India's Space Policy Framework and Recent Reforms

IAFI Space Policy Conference 2025 (ISPC-25)

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Change in landscape of Indian Space Sector

IN-SPACe Roles

Promote

- Price support & funding
- International, Industry and Academia Outreach
- Strategy for Indian space sector growth

Enable

- Access to ISRO facilities & Technology
- Access to Funding
- Mfr. Clusters, Technical Centre
- Incubation Centre

Authorize

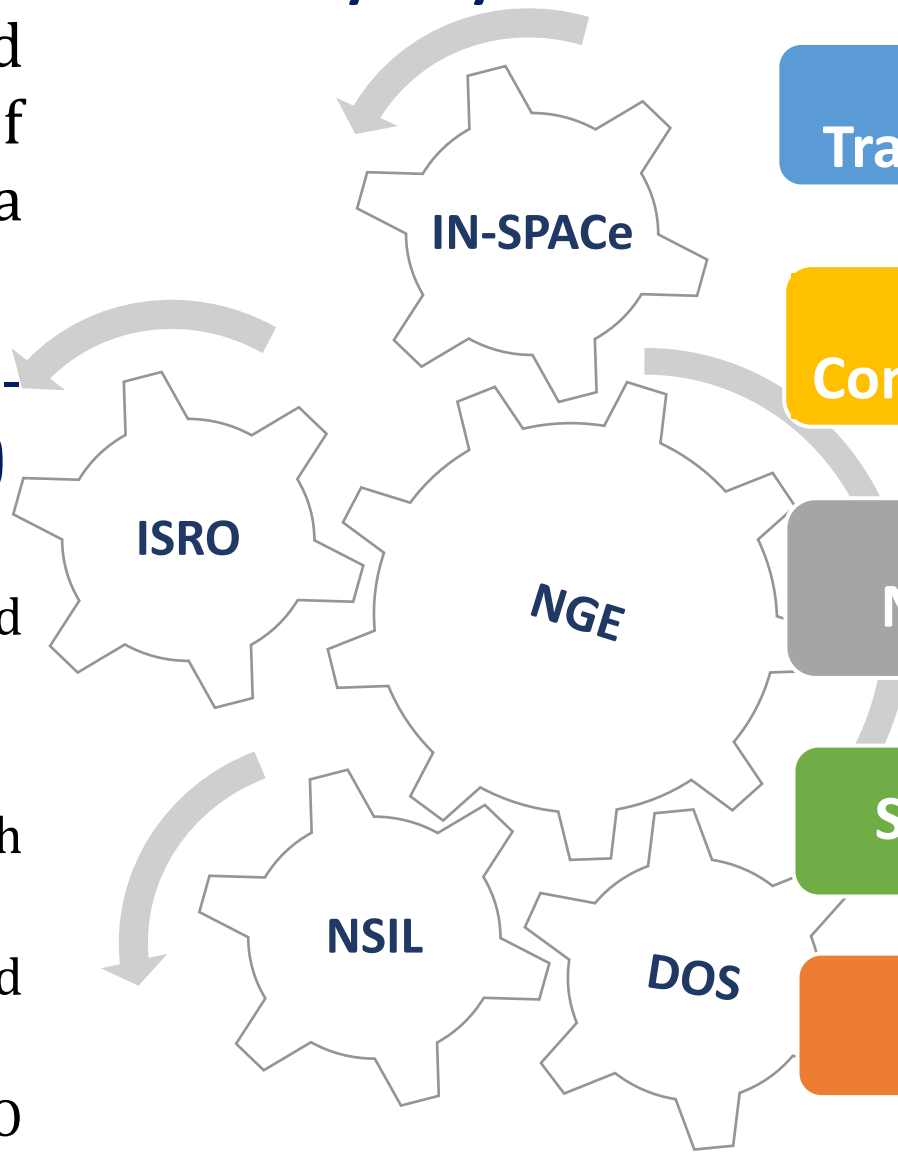
- Authorize all space activities
- Act as a single window agency

Supervise

- Oversee space activities by NGEs
- Space Industry standards and best practices
- Monitoring of the authorized activities

