

स्मॉल- ISRO official

Indian Space Policy - 2023

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1. Preamble

The Government of India unleashed reforms in space domain in 2020, opening the doors for enhanced participation of NGEs in carrying out end-to-end activities in the space domain and with an aim to provide them a level playing field.

Subsequent to these reforms, the Government seeks to provide regulatory certainty to space activities by various stakeholders, in order to create a thriving space ecosystem.

The Indian Space Policy – 2023 has thus been formulated as an overarching, composite and dynamic framework to implement the reform vision approved by Cabinet.

2. Vision

To augment space capabilities; enable, encourage and develop a flourishing commercial presence in space; use space as a driver of technology development and derived benefits in allied areas; pursue international relations, and create an ecosystem for effective implementation of space applications among all stakeholders;

for,

the nation's socio-economic development and security, protection of environment and lives, pursuing peaceful exploration of outer space, stimulation of public awareness and scientific quest.

3. Strategy

In pursuance of the vision set out for the space sector, Government seeks to pursue a holistic approach by encouraging and promoting greater private sector participation in the entire value chain of the Space Economy, including in the creation of space and ground based assets.

Thus, Indian consumers of space technology or services (such as communication, remote-sensing, data-services, launch-services, etc), whether from public or private sectors, shall be free to directly procure them from any source, whether private or public.

Towards this end, the Government shall focus on:

- i. Encouraging advanced Research & Development in space sector to sustain and augment the space program.
- ii. Providing public goods and services using space technology for national priorities.
- iii. Creating a stable and predictable regulatory framework to provide a level playing field to Non-Government Entities in the Space sector through IN-SPACE.

- iv. Promoting space-related education and innovation, including support to space-sector start-ups.
- v. Using space as a driver for overall technology development, nurture scientific temperament in the society, and increase awareness on space activities.

4. Non-Governmental Entities.

NGEs shall be allowed to undertake end-to-end activities in space sector through establishment and operation of space objects, ground-based assets and related services, such as communication, remote sensing, navigation, etc. This would be subject to such guidelines/regulations as prescribed by IN-SPACe.

NGEs would be encouraged to:

1. offer national and international space-based communication services, through self-owned or procured or leased GSO/NGSO communication satellites.
2. establish and operate ground facilities for space objects operations, such as TT&C Earth Stations and Satellite Control Centres (SCCs).
3. use Indian Orbital Resources and/or Non-Indian Orbital Resources to establish space objects for communication services over India and outside India.
4. make new ITU filings through the WPC/DOT to acquire Orbital Resources. NGEs are free to make ITU filings through non-Indian administrations also.
5. establish and operate remote sensing satellite systems within and outside India through self-owned or procured or leased satellites.
6. disseminate satellite-based remote sensing data, as well as applications based on such data, in India and/or outside.
7. develop and commercialise technologies and applications for enhancing and augmenting the satellite navigation, communication and remote-sensing developed and provided by the Government.
8. manufacture and operate space transportation systems, including launch vehicles, shuttles, etc., as well as design and develop reusable, recoverable and reconfigurable technologies and systems for space transportation.
9. establish and operate launch infrastructure.
10. develop space situational awareness capabilities for enhancing observation, modelling and analysis.
11. undertake research, innovation and technology development for long-term sustainability of space activities.
12. provide end-to-end services for safe operations and maintenance in space.
13. engage in the commercial recovery of an asteroid resource or a space resource. Any NGE engaged in such process shall be entitled to possess, own, transport,

use, and sell any such asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of India.

14. undertake any other IN-SPACe prescribed commercial space activity.

5. IN-SPACe- Indian National Space Promotion & Authorisation Centre.

IN-SPACe shall function as an autonomous Government organization, mandated to promote, hand-hold, guide and authorize space activities in the country. For this purpose, IN-SPACe shall periodically issue guidelines and procedures, that would among other things promote ease of doing business.

