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Legal Architecture of India's Space Sector: An Evaluation and Proposed Reforms

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Legal Architecture of India's Space Sector: An Evaluation and Proposed Reforms

*Upasana Dasgupta**

Abstract: There is a pressing need for a national space legislation in India, in light of rapid expansion of Indian space industry and increased private participation since the introduction of space reforms in 2020. The inherent dual-use nature of space technology and the growing strategic importance of space infrastructure in geopolitics also demand regulating Indian space activities. At present, India does not have a comprehensive national legislation to govern its space activities which are currently governed by a patchwork of policies and vision statements. Notably, Indian Government released the Indian Space Policy in 2023, and Indian National Space Promotion and Authorisation Centre (IN-SPACe) released the norms for authorisation for certain space activities in 2024. This article is written in anticipation of India enacting a national space legislation soon, as proposed by Parliamentary Standing Committee in March 2026. This article draws insights from learnings from implementation of Indian Space Policy 2023 and other existing governing documents as well as the deliberations on the Draft Space Activities Bill, 2017, and various policy proposals to regulate space activities. The article thus evaluates the existing legal architecture of the Indian space sector and proposes a new architecture drawing upon the lessons emerging from India's space journey, consistent with India's international obligation, national security concerns, and vision for a thriving space economy.

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I. INTRODUCTION

Indian space activities began with the establishment of the Indian National Committee for Space Research (“**INCOSPAR**”) in 1962, and the Indian space programme was institutionalised in 1969 when the Indian Space Research Organisation (“**ISRO**”), India’s national space agency, was formed.¹ ISRO was brought under the Department of Space (“**DoS**”) in 1972. Over the years, India has emerged as a major spacefaring nation. Examples of Indian leadership in space sector include possessing launch capabilities, operating over 50 functional satellites, successfully conducting anti-satellite test (Mission Shakti) in 2019,² being the first country to soft-land near lunar south pole, while building human spaceflight capability through Gaganyaan mission,³ establishing Indian space station - Bharatiya Antariksh Station (“**BAS**”) by 2028 and landing humans on Moon by 2040.⁴ India’s space budget has increased consistently. The Indian Government allowed end-to-end participation of private actors since 2020, formalised through Indian Space Policy 2023. India’s space vision aims to expand its space economy up to \$44 billion by 2033, representing a fivefold increase.⁵

¹ Indian Space Research Organisation, ‘The Indian Space Programme’ <[https://www.isro.gov.in/media_isro/pdf/ResourcesPdf/SpaceIndia/publication\(6\).pdf](https://www.isro.gov.in/media_isro/pdf/ResourcesPdf/SpaceIndia/publication(6).pdf)> accessed 16 June 2026.

² Ministry of External Affairs, Government of India, ‘Frequently Asked Questions on Mission Shakti, India’s Anti-Satellite Missile Test Conducted on 27 March 2019’ (27 March 2019) <https://www.mea.gov.in/press-releases.htm?dtl/31179/Frequently_Asked_Questions_on_Mission_Shakti_Indias_AntiSatellite_Missile_test_conducted_on_27_March_2019> accessed 16 June 2026.

³ Indian Space Research Organisation, ‘Gaganyaan’ (23 November 2022) <<https://www.isro.gov.in/Gaganyaan.html>> accessed 16 June 2026.

⁴ Press Information Bureau, ‘Parliament Question: Efforts to Make India a Developed Nation by 2047 in Space Sector’ (12 December 2024) <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2083766®=3&lang=2>> accessed 16 June 2026.

⁵ Indian National Space Promotion and Authorisation Centre, ‘Decadal Vision and Strategy for Indian Space Economy’ (10 October 2023) <https://www.inspace.gov.in/inspace?id=inspace_decadal_vision_strategy> accessed 16 June 2026.

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Moreover, India is working towards integrating defence and space sector to substantially enhance its national security capabilities. In 2018, the Defence Space Agency (“**DSA**”) was established under the aegis of the Integrated Defence Staff, which also includes the Armed Forces Special Operations Division and the Defence Cyber Agency. DSA operates systems to protect Indian interests in outer space and establish India’s military superiority. It develops strategies for potential space warfare, strengthens counterspace and deterrence capabilities, strengthens intelligence and surveillance capabilities and safeguards space assets from cyber threats. DSA works in close collaboration with the Defence Space Research Agency (“**DSRA**”), a scientific organisation that develops space-warfare systems and technologies for DSA. In May 2025, India used space imagery and satellite positioning services for precision strikes in Operation Sindoor.⁶ India has also been encouraging private participation in defence sector. For example, the Space-Based Surveillance-3 (“**SBS-3**”) programme aims to bolster the surveillance capabilities of Indian military through 52 reconnaissance satellites, 31 out of which are expected to be developed by private sector.⁷

Despite its leadership in space science and technology, India has not yet enacted a national space legislation to govern its space activities. Prior to introduction of space reforms, the rationale for enacting national space legislation was limited, since the Government’s internal governance mechanism was sufficient to regulate end-to-end space activities undertaken through DoS. However, since the space reforms were introduced in 2020, over 400 private space companies have emerged.⁸ Yet India does not have a comprehensive legislative framework to regulate the private space activities. Instead, India’s space sector is mostly governed by a patchwork of policies, mission statement, and vision documents. The report of Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change recommended in March 2026 that in light of rapid

⁶ ‘Indian Armed Forces Used Domestic Strategic Space Assets, Foreign Commercial Satellites for Operation Sindoor: Report’ (*The Economic Times*, 13 May 2025) <<https://economictimes.indiatimes.com/news/defence/indian-armed-forces-used-domestic-strategic-space-assets-foreign-commercial-satellites-for-operation-sindoor-report/articleshow/121131502.cms?from=mdr>> accessed 16 June 2026.

⁷ A Raksha, ‘India’s SBS-3 Programme: A Test Case for Private Industry’s Active Engagement’ <<https://rakshanirveda.com/indias-sbs-3-programme-a-test-case-for-private-industrys-active-engagement/>> accessed 16 June 2026.

⁸ Press Information Bureau, Government of India, ‘India’s Space Economy at \$8.4 Billion, Nearly 400 Start-ups Active After Sector Opened to Private Players: Dr Jitendra Singh’ (29 January 2026) <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2220433®=3&lang=2>> accessed 16 June 2026.

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expansion of private space activity in India and the growing strategic importance of space sector, there is a “clear and pressing need for a comprehensive legal framework to regulate, authorise, and oversee space activities”.⁹

This article evaluates the current legal architecture of India’s space sector by analysing existing applicable instruments and identifies the challenges therein. This paper also traces several proposals to regulate space activities, particularly the Draft Space Activities Bill 2017,¹⁰ and analyses how the dialogue and deliberations surrounding it illuminate the priorities of different stakeholders in Indian space ecosystem. Thereafter, this paper proposes a new legal architecture to govern India’s space activities, drawing upon the lessons emerging from India’s space journey, consistent with India’s international obligations, national security concerns, and a vision for a thriving space economy. In short, this article is written in anticipation of India enacting a national space legislation¹¹ and this article recommends provisions that should be included in the legislation to establish a comprehensive, robust and forward-looking framework.

The article includes the following sections: (a) an analysis of the key documents governing Indian space activities, (b) an appraisal of why India needs a national space legislation by assessing Constitution of India and India’s international obligations, (c) the recommendations of the 2013 United Nations (“UN”) General Assembly (GA) Resolution 68/74 regarding important elements to be included in national space legislations, (d) identification of the important governance aspects in 2017 Bill that should be incorporated in the new legislation, (e) highlighting the complex legal challenges in Indian space sector and recommending provisions to be included in a future national space legislation.

In short, this article emphasises the imperative need for a legislative framework to govern Indian space activities and recommends that the legal architecture be established through a national space legislation. A

⁹ Department-related Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change, ‘Four Hundred and Tenth Report’ (Parliament of India, presented to the Rajya Sabha on 25 March 2026) <https://sansad.in/getFile/rsnew/Committee_site/Committee_File/ReportFile/19/217/410_2026_3_12.pdf?source=rajyasabha> accessed 16 June 2026 (‘Parliamentary Committee 2026 Report’).

¹⁰ ‘Draft Space Activities Bill 2017’ <https://prsindia.org/files/bills_acts/bills_parliament/1970/Draft%20Space%20Activities%20Bill%202017.pdf> accessed 16 June 2026 (‘2017 Bill’).

¹¹ ‘Space Activities Bill in Final Stages: ISRO Chairman’ (*The Economic Times*, 5 July 2020) <<https://economictimes.indiatimes.com/news/science/space-policy-space-activities-bill-in-final-stages-isro-chairman/articleshow/76800775.cms>> accessed 16 June 2026.

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national space legislation will provide a framework to operationalise India's national priorities and international obligations, provide a transparent mechanism to authorise and continuously supervise its private space activities, ensure space safety and sustainability and address questions of responsibility, liability, and insurance for space activities.

II. KEY DOCUMENTS GOVERNING INDIAN SPACE ACTIVITIES

A. Governance Framework under the Indian Space Policy 2023

Among the several executive instruments adopted to govern Indian space activities, particularly to encourage the NewSpace industry and private participation in the space sector, the most important is the Indian Space Policy - 2023 (“**ISP 2023**”).¹² ISP 2023 articulates the space reforms introduced to liberalise the Indian space industry and provides regulatory certainty by delineating the roles of different space actors. ISP 2023 formally clarifies the Government's intent to encourage private participation in space sector, marking an important shift from the traditional model in which space activities were carried out only by government agencies, and private actors participated only as vendors and suppliers within the space ecosystem. Therefore, now private entities (or non-Governmental entities/“**NGEs**”) can carry out end-to-end space activities like manufacturing, launching, and operating satellites, manufacturing, and operating space launch infrastructure, developing space situational awareness capabilities, establishing and operating ground stations, engaging in space applications of telecommunications, Earth observation, and navigation, and undertaking space resource extraction.

ISP 2023 provides that IN-SPACE is an ‘autonomous Government organisation’ mandated to promote, handhold, guide, authorise and supervise space activities in India. IN-SPACE functions under the DoS and acts as ‘the single window agency for the authorisation of space activities’.¹³ The NewSpace India Limited (“**NSIL**”), a public sector undertaking under the DoS, is responsible for commercialising space technologies and platforms created through public expenditure, providing global customers the space-related products and services

¹² Government of India, ‘Indian Space Policy 2023’ (2023) <https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf> accessed 16 June 2026 (‘ISP 2023’).

¹³ *ibid* [5].

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emanating from the Indian space programme and facilitating the Indian space industry's growth through transfer of technology.¹⁴ Under ISP 2023, ISRO primarily focuses on 'research and development of new space technologies and applications', and expansion of 'human understanding of outer space'.¹⁵ The mature space technologies developed by ISRO are being transferred to NGEs, while ISRO focuses on innovation and key priority areas like human space exploration.

