>DATE OF PROTECTION</u>	<u>STATUS</u>	<u>IFIC</u>
BIFROST-0.8W-2010	N	NOR		-0.8	See TSUM	50	2880
BIFROST-0.8W-2010	U	NOR		-0.8	See TSUM	50	2837
BIFROST-0.8W-2010	C	NOR		-0.8	See TSUM	52	2892
BIFROST-0.8W-2010-KA	N	NOR		-0.8	See TSUM	50	2885
BIFROST-0.8W-2010-KA	U	NOR		-0.8	See TSUM	50	2808
BIFROST-0.8W-2010-KA	C	NOR		-0.8	See TSUM	50	2824

SNS online

<https://www.itu.int/sns/>

Result for one network selected:

- ✓ Summary information of the notice
- ✓ Link to the TSUM (Transaction summary)
- ✓ Download of the notice in SNS format

SUMMARY INFORMATION						
Satellite name	Category	Adm	Ntwk	Org	Provn	Date last modified
BIFROST-0.8W-2010	N	NOR	-	11.2	11.05.2017	
Download notice into MS/ACCESS						
		DOWNLOAD		TSUM		

DETAILED INFORMATION				
NOMINAL	TOLERANCE		INCLINATION	ACTIVE STATION
LONGITUDE	EAST	WEST	EXCURSION	
-0.8	0.1	0.1	1	-

SNS online

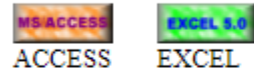
<https://www.itu.int/sns/>

Transaction summary (TSUM) of the selected network

Summary Information									
Action	Status	Satellite name	Longitude	Category	Adm	Ntwk	Org	Provn	Date last modified
A	50	BIFROST-0.8W-2010	-0.800	N	NOR	-	11.2	11.05.2017	
Download notice into MS/ACCESS	<input type="button" value="DOWNLOAD"/>	<input type="button" value="TSUM"/>				<input type="button" value="SNL-B"/>			

Export of the TSUM

Export result of query to:



ACCESS EXCEL

name of table/worksheet:
tsum_G

Link to SNL
and Publications
query

To view diagrams on SNS Online:

[Help System GIMS - Graphical Interference Management System](#)

