



संवर्धक
PROMOTER



समर्थक
ENABLER



प्राधिकृतक
AUTHORISER



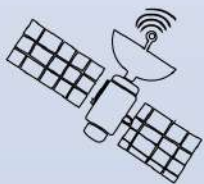
पर्यवेक्षक
SUPERVISOR



IN-SPACE

NURTURING THE INDIAN SPACE ECOSYSTEM

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



MANDATE

To regulate the Indian Space sector, enable private sector participation in space activities, boost India's space economy, and develop space force for new frontiers, to build a resurgent, Aatmanirbhar (self-reliant) Bharat.



IN-SPACE - CORNERSTONE OF SPACE REFORMS IN THE COUNTRY



The Government of India unleashed reforms in the space sector in 2020, opening the doors for enhanced participation by Non-Governmental Entities (NGEs) in space activities. Space sector reforms are aimed at enabling commercialization of space technology and boosting private investments in the sector. For implementation of the space sector reforms, an independent nodal agency attached to the Department of Space — the Indian National Space Promotion and Authorization Centre (IN-SPACe) was created in June 2020 and operationalised in February 2022 to regulate the space sector and promote, enable, and supervise private enterprises and start-ups to undertake space activities.

IN-SPACe is the cornerstone of space reforms in the country, facilitating private sector participation to boost the Indian space economy and create a self-reliant, sustainable space ecosystem. IN-SPACe was formally inaugurated on 10 June 2022 by the Hon'ble Prime Minister of India, Shri Narendra Modi.

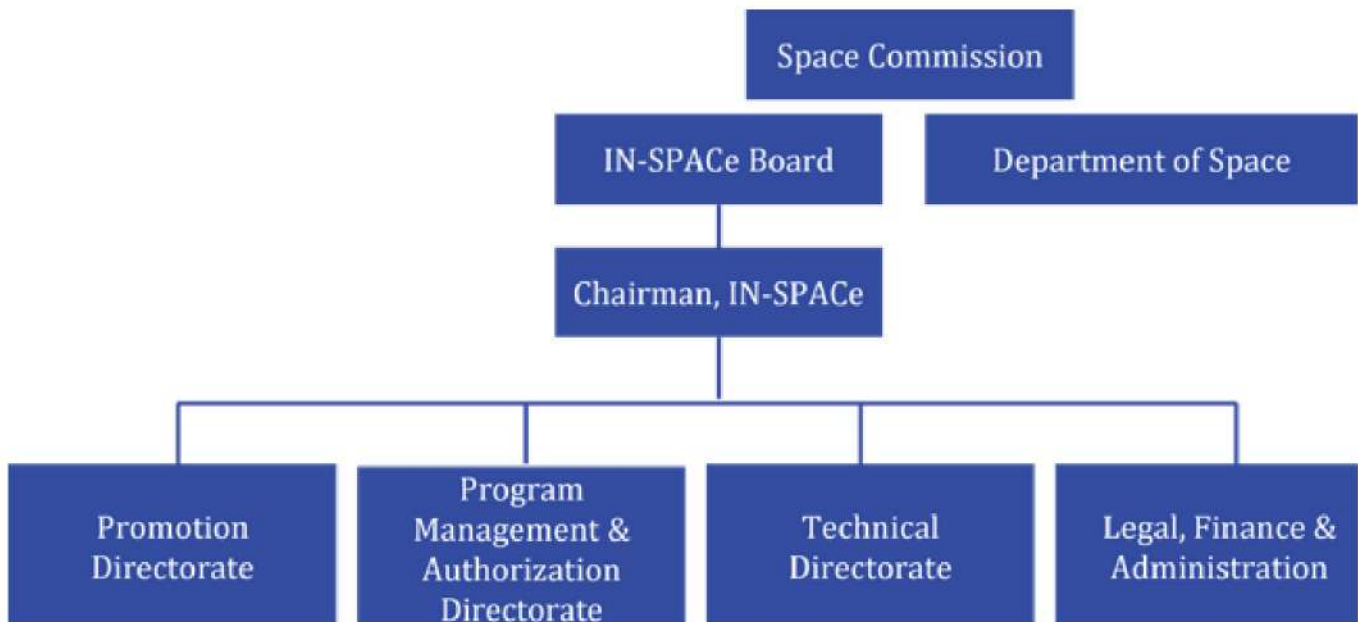


ORGANIZATION STRUCTURE

IN-SPACe is governed by a board which is the approving authority for IN-SPACe decisions. The illustrious board comprises senior bureaucrats, experts from industry, academia, and the Government. The twelve member IN-SPACe board is chaired by Dr Pawan Goenka, Chairperson of IN-SPACe.

