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

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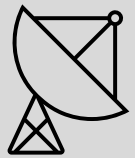
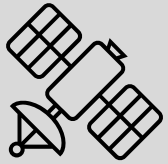
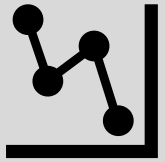
BR Space Services Data Exploration

- Exploration of the use of the frequency spectrum and occupancy of the orbits

- Extraction of space data notices for ad hoc analysis



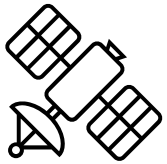
- Follow-up of the evolution of the Master Register, BR publications, Regulatory Status of filings

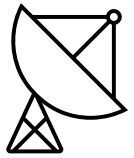
What are the space data to explore?

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

Radiocommunication

Space Network Systems Online

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

SNL online

Committed to connecting the world

Español Français

Space Network List (SNL)

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

The right access to explore data

Radiocommunication
Space Network Systems Online

SNS online

Available with a TIES account or with a yearly subscription

Committed to connecting the world
Español Français
Space Network List (SNL)

SNL online

Available to all for free

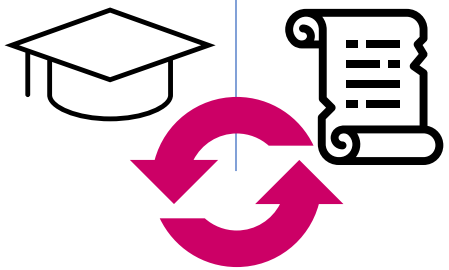
The data and update

Radiocommunication
Space Network Systems Online

SNS online

“Active Notices” in SNS

All regulatory
and technical data
with latest status



Committed to connecting the world
Español Français
Space Network List (SNL)

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?

Radiocommunication
Space Network Systems 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)

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 usersubscribe 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

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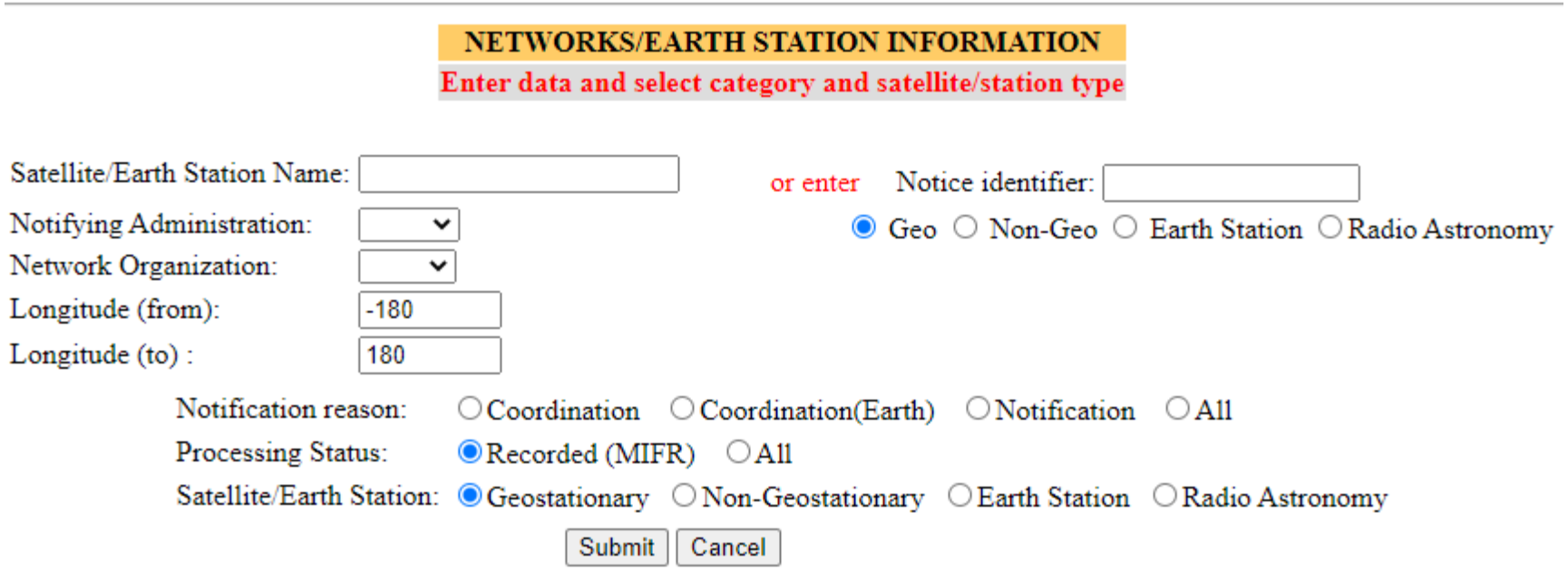
SNS online