Acknowledging the important role that space technologies can play in conflicts, India encourages private sector participation in not just civil space activities, but also in defence-related space activities. In the last decade, India has carried out anti-satellite weapon testing, established a tri-service Defence Space Agency, and utilised space technology as a foreign policy tool. Hence, though the Indian space programme was established primarily to serve the country's socio-economic interests and play a crucial role in India's developmental journey, in the last decade, Indian space activities have diversified.¹⁶

Though ISP 2023 clarifies the role of space actors and promotes diversification of Indian space activities, clearer laws backed by legislative sanction are desirable to regulate activities in the "congested, contested and competitive"¹⁷ outer space and facilitate developing a robust space ecosystem. Hence, the time is right for India to enact a national space legislation to properly operationalise ISP 2023 and advance its national priorities.

Notably, ISP 2023 provides that India's space strategy includes 'creating a stable and predictable regulatory framework to provide a level playing field to Non-Government Entities in the Space sector through IN-SPACE'.¹⁸ IN-SPACE, an autonomous body under the DoS, was established in 2020 for promotion, authorisation and supervision of space activities. Later in 2021, an Official Gazette notification formalised IN-

¹⁴ *ibid* [7]; NewSpace India Limited, <<https://www.nsilindia.co.in/>> accessed 14 March 2026.

¹⁵ *ibid* [6].

¹⁶ RP Rajagopalan and D Stroikos, 'The Transformation of India's Space Policy: From Space for Development to the Pursuit of Security and Prestige' (2024) 69 *Space Policy* 101633; *see also* R Kaul, 'India: Recent Developments in Space Business and Regulation' in LJ Smith, I Baumann and S Wintermuth (eds), *Routledge Handbook of Commercial Space Law* (Routledge 2023).

¹⁷ United States Department of Defense and Office of the Director of National Intelligence, 'National Security Space Strategy' (2011) <<https://csps.aerospace.org/sites/default/files/2021-08/Natl%20Security%20Space%20Strategy%20Jan11.pdf>> accessed 16 June 2026; *see also* United Nations Development Programme, 'Hope for Responsible Technological Progress – Congested Space' (*Future of Development*, 2024) <<https://www.undp.org/future-development/signals-spotlight-2024/congested-space>> accessed 16 June 2026.

¹⁸ ISP 2023 (n 12) [4].

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SPACe's establishment.¹⁹ ISP 2023 specifically clarifies IN-SPACe's role and provides that IN-SPACe shall "maintain a list of space activities that would require authorisation", "prescribe the conditions under which authorisations accorded may be reviewed, revoked, or modified by IN-SPACe", periodically issue guidelines and procedures promoting "ease of doing business", "define frameworks for developing space industry standards based on global benchmarks", issue guidelines on "safety and security requirements for space objects", prescribe guidelines on "liability aspects arising out of potential damages due to the space activities" and "space object registration".²⁰ Empowered by ISP 2023, IN-SPACe released the "Norms, Guidelines and Procedures for Implementation of Indian Space Policy - 2023 in respect of Authorisation of Space Activities" ("**NGP 2024**") in May 2024 to govern some of these abovementioned aspects.²¹

NGP 2024 lays down the list of space activities that require IN-SPACe authorisation, the criteria for granting authorisation, and the necessary conditions and guidelines the applicant should comply with. NGP 2024 provides guidelines and authorisation framework for the following space activities: (a) space based communication, (b) establishment and operation of remote sensing and amateur satellite systems, (c) dissemination of space-based Earth observation and remote sensing data, (d) operation of orbital and sub-orbital space transportation systems from Indian territory and/or outside Indian territory involving Indian nationals, (e) authorisation of non-Indian satellite/satellite constellation to enable provisioning of its capacity in India for communication services, (f) establishment and operation of ground systems like satellite control centres, telemetry, tracking and command Earth stations and remote sensing data reception stations, and (g) providing access to available Indian orbital resources to Indian entities, and making new filings to International Telecommunication Union ("**ITU**") on behalf of Indian entities. NGP 2024 includes application templates for authorisation of various space activities.

NGP 2024 mandates that space actors to undertake space sustainability obligations, like compliance with the UN Committee on the Peaceful Uses of Outer Space ("**COPUOS**") Space Debris Mitigation Guidelines. The

¹⁹ Ministry of Personnel, Public Grievances and Pensions, Department of Space, 'Gazette Notification Establishing the Indian National Space Promotion and Authorisation Centre (IN-SPACe)' (2 October 2021).

²⁰ ISP 2023 (n 12).

²¹ Indian National Space Promotion and Authorisation Centre (IN-SPACe), 'Norms, Guidelines and Procedures for Implementation of Indian Space Policy-2023 in Respect of Authorisation of Space Activities' (May 2024) <https://www.inspace.gov.in/sys_attachment.do?sys_id=5d532e37877102503b0f0d060cbb35cf> accessed 16 June 2026 ('NGP 2024').

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satellite operators and launch vehicle operators periodically furnish information on trackability of satellites, post-mission disposal plan of upper stage vehicle and satellites, collision avoidance capability, and space situational awareness measures undertaken.

B. Telecommunication Laws Applicable on Space Activities

In addition to IN-SPACe authorisation, every space activity also requires authorisation under the telecommunication laws, unless exempted under the domestic laws. The telecommunication laws directly impact space operations, since all satellites, irrespective of whether they are telecommunication satellites or not, use radiofrequencies to communicate with their ground stations. Furthermore, telecommunication has major space applications, and telecommunication satellites play a crucial role in the space economy. The ITU coordinates the allocation of bands of the radio-frequency spectrum to different services, the allotment of radiofrequencies to areas, the registration of radiofrequency assignments, associated orbital position in the geostationary-satellite orbit (“**GEO**”), or associated characteristics of satellites in other orbits to avoid harmful interference between radio stations.²² India is a member of ITU, and India’s Department of Telecommunications (“**DoT**”) under the Ministry of Communications is responsible for coordination with ITU to ensure interference-free operations. Section 3 of the Telecommunications Act 2023 provides that “any person intending to — (a) provide telecommunication services; (b) establish, operate, maintain or expand telecommunication network; or (c) possess radio equipment, shall obtain an authorisation from the Central Government, subject to such terms and conditions, including fees or charges, as may be prescribed”.²³

The Central Government assigns radio-frequency spectrum for telecommunications through auctions, except for certain entries listed in the First Schedule of the Telecommunications Act 2023 for which assignment is done by an administrative process without holding any auction. Such entries include National Security and Defence, Public Broadcasting Services, Disaster Management, Space Research and Application, Launch Vehicle Operations, Ground Station for Satellite Control, and certain satellite-based services such as: Direct To Home,

²² ‘Constitution and Convention of the International Telecommunication Union’ <https://treaties.un.org/Pages/showDetails.aspx?objid=08000002800b0730&clang=_en> accessed 16 June 2026; ‘Radio Regulations’ (International Telecommunication Union, updated 2024) <<https://www.itu.int/hub/publication/r-reg-rr-2024/>> accessed 16 June 2026.

²³ The Telecommunications Act 2023.

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Very Small Aperture Terminal, Global Mobile Personal Communication by Satellites, etc. The Ministry of Communications notified that the authorisation framework under the Telecommunication Act 2023 shall come into effect after the rules under Section 3 of the Act are notified,²⁴ and thereafter, this authorisation framework will replace the old licensing framework.

Under the Telecommunications Act 2023, the Central Government is required to notify the National Frequency Allocation Plan periodically to govern the management of radio-frequency spectrum in India. At present as well, the government releases the National Frequency Allocation Plan from time to time. The latest National Frequency Allocation Plan 2025 (“**NFAP 2025**”) released by the DoT came into effect from 30 December 2025.²⁵ NFAP 2025 supports digital innovations and aims to make India’s spectrum management responsive, high-capacity, and harmonised with global standards. NFAP 2025, *inter alia*, supports emerging technologies such as low Earth orbit (“**LEO**”)/medium Earth orbit (“**MEO**”) satellite services and expanded broadband connectivity solutions.

Moreover, the Telecommunication Cyber Security Rules, 2024, address, *inter alia*, critical vulnerabilities that have emerged with the rapid integration of sectors such as banking, e-commerce, and governance with telecommunications and strengthen the cyber resilience of telecommunication infrastructure through collaborative mechanisms.²⁶ Also, in February 2026, an advisory document proposing a comprehensive framework and guidelines on space cyber security developed under the aegis of the Ministry of Electronics and Information Technology was released.²⁷ The advisory aims to advance cybersecurity preparedness in the space

²⁴ Press Information Bureau, Government of India, ‘Interim Measure to Suspend Acceptance of New Applications for Issuing Licences/Registrations/Permissions/NoC During the Transition Period to the New Authorisation Regime under the Telecommunications Act 2023’ (24 October 2025) <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2182159®=3&lang=2>> accessed 16 June 2026.

²⁵ Press Information Bureau, ‘The National Frequency Allocation Plan 2025 (NFAP-2025), Released by DoT to Take Effect from 30 December 2025 Aligning India with Global Spectrum Standards’ (30 December 2025) <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2209717®=3&lang=1>> accessed 16 June 2026.

²⁶ The Telecommunications (Telecom Cyber Security) Rules 2024.

²⁷ Press Information Bureau, ‘India’s Space Ecosystem Gets Cyber Shield as SIA-India, CERT-In Release Joint Guidelines’ (26 February 2026) <<https://www.pib.gov.in/PressReleaseDetailm.aspx?PRID=2233122®=3&lang=2>> accessed 16 June 2026; Indian Computer Emergency Response Team and SIA-India, ‘Cyber Security Framework and Guidelines for Space Including Satellite Communication’ (February 2026) <https://www.cert-in.org.in/PDF/CyberSecurityFrameworkGuideline_for_space.pdf> accessed 16 June 2026.

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sector and secure space communication assets, thereby making India's space ecosystem more resilient and accountable.²⁸

An important body in telecommunication sector is the Telecom Regulatory Authority of India (“**TRAI**”), established through the Telecom Regulatory Authority of India Act 1997.²⁹ TRAI regulates telecom services through regulations, orders, and directives and nurtures conditions for the growth of telecommunications in India. It also recommends new service providers, license conditions, new technologies, and spectrum management mechanisms to the Union government.

It is relevant to mention that India's National Digital Communication Policy 2018,” envisions the establishment of a ubiquitous, resilient, and affordable digital communications infrastructure and services as India transitions into a digitally empowered economy and society.³⁰ Telecommunication satellites, which can provide connectivity in remote and rural areas, are extremely important in effectuating the National Digital Communication Policy by reducing the digital divide.

C. Policies and Guidelines Applicable on Remote Sensing Satellites

Moreover, certain other executive instruments apply to satellite remote sensing data. The ‘Guidelines for acquiring and producing Geospatial Data and Geospatial Data Services including Maps’,³¹ notified in February 2021, acknowledge that comprehensive, accurate, granular, and constantly updated geospatial data, including satellite-based remote sensing data, can significantly benefit diverse sectors of India's economy, boost innovation, and enhance disaster preparedness. This document also notes the importance of achieving self-reliance in line

²⁸ *ibid.*

²⁹ The Telecom Regulatory Authority of India Act 1997.