In the organization structure, following directorates/divisions responsible for various functions report to the Chairperson:

1. Promotion Directorate (PD), led by Dr. Vinod Kumar
2. Program Management and Authorization Directorate (PMA-D), led by Dr. Prafulla Kumar Jain
3. Technical Directorate (TD), led by Shri Rajeev Jyoti
4. Legal, Finance and Administrative Wing headed by Shri Lochan Sehra, IAS, Joint Secretary, Gol



IN-SPACE DIGITAL PLATFORM

In line with the Digital India initiative of the Govt of India, a feature-rich IN-SPACE Digital Platform (IDP) (www.inspace.gov.in) was launched in August 2022, to facilitate submission, processing, and approval of applications by the Space sector NGEs, in a paperless manner. So far, more than 450 applications from NGEs in the space sector have been submitted through the IN-SPACE Digital Platform. More than 2000 users ranging from Academia, Large industries, MSMEs, startups, consulting firms, Investors etc have registered on the online platform.



INAUGURATION OF INDIAN NATIONAL SPACE PROMOTION AND AUTHORIZATION CENTER (IN-SPACE) AHMEDABAD



PROMOTION, ENABLEMENT AND AUTHORIZATION OF SPACE ACTIVITIES



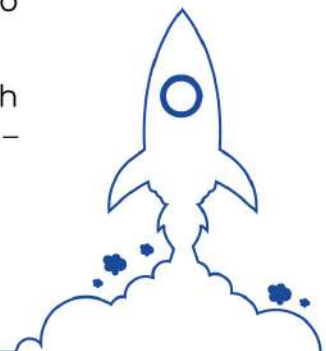
IN-SPACE as an autonomous Government organization has the mandate to promote, handhold, guide and authorize space activities in the country. Hence, promotion and enablement of the Space NGEs is a significant responsibility of IN-SPACE. Since its formation, IN-SPACE has been working with various stakeholders both in the private sector and in government departments to create a thriving space ecosystem and to expedite the growth of private space industry in the country. Some notable initiatives are listed below.

AUTHORIZATION OF SPACE ACTIVITIES

As a regulator for Space sector in the country, IN-SPACE's prime responsibility is to authorize various space activities including but not limited to, building launch vehicles, satellites, payloads, establishing ground stations and data dissemination. IN-SPACE has received enthusiastic response from NGEs in terms of more than 50 applications from MSMEs, start-ups, academia, and large established business houses for authorization to undertake various space activities in the country.

A total of 50 MoUs have been signed till date to provide necessary support to NGEs.

So far, IN-SPACE has issued 33 authorizations for various space activities, of which 31 are authorizations for launch" and "establishment & operations of satellite – Out of these 31, 14 authorizations are for NGEs and 17 for ISRO space missions.



Major NGEs activities for launch, establishment and operation of satellites authorized & facilitated by IN-SPACE:

- Vikram S by Skyroot Aerospace - First ever sub-orbital launch by an Indian private company
 - Launch of Thybolt-1 and Thybolt-2 by Dhruva Space
 - Launch of **ROBust** Integrating proton fluence meter payload by Digantara
 - AzaadiSAT 2 satellite launch by Space Kidz India
 - Launch of 9 Experimental Payloads by NGEs on POEM Module

IN-SPACE also facilitated establishment of a launch pad and a mission control centre by Agnikul Cosmos within SHAR Sriharikota ISRO campus - first of its kind by a private entity

IN-SPACE has authorized Eutelsat One Web LEO satellite constellation to enable provisioning of its capacity in India for providing communication services

18 Indian Entities who wish to disseminate/sell the primary data pertaining to Indian territory and Ground Sampling Data (GSD) > 30 cm commercially from the Earth Observation / Remote Sensing satellites have been registered by IN-SPACE.

ENABLEMENT OF SPACE SECTOR NGEs

IN-SPACE has been working with various stakeholders both in the private sector and in government departments to enable a thriving space ecosystem and expedite the growth of private space industry in the country. Some of the notable initiatives by IN-SPACE for enablement of Space sector NGEs are:

MANUFACTURING CLUSTER TO PROMOTE MANUFACTURING OF SPACE PRODUCTS AND COMPONENTS BY PRIVATE PLAYERS IN INDIA

Positioning India as a global manufacturing and export hub for launch vehicles, spacecraft, ground systems and other high-tech space system products and components is a strategic priority outlined by IN-SPACE. In pursuit of this mandate, IN-SPACE has been in discussion with several State governments, to enable setting up of dedicated end to end manufacturing clusters for Space system products and components. IN-SPACE has signed a framework MoU with Gujarat Government to



extend technical expertise and support with investor outreach for the space systems manufacturing park announced by Government of Gujarat.