Indian Space Policy – ISP 2023

- Announced on 6th April'23
- An overarching, integrated version capturing each of the space activities, in a holistic manner
- No restriction for Non-Government Entities (NGEs)
  - Building rockets & satellites
  - Launching, owning and operating space assets
  - Delivering commercial services
  - Establish & operate launch infrastructure
  - EO data acquisition and dissemination
  - Create infrastructure in ISRO premises



Activities

- Space Transportation
- Space Exploration
- Satellite Communication
- Remote Sensing
- Satellite Navigation
- Technology Transfer
- Space Situational Awareness
- Human-in-Space

IN-SPACe Initiatives

- Enabling NGE's access to orbital resources
  - Awarded one ISRO ITU Filing to M/s ATL enabling them to bring up a Ka band HTS satellite.
  - NGEs making their own ITU Filings
- Priority to non-Indian satellites willing to operate under Indian ITU Filing

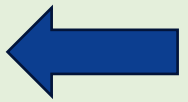
(process initiated by one non-Indian Satellite operator)

- Global operators in active discussions with Indian vendors for realization of their future space assets .
- SATCOM Demand capacity projection for the next five years
- Space Application Adoption Workshops
- NGP for implementation of ISP-2023 in respect of authorization of Space Activities

Projected SATCOM Capacity Demand: Trends

- TV channels stagnant for past 4-5 years and new content is occupying OTT platforms.
- IMT services like 5G, 6G etc. are occupying chunks of C band spectrum.
- DTH subscriber base declining, users opting for OTT or FreeDish.
- MI&B plans to make India an Up-linking hub.
- Ku band broadcasting an alternative to C band broadcasting – Global trend.
- Market of ~90 million TV Dark homes untapped - may opt for DTH.
- Conversion of SD to HD and picking up of 4K channels.
- A new Free-to-Air-DTH operator may hit the market.

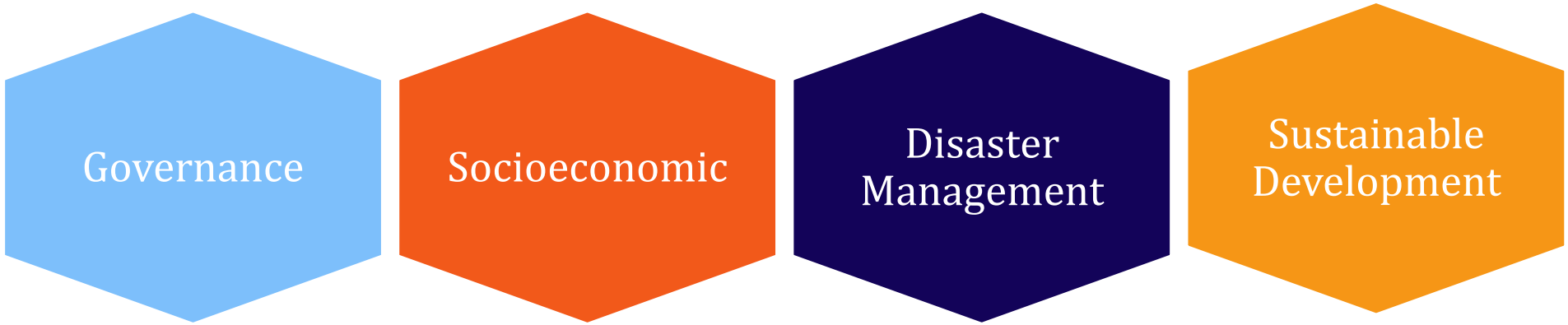
- Use of HTS/NGSO capacity for VSAT services (phasing out bent-pipe), thus satellite bandwidth cost is expected to reduce and spur the growth.
- Additional USOF sites will require satellite connectivity, with minimum 20 Mbps (DL)/ 10 Mbps (UL) speed and a contention ratio of 1:10 (also existing sites may require upgrade)
- Stakeholders' inputs vary owing to different perspectives in achieving affordable SATCOM capacity price points.
- Emerging applications like backhaul connectivity through satellites to data centers as backup, 4G saturation, IFMC, Border-in/Border-out,
- Start of Consumer Broadband in India: Major demand driver (in TBs)