³⁰ Government of India, ‘National Digital Communications Policy 2018’ <https://www.telecomepc.in/assets/tepc/pdf/policies/National_Digital_Communication_Policy_2018.pdf> accessed 16 June 2026.

³¹ Department of Science and Technology, Government of India, ‘Guidelines for Acquiring and Producing Geospatial Data and Geospatial Data Services Including Maps’ (15 February 2021) <<https://dst.gov.in/sites/default/files/Final%20Approved%20Guidelines%20on%20Geospatial%20Data.pdf>> accessed 16 June 2026.

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with the vision of *Atmanirbhar Bharat*,³² since India presently relies heavily on foreign sources for mapping technologies and services. This document provides that, unless specifically provided, geospatial data and processing of such data within Indian territory shall not require prior approval, security clearance, license, or be subject to any restrictions on the collection, generation, preparation, dissemination, storage, publication, updating, or digitisation.

Later, in December 2022, the Ministry of Science and Technology notified the ‘National Geospatial Policy 2022’,³³ which seeks to liberalise and democratise acquisition, production, and access to geospatial and location data, encourage innovation, and build a self-reliant local geospatial ecosystem. This policy recognises the transformative role of geospatial technology and data in achieving the UN Sustainable Development Goals (“SDGs”). Consistent with earlier February 2021 Guidelines, this policy encourages the private sector to collect and collate data, develop data themes as well as create, maintain, and monetise geospatial and mapping infrastructures.

D. Instruments on Defence Space Activities

General Chauhan announced in April 2025 that DSA is drafting a Military Space Doctrine and formulating a National Military Space Policy,³⁴ and in September 2025, the Joint Military Space Doctrine acknowledged space as a critical warfighting domain, though India does not have any comprehensive policy document on defence-space. However, in March 2026, India released the ‘Defence Forces Vision 2047’ which indicates that India’s development and its security interests cannot be separated. The document envisions an integrated all-domain military force and emphasises raising Space Command, expanding space-based intelligence, surveillance, and reconnaissance and establishing a Defence Geo-Spatial Agency.³⁵ As military space-tech gains

³² *Atmanirbhar Bharat* translates into English as Self-Reliant India, and it is India’s vision launched in 2020 to India becoming self-reliant and resilient.

³³ Department of Science and Technology, Government of India, ‘National Geospatial Policy 2022’ (28 December 2022) <<https://dst.gov.in/sites/default/files/National%20Geospatial%20Policy.pdf>> accessed 14 January 2026.

³⁴ ‘India DefSpace Symposium 2025 Technical Report’ <<https://ispa.space/assets/pdf/policies/indian/reports/IDS%202025%20Report.pdf>> accessed 16 June 2026.

³⁵ Deependra Singh Hooda, ‘Defence Forces Vision 2047: Aspirations and Challenges’ (*Delhi Policy Group Policy*, 20 March 2026) <[https://www.delhipolicygroup.org/storage/uploads/publications_file/publication_DPG%20Policy_Brief_XI_Issue_8%20\(1\).pdf](https://www.delhipolicygroup.org/storage/uploads/publications_file/publication_DPG%20Policy_Brief_XI_Issue_8%20(1).pdf)> accessed 16 June 2026.

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greater strategic importance leading to an increase in demand, the private space industry is encouraged to scale up its existing technological prowess to build the required defence-specific satellites in order to make India's defence program self-reliant and resilient.³⁶

Procurement of defence-space equipment is important for realising the vision of *Atmanirbhar Bharat*. Notably, in February 2026, India released the draft Defence Acquisition Procedure (“**DAP**”) 2026, which seeks to revamp India's defence procurement system, by introducing faster decision cycles, low-cost capital acquisition mechanisms, and long-term bulk procurement strategies.³⁷ In the draft DAP, there is a visible shift from ‘make in India’ to ‘owned by India’, with extensive indigenisation identified as a priority.³⁸ Moreover, recognising that many civilian technologies have dual-use applications, the draft DAP encourages civil-military fusion, narrows the traditional divide between civil and military specifications, and envisages procuring commercial off-the-shelf drone swarms and space assets with minimal customisation for defence purposes.³⁹

E. Policies by State Governments

The state governments are further trying to compliment the reforms introduced by the Central Government to boost the Indian space economy. Indian states⁴⁰ like Telangana,⁴¹ Gujarat,⁴² Karnataka,⁴³ Tamil

³⁶ Siddhardha Gattimi, ‘Space the New Battleground, India Must Prepare Now: Experts’ (*The New Indian Express*, 31 May 2026) <<https://www.newindianexpress.com/states/telangana/2026/May/31/space-the-new-battleground-india-must-prepare-now-experts>> accessed 16 June 2026.

³⁷ Ministry of Defence, Government of India, ‘Draft Defence Acquisition Procedure 2026’ <<https://www.mod.gov.in/dod/sites/default/files/DRAFT-DAP-2026.pdf>> accessed 16 June 2026.

³⁸ Harsh V Pant and Ankit K, ‘The Many Firsts in India's New Defence Acquisition Policy’ (*Observer Research Foundation*, 28 February 2026) <<https://www.orfonline.org/research/the-many-firsts-in-india-s-new-defence-acquisition-policy>> accessed 16 June 2026.

³⁹ *ibid.*

⁴⁰ V Rana and Shantam Sharma, ‘State-Level Space Policies in India: New Frontiers in Federal Space Governance’ (*Bar & Bench*, 4 June 2025) <<https://www.barandbench.com/view-point/state-level-space-policies-in-india-new-frontiers-in-federal-space-governance>> accessed 16 June 2026.

⁴¹ Emerging Technologies Wing, Information Technology, Electronics and Communications Department, Government of Telangana, ‘SpaceTech Framework’ (April 2022) <<https://startup.telangana.gov.in/wp-content/uploads/2023/02/Telangana-SpaceTech-Framework.pdf>> accessed 16 June 2026.

⁴² Department of Science and Technology, Government of Gujarat, ‘Gujarat SpaceTech Policy 2025–30’ <<https://dstpolicy.gujarat.gov.in/public/assets/stpolicy/document/SpaceTech-Policy.pdf>> accessed 16 June 2026.

⁴³ Government of Karnataka, ‘Karnataka Space Technology Policy 2025–2030’ <https://eitbt.karnataka.gov.in/uploads/media_to_upload1764150255.pdf> accessed 16 June 2026.

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Nadu,⁴⁴ Andhra Pradesh,⁴⁵ and Madhya Pradesh⁴⁶ have formulated space policies and frameworks to contribute meaningfully to India's space sector by encouraging innovation, incentivising private investment, promoting skill development, and supporting startups. In light of India's focus on defence-specific space assets, Indian states and union territories like Andhra Pradesh, Gujarat, Karnataka and Uttar Pradesh have proactively adopted policies to attract defence and aerospace investments, enable a strong industrial ecosystem, encourage entrepreneurship, and support innovation to actualise the shared vision of a secure and self-reliant India.⁴⁷

III. NEED FOR SPACE LEGISLATION IN INDIA

A. Limits of Governance by Executive Instruments

As discussed in Section II above, Indian space sector is largely regulated by a patchwork of executive instruments, which have been introduced post the 2020 space reforms. The technical guidance provided by these documents is important for the safety of space operations and in establishing a legal environment conducive to the growth of the space sector.

Irrespective of the positive role played by these executive instruments in development of India's space sector, one wonders whether the Union Government is competent to adopt and implement these executive instruments without any legislative sanction. In *Rai Sahib Ram Jawaya Kapur v State of Punjab*,⁴⁸ the Supreme Court of India held that the separation of power between executive, legislature and judiciary in India should not be interpreted as a strict segregation of power and functions, though functions of different organs of the State are sufficiently demarcated and differentiated. Later in *Kesavananda Bharti v State of Kerala*, the Supreme Court

⁴⁴ Government of Tamil Nadu, 'Tamil Nadu Space Industrial Policy 2025' <<https://tidco.com/wp-content/uploads/2025/05/Tamil%20Nadu%20Space%20Industrial%20Policy%202025.pdf>> accessed 16 June 2026.

⁴⁵ Government of Andhra Pradesh, 'Andhra Pradesh Space Policy' (13 July 2025) <<https://apiic.in/wp-content/uploads/2025/07/space-policy.pdf>> accessed 13 March 2026.

⁴⁶ Department of Science and Technology, Government of Madhya Pradesh, 'Madhya Pradesh SpaceTech Policy 2026' <[https://mpsdc.mp.gov.in/Uploaded%20Document/Policies%20and%20Rules/MP%20Spacetechnology%20Policy_%20\(1\).pdf](https://mpsdc.mp.gov.in/Uploaded%20Document/Policies%20and%20Rules/MP%20Spacetechnology%20Policy_%20(1).pdf)> accessed 16 June 2026.

⁴⁷ Department of Defence Production, Government of India, 'Aerospace & Defence Sector Policy Compendium of States and Union Territories' (2025) <<https://www.ddpmod.gov.in/sites/default/files/d8f95a6d756e27ec960defcbb9dd4b8e2b21456a57b9913f95b8b3f8a9a1d80a/2096df5b9667fb99dfc0263aa80f3758c123e4833c97c46bfb65c15bacaea09a.pdf>> accessed 16 June 2026.

⁴⁸ *Rai Sahib Ram Jawaya Kapur v State of Punjab*, AIR 1955 SC 549 ('Rai Sahib').

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recognised that although Indian Constitution does not incorporate the doctrine of separation of powers in its absolute or rigid form, a functional separation of power exists to implement a system of checks and balances.⁴⁹ Hence, the Supreme Court has held that the executive has the power to carry into effect the aims and objects of the Constitution, which means more than merely executing legislations.⁵⁰ Therefore, it is not always necessary for executive orders to be backed by a legislation. Checks and balances require the executive to be subject to some form of legislative control, but such legislative control is not necessarily exercised through the delegation of law-making authority by a specific legislation. For example, if the Parliament authorises an expenditure out of the Consolidated Funds of India relating to an activity through annual Appropriation Acts, then, it can be assumed that the legislature has tacitly sanctioned the activities, so long as the activities are carried out in accordance with executive policy.⁵¹

While Indian Constitution does not strictly prohibit overlapping of functions between the three branches of government, it prohibits one branch from exercising the functions of another branch in a manner that amounts to wresting away of constitutional accountability.⁵² Additionally, the Supreme Court of India has held that executive instructions do not possess statutory character, and legal rights of citizens can only be curtailed by a statute.⁵³ The Supreme Court has further held that a specific legislation is necessary “if the Government requires certain powers in addition to what they possess under ordinary law in order to carry on the particular trade or business”, including where the Government encroaches upon private rights.⁵⁴ As Indian space activities are rapidly expanding, the executive may have to exercise greater law-making power, possibly leading to instances of executive overreach. The legislature has built in procedures for diversity of representation and ensuring accountability. Hence, governing space activities through executive instruments in the long-term may amount to bypassing accountability before the legislature. Therefore, while executive instruments regulating Indian space sector were necessary to fill the gaps, these executive instruments should not replace the need for legislative action beyond what is necessary. This view has been corroborated by the Parliamentary Committee 2026 Report.