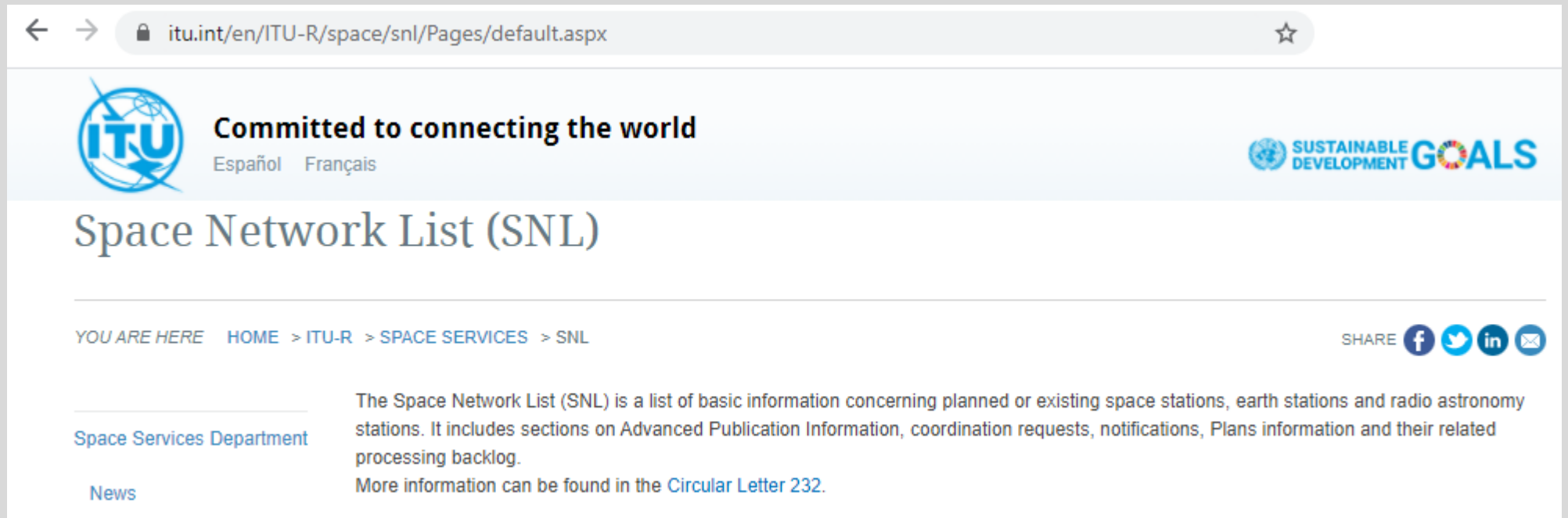
Details of the Group of
assignments

ACTION BEAM NAME EMISS/REC MAX.ISO.GAIN POINTING ACCURACY RADIATION DIAGRAM GAIN DIAGRAM GAIN VS.ORBIT DIAGRAM BEAM NAME(OLD) ANT. TYPE																																	
TA1DR		E	45	0.2		1																											
group id	action	adm resp.	band	date bringing into use		noise temp.	op agcy	pol. type	pol. angle	area diag	validity	class stn	nat srv	fdg reg	date prot	d_rcv first notif.	publication ref no																
117636471		A	50000	02.07.2015			74	M		1	50	EC	CR	A-	18.03.2011	30.10.2015	IFIC2																
<div>Link to GIMS (on local PC)</div>																																	
																	more...											EC	CP				IFIC2
																												EC	CR				IFIC1
																												EC	CP				IFIC1
																												EC	CR				CR/C 2838
																												EC	CP				CR/C 2838
												EC	CR					API/A 6245															

Access Data Services Exploration Online with SNS/SNL Online and ITU Space Explorer

Link to GIMS
(on local PC)

How to explore space data in SNL online?



The screenshot shows the ITU Space Network List (SNL) online page. The browser address bar displays itu.int/en/ITU-R/space/snl/Pages/default.aspx. The page header features the ITU logo with the tagline "Committed to connecting the world" and language options for "Español" and "Français". To the right is the "Sustainable Development Goals" logo. The main title is "Space Network List (SNL)". Below the title is a breadcrumb trail: "YOU ARE HERE HOME > ITU-R > SPACE SERVICES > SNL". On the right side of the breadcrumb trail are social media sharing icons for Facebook, Twitter, LinkedIn, and Email. The left sidebar contains links for "Space Services Department" and "News". The main content area provides a description of the SNL: "The Space Network List (SNL) is a list of basic information concerning planned or existing space stations, earth stations and radio astronomy stations. It includes sections on Advanced Publication Information, coordination requests, notifications, Plans information and their related processing backlog. More information can be found in the [Circular Letter 232](#)."

SNL online

Space Network List

<https://www.itu.int/ITU-R/go/space/snl/en>

- Query all types of publications from past WICs to the latest BR IFICs
- Search all publications of notices for a given network
- Display the results in a list format
- A hyperlink on the BR Notice Id. of a notice is directing the user to SNS online
- The former SNL Part C about the “as received” is now directing to the e-submission website
- SNL Quarterly Publication (pdf) has been stopped since BRIFIC 2891 of 19 March 2019
- Next step: some improvements are planned

SNL online - REFERENCE PUBLICATIONS (Part-B)

Explore all BR publications :
Part I, II, III of BR IFICs or former WICs and
annexed Special Sections


The 1st network **SAT1** was published on
16.02.1965

To be noted that in this version, the pdf files
of the publications of notices are not available



<https://www.itu.int/ITU-R/go/space/snl/en>

Reference publications (Part-B)

- ▶ Query by general publication references
- ▶ Query by Special Section name
- ▶ Query by group of Special Sections
- ▶ Definition of the Special Sections : 

Information "as received" (Part-C)

- ▶ All notices subject to as-received (res55)

SNL online - REFERENCE PUBLICATIONS (Part-B)

Query by:

- ☐ Type of procedure in the Radio Regulations
- ☐ Satellite name (i.e. ITU BR satellite network name) / Earth station name (**None by default**)
- ☐ ADM (Administration notifying the network) / Orbital position
- ☐ Date of receipt (of the notice from the Administration) or IFIC/WIC (date of publication in a BR IFIC)