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)



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)**

SATELLITE NAME	CATEGORY	ADM	NTWK ORG	LONGITUDE	DATE OF PROTECTION	STATUS	IFIC
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 LONGITUDE	TOLERANCE EAST	TOLERANCE WEST	INCLINATION EXCURSION	ACTIVE STATION
-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: DOWNLOAD | TSUM | 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

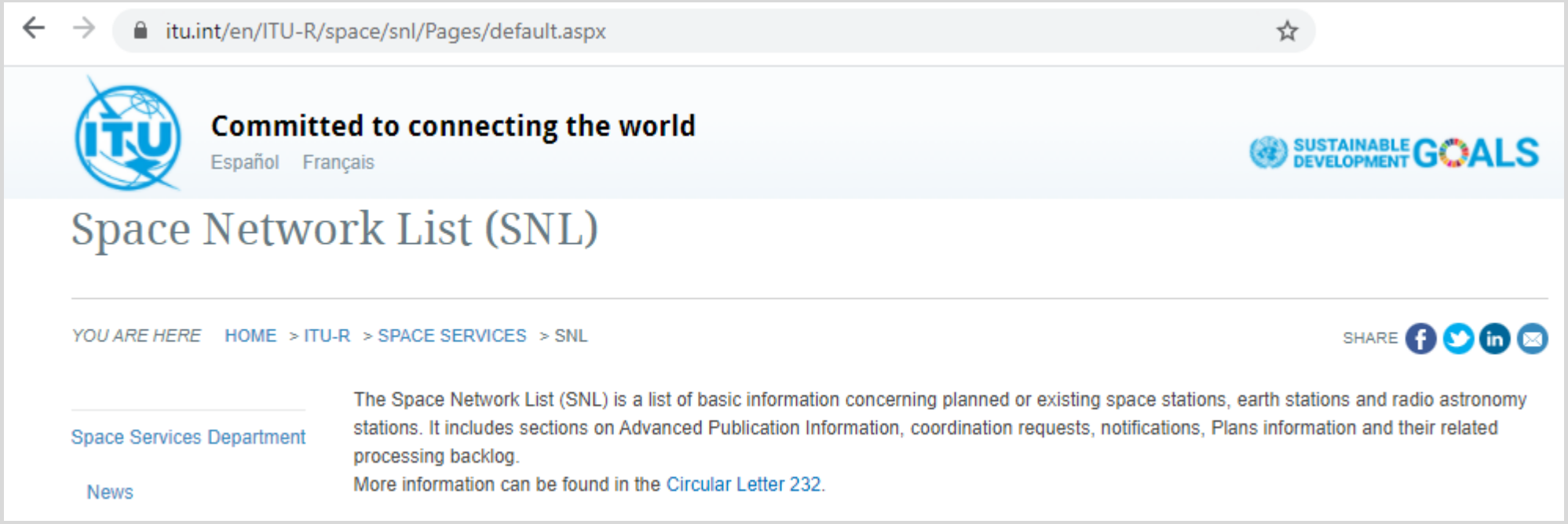
ACTION	BEAM NAME	EMISS/REC	MAX.ISO.GAIN	POINTING ACCURACY	RADIATION DIAGRAM	GAIN DIAGRAM	GAIN VS.ORBIT DIAGRAM	BEAM NAME(OLD)	ANT. TYPE
	TA1DR	E	45	0.2		1			

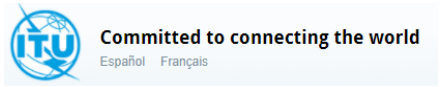
Details of the Group of assignments

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	
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

Link to GIMS (on local PC)

How to explore space data in SNL online?