TRANSFER OF TECHNOLOGY

IN-SPACE plays a pivotal role in identifying ISRO's technology that can be offered to the private players enabling them to make rapid advances in their space journey. IN-SPACE also facilitates the process of Transfer of Technology (ToT) from ISRO to private industries as mandated by the Indian Space Policy.

IN-SPACE has initiated the process for transfer of Small Satellite Launch Vehicle (SSLV) technology. This is first-ever example of a space agency transferring a full design of a launch vehicle to the private sector. Additionally, IN-SPACE has facilitated transfer of fifteen crucial technologies developed by ISRO to private space companies and is working on many more technology transfer proposals of Space NGEs.

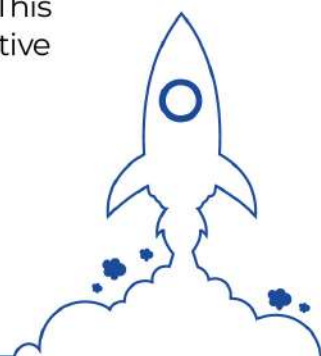
IN-SPACE is also working with start-ups on the downstream applications to enable access of the space data and algorithms through ISRO centres. This will empower start-ups with the knowledge base to develop innovative solutions for various applications.

DESIGN LAB AND TECHNICAL CENTRE



In order to enable NGEs to have access to high end simulation software, IN-SPACE has established a Design Lab in the Bopal, Ahmedabad Campus. The Space Systems design lab is a state of the art computing facility equipped with advance design & analysis software. It serves as the intellectual hub of the IN-SPACE Technical Centre and offers high end simulation capabilities essential for mission planning, RF, optical and Thermo-structural design and analysis of space systems.

Additionally, a full-fledged Technical Centre with test facilities including Environment Test Labs, RF and Opto-Electronics Lab, Assembly Integration Testing and Checkout Lab for small satellites and clean rooms have been established (inaugurated in March 2024). This unique platform is a one stop solution for NGEs to foster and transform their innovative ideas into high quality space products and solutions.



Access to all the labs and facilities of the Technical Centre is being offered with a user fee as per DoS/ IN-SPACE guidelines.

SPACE INDUSTRY STANDARDS

IN-SPACE released the "Catalogue of Indian Standards for Space Industry" in September 2023, compiled by IN-SPACE & Bureau of Indian Standards (BIS) based on Standards followed by ISRO and International standards. The document comprises of 15 standards published by BIS covering a spectrum of domains. By establishing a unified framework of guidelines and benchmarks, the catalogue envisages to ensure consistency in operations and aligns India's space activities with global best practices. This serves as a valuable resource for space industry professionals, researchers, and policymakers, aiding them in

decision-making, technology development, and policy formulation. Work on additional space standards is in progress that would be rolled out in collaboration with BIS soon.

International Conference on Space



INITIATIVES TO PROMOTE EASE OF DOING BUSINESS:

IN-SPACE STANDING COMMITTEE FOR INTERMINISTERIAL COORDINATION (SC-IMC)

As mandated by ISP 2023, IN-SPACE acts as a single-window interface for the industry and is responsible for all inter-departmental coordination with the Department of Space (DoS), Ministry of Information and Broadcasting (MI&B), Department of Telecommunication (DoT), Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Home Affairs (MHA), Ministry of External Affairs (MEA), etc. Hence to enable ease of doing business and providing a single window interface for NGEs, IN-SPACE has constituted a Standing Committee for Inter-Ministerial Coordination (SC-IMC) chaired by chairperson, IN-SPACE with members from IN-SPACE, DOS, DOT, MIB, MEA, DPIIT, DGFT, DST and MHA for reviewing and recommending the authorization applications from NGEs that require scrutiny from these Departments/Ministries.

NORMS, GUIDELINES AND PROCEDURES

In addition to enable EoDB for NGEs, IN-SPACE is working on detailed norms guidelines and procedure for authorization of space activities, and utilization of unused Indian ITU filings by Indian Entities for Satellite Communication, in line with the Indian Space Policy 2023, with inputs from the industry.

Standard Operating Procedures/ Norms, Guidelines to enable access to ISRO test facilities, technical support and transfer of technology have also been implemented by IN-SPACE to enable ease of doing business for the NGEs.

PRICE SUPPORT TO NGEs

To support the NGEs, Price Support Policy has been implemented for facility support & technical support from ISRO; access to EO data of ISRO satellites & data products; Satellite Launch services, Technology Transfer, and design lab usage

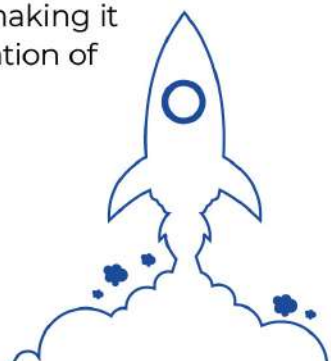
EASE OF ACCESS TO FOREIGN CAPITAL

In order to ease access to foreign capital by Indian NGEs, IN-SPACE along with Department of Space has worked on revised FDI policy guidelines for Space Sector, released formally by Government of India in Feb 2024.