⁴⁹ *Kesavananda Bharati v State of Kerala*, AIR 1973 SC 1461.

⁵⁰ *Rai Sabib* (n 48).

⁵¹ *ibid.*

⁵² *Bhim Singh v Union of India*, (2010) 5 SCC 538; *Ashwini Kumar Upadhyay v Union of India*, 2026 INSC 432.

⁵³ *State of Jharkhand v Jitendra Kumar Srivastava*, AIR 2013 SC 3383; *State of Madhya Pradesh v Thakur Bharat Singh*, 1967 SCR 454; *Bishambhar Dayal Chandra Mohan v. State of Uttar Pradesh*, (1982) 1 SCC 39; *D.C. Wadhwa v. State of Bihar*, AIR 1987 SC 579.

⁵⁴ *Rai Sabib* (n 48).

Enacting a national space legislation will ensure transparency and legislative accountability of space activities. Moreover, as the procedure to amend a legislation is more rigorous than amending an executive order, a national space legislation will provide certainty and stability, thereby encouraging participation by private entities in the space sector. Furthermore, the space sector is characterised by long gestation periods, high risks, and inadequacy of available funding. Hence, regulatory certainty will provide confidence to private actors to invest in the sector and to carry out space-related activities. Uncertain laws and bureaucratic hurdles discourage private sector participation, as the cost of *not* investing may be lower than the risk of entering into a market without a predictable legal framework.

B. Constitutional Limits in the Absence of Domestic Legislation

ISP 2023, NGP 2024, National Geospatial Policy 2022, and all other aforementioned instruments, except the telecommunication-related laws, constitute executive actions by the Union Government. Articles 53 (Executive power of the Union Government), 73 (Union Government's executive power extends to matters on which the Parliament can make laws) and 248 (Residuary power of the Parliament) of Constitution of India⁵⁵ read with Government of India (Allocation of Business) Rules 1961 (as amended from time to time), provides that the DoS is responsible for the space activities in India.⁵⁶ Moreover, Articles 51 (respect for international obligations of India), 253 (Parliament's power to give effect to international agreements) and Entry 14 of List I - Union List-of the Seventh Schedule (matters relating to "entering into treaties and agreements with foreign countries and implementing of treaties, agreements and conventions with foreign countries") of the Constitution of India provides that the Union Government has obligation to implement international obligations of India with respect to outer space activities.⁵⁷

⁵⁵ The Constitution of India 1950 ('Indian Constitution').

⁵⁶ The Government of India (Allocation of Business) Rules 1961 (as amended up to 27 September 2024).

⁵⁷ Indian Constitution (n 56).

India is a dualist country, and thus, treaties are not self-executing.⁵⁸ Yet, Article 51 of the Constitution of India, a non-enforceable Directive Principle of State Policy, provides for fostering respect for international law and treaty obligations.⁵⁹ Indian courts have held that, save certain situations, the Union Executive can implement India's international obligations domestically, thereby blurring the distinction between the dualist and monist approaches to the application of international law in the domestic context.⁶⁰

In 1954, the Calcutta High Court in *Krishna Sharma v. State of West Bengal* held that in case of a conflict between international law and domestic law, the courts shall attempt to harmoniously construct the two.⁶¹ Later, in *National Legal Services Authority v. Union of India*, the Supreme Court of India held that “[i]f parliament has made any legislation which is in conflict with international law, then Indian courts are bound to give effect to the Indian law, rather than international law. However, in the absence of contrary legislation, municipal courts in India would respect the rules of international law”.⁶² Thus, Indian courts have held that international law applies in the domestic context, except in certain situations where international law can be implemented only by virtue of legislation by the Parliament, such as:

- When applicable international law is contrary to existing domestic law;
- When international law affects the justiciable rights of Indian citizens;
- When international law requires payment from the Consolidated Fund of India (Articles 112 and 113 of the Constitution of India).⁶³

The Supreme Court of India in *Gramophone Co. v. Birendra Babadur Pandey* held that:

“[n]ational courts will endorse international law but not if it conflicts with national law. National courts, being organs of the national state and not organs of international law, must perforce apply national law if international law conflicts with it. But the courts are under an obligation, within legitimate limits, to so interpret the

⁵⁸ A Chandra, ‘India and International Law: Formal Dualism, Functional Monism’ (2017) 57 *Indian Journal of International Law* 25.

⁵⁹ Indian Constitution (n 56).

⁶⁰ A Basalalli, ‘Debating the Interface between International Law and Municipal Law: A Few Concerns Regarding the Relevance of the Traditional Debate, Primacy of Law and Integration of the Legal Systems’ (2021) 8(1–2) *Karnataka State Law University Journal* 183.

⁶¹ *Krishna Sharma v State of West Bengal*, AIR 1954 Cal 591.

⁶² *National Legal Services Authority v Union of India*, (2014) 5 SCC 438.

⁶³ R Kaul, ‘Recent Space Reforms in India: Perspectives on Policy and Law’ (2020) 44(2) *Journal of Space Law* 450.

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municipal statute as to avoid confrontation with the comity of nations or the well-established principles of international law. But if conflict is inevitable, the letter must yield”.⁶⁴

With respect to the implementation of India’s obligations under international space laws, there may be legal issues that can only be addressed through acts of Parliament, such as payment of compensation from the Consolidated Fund of India in case of liability arising from damage caused by an Indian satellite to a third-party State. Notably, India has ratified the Outer Space Treaty 1967,⁶⁵ the Rescue and Return Agreement 1968,⁶⁶ the Liability Convention 1972,⁶⁷ and the Registration Convention 1975.⁶⁸ India has also signed but not ratified the Moon Agreement 1979.⁶⁹ In order to implement India’s international obligations related to space activities, a national space legislation is highly desirable.

C. National Space Legislation Effectively Implements International Space Law

The role of national space legislations in complementing the international space law regime is well-recognised. Article VI of the Outer Space Treaty provides that “States Parties to the Treaty shall bear international responsibility for national activities in outer space” and “activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorisation and continuing supervision by the appropriate State Party”.⁷⁰ While Article VI of the Outer Space Treaty does not mandate any State to enact

⁶⁴ *Gramophone Co. v. Birendra Bahadur Pandey*, AIR 1984 SC 667.

⁶⁵ ‘Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies’ (adopted 27 January 1967, entered into force 10 October 1967) 610 UNTS 205 (‘Outer Space Treaty’).

⁶⁶ ‘Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space’ (adopted 22 April 1968, entered into force 3 December 1968) 672 UNTS 119 (‘Rescue Agreement’).

⁶⁷ ‘Convention on International Liability for Damage Caused by Space Objects’ (adopted 29 November 1971, entered into force 1 September 1972) 961 UNTS 187 (‘Liability Convention’).

⁶⁸ ‘Convention on Registration of Objects Launched into Outer Space’ (adopted 14 January 1975, entered into force 15 September 1976) 1023 UNTS 15 (‘Registration Convention’).

⁶⁹ ‘Agreement Governing the Activities of States on the Moon and Other Celestial Bodies’ (adopted 5 December 1979, entered into force 11 July 1984) 1363 UNTS 3 (‘Moon Agreement’).

⁷⁰ Outer Space Treaty (n 66) art VI.

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domestic space laws,⁷¹ a national space legislation is generally the most effective means to implement obligations under Article VI of the Outer Space Treaty.

National space laws also complement and clarify questions on liability for damage caused by space objects. Under Article VII of the Outer Space Treaty and the Liability Convention, liability is imposed upon the launching States, namely: (i) the State that launches a space object, (ii) the State that procures the launch of a space object, (iii) the State from whose territory a space object is launched, and (iv) the State from whose facility a space object is launched.⁷² There can be more than one launching State for a space object and all launching States are jointly and severally liable to third party States for damage caused by their space object.⁷³ If damage is caused by a space object on the surface of the Earth or to aircraft in flight, the launching States are absolutely liable to pay compensation for the resultant damage.⁷⁴ Exoneration from absolute liability is granted if the damage arises due to gross negligence or an action or omission with intent to cause damage by claimant State or persons it represents.⁷⁵ Fault-based liability applies in case of damage caused by a space object elsewhere than on the surface of the earth and to a space object of another launching State or to persons or property on board such space object.⁷⁶ There is no cap on the amount of compensation payable by launching States for damage, and the amount shall be determined according to international law and principles of justice and equity, so as to restore the person on whose behalf the claim is presented to the condition that would have existed if the damage had not occurred.⁷⁷ Though the launching States are jointly and severally liable for damage to third party States, the launching States may conclude agreements between themselves to apportion the financial obligation.⁷⁸

Hence, a national legislation will be helpful in determining liability borne by space actors, the insurance coverage undertaken for launch, and the apportionment of liability and indemnification in favour of the Government by private space actors in cases of damage. It is important to note that as the launching State, India may be held liable for damage caused by foreign space objects that India commercially launches from its launch

⁷¹ Laura Montgomery, 'US Regulators May Not Prevent Private Space Activity on the Basis of Article VI of the Outer Space Treaty' (2018) Mercatus Center Working Paper No 07542.

⁷² Outer Space Treaty (n 66) art VII; Liability Convention (n 68) art I(c).

⁷³ Liability Convention (n 68) art V(1).

⁷⁴ *ibid* art II.

⁷⁵ *ibid* art VI(1).

⁷⁶ *ibid* art III.

⁷⁷ *ibid* art XII.

⁷⁸ *ibid* art V(2).

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facilities.⁷⁹ National legislation is also important for laying down the applicable procedure to claim compensation in case an Indian entity suffers damage by a foreign space object.

Furthermore, national space legislations are helpful in determining the State of registry of space objects and implementing the Registration Convention. As India is a party to the Registration Convention, it is required to maintain a national registry where information about a space object is entered after its launch, and such information is also transmitted to the United Nations.⁸⁰ There can be only one State of registry and if there is more than one launching State, then the launching States shall jointly determine which of them will be the State of registry.⁸¹ National space legislation can provide a mechanism under which private entities shall furnish information to India in all cases where it is the launching State, as well as lay down mechanism to determine the State of registry in case of joint launches. It is particularly important to determine the State of registry in light of the Outer Space Treaty, which provides that the State of registry retains jurisdiction and control over space object and personnel thereof while in outer space or on a celestial body.⁸²

Moreover, a national space legislation will also be helpful to implement other international obligations under space treaties, such as the duty to carry out space activities with due regard to the interests of other States, the obligation to carry out space activities in the common benefit of all, and the obligation to avoid harmful contamination of outer space.⁸³

National space laws are excellent tools to comply with international obligations while adapting to particularities of a State, such as the range of its space activities and level of involvement of non-governmental entities and implementing national priorities. Different States adopt different approaches while establishing their domestic space law frameworks, ranging from unified legislations to a combination of national legal instruments, from a comprehensive single national law framework to different national laws based on different space

⁷⁹ *ibid* art V(3).