Space Network List (SNL)

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)

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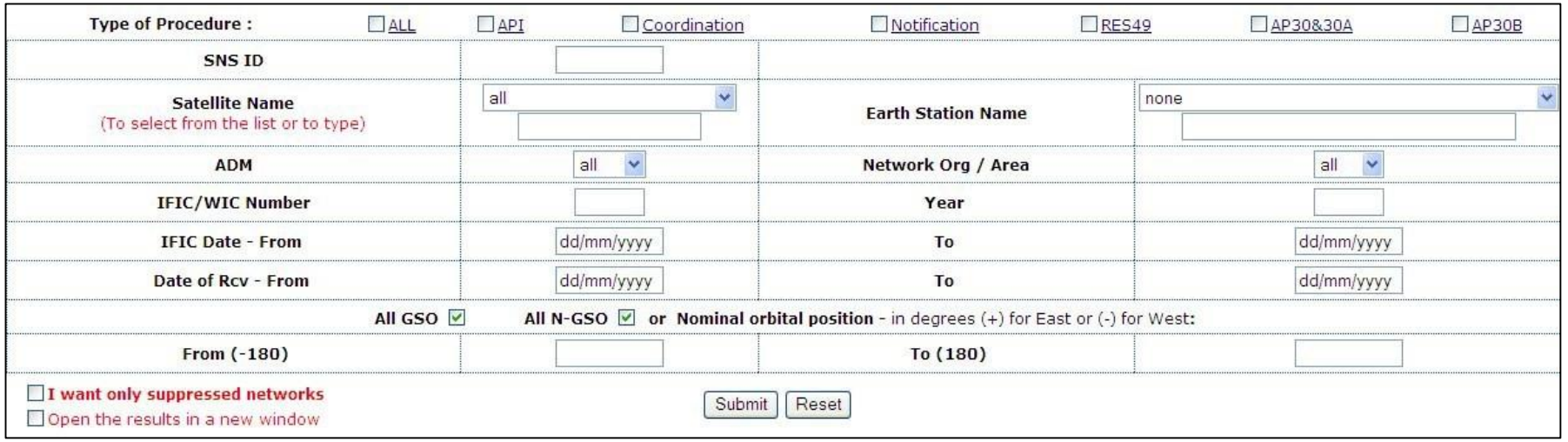
SNL online - REFERENCE PUBLICATIONS (Part-B)

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)



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)

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

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**.

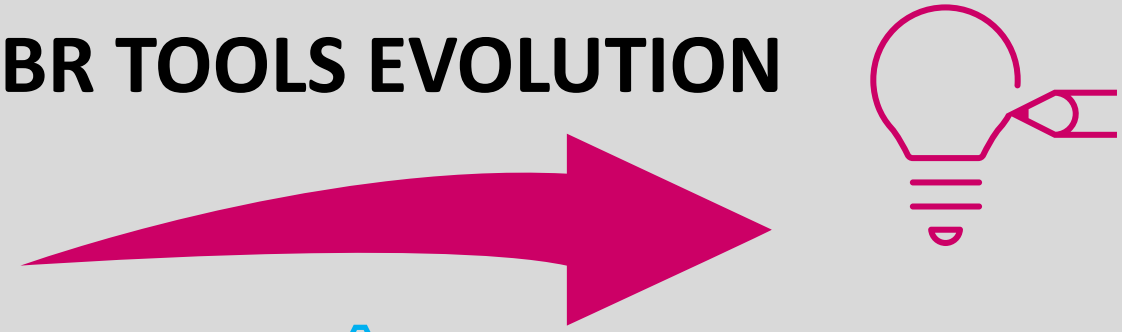
In addition, the information "as-received" for API, Notification of Earth Station, Radio Astronomy Stations, resubmissions under RR 11.46, Resolution 49 and comments for API are also made available in this list.