PROMOTION

DECADAL VISION AND STRATEGY FOR INDIAN SPACE ECONOMY

India is among the leading space-faring nations in the world and is globally recognized for its ability to deploy the most cost-effective space missions. Despite that India accounts for only 2% of the US \$440 global space economy. To accelerate the growth of the Indian space sector, IN-SPACE along with ISRO, has devised a Decadal Vision and Strategy for the Indian Space Economy, which was formally released on 10th October 2023. As per the decadal vision, size of Indian Space economy is pegged at \$8.4bn in 2022 and is targeted to reach \$44bn by 2033, making it 7-8% of the global economy. Further a comprehensive roadmap for implementation of the long-term strategy is under formulation.



Space sector in India has already witnessed significant momentum after announcement of the space sector reforms. As an early indicator, the number of Indian space start-ups working in launch vehicles, satellites, ground stations, and space data products and services have gone up from just 1 in 2012 to close to 200 in 2023. The investment in Indian space sector has increased from US\$6 Mn in 2019 to over US\$125 Mn in 2023.



SEED FUND SCHEME FOR START-UPS

To accelerate a start-up culture in the country, IN-SPACE has taken various initiatives. One of the key initiatives is launch of a Seed Fund scheme to provide initial financial assistance to Indian space start-ups of upto INR 1 cr. The Seed Fund is aimed to help start-ups bring their ideas to life and get their projects off the ground. This support include access to funding, mentorship, training, and networking opportunities.

There are different sector specific opportunities announced periodically under the IN-SPACE Seed Fund Scheme. The first announcement of opportunity for the agriculture sector was made in April 2023 and two startups were selected. The second announcement of opportunity, for Urban development and Disaster management was made in December 2023.

Further, IN-SPACE periodically connects with the industry through various platforms including conferences and webinars, to provide expert help and connecting with mentors to hand-hold space start-ups.



OPPORTUNITY FOR NGEs TO HOST PAYLOADS ON POEM

To enable NGEs to experiment, test and prove the space flightworthiness of payloads, IN-SPACE announced the opportunity to host payloads on the upcoming PSLV Orbital Experimental Module (POEM) on PSLV missions, on which IN-SPACE has received a very encouraging response.

SKILL DEVELOPMENT IN SPACE TECHNOLOGY

To foster skill development of industry and academia in the space sector, IN-SPACe has started Short Term Skill Development Courses. Two short term courses have been completed.

- Use of Space Technology in Agriculture Sector
- Orbital Mechanics, Attitude Dynamics and control, Space based navigation and Mission planning

In addition a National Committee for Adoption of Space Technology Education in India is formed by IN-SPACe which will focus on creating awareness amongst the academic fraternity, enhancing skills, and encouraging research in space sector. The committee consists of experts drawn from Indian educational and research institutions interested to adopt space tech education.

STUDENT OUTREACH

IN-SPACe is identifying new opportunities like the Model Rocketry, CANSAT student competition for encouraging young minds towards space science and technology.

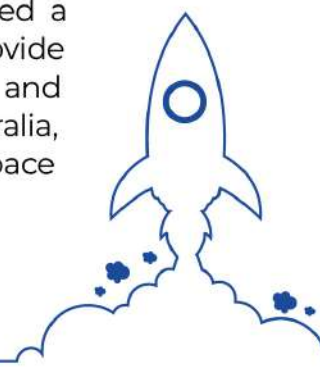
INTERNATIONAL OUTREACH



IN-SPACe in collaboration with the Department of Space (DOS) and the Ministry of External Affairs (MEA) is working towards positioning India as a global space hub and a preferred service provider for global requirements of products and services in the space sector.

IN-SPACe has been actively engaging with global space organizations including MNCs and space agencies to promote the private space sector and

drive collaboration among Indian and foreign NGEs. IN-SPACe has introduced a concept of 'Space Day' which is a virtual/physical roundtable, aimed to provide exposure and foster collaboration between Space sector NGEs of India and respective nations. So far three space days have been conducted with Australia, Luxembourg and Italy and IN-SPACe is in discussions with few more countries/space agencies for the same.



HIGHLIGHTS



451 Applications



65
Launch Vehicle
& Subsystems



141
Satellite &
Subsystems



21
Ground Segment



51
Promotion



61
Space
Applications



37
Design Lab



75
Others



50 MoUs



33 Authorizations



**>26 JPIPs
(Joint Project Implementation Plans)**



**Paperless processing through
IN-SPACE Digital Platform**



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