Type of Procedure :	<input type="checkbox"/> ALL	<input type="checkbox"/> API	<input type="checkbox"/> Coordination	<input type="checkbox"/> Notification	<input type="checkbox"/> RES49	<input type="checkbox"/> AP30&30A	<input type="checkbox"/> AP30B
SNS ID	<input type="text"/>						
Satellite Name (To select from the list or to type)	all <input type="text"/>			Earth Station Name		none <input type="text"/>	
ADM	all <input type="text"/>			Network Org / Area		all <input type="text"/>	
IFIC/WIC Number	<input type="text"/>			Year		<input type="text"/>	
IFIC Date - From	dd/mm/yyyy			To		dd/mm/yyyy	
Date of Rcv - From	dd/mm/yyyy			To		dd/mm/yyyy	
All GSO <input checked="" type="checkbox"/> All N-GSO <input checked="" type="checkbox"/> or Nominal orbital position - in degrees (+) for East or (-) for West:							
From (-180)		<input type="text"/>		To (180)		<input type="text"/>	
<input type="checkbox"/> I want only suppressed networks							
<input type="checkbox"/> Open the results in a new window							
<input type="button" value="Submit"/> <input type="button" value="Reset"/>							

SNL online - REFERENCE PUBLICATIONS (Part-B)

Result of the query:

- ✓ A list of reference of publications corresponding to the criteria of the query (ssn_ref)
- ✓ The list can be exported in text format or Excel format
- ✓ Columns can be ordered
- ✓ Links to SNS online and to the database IFIC.mdb for “Active notices” in SNS
- ✓ Link to old/new related networks (change of satellite name)

Your query : / Type = gso or ngso / Earth station = none / Administration = NOR / IFIC = 2538

[Complete list](#)  - [Explanations](#)  - [Export in txt format](#)  - [Export in Excel format](#) 

Total line = 14/14

ID number (SNS)	adm	ORG or Geo.area	Satellite name	Earth station	long_nom	Date of receipt	ssn_ref	ssn_no	ssn rev/ Sup	ssn rev no	removal	Part/ Art.	WIC/IFIC (ific.mdb)	WIC/IFIC date
up down	up down	up down	up down	up down	up down	up down	up down	up down					up down	
102512026	NOR		BIFROST		-0.8	09.10.2002	PART III-S						2538	22.02.2005
104560008	NOR		BIFROST-6		-0.8	04.08.2004	PART II-S						2538	22.02.2005
104560007	NOR		BIFROST-6		-0.8	04.08.2004	PART II-S						2538	22.02.2005
104560010	NOR		BIFROST-7		-0.8	04.08.2004	PART II-S						2538	22.02.2005

SNL online - INFORMATION “AS RECEIVED” (Part-C)




Provide to users information:

On pending satellite networks received by the Bureau but not yet published in a Special section or PART I-S of a BR IFIC

Updated everyday online

<https://www.itu.int/ITU-R/go/space/snl/en>

Reference publications (Part-B)

- ▶ Query by general publication references
- ▶ Query by Special Section name
- ▶ Query by group of Special Sections
- ▶ Definition of the Special Sections : 

<https://www.itu.int/ITU-R/space/asreceived/Publication/AsReceived>

Information "as received" (Part-C)

- ▶ All notices subject to as-received (res55)



e-Submission of Satellite Network Filings

Information "As Received"

List of satellite notices received (but not yet published) by the Bureau in accordance with Res 55 (Rev. WRC-15).

1. Space station coordination requests, including those request for coordination received between 01.07.2016 and 31.12.2016 for which there are no corresponding APIs.
2. Notification of space station.
3. Submissions received under § 4.1.3 or § 4.2.6 of Article 4 of Appendices 30 and 30A.
4. Submissions received under Article 2A of Appendices 30 and 30A.
5. Submissions received under § 6.1 and § 7.2 of Appendix 30B.

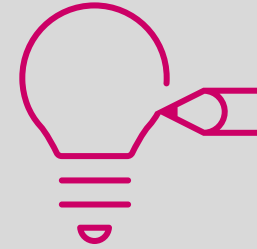
In addition, the information "as-received" for API, Notification of Earth Station, Radio Astronomy Stations, resubmissions under RR 11.46, Resolution 49 and comments for API are also made available in this list.

The "as received" information has no regulatory status and therefore is not recommended for examination purposes.