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

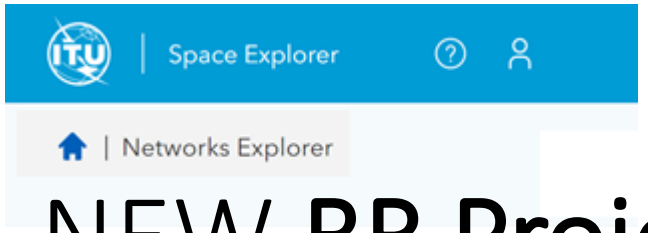


From exploration of space data

with the SNS online and
SNL online

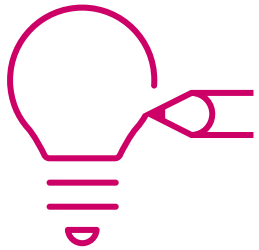
To the introduction of the **new BR project**:

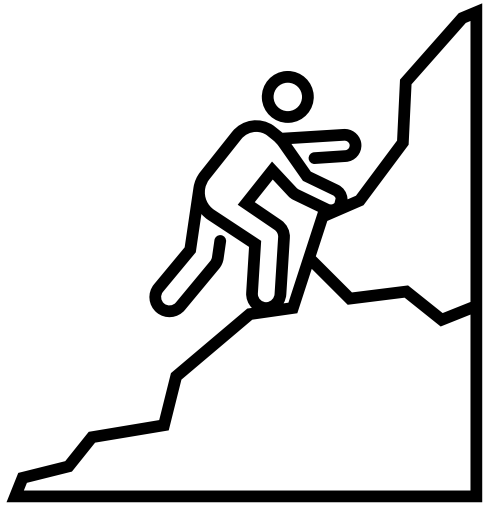
ITU Space Explorer



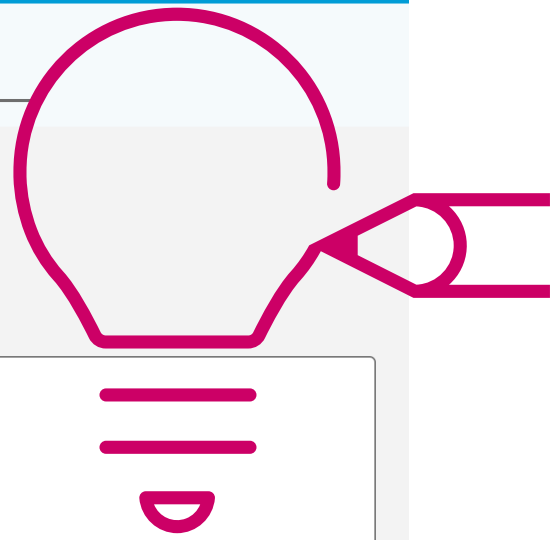
NEW BR Project

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

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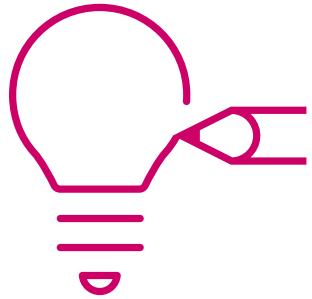
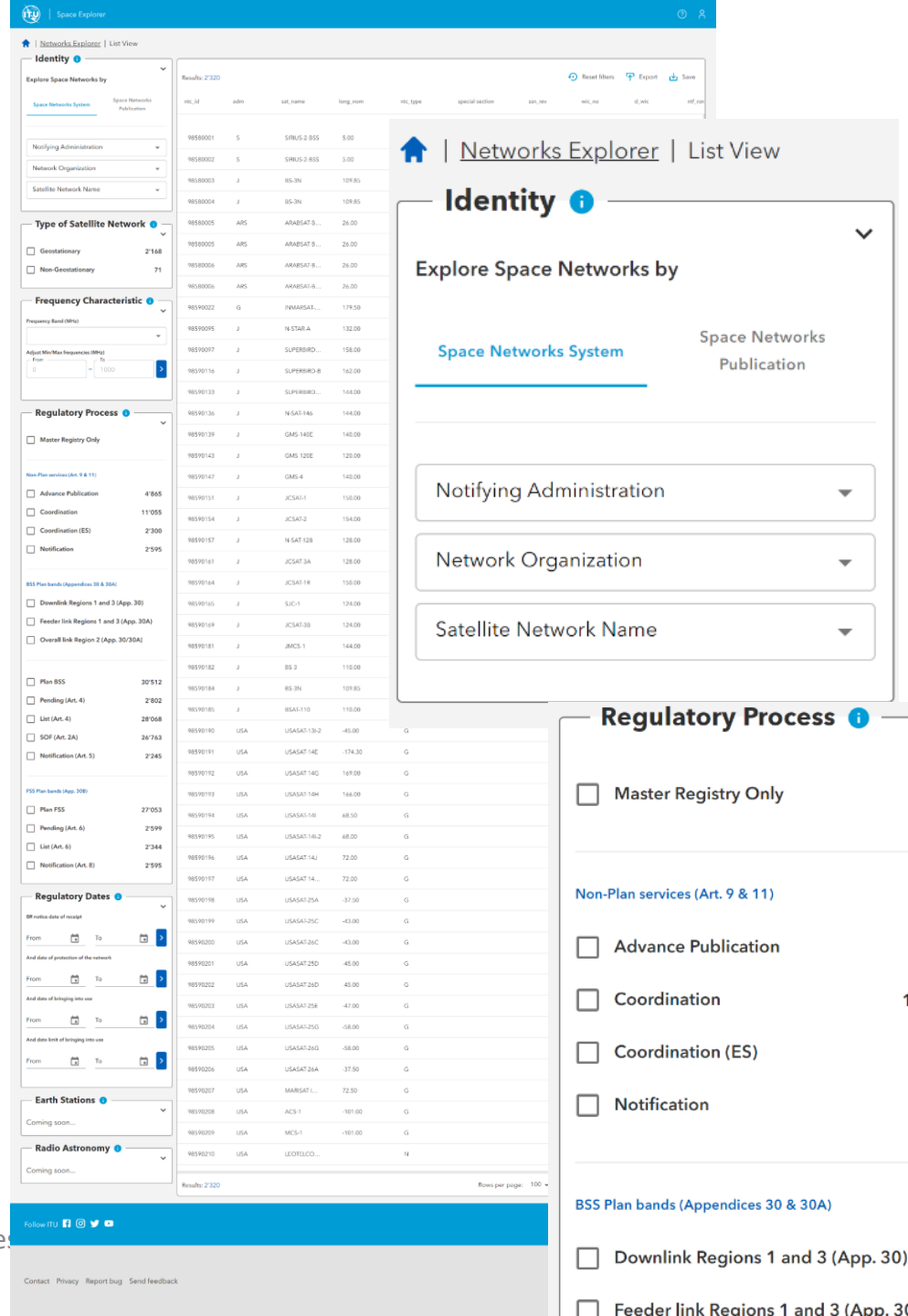
Notification