Summary of additional projected capacity demand for next 5 years as assessed by the Task Team					
Sl. No	**SATCOM Services**	**Projected Additional Capacity Demand**	**Type of satellite/s to meet this demand**	**Projected demand expected to be met by:**	
				Indian satellites	**non-Indian satellites**
1	C band Channel Broadcasting – Commercial Teleport	12-14 transponders	Bent Pipe C band Txp.	X	✔
2	C band Channel Broadcasting – HITS	24 transponders	Bent Pipe C band Txp.	X	✔
3	Ku band - Channel Broadcasting- Commercial Teleport	3-4 transponders	Bent Pipe Ku band Txp.	✔	✔
4	Ku band – DTH	24-28 transponders	Bent Pipe Ku band Txp.	✔	✔
5	Ku/Ka band - Commercial VSAT/ Enterprise Broadband	80 Gbps	-Bent pipe Ku band Txp. -HTS/UHTS/VHTS	✔	✔
6	Ku/Ka band - Cellular Backhaul, Trunking, Data Backhaul and Village Connectivity	800 Gbps	-HTS/UHTS/VHTS -NGSO	✔	✔
7	Ku/Ka band - IFMC, Land Mobility and IoT	25-40 Gbps	-HTS/UHTS/VHTS -NGSO	✔	✔
8	Ku/Ka band - Consumer Broadband	1.5-2 Tbps	-NGSO	X	✔
Total Demand projection if Consumer Broadband picks up		**~38 C band Txp. + 27-32 Ku band Txp. + ~2.92 Tbps**			
Total Demand projection if Consumer Broadband DOESN'T pick up		**~38 C band Txp. + 27-32 Ku band Txp. + ~920 Gbps**			

IN-SPACe Initiatives

Space Application Adoption Workshop

- Demonstrate space data solutions
- Demonstrate Space-Tech applications & NGE capabilities across agriculture, disaster management, urban development, forestry, border management and other relevant areas.
- Mapping of NGEs for probable solutions to identified problem statements.



MapmyIndia pixxel GALAXEYE SUHORA space analytics simplified Vassar LABS

AGROCAST ANALYTICS NaviTro Consultancy and Services DHRUVA SPACE Vasundhara unveil.impact IGIS Your Geospatial Partner ELENA BHOOMICAM

Norms, Guidelines and Procedures for Implementation of Indian Space Policy-2023 in respect of Authorization of Space Activities (NGP)

Indian National Space Promotion and Authorization Centre
Department of Space
Government of India

May 2024

IN:ISP2023:NGP2024/V1.0

- Draws its executive power from the gazette notification issued by DoS dt. October 02, 2021
- List of Space Activities needing Authorization
- Criteria for granting Authorization
- Process of granting Authorization
- Conditions/guidelines to be adhered to by an Applicant
- Template application forms and Authorization Certificate

NGP at a glance

Authorization Process

- Online application on IDP
- Preliminary assessment (credentials & capability of Applicant)
- Acknowledgment to Applicant on acceptance of application
- Scrutiny of Application
  Issuing of Advisory note, if any
- Issuing Authorization /rejection

Authorization criteria

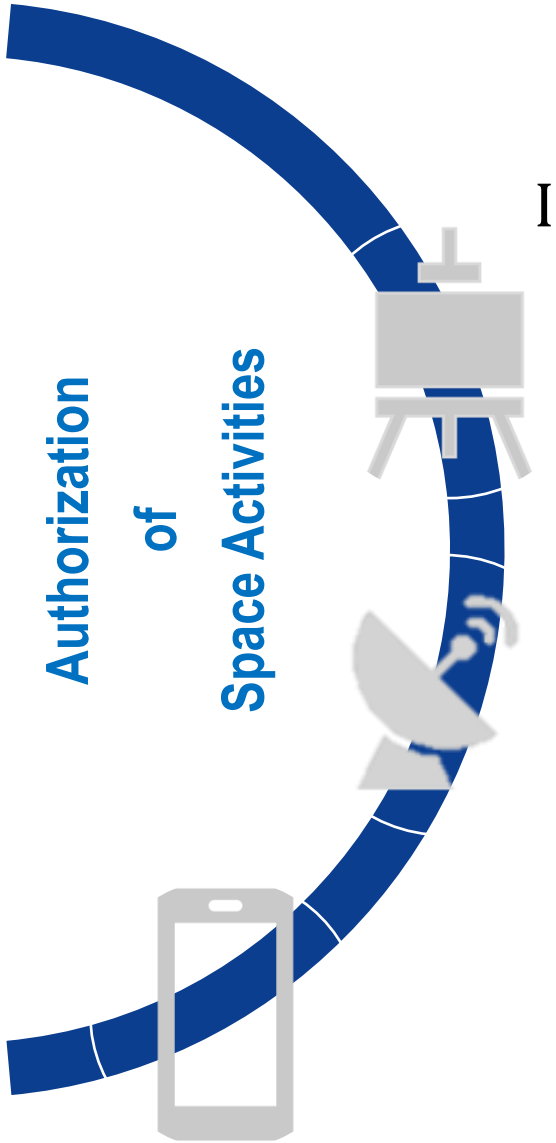
- Applicant's credentials, management & control, foreign shareholding
- Safety & national security
- Geopolitical considerations
- Compliance to national & international spectrum guidelines, including RF interference
- Third party liability
- Safe & Sustainable operations in Space
- Export & import regulations