Publications list

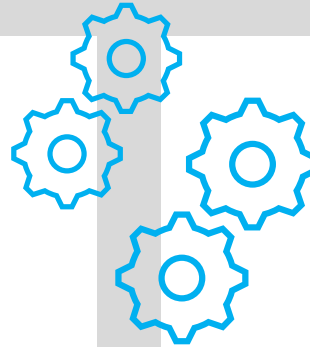
NTC ID	Adm.	Network Org.	Station/Satellite Name	Long. Nom.	▼ BR Registry Date	Type of submission	Reg	Act. Code
120545214	F		BRONET_X		28.08.2020	Advance publication information		A

BR TOOLS EVOLUTION



From exploration of space data

with the SNS online and
SNL online

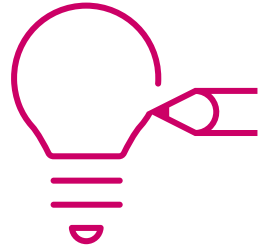


To the introduction of
the **new BR project:**

ITU Space Explorer

NEW BR Project

ITU Space Explorer



- **Integrated exploration:** a new user experience of BR Space Data
- **Data visualization** with the dashboard approach: a quick analysis to extract information from data
- **Continuity of use:** key functionalities are maintained and new ones added
- **Personal space available:** save explorations on demand and reuse them



🏠 | Networks Explorer

The ITU Space Explorer gives you access to the Space Networks Systems Database of the Radiocommunication Bureau of the ITU. The database contains Appendix 4 data of geostationary satellite filings, non-geostationary satellite filings and earth station filings

Explore by

Space Networks System

Space Networks Publication

Notifying Administration ▼

Networking Organization ▼

Satellite Network Name ▼



Search Satellite
Stations



Search
Non-Plan Only



Search
Plan Only



Search Earth
Stations



Search Radio
Astronomy



Search Latest
BR IFIC

Proceed with SNS Notice ID

SNS Notice ID

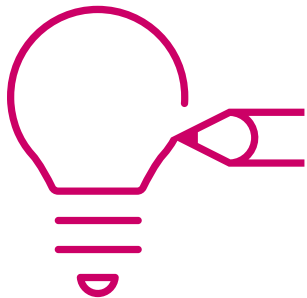
GO

Follow ITU



NEW BR Project ITU Space Explorer

Results of query
with samples of
filters



BR Space Data Service

ITU | Space Explorer

Networks Explorer | List View

Identity

Explore Space Networks by

Space Networks System

Space Networks Publication

Notifying Administration

Network Organization

Satellite Network Name

Type of Satellite Network

☐ Geostationary 2'168

☐ Non-Geostationary 71

Frequency Characteristic

Frequency Band (MHz)

Adjust Min/Max frequencies (MHz)

From 0 To 1000

Regulatory Process

☐ Master Registry Only

Non-Plan services (Art. 9 & 11)

☐ Advance Publication 4'865

☐ Coordination 11'055

☐ Coordination (ES) 2'300

☐ Notification 2'595

BSS Plan bands (Appendices 30 & 30A)

☐ Downlink Regions 1 and 3 (App. 30)

☐ Feeder link Region 2 (App. 30A)

☐ Overall link Region 2 (App. 30/30A)

☐ Plan BSS 30'512

☐ Pending (Art. 4) 2'802

☐ List (Art. 4) 28'068

☐ SDF (Art. 2A) 26'763

☐ Notification (Art. 5) 2'245

PSS Plan bands (App. 30B)

☐ Plan PSS 27'053

☐ Pending (Art. 4) 2'599

☐ List (Art. 6) 2'344

☐ Notification (Art. 8) 2'595

Regulatory Dates

BR notice date of receipt

From To

And date of protection of the network

From To

And date of bringing into use

From To

And date limit of bringing into use

From To

Earth Stations

Coming soon...

Radio Astronomy

Coming soon...