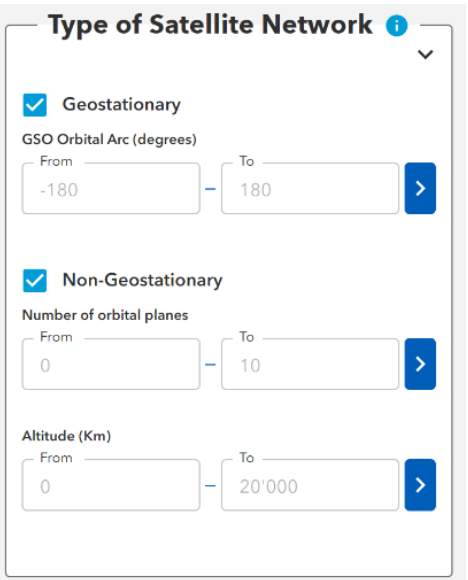
NEW BR Project

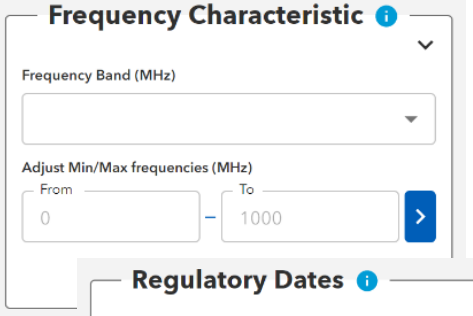
ITU Space Explorer

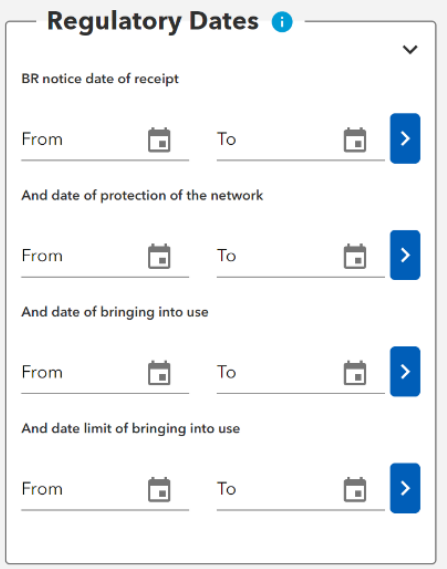
Results of query with samples of filters