⁸⁰ Registration Convention (n 69) arts II(1) and IV.

⁸¹ *ibid* art II(2).

⁸² Outer Space Treaty (n 66) art VIII.

⁸³ U Dasgupta, 'Do National Space Laws Look Beyond Liability for Damage? The Case of India' (2018) 61 Proceedings of the International Institute of Space Law 157.

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activities.⁸⁴ In 2013, the UNGA adopted the resolution titled ‘Recommendations on national legislation relevant to the peaceful exploration and use of outer space’, which recommends that States should enact regulatory frameworks to govern national space activities and suggests elements that should be included in such frameworks.⁸⁵

ISP 2023 indicates India prefers a single comprehensive national law framework with a single-window clearance mechanism. In any case, enacting different legislations for different space activities may lead to situations where no regulatory framework applies for certain space activities, especially novel space activities. From its initial focus on socio-economic development, the Indian space program has diversified and evolved to accord greater prominence to private participation, defence and security imperatives, growth of the space economy, and the role of space sector as a foreign policy tool. This is an opportune moment to clarify India’s national priorities with respect to the space sector through an act of the Parliament.

IV. TOWARDS A LEGAL ARCHITECTURE FOR INDIAN SPACE SECTOR

A. National Space Law Provisions Recommended by the 2013 UN

General Assembly Resolution

According to UN GA Resolution 68/74,⁸⁶ a national space legislation should: (a) define what constitutes a ‘space activity’; (b) delineate the scope of application of the legislation such as territorial jurisdiction, nationality jurisdiction, etc.; (c) establish an authorisation framework; (d) provide conditions of authorisation for each space activity, as well as procedures for its grant, modification, suspension, and revocation; (e) establish mechanisms for continuous supervision of space activities; (f) provide for the establishment and maintenance of a national registry of space objects and furnishing registration information to UN; (g) lay down the procedure to seek recourse from space operators for damage caused, thereby attracting the State’s international liability, insurance requirements,

⁸⁴ Paul Stephen Dempsey, ‘National Laws Governing Commercial Space Activities: Legislation, Regulation, and Enforcement’ (2016) 36(1) *Northwestern Journal of International Law & Business* 1.

⁸⁵ ‘Recommendations on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space’ UNGA Res 68/74, UN Doc A/RES/68/74 (11 December 2013) (‘UNGA Res 68/74’).

⁸⁶ *ibid.*

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and indemnification procedures; and (h) lay down the procedure to ensure continuing supervision of space activities in cases of transfer of ownership or control of space objects.

B. Lessons from India's Proposed Legislations and Policies

In addition to the issues that the UNGA Resolution 68/74 suggests, India's 2017 Bill included the following important issues: (a) transfer of licence for space activities; (b) restriction on disclosure of information relating to space technology; (c) entry restriction in space facilities; (d) protection of intellectual property rights ("IPR") (though the IPR provision in the bill was highly restrictive); (e) punishment for undertaking commercial space activities without license; (f) punishment for damage or pollution to environment of earth, airspace or outer space (though punishment in that bill was excessive).⁸⁷ Though the 2017 Bill had restrictive IPR provisions and imposed stringent penalties for breaches, it included some important elements which should be carried forward in India's new space legislation. A table comparing UN GA Resolution 68/74, 2017 Bill, ISP 2023, and NGP 2024 is included in the **Annexure**.

The Draft Spacecom Policy 2020 sought to facilitate space-based communications and set up an authorisation process for space assets used in providing space-based communication in India and outside.⁸⁸ However, the proposed policy does not specify the timeline for the authorisation process, as well as the consequences for the licensee for not abiding with terms and conditions of the authorisation. The authorisation does not specifically require space operators to undertake any steps to mitigate debris to protect the space environment. Moreover, though the authorisation application requires providing financial guarantee or insurance cover by the application, the minimum amount for either of these is not provided. Moreover, it seems that for constellation satellites space authorisation is required for each specific satellite, which can pose as a high regulatory burden. The document does not specifically require applicants to provide information to government authorities for the registration of a space object. Additionally, the document does not carve out any exception for defence-related satellites. Similarly, the Draft Space-based Remote Sensing Policy did not specifically create an

⁸⁷ 2017 Bill (n 10).

⁸⁸ Draft Spacecom Policy 2020 <<https://ispa.space/assets/pdf/policies/indian/policies/draft-spacecom-policy-2020.pdf>> accessed 16 June 2026.

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exception for defence-related remote sensing satellites, apart from the provision that government may impose control on imaging and data distribution in the interests of national security.⁸⁹

The Draft Transportation Policy 2020 was proposed to encourage commercialisation and privatisation of space transportation in India.⁹⁰ The proposed policy plans to set up a transparent authorisation process. However, the authorisation process does not require applicant to specify a plan for disposing space objects. The document does not cover the possibility of sub-orbital tourism or point-to-point transportation, and it is unclear whether reusable launch vehicles will require authorisation each time they fly.

C. Proposed Provisions in the New National Space Legislation

The new national space legislation should address the issues suggested in the UN GA Resolution 68/74 and incorporate the lessons learnt from the earlier proposed space policies. The new space legislation will be implemented in a space ecosystem which has already expanded and diversified with several private actors. Hence, it should ensure that its framework does not conflict with existing laws governing commercialisation in India, such as the Companies Act 2013 and the Competition Act 2002, for instance. That said, considering that the space ecosystem today involves diverse stakeholders with varied interests, reconciling different viewpoints will be a complex process.

In particular, the new national space legislation should contain the following:

1. Statutory Recognition of IN-SPACE

It has been submitted that the new national space legislation shall constitute IN-SPACE as a statutory body and will specify its powers.⁹¹ This will be a welcome step, and it is hoped that IN-SPACE will not continue

⁸⁹ Draft Space-based Remote Sensing Policy of India 2020 <<https://ispa.space/assets/pdf/policies/indian/policies/draft-space-based-remote-sensing-policy-of-india-2020.pdf>> accessed 16 June 2026.

⁹⁰ Draft National Space Transportation Policy (2020) <<https://sarinlaw.com/wp-content/uploads/2021/09/Space-Transportation-Policy-June-2020.pdf>> accessed 16 June 2026.

⁹¹ Parliamentary Committee 2026 Report (n 9).

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to operate under the DoS once it is granted statutory power. This statutory change will address the criticism that the Indian regulatory process conflates the operator, the promoter, and the regulator within the Union executive, with the same individuals holding multiple high-level posts, raising questions of bias and violation of principles of natural justice.⁹²

2. Establishing a Mechanism for Authorisation and Continuous Supervision of Space Activities

The new space legislation will also lay down the authorisation process by IN-SPACe, which is currently governed by NGP 2024. The single-window clearance mechanism of IN-SPACe, as provided in ISP 2023 and NGP 2024, has been helpful for the smooth operation of space activities. As of 1 June 2026, IN-SPACe has completed reviewing 601 applications for authorisation, promotion, and technical facilitation, review of 181 applications is in progress and 111 are under preliminary review.⁹³ It is hoped that the new space legislation shall continue the single-window clearance mechanism. The Parliamentary Committee 2026 Report noted that currently IN-SPACe authorisation applies to governmental activities which already operate under administrative oversight of DoS and hence, these entities should not require separate authorisation from IN-SPACe in order to streamline the authorisation process by applying the principle of “minimum government, maximum governance”.⁹⁴ Hence, akin to what the Draft Space Activities Bill 2017 proposed, only space activities by NGEs should require IN-SPACe authorisation. Moreover, keeping in mind the strategic importance of defence-related space activities, additional authorisation conditions or exemptions, as necessary, may be implemented for these activities.

The authorisation and supervision process should be transparent and lay down clear timelines for processing of applications. An issue that warrants consideration is the manner in which it can be ensured that the regulator abides by these prescribed timelines. For example, if the regulator does not process applications within an extended stipulated timeline, can authorisation be deemed to be approved or will such deemed approval pose

⁹² A Tiwari, ‘A New Draft for the Space Activities Bill: Amidst a Sea-Change in India’s Space Sector’ (*CSDR Online – Blind Spot*, 9 June 2025) <<https://csdronline.com/blind-spot/a-new-draft-for-the-space-activities-bill-amidst-a-sea-change-in-indias-space-sector/>> accessed 16 June 2026.

⁹³ Indian National Space Promotion and Authorisation Centre (IN-SPACe), ‘Status of Applications Submitted by Organisations’ https://www.inspace.gov.in/inspace?id=inspace_nge_dashboard accessed 16 June 2026.

⁹⁴ Parliamentary Committee 2026 Report (n 9).

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safety risks? Moreover, a robust regulatory process should involve sufficient skilled human resources, so that the officers can comprehensively analyse the applications involving complex challenges and niche technology.

National space legislation will provide a legal basis for the IN-SPACe to continuously supervise space activities, by granting legal immunity to inspectors, allowing them to enter space facilities to inspect and enforce compliance and carry out search and seizure. It can also lay down a framework for carrying out investigations in cases of accidents and incidents in outer space or relating to space activities.

The national space law framework should also provide for consequences arising from breach of the laws, such as civil penalty, imprisonment, and fine. Currently, a breach of license conditions allows the IN-SPACe to revoke, suspend, or amend space licenses and IN-SPACe should be allowed to implement such enforcement measures under the national space legislation as well. Legislators may draw upon national space laws of other countries⁹⁵ to ensure that the Indian space laws are competitive and not unnecessarily restrictive.

Additionally, as India prioritises human space exploration and setting up of space stations like the BAS, it must be clarified that Indian law applies to Indian space objects, space stations, and space installations according to Article VI and Article VIII of Outer Space Treaty. National space law should include specific safeguards for human spaceflight exploration, including addressing emergencies, return and rescue of astronauts and space tourists, operator responsibility, safety standards, liability, insurance, and cross-waiver of liability between partners.

3. Blanket Regulation versus Differential Licensing for Different Space Activities

While the 2017 Bill adopted a blanket approach for authorisation of all commercial space activities, ISP 2023 and NGP 2024 provide for differential licensing requirements and conditions for different space activities. As of 1 June 2026, IN-SPACe has received 350 applications for satellites, 116 for launch vehicles, 189 for space applications, 10 for space situational awareness, 73 for ground stations, and 12 for humans in space.⁹⁶

⁹⁵ United Nations Office for Outer Space Affairs (UNOOSA), 'National Space Law Database' <<https://astro.unoosa.org/astro/en/national-space-law-landig-page.html>> accessed 16 June 2026.