Timeline

Review within IN-SPACe (Type-1)	Review on security & geo-political considerations (Type-2)	Inter-departmental review (Type-3)
T_0 + 75 days (Max)	T_0 + 90 days (Max)	T_0 +120 days (Max)

T_0 – Receipt of complete information

AUTHORIZATION NGP (SATCOM)



I. Establishment and/or operation of **Indian** satellite/constellation for communication services in GSO and/or NGSO using

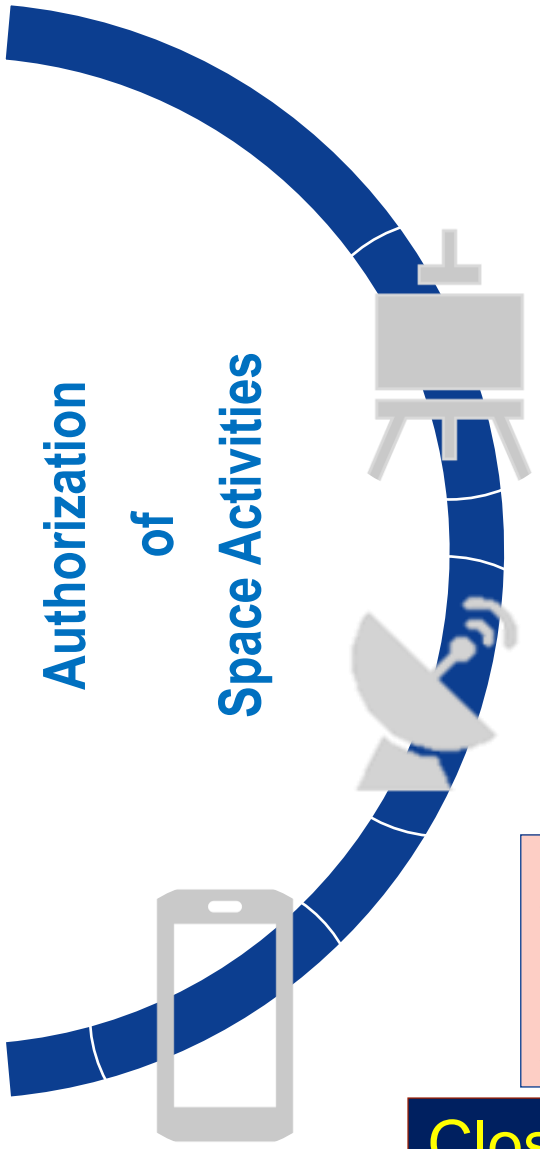
(a) Indian Orbital Resources (b) Non-Indian Orbital Resources;

II. Authorization of **non-Indian GSO/NGSO satellite/constellation** to enable provisioning of its capacity in India for comm services;

- Existing lease agreement involving NSIL/Antrix (DoS) or direct lease of the C-Band capacity of the Non-Indian Satellite permitted/valid only till **September 30, 2025**.