Results: 2'220

Rows per page: 100

Follow ITU | Facebook | Twitter | YouTube

Contact Privacy Report bug Send feedback

Type of Satellite Network

☒ Geostationary

GSO Orbital Arc (degrees)

From -180 To 180

☒ Non-Geostationary

Number of orbital planes

From 0 To 10

Altitude (Km)

From 0 To 20'000

Frequency Characteristic

Frequency Band (MHz)

Adjust Min/Max frequencies (MHz)

From 0 To 1000

Regulatory Dates

BR notice date of receipt

From To

And date of protection of the network

From To

And date of bringing into use

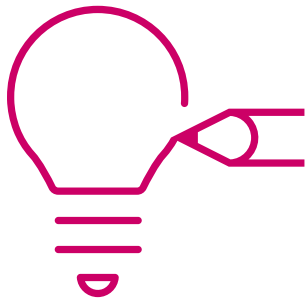
From To

And date limit of bringing into use

From To

NEW BR Project ITU Space Explorer

A sample of a
Satellite Network
view in Dashboard
format



BR Space Data Services Exploration Online

Space Explorer

[Home](#) | [Networks Explorer](#) | [Non-Plan only](#) | SAT-1234

Identity

SAT-1234

ADM

GSO -45.2

Regulatory Status Tracking

11.06.2019	API
27.03.2020	Coordination

Publications in BR IFIC Space

Related Notices Information

API (0) Coordination (14) Notification (0)

	NoticeID	BR Registry Date
1.	120581016	30.10.2020
2.	120545260	02.11.2020
3.	120545259	28.10.2020
4.	120520203	29.10.2020
5.	120520197	26.10.2020
6.	120505204	27.10.2020
7.	120505198	27.10.2020
8.	120500233	01.11.2020
9.	120500225	26.10.2020
10.	119520129	10.05.2019
11.	119500050	13.02.2019
12.	118500180	12.09.2018
13.	117520265	11.07.2017
14.	114559047	09.10.2020

Characteristics - Vertical

Beams downlink 75

Beams uplink 75

Groups of assignments

1'000

Characteristics - Horizontal

Frequency

12 000 - 40 000 MHz

Antenna types

70

Services

- ☒ MSS
- ☒ BSS
- ☒ FSS

Coordination Requirements & Examination Results

Affected Administrations

47

Examination results

0

(Unfavorable findings)

Due Diligence

Follow ITU

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My Space Exploration sample to save and use my queries on demand