IN-SPACe shall:

1. act as the single window agency for the authorisation of space activities by government entities as well as NGEs, subject to relevant Government directives, keeping in mind safety, national security, international obligations and/or foreign policy considerations. It shall accord authorizations for following space activities:
 - a. the establishment and/or operations of space object(s);
 - b. the launch and operation of launch vehicles including sub-orbital launches;
 - c. the establishment and operation of launch pads which could be self-owned, leased or be a mobile platform.
 - d. the planned re-entry of Space Objects with or without recovery.
 - e. the establishment and operation of TT&C Earth Stations;
 - f. the establishment and operation of SCCs and/or satellite data reception station(s).
 - g. dissemination of high resolution space-based earth observation data.
 - h. in-orbit sale/ purchase/ transfer of Space Objects
 - i. any other kinds of authorisations as required, which may be notified.
2. Promote industry clusters / zones/ manufacturing hubs/ incubation Centres/ accelerators / technical centres etc., for the space sector;
3. work with industry – both national and overseas – to promote identified space activities and establish India as a preferred service provider for global requirements of products/services in the space sector.
4. work with academia to widen the space ecosystem and enable industry-academia linkages.
5. develop and launch promotional schemes from time to time, as appropriate.
6. define frameworks for developing space industry standards, based on global benchmarks.

7. ensure a level playing field for the utilization of all facilities created using public expenditure, by prioritizing their use among Government entities and NGEs. For this, IN-SPACe will formulate appropriate procedures for prioritisation, and the decisions of IN-SPACe shall be binding on the operators of such facilities.
8. enable establishment of specialised technical facilities by NGEs within the premises of DOS.
9. enable easy access for Government entities and NGEs to space based remote sensing data collected through public expenditure.
10. enable sharing of best-practices with private entities for enabling technology ecosystem.
11. facilitate and incentivize those authorized NGEs:
 - 11.1. that acquire new orbital resources through Indian ITU filings to operate their space objects, in coordination with WPC/DOT and international agencies.
 - 11.2. that bring operations of their space objects that are using Non-Indian Orbital Resources, under a coordinated and registered Indian ITU filing, in accordance with the extant ITU Rules & Regulations.
12. judiciously balance the interests of Government entities and NGEs in ITU filings for Orbital Resources made through WPC/DOT and ensure their utilisation & protection.
13. authorise the use of Space Objects for communication/broadcast services to or from Indian Territory in coordination with other concerned Departments of Government of India. Use of authorized space object(s)
 - 13.1. for broadcast services shall be governed by the rules, regulations & policies of Ministry of Information and Broadcasting (MoIB)
 - 13.2. for telecommunication services shall be governed by the rules, regulations and policies of Department of Telecommunications (DoT), Ministry of Communications.
14. identify technologies developed by ISRO that are ready for transfer to NGEs and facilitate the transfer of such technologies.
15. encourage NGEs to participate in space exploration and in having a human presence in outer space, including collaboration with domestic and international stakeholders.
16. authorise launch manifests for launch-infrastructure created through public expenditure, to ensure equitable access for NGEs to such infrastructure.
17. issue guidelines for meeting safety and security requirements for space objects.
18. prescribe guidelines to address liability aspects arising out of potential damages due to the space activities.

19. ensure registration and other necessary clearances for any space object intended to be launched.
20. make efforts to encourage the broadest possible dissemination of remote-sensing data and applications based on the same. IN-SPACE authorisation is required for dissemination of satellite based remote sensing data of high resolution (Ground sampling distance ≤ 30 cm), owing to national security considerations. Data above GSD > 30 cm needs intimation to IN-SPACE. The thresholds of data categorisation as high resolution shall be reviewed time-to-time.
21. maintain an integrated launch manifest taking into consideration readiness of all stakeholders.
22. prescribe the conditions under which authorisations accorded may be reviewed, revoked, or modified by IN-SPACE.
23. maintain a list of space activities that would require authorization. The list of space activities requiring authorization will be amended from time to time.