⁹⁶ Indian National Space Promotion and Authorisation Centre (IN-SPACe), 'Status of Applications Submitted by Organisations' <https://www.inspace.gov.in/inspace?id=inspace_nge_dashboard> accessed 16 June 2026.

The new space legislation should continue this approach of a differential licensing process for different space activities which has proved to be quite efficient. In any case, space activities require years of planning and manufacturing that might already be underway for some space activities for which applications are yet to be filed. Hence, drastic changes in the licensing process will pose as a setback to the private space industry. In case certain drastic changes are introduced in the licensing process, the new space legislation should include “grandfathering” clauses to protect the rights of existing licensees as well as the applications under review to ensure that extra costs are not imposed on planned space activities. Alternatively, the new national space legislation may implement the changes in the licensing process in a phased manner.

ISP 2023 and NGP 2024, though, do not establish the licensing process for some important space activities such as satellite navigation and positional services, enhanced safety and other requirements for crewed space transportation, deep space missions, establishing space stations including BAS, establishing data centres in space and In-Space Servicing, Assembly, and Manufacturing (ISAM), space resource extraction and establishing solar power generation systems in space. Though all these activities may not be an immediate focus areas of the Indian space sector, establishing a licensing framework is necessary to provide certainty to prospective applicants and boost the space economy.

4. Defining ‘Space Activities’

As the UN GA Resolution 68/74 provides, national space legislations should define the ‘space activities’ that fall within their ambit. Including such definitions in national law is particularly important, as no international consensus exists on the boundary between airspace (which is governed by the foundational principle of State sovereignty over its airspace) and outer space (which is governed by the fundamental principle of freedom of exploration and use of outer space). Generally, a functional approach is applied, under which space law governs space activities, irrespective of origin and therefore, national space legislation should define the term ‘space activities’.⁹⁷ Notably, both the 2017 Bill and NGP 2024 defined space activity in Indian context and the new space legislation should also define it.

⁹⁷ Irmgard Marboe, ‘National Space Law’ in Frans von der Dunk (ed), *Handbook of Space Law* (Edward Elgar Publishing 2015) 127.

Alternatively, the national space legislation can define the boundary between airspace and outer space, as some countries such as Kazakhstan have done in their national laws,⁹⁸ though the Indian government does not currently seem to favour this approach.

5. Defining Other Relevant Terms to Ensure Clarity

National space legislations should seek to ensure that most of the terms utilised therein are precisely defined. An example of a lack of definition in space governance documents is the non-definition of several terms in NGP 2024. For example, NGP 2024 provides that space activities that pose a “threat to national defence” shall not be carried out.⁹⁹ However, the term “threat to national defence” is not defined. Moreover, NGP 2024 provides that penalties shall be imposed when an operator discontinues an authorised activity that has an “impact on Indian users” and “India’s national security”. Neither term is defined. Hence, the new space legislation should clearly define the important terms that it uses.

6. Regulation of Defence Space Activities

Most space technology is inherently dual-use and space applications such as telecommunications, remote sensing, and navigation, are used for military purposes. However, ISP 2023 does not specifically address defence-related space activities. The strategic role of space systems, including ground stations, in conflicts has been acknowledged. National regulatory mechanisms to protect strategic space assets should be implemented, such as adopting cybersecurity standards applicable on space operators. The space legislation should address not only threats of physical damage to space systems, but also other security threats, such as jamming, spoofing, hacking, harmful interference with radiofrequencies, and cybersecurity breaches. The space legislation should address both civilian and defence space activities as well as the fusion of defence and civilian space activities. It should facilitate private sector involvement in defence space activities and in dual-use space technologies.

⁹⁸ Tommaso Sgobba and Mini Gupta, ‘Proposing an International Convention for an Intermediate Region Between Airspace and Outer Space Instead of the “Kármán Line”’ (2022) 9(2) *Journal of Space Safety Engineering* 127.

⁹⁹ NGP 2024 (n 21) ch III.

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Dual-use and sensitive space technologies, such as rocket systems, avionics and navigation systems, telemetry and tele-command equipment, encryption modules and reconnaissance sensors that are included in India's SCOMET List (Special Chemicals, Organisms, Materials, Equipment and Technologies) list are subject to export-control approval.¹⁰⁰ Such export control restrictions must be well-balanced and should not hinder the growth of the space economy.

7. Establishing Governance Framework for Liability and Insurance

In the last decade, with increasing space activities worldwide, there has been an increase in the number of operational satellites and space debris. As a result, the space environment has become quite congested. Hence, developing a national framework to govern liability for the damage caused by space objects and responsibility for space activities is important. Currently in India, most liability, responsibility, and insurance questions are determined contractually, between satellite operators, launch operators, and insurance companies.

NGP 2024 contains that in case of sub-orbital and orbital launches from Indian territory, insurance cover for third party liability for space activities shall be maintained and the Government of India shall be added as one of the insured entities.¹⁰¹ Considering the inherent risks associated with space activities, it is pragmatic for NGEs to obtain insurance cover. In fact, insurance companies are already offering different space insurances in India. For example, Tata AIG recently made public a draft contract on third-party liability insurance for in-orbit satellites.¹⁰² However, insurance premiums can be very high if national legislation does not prescribe a maximum liability cap for third-party liability. Maximum liability caps, at least in certain cases, coupled with statutory mandatory insurance can make the space insurance market competitive.

India has not established any cap on the maximum liability incurred by NGEs in case of damage by their space objects. Currently, a draft policy framework and guidelines addressing State's Liability towards third party

¹⁰⁰ Directorate General of Foreign Trade, Government of India, 'List of SCOMET Items' (September 2024) <https://defenceexim.gov.in/WriteReadData/home_pdf/Updated_Scomet_List_Notification.pdf> accessed 16 June 2026.

¹⁰¹ NGP 2024 (n 21) ch X.

¹⁰² Tata AIG General Insurance Company Limited, 'Satellite In-Orbit Third Party Liability Insurance Wording' <https://www.tataaig.com/s3/satellite_in_orbit_tp_policy_wordings_464b9ae4df.pdf> accessed 16 June 2026.

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damages arising due to Indian Space Objects is undergoing consultations.¹⁰³ This draft executive instrument will also seek to clarify rules regarding insurance cover for third party damages.¹⁰⁴ The national space legislation should contemplate placing maximum liability caps for certain space actors in order to facilitate private space industry. In this case, if the liability incurred to a foreign State is above the maximum liability cap, the difference will be payable by Indian government. In order to strike a balance between safeguarding taxpayer's money and encouraging space commercialisation, the benefit of maximum liability cap should be restricted to only space-tech start-ups and Micro & Small Enterprises (MSMEs). The national space legislation should make insurance coverage mandatory for certain space activities, though the amount of insurance cover may vary according to space activities. A related issue is whether mandatory third-party liability insurance be instituted only for launch phase, or for the entire lifetime of the satellite including its decommissioning. Alongside, national legislation should implement appropriate model of apportionment of liability and responsibility between the government and the private sector.

Obtaining property insurance is also pragmatic to avoid incurring huge losses in cases of mission failures. For example, on 12 January 2026, India's PSLV-C62 launch vehicle failed to launch most payloads into orbit. Yet not all 15 customer satellites had property insurance coverage, including OrbitAid's AyulSAT.¹⁰⁵ OrbitAid had made several attempts to obtain insurance coverage for AyulSAT from Indian and foreign companies, which did not materialise because AyulSAT was an experimental satellite with innovative technology.¹⁰⁶

Rule 14 of the Delegation of Financial Powers Rules, 2024¹⁰⁷ provides that government property, shall not be insured and no expenditure should be made for insurance coverage of government properties, unless exceptions are made.¹⁰⁸ Hence, ISRO as well as NSIL, as a Public Sector Enterprise (like Antrix earlier), does not obtain property insurance cover for the launch vehicles developed and manufactured by ISRO, even while providing launch services to customer satellites. However, as India is privatising manufacturing of launch

¹⁰³ Department of Space, Government of India, 'Space Insurance Ecosystem in India' (*Press Information Bureau*, 4 February 2026) <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2223124®=3&lang=1>> accessed 16 June 2026.

¹⁰⁴ *ibid.*

¹⁰⁵ '6 Satellites of Indian Startups Doomed in ISRO PSLV Failure: Were They Insured?' (*WION News*, 12 January 2026) <<https://www.wionews.com/science/6-satellites-of-indian-startups-doomed-in-isro-pslv-failure-were-they-insured-1768290742727>> accessed 16 June 2026.

¹⁰⁶ *ibid.*

¹⁰⁷ The Delegation of Financial Powers Rules 2024, r 14.

¹⁰⁸ *ibid.*

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vehicles, it may be important to obtain property insurance for these launch vehicles whose design and development involved public fund. For example, private sector has been invited to express interest in obtaining Polar Satellite Launch Vehicle (“**PSLV**”) technology for end-to-end realisation, operation, and commercialisation of the launch vehicle.¹⁰⁹

International liability is a crucial issue, and India has been witnessing the complexities of this issue in the Devas-Antrix dispute over a failed satellite deal, involving Antrix Corporation Limited (ISRO’s commercial arm), involving an amount of over 1 billion USD with interest, and which caused severe reputational damage to Antrix. Well-defined law regarding liability, responsibility, indemnification, insurance, and cross-waiver are important to thwart claims of arbitrary procedure, similar to Devas’s claims in the Devas-Antrix dispute as well as to facilitate private sector participation and investment.

Additionally, if space activity of an NGE creates space debris, national space law may require that entity to compensation based on polluter pays principle and for not acting with due regard to corresponding interests of others.¹¹⁰ However, the polluter is not always identifiable, and the polluter may cease to exist due to insolvency. To protect public finances from being depleted to clean-up in such cases of the damage caused by space objects, national law should provide for setting up a common fund. This fund should be accessed when the defaulter private actor is not identifiable or available as well as to finance developing technologies and designs that promote space safety and sustainability.

8. Space Safety, Sustainability, and Space Traffic Management

India’s national space legislation should address questions of space safety, sustainability, space situational awareness, space traffic management, and space weather changes. NGP 2024 requires applicants to provide information on measures undertaken for space situational awareness (“**SSA**”). However, India needs more regulatory certainty for SSA – including military SSA – and continuous satellite tracking. Hence, India should formulate laws on classification of trackable space objects, data fusion from disparate sources, verification of SSA data with the objective of avoiding data manipulations, risk prediction frameworks, procedure to respond in

¹⁰⁹ Indian National Space Promotion and Authorisation Centre (IN-SPACE), ‘Expression of Interest for PSLV Transfer of Technology’ <https://www.inspace.gov.in/inspace?id=pslv_eoi_tot> accessed 16 June 2026.

¹¹⁰ Outer Space Treaty (n 66) arts III and IX; *Vellore Citizens Welfare Forum v Union of India* AIR 1996 SC 2715.