Search

Favorite Queries 10

Saved Queries 26

Favorite Queries - 1

Favorite Queries - 1

Edit title

Delete

Favorite Queries - 1

Favorite Queries - 1

Favorite Queries - 1

Favorite Queries - 1

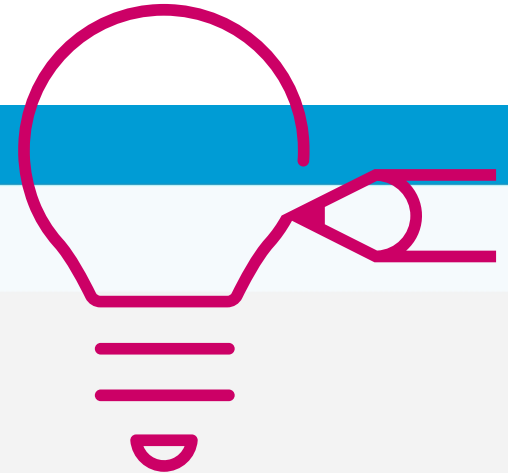
Favorite Queries - 1

Favorite Queries - 1

Favorite Queries - 1

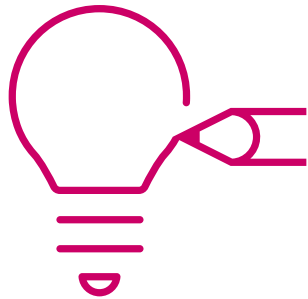
Favorite Queries - 1

Follow ITU



NEW BR Project

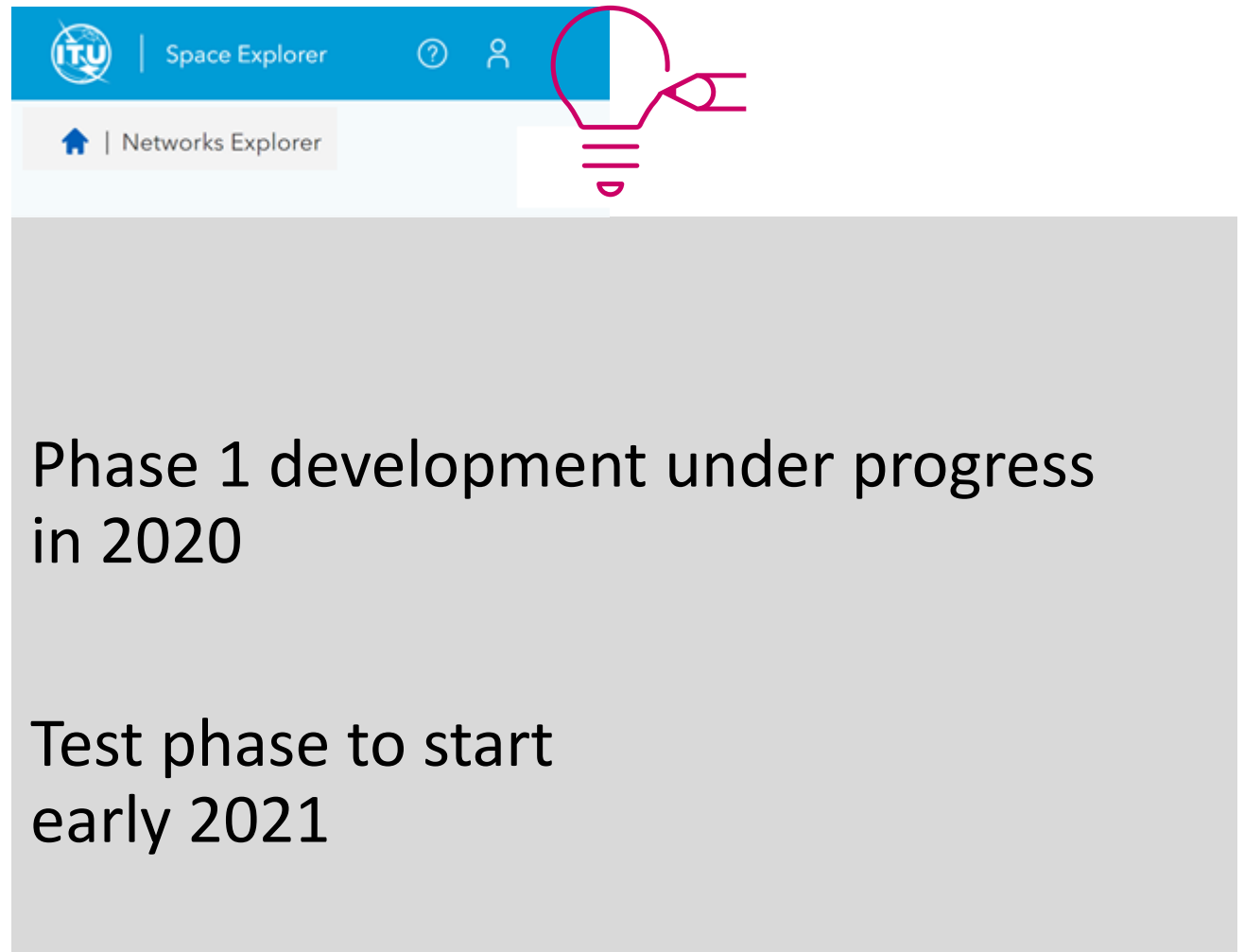
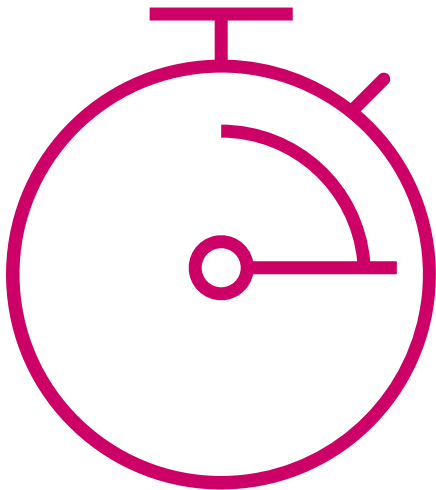
ITU Space Explorer



- Special Explorer will host ad hoc queries/explorations
- Temporary Explorer will host special exploration required for a limited time

NEW BR Project

ITU Space Explorer



Phase 1 development under progress
in 2020

Test phase to start
early 2021



29TH WORLD RADIOCOMMUNICATION SEMINAR
30 November – 11 December 2020

ITU – Radiocommunication Bureau
Questions to brmail@itu.int

Presenter contact veronique.glaude@itu.int

www.itu.int/go/wrs-20

#ITUWRS