6. Indian Space Research Organization

ISRO, as the National Space Agency, will focus primarily on research and development of new space technologies and applications, and for expanding the human understanding of outer space.

Towards this ISRO shall:

1. carry out applied research and development of newer systems so as to maintain India's edge in the sector in the areas of space infrastructure, space transportation, space applications, capacity building and human spaceflight.
2. share technologies, products, processes and best practices with NGEs and/or Government companies.
3. enable open data access from remote sensing satellites of ISRO. In this regard, remote sensing data of GSD of 5 meters and higher shall be made easily accessible in a timely manner on 'free and open' basis to all while remote sensing data of GSD of less than 5 meter, shall be made available free of any charges to Government entities but at fair and transparent pricing to NGEs.
4. make available archived satellite data and satellite derived thematic data from remote sensing satellites of ISRO on 'free and open' basis for further value addition and for research and development purposes on 'as is where is' condition. The details of the archived remote sensing data in terms of resolution, latency etc., will be made known on public domain time-to-time.
5. demonstrate human spaceflight capability and develop a long term road-map for sustained human presence in space. Towards this, it shall identify and develop necessary technologies, infrastructure and ecosystem.
6. define and develop collaborative framework for scientific research in multidisciplinary domains linked to human space activities.

7. undertake studies and missions on in-situ resource utilization, celestial prospecting and other aspects of extra-terrestrial habitability.
8. transition out from the existing practice of being present in the manufacturing of operational space systems. Hereafter, mature systems shall be transferred to industries for commercial exploitation. ISRO shall focus on R&D in advanced technology, proving newer systems and realization of space objects for meeting national prerogatives.
9. foster collaborations and partnerships with industry and academia – both national and international – to pursue research & development in space science, technology and applications.

7. NewSpace India Limited

NSIL, as the Public Sector Undertaking under DOS, shall:

1. be responsible for commercialising space technologies and platforms created through public expenditure.
2. manufacture, lease, or procure space components, technologies, platforms and other assets from private or public sector, on sound commercial principles.
3. service the space-based needs of users, whether Government entities or NGEs, on sound commercial principles.

8. Department of Space:

DOS shall:

1. oversee the distribution of responsibilities outlined in this policy and ensure that the different stakeholders are suitably empowered to discharge their respective functions, without overlapping into others' domain.
2. be the nodal department for implementation of the Indian Space Policy-2023 through detailed policy directives, within the scope of which the various stakeholders shall carry out their assigned functions.
3. interpret and clarify any ambiguities arising in implementation of this policy.
4. ensure the availability of continuous & improved earth observation capability and data to fulfil the national requirements. In this regard, it shall plan and realize remote sensing systems, with the involvement of all stakeholders.
5. participate in international efforts by providing critical remote sensing satellite data for disaster management efforts and meeting the requirements of the sustainable development goals formulated by the United Nations in coordination with the Ministry of External Affairs.
6. ensure sustenance of existing and future satellite constellations, SCCs and ground segments for continuous and guaranteed availability of free-to-air and

secured navigation signals as well as space-based augmentation signals in the defined coverage area.

7. ensure the compatibility and interoperability of Indian satellite navigation and augmentation signals with the other navigation and augmentation signals and ensure their representation in relevant international organisations and standards bodies for the purpose of their recognition, certification and adoption.
8. establish framework to ensure safe and sustainable space operations, in compliance with relevant international space debris mitigation guidelines. It shall also enhance the national space situational awareness capabilities and share observation data with relevant stakeholders.
9. co-ordinate international cooperation and coordination in the area of global space governance and programmes in consultation with Ministry of External Affairs.
10. create appropriate mechanism to resolve any dispute arising out of space activity, as per the extant laws.

9. Applicability and Implementation:

This policy is applicable to any space activity to or from Indian Territory or within the jurisdiction of India including the area to the limit of its exclusive economic zone. Notwithstanding anything contained in this policy, GoI reserves its right to provide exemptions to the provisions contained herein on a case-to-case basis.