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critical close approaches and collision avoidance manoeuvres (“**CAMs**”). A national space legislation should mandate that every launch and satellite operator to regularly obtain information regarding the position of their space objects. A related tricky question is whether tracking information be maintained only for functional space objects or should such obligation extend to space debris too. Moreover, a national space legislation should provide for a mechanism to deal with challenges posed by space weather changes, such as satellite damage due to geomagnetic storms.

NGP 2024 provides that adhering to by the COPUOS Space Debris Mitigation Guidelines¹¹¹ is a license condition for space activities. India’s national space legislation should implement the COPUOS Space Debris Mitigation Guidelines, the COPUOS Long-Term Sustainability Guidelines 2019,¹¹² and other relevant soft laws in the domestic context to the “greatest extent feasible and practicable.” ISRO aims to have debris-free space missions by 2030, and national law should implement concrete measures to meet this goal.¹¹³

Space systems should be standardised and made interoperable. A shared infrastructure approach and alignment with global practices would aid in better international coordination and increase marketability of domestic space systems. ISP 2023 provides that IN-SPACe may recommend guidelines for space safety and develop space industry standards based on global benchmarks. Accordingly, IN-SPACe recommends that space actors abide by Indian Space Industry Standards, which address several aspects of space safety.¹¹⁴ These standards are based on International Organisation for Standardisation (“**ISO**”) standards. Law should promote and encourage the design of resilient space systems and impose the implementation of mandatory cybersecurity safeguards, including gateway localisation and regulation of interception.

A national space legislation should address whether it is feasible to set up a national space traffic management framework, considering there is no international consensus on rules of space traffic management. A

¹¹¹ Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space, UNGA Res 62/217, UN Doc A/RES/62/217 (22 December 2007).

¹¹² Guidelines for the Long-Term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space, UN Doc A/74/20, annex II (2019).

¹¹³ Indian Space Research Organisation, ‘India’s Intent on Debris-Free Space Missions – Explained’ (19 April 2024) <https://www.isro.gov.in/Debris_Free_Space_Missions.html> accessed 15 March 2026.

¹¹⁴ Indian National Space Promotion and Authorisation Centre (IN-SPACe), *Indian Space Industry Standards* <https://www.inspace.gov.in/inspace?id=standards_page> accessed 16 June 2026.

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well-defined regulatory framework on managing air traffic in the Indian airspace and overseeing space launches from Indian territory is necessary. Coordination between space launches and air traffic will ensure that Notice to Airmen (“**NOTAM**”) of any planned or actual disruption to air traffic services – issued due to accommodate space launches – are not oversized or overly cautious.

However, measures to ensure space safety and sustainability should be onerous on experimental space missions and newer space actors. For example, the Draft Space Activities Bill 2017 prescribed excessive punitive measures for a space activity that pollutes outer space, airspace, or Earth environment, which disincentivised newer space actors.¹¹⁵ A balance must be struck between fostering innovation, supporting the growth of the space sector, and environmental protection.

9. Framework and Procedure for Registration of Satellites

A national space legislation should lay down the framework and procedure for registration of satellites in consonance with the Registration Convention. India established its National Register of Space Objects in 1987. Registration information of registered space objects is relayed to the UN according to the Registration Convention.¹¹⁶ National framework requiring NGEs to provide registration information to IN-SPACe should contemplate at what stage such information should be sought from NGEs, in order to avoid imposing unnecessary regulatory hurdles upon the operator, while ensuring compliance with international obligations. A national space legislation should provide how the State of registry is determined in joint space missions. Along with information required according to Registration Convention, national law should require space operators to furnish information on additional parameters about the orbital position of a space object. National law should also require reporting of change in status of a space object, like a space object becoming non-functional, or change in supervision of a space object due to in-orbit transfer of ownership.¹¹⁷

10. Incentivising Private Sector Through Technology Transfer

¹¹⁵ 2017 Bill (n 10) s 16.

¹¹⁶ Registration Convention (n 69); ‘Recommendations on Enhancing the Practice of States and International Intergovernmental Organizations in Registering Space Objects’ UNGA Res 62/101, UN Doc A/RES/62/101 (17 December 2007) (‘UNGA Res 62/101’).

¹¹⁷ *ibid.*

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A list of space technologies developed by ISRO through public funding, which are available for transfer to private sector, are listed in IN-SPACE's website.¹¹⁸ In these technology transfers, NSIL is the actual licensor and IN-SPACE acts as facilitator.¹¹⁹ It is hoped that this transfer of ISRO's space technology to the private sector shall continue. However, such technology transfer raises questions on who owns the IPR in case of incremental inventions. A related question is whether private entity to whom ISRO technology has been transferred can further resell such technology. In case of an accident arising from space activity that used a technology transferred by ISRO, a national space legislation may consider providing immunity to ISRO, IN-SPACE, and NSIL against any domestic liability claims.

The space industry suggests that while calculating amount chargeable to private actors for transfer of ISRO's space technology, the entire cost of development, manufacturing, and testing of space technology should not be recovered, as such amount will be prohibitively high. Instead a nominal amount should be charged as technology transfer fee.¹²⁰ The Parliamentary Committee 2026 Report recommended charging a more competitive and market-aligned technology transfer fee.¹²¹ A national legal framework should establish a mechanism to determine the technology transfer fee which should not be nominal or at no cost for commercial entities, and instead, should be based on the commercial potential of technologies. Exceptions may be made for non-profit entities and other entities using these technologies for socio-economic development.

11. Funding Support and Financial Incentives to Encourage Private Participation

The Indian space sector faces relatively low funding allocation for several projects. In particular, space startups face difficulty in obtaining late-stage capital, despite a robust growth trajectory. Funding support and financial incentives can address the 'valley of death' in innovation, i.e., where technologies fail to translate into usable products due to a lack of demand or lifecycle support. India has recently introduced several such financial incentives and funding support schemes. For example, Goods and Services Tax ("GST") exemption on satellite

¹¹⁸ Indian National Space Promotion and Authorisation Centre (IN-SPACE), *Technologies Available for Transfer* <https://www.inspace.gov.in/inspace?id=inspace_technology_transfer_page> accessed 13 January 2026.

¹¹⁹ Press Information Bureau, Government of India, 'Parliament Question: Technology Transferred Agreement' Department of Space (10 December 2025) <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2201529®=3&lang=1>> accessed 16 June 2026.

¹²⁰ Indian Space Association (ISpA), 'Comments on the Draft Technology Transfer (TT) Policy 2021–2022' <https://ispa.space/assets/pdf/consultations/Recommendations_Comments_on_Technology_Transfer_Policy.pdf> accessed 16 June 2026.

¹²¹ Parliamentary Committee 2026 Report (n 9).

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launch services and transfer of communication spacecrafts is granted to encourage the domestic space sector.¹²² Other examples include state-level space polices that offer partial reimbursement of launch costs, patent filing costs, and industrial housing subsidies.

Moreover, in October 2024, the Indian government decided to allocate a venture capital fund of INR 1000 crore exclusively to the space sector.¹²³ Such venture capital funding can fill a critical gap in the high-risk space sector with a long research and development period, where traditional investors are hesitant to invest.

Foreign direct investment (“**FDI**”) in the space sector was liberalised in February 2024, allowing 100% FDI in automatic route for manufacturing of components and systems for satellites, ground segment and user segment, 74% FDI in automatic route in satellites manufacturing and operation, satellite data products, ground segment and user segment, and 49% FDI in automatic route for launch vehicles, creation of spaceports for launches and re-entry of spacecrafts.¹²⁴ It is expected that this liberalisation will not be reversed in the new legislation.

Despite the current FDI liberalisation, foreign investors and collaborators may be severely affected in cases where government may need to restrict foreign access to space infrastructure due to national security concerns. Hence, national legislation should include safeguards so that foreign investors and collaborators are not disproportionately and unfairly affected in such situations of emergency. Also, since NGP 2024 allows only Indian entities to carry out space activities as a general rule, the new space legislation may clarify how ‘Indian Management and Control’ in Indian NGEs interact with sectoral FDI caps, in order to ensure that venture capital and private equities are not subjected to opaque investment screening.

¹²² Press Information Bureau, Government of India, ‘Parliament Question: Homegrown Space Products’ Department of Space, Press Release No 2083342 (11 December 2024) <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2083342®=3&lang=2>> accessed 16 June 2026.

¹²³ Department of Space, Government of India, ‘Empowering India’s Space Economy: Rs 1,000 Crore Venture Capital Fund Initiative for Innovation and Growth’ (*Press Information Bureau*, 25 October 2024) <<https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2068155®=3&lang=2>> accessed 16 June 2026.

¹²⁴ Press Information Bureau, Ministry of Commerce and Industry, Government of India, ‘Cabinet Approves Amendment in the Foreign Direct Investment (FDI) Policy on Space Sector’ (21 February 2024) <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2007865®=3&lang=2>> accessed 16 June 2026.

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India laws can adopt an approach similar to Luxembourg which enacted national space laws to incentivise commercial space exploration and exploitation, attract entrepreneurial space research, create synergy between space and other sectors, and attract expertise and finance for a sustainable space economy.¹²⁵

12. Using Space Technology to Meet Sustainable Development Goals

The role of space systems in accelerating sustainable development on Earth was recognised by the UNGA in 2021 through the Space2030 Agenda.¹²⁶ Space technology and applications can be useful in tele-education, tele-health, precision farming, sustainable agriculture, sustainable fishing, monitoring climate, environmental changes, and measuring and monitoring national developmental progress. India has historically used space technology for its socio-economic development. However, proliferation of the benefits of space technology to all requires digital literacy, public awareness about the benefits of space technology, and infrastructural support, like access to broadband in rural areas.

Moreover, remote sensing data collected by Indian satellites should be made accessible to Indians. Currently, there is lack of a well-defined framework to provide private citizens real-time or near-real-time remote sensing data obtained by India's governmental satellites. While restrictions may be imposed on dissemination of data pertaining to high-risk localities due to national security reasons, as a general rule, imagery by Indian satellites should be made easily accessible in India.

Space systems and space applications can play an important role in disaster prevention, management, and rehabilitation. During disaster situations, law may allow expedited or automatic clearances for emergency satellite communication equipment, temporarily suspend regulatory restrictions on telecommunication tools essential for relief operations, mandate public and private satellite operators to prioritise emergency bandwidth, and allocate transponder capacity of government satellites as necessary to address disasters.

13. Space Activities and Interplay with Other Advanced Technologies

¹²⁵ Luxembourg Space Agency, 'Legal Framework' <<https://space-agency.public.lu/en/support/industry-portal/legal-framework.html>> accessed 16 June 2026.

¹²⁶ The "Space2030" Agenda: Space as a Driver of Sustainable Development, UNGA Res 76/3, UN Doc A/RES/76/3 (25 October 2021).