- Provisioning of capacity from authorized satellites: *contracts signed between the service providers/users and the authorized signatory of the concerned satellite(s) operator/owner valid till **March 31 2026,** or till the new contracts are signed by the Indian entity authorized by IN-SPACe*

AUTHORIZATION NGP (SATCOM)



- Protection from interference of the existing services of Indian and non-Indian satellites by the new entrant.
- New entrant & Authorized satellite operators to collaborate, negotiate & enter into freq coordination/coexistence arrangements in good faith ensuring operations over India are without harmful interference.
- In-orbit procurement/acquisition of a satellite/constellation is permitted with prior IN-SPACe authorization.
- Capacity can be further provisioned through lease/sub-lease/sale/resale
- Priority to non-Indian satellites willing to operate under Indian ITU Filing

Access to the available un-utilized/under-process Indian ITU Filings or coordinated/ allotted orbit resource to NGEs through Announcement of Opportunity.

Close coordination with WPC/DoT during entire process of authorization

Thank you

For more information on IN-SPACe, connect with us at https://www.inspace.gov.in

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Access of Indian Orbital Resources to NGEs

Available resources through Announcement of Opportunity

- ✓ Mechanism, T&C as per the NGP
  - ➢ Only Entities with **Indian Management & Control** eligible
  - ➢ AO to have pre-defined selection criteria and pre-defined method to apply these criteria
  - ➢ Beneficiary free to relinquish/surrender or seek suspension with prior IN-SPACe approval: no transfer/sublet permitted
  - ➢ Beneficiary enjoys "rights of use" as long as it operates a satellite
- ✓ First AO for unutilized ITU filing(s) completed: one ITU filing for communication satellite identified on **'as is where is'** basis, *(Awarded to M/s ATL)*.
- ✓ Close coordination with WPC and ISRO (for Filings made by them)

Access of Indian Orbital Resources to NGEs

Making New Indian ITU Filing for operating Indian/Non-Indian satellite

- ✓ Application to IN-SPACe on IDP
- ✓ Advisory Note by IN-SPACe after requisite due diligence and evaluation
- ✓ Applicant applies to WPC with Advisory Note
- ✓ DoT OM *"Guidelines and Procedures for Submission of Satellite Network Filings to International Telecommunication Union (ITU) by Indian Entities"*
- ✓ Applicant enjoys 'rights of use' as long as it continues to operate a satellite (after MIFR Registration)
- ✓ With prior approval of IN-SPACe, Applicant is permitted to
  - ➢ seek suspension of the satellite network assignment
  - ➢ relinquish/surrender or transfer/sublet the ITU Filing

TRAI Recommendations post Telecommunication Act-2023

TRAI Recommendations on The Terms and Conditions of Network Authorizations to be Granted Under the Telecommunications Act, 2023

recommends that –

(a) The establishment, operation, maintenance, and expansion of the following categories of ground stations (as envisaged in the Norms, Guidelines and Procedures for Implementation of Indian Space Policy-2023 in respect of the Authorization of Space Activities (NGP) issued by IN-SPACe in May 2024) should be authorisation-exempt in the public interest in terms of Section 3(3) of the Telecommunications Act, 2023:

(i) Satellite Control Centre (SCC);

(ii) Telemetry, Tracking and Command (TT&C);

(iii) Mission Control Centre (MCC);

(iv) Remote Sensing Data Reception Station;

(v) Ground Station for supporting operation of the space-based services such as Space Situational Awareness (SSA), Astronomical, space science or navigation missions etc.

***Recommendations Release Date**:*
17/02/2025

TRAI Recommendations post Telecommunication Act-2023

Terms and Conditions for the Assignment of Spectrum for Certain Satellite-Based Commercial Communication Services

..... Considering the above aspects, the Authority is of the view that, at this stage, a shorter validity period of up to five years should be considered for spectrum assignment to an Entity holding relevant Service Authorisation granted by the DoT and also having requisite Authorization from IN-SPACe. However, after evaluating the market conditions prevalent at the end of five years, the Government may consider extending it for a further period of up to two years.

.....

In view of the above, **the Authority recommends that –**

(a) Frequency spectrum should be assigned for NGSO-based FSS and GSO/ NGSO-based MSS for a period of up to five years. However, considering the market conditions, the Government may extend it for a further period of up to two years.

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***Recommendations Release Date**: 09/05/2025*