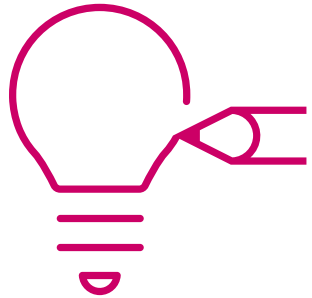


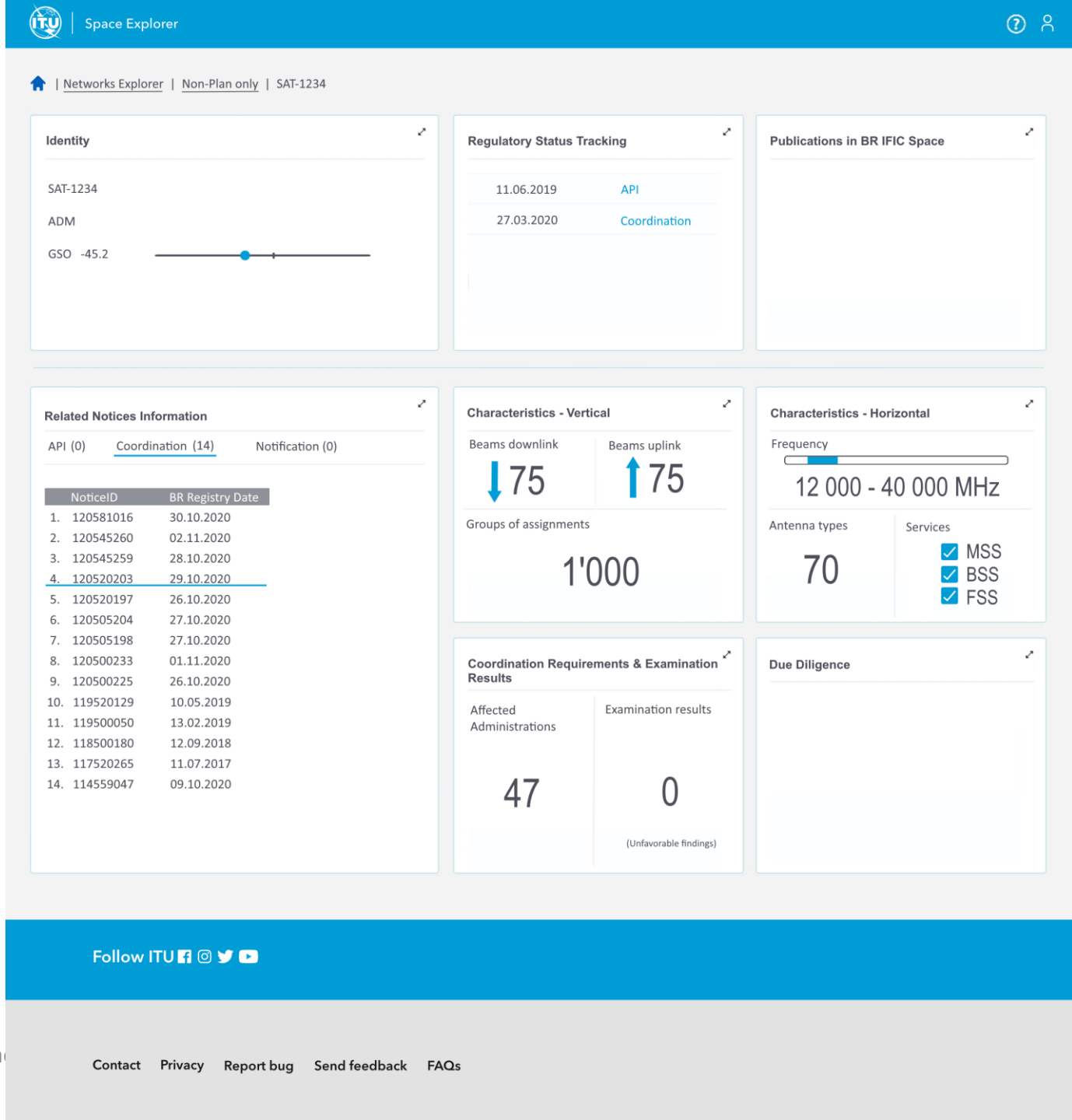


NEW **BR Project**

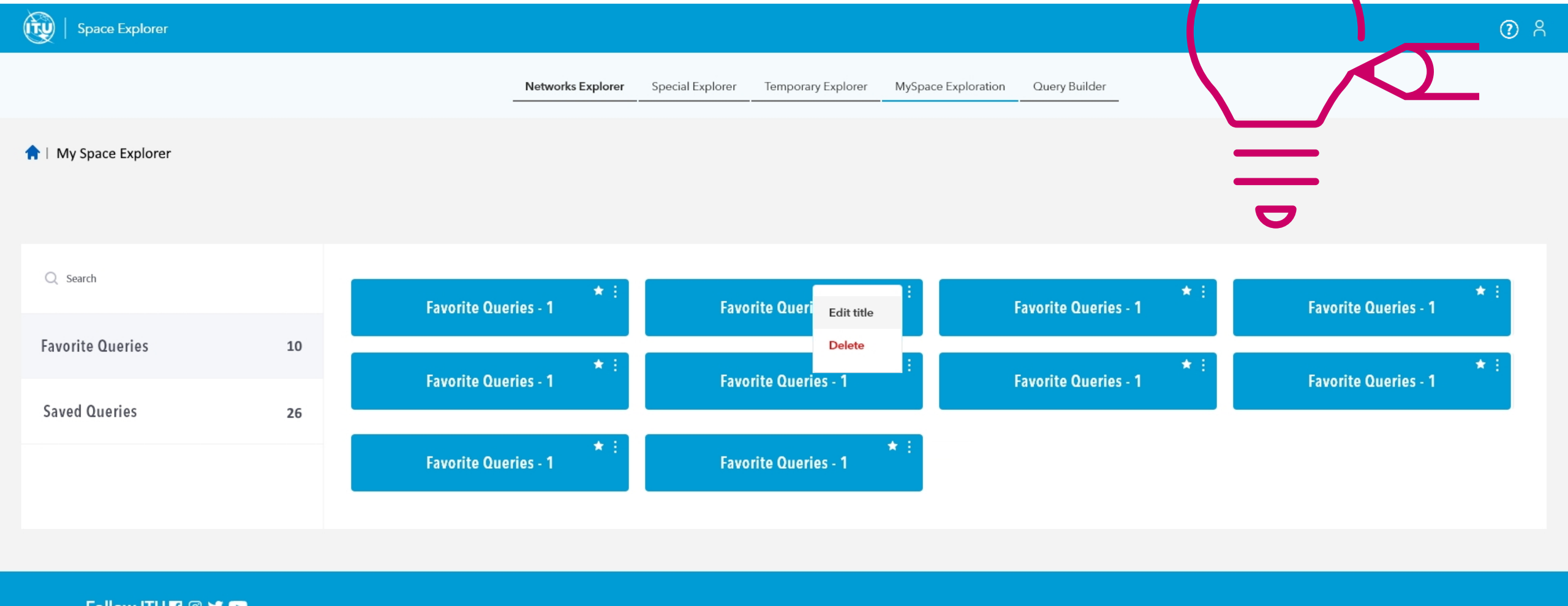
ITU Space Explorer

A sample of a Satellite Network view in Dashboard format



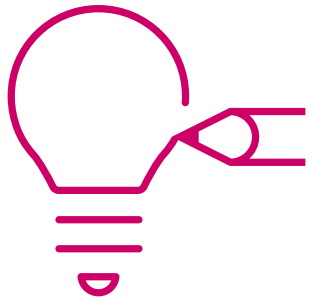


My Space Exploration sample to save and use my queries on demand



NEW BR Project

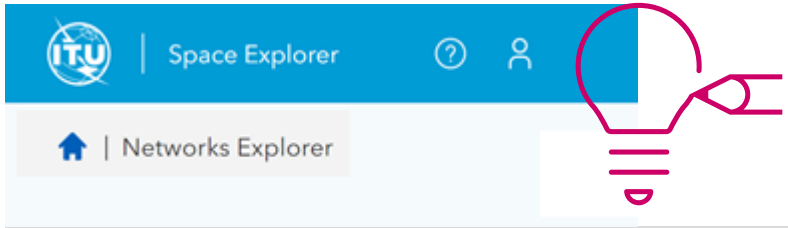
ITU Space Explorer



- 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

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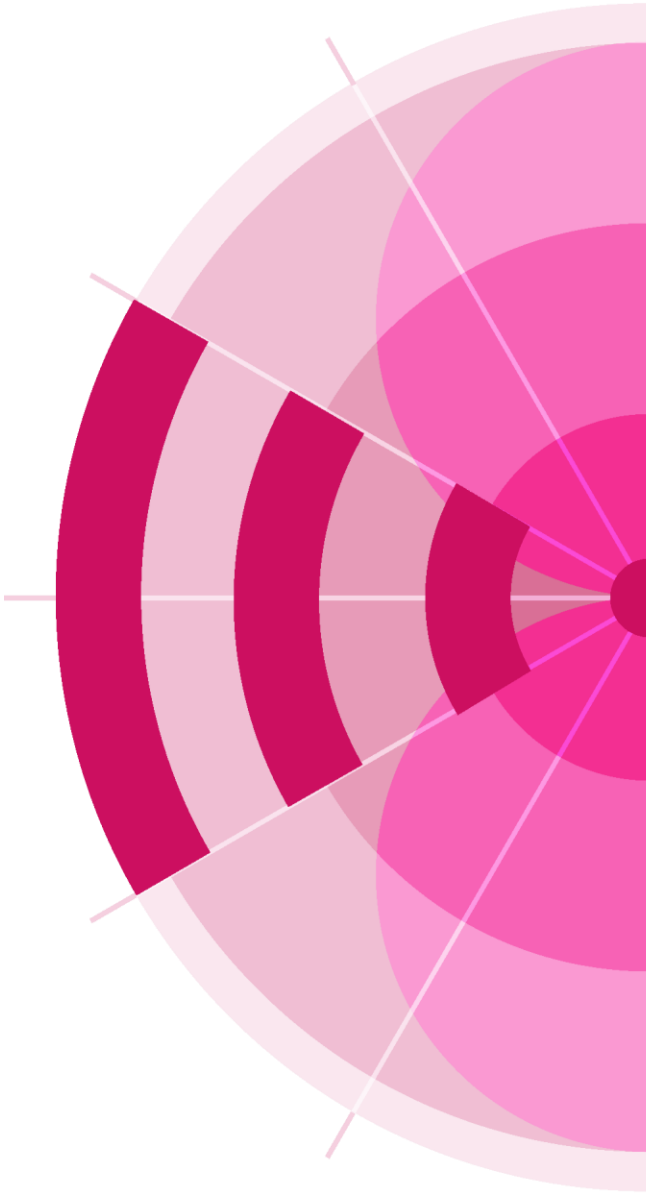
29TH WORLD RADIOCOMMUNICATION SEMINAR

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