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Space technology interacts with modern advanced technologies such artificial intelligence (“AI”), sophisticated predictive analytics, quantum mechanics, hypersonic systems, semiconductors, and 3D printing. For example, AI and predictive analytics tools may be integrated in satellites to predict whether a close approach warrants carrying out CAM and to conduct the CAMs. The use of advanced technologies raises complex questions. For example, if collision in space occurs due to a decision-error by AI, who bears the responsibility and liability for the damage? If AI and predictive modelling analyses satellite imagery leading to biased outcome, who can be held accountable (especially since AI decisions may not be explainable)? Additionally, the use of these advanced technologies may require handling large amounts of data. Thus, NGEs would be required to abide by laws on data privacy and personal data protection, specifically the Digital Personal Data Protection (“DPDP”) Act, which will be implemented from May 2027. In particular, remote sensing satellites capture Earth images which may be sensitive, and hence, ensuring data protection is crucial.

14. Space Resource Extraction

Though ISP 2023 *inter alia* encourages the private entities to engage in space resource extraction, there is no further guidance on in any other policy document on authorisation and continuous supervision of space resource extraction by NGEs.

The Moon Agreement¹²⁷ contemplates the exploitation of the natural resources of the Moon and other celestial bodies, provided that the State Parties establish an international regime to govern such exploitation. No such international regime has been established yet. In any case, India has signed, but not ratified, the Moon Agreement.

In June 2023, India signed the Artemis Accords, which is not a treaty, but a US-led political commitment that interprets the multilateral space treaties. The Artemis Accords provide that the extraction of space resources does not amount to appropriation of outer space, and is not prohibited under the multilateral space treaties.¹²⁸

¹²⁷ Moon Agreement (n 70) art 11(5).

¹²⁸ The Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes (signed 13 October 2020) <<https://www.nasa.gov/wp-content/uploads/2022/11/Artemis-Accords-signed-13Oct2020.pdf?emrc=69b732b084cc7>> accessed 16 June 2026, s 10.

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Since this provision of Artemis Accords is highly contested, if India plans to allow its space actors to conduct space resource extraction, it should formulate clear laws to govern such activities.

15. Space Activities and the Companies Act

NGP 2024 provides that only Indian entities, whether incorporated or not, can carry out space activities in India. It further provides that the transfer of authorisation for space activities is not allowed, except with the prior written approval of IN-SPACe, although a new authorisation application can be submitted. NGP 2024 provides that an entity that has been granted IN-SPACe authorisation shall inform IN-SPACe “in writing and through email” of any change in its “Management and Control” or shareholding pattern, within 48 hours of such change, and in such case, IN-SPACe may revoke or amend the authorisation or issue a new authorisation. The Companies Act, 2013, is relevant to ascertain what constitutes a “change” in Management and Control or shareholding pattern of company which would trigger the requirement to inform IN-SPACe and apply for a new authorisation. Another related question is whether IN-SPACe authorisation can be considered an ‘asset’ of the company. These questions can become very important in mergers and acquisitions involving space companies.

16. Space Activities and Competition Law

Given the opening up of end-to-end space activities to private players, the establishment of IN-SPACe, and the commercialisation of the space sector, it may be necessary to apply competition law to space activities. Legislators should ponder over whether the space sector should be regulated by the Competition Commission of India and whether monopolisation, anti-competitive behaviour, and cartelisation is problematic in this sector. Sectors such the space industry require the maintenance of high safety standards, the implementation of which can be expensive. Thus, there is a risk of creation of monopolies and duopolies. The problem of relying on such imperfect market competition structures was highlighted in December 2025, when the domestic aviation sector was crippled for a few days due to disruption of Indigo flights, which has 65% of the aviation market.¹²⁹

17. Space Activities and Intellectual Property Rights

¹²⁹ S Sharma, ‘DGCA’s Inquiry Committee Probing IndiGo Meltdown Submits Report’ (*The Indian Express*, 27 December 2025) <<https://indianexpress.com/article/business/aviation/dgcas-inquiry-committee-probing-indigo-meltdown-submits-report-10440696/>> accessed 16 June 2026.

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The IPR regime under the 2017 Bill was rather restrictive and provided that the IPR for products developed in space belongs to the Union Government. Based on current practices, it seems India's stance on IP for innovations in outer space has undergone change since then. As India has jurisdiction and control over its space objects and space installations, the domestic IP law regime can apply to outer space. A national space legislation should extend application of domestic IP law to Indian space objects, with any required modifications. A strong and predictable IPR regime will encourage innovation by private actors. Examples of IPR in space include patents for inventions in outer space and copyright for maps generated through remote-sensing data. Additionally, the law should clarify how IPR will be implemented in joint missions between the public and private sector actors and between Indian and foreign partners where inventions, maps, software, and remote-sensing outputs are collaboratively developed.

V. CONCLUSION

As the Parliamentary Committee 2026 Report indicates, given the expansion of Indian space industry and space assets proving vital for defence sector, India requires a legal framework to govern its space sector. Hence, this article provides evaluates the current legal framework governing space activities and lays down proposal of a new legal architecture to be included in a new space legislation in India. The relevance of national space legislation to complement multilateral space treaties is well-recognised. Thus, India should also adopt a comprehensive national space legislation to regulate its space activities. It is hoped that the new legislation will provide statutory status to IN-SPACe, which acts as regulator of space activities. Furthermore. India's space legislation should include licensing procedure for space activities in India or by Indians overseas, liability, indemnification and insurance requirements for space actors, procedure to notify information to IN-SPACe including registration details, clarify application of IP laws to outer space, and so on.

The space legislation need not establish all technical standards. These may later be prescribed by the Executive as and when required. Since space technology can rapidly undergo change, delegating rule-making power to the Executive ensures that the governing framework remains agile and adaptable.

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The proposed legal architecture to govern Indian space sector is based on the learnings and experience of the Indian space sector, analysis of the Draft Space Activities Bill, 2017, ISP 2023, and other space reforms introduced since 2020. It is suggested that India's space legislation should reflect its vision of expanding space economy and its national priorities, while respecting international obligations. It is hoped that the new space legislation will be enacted soon with the aim of further promoting the growth of India's space ecosystem, by creating an enabling regime catering to interests of different stakeholders, rather than being excessively restrictive.

ANNEXURE

Table comparing UNGA Resolution 68/74, the 2017 Bill, ISP (2023) and NGP (2024)

Issue	UNGA Resolution 68/74	Draft Space Activities Bill, 2017 (2017 Bill)	ISP (2023) and NGP (2024)	Observation
Space activities covered	Launch, re-entry, operation/control of space objects and launch/re-entry site; Additionally, design/manufacture of space objects and launch vehicles, R&D, applications.	Launch, operation and re-entry of space vehicle; Procurement; and all functions for performing the aforementioned activities. Commercial space activity defined as space activity which generates or is capable of generating revenue or profit	Communication satellites; remote sensing satellites; hosted payloads; launches; launch facilities; re-entry; ground system; data dissemination; in-orbit transfer of space objects; ground infrastructure control; orbital resources and ITU filings; resource extraction activities	In 2017 Bill, design/manufacture and R&D omitted; procurement expressly included; whether space applications are covered is unclear. Commercial space activity specifically defined as these activities will require licensing ISP 2023 and NGP 2023 provide a very broad definition of space activity.

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<p>Scope of application</p>	<p>Territorial jurisdiction; Nationals/entities abroad; Avoid duplicative regulation if another State exercises jurisdiction over space activity</p>	<p>Applies to India, EEZ, Indian ships/aircraft, Indian space objects; applies extraterritorially to Indian citizens/entities; Exemptions through international arrangements</p>	<p>Territorial jurisdiction; EEZ; extraterritorial application to Indian entities; foreign participation through Indian entities</p>	<p>2017 Bill, ISP 2023 and NGP 2024 – Compliant.</p>
<p>Authorisation framework</p>	<p>(a) Authorisation of competent authority is required for space activities; (b) Competent authority established; (c) Licensing procedures, as well as procedures for granting, modifying, suspending and revoking authorisation; (d) Different procedures may</p>	<p>The Central Government – establish a regulatory mechanism including mechanism for authorisation of the launch and operation of commercial space activities.</p>	<p>IN-SPACe authorisation; single window mechanism; online application; IN-SPACe can grant/rejection/vary authorisation for non-compliance</p>	<p>2017 Bill – Comprehensive regulatory framework focused primarily on regulating commercial space activities. ISP 2023 and NGP 2024 – More developed institutional framework</p>

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	apply to different space activities	<p>Central Government – delegated power to make rules.</p> <p>Central Government – power to grant, transfer, vary, suspend or terminate a licence</p>		
Conditions for authorisation	Consistent with international obligations and national interests; prioritise safety and risk mitigation; could include standards, e.g., COPUOS Space Debris Mitigation Guidelines; Financial and technical competence of applicant	<p>License contains details of purpose of space activity.</p> <p>License conditions – unconditional permission to Central Government to inspect any space activity, material used, testing and examination of licensee's facilities and inspection of documents. License</p>	<p>Evaluation based on applicant meeting technical capability, financial capability, safety compliance, compliance with telecommunication laws and radiofrequency assignment.</p> <p>National security; International obligations; Space debris mitigation measures including UN Debris Mitigation guidelines.</p>	<p>2017 Bill – Most conditions on safety and qualifications of applicant are not expressly specified but may later be prescribed through rules. Does not specifically require adherence to any standards like COPUOS Space Debris Mitigation Guidelines</p> <p>ISP 2023 and NGP 2024 – More detailed eligibility criteria and authorisation conditions</p>

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		conditions will be prescribed by rules, especially relating to safety, contamination of space or earth environment, interference with others' peaceful space activities, India's international obligations, preserving public health, sovereignty and integrity of India, security of State, defence of India, friendly relation with foreign States, public order, decency or morality.	Applications are also evaluated based on national security considerations, international obligations, geopolitical considerations, relations with foreign countries, export & import regulations, foreign shareholding, and any other considerations deemed necessary by IN-SPACe.	
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<p>Supervision and monitoring</p>	<p>Procedures for monitoring and continuous supervision of space activities; Reporting/inspection mechanisms; Suspension/revocation of license, penalties</p>	<p>Central Government – monitor and inspect India’s space activities, may call upon licensee by order in writing at any time to furnish information or explanation.</p> <p>Suspension/revocation/ variation of license in cases of noncompliance with conditions of license or if continuance of license is detrimental to India’s national interest.</p> <p>Punishment for undertaking commercial space activity without authorisation; Also</p>	<p>Inspection powers; Information requests; Compliance monitoring; powers to vary/ suspend/revoke authorisation; Emergency intervention.</p>	<p>2017 Bill – Compliant, with relatively stringent penalties.</p> <p>ISP 2023 and NGP 2024 – Strong supervisory regime.</p>
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		include penalties for space activity causing damage or pollution to environment, etc		
Registration	National registry maintained; <u>Operators or owners provide information to State of registry; State submits information to UN; Updates on change of status of space objects including space objects becoming nonfunctional and transfer of ownership and control.</u>	National register maintained by Central Government. Applicants shall provide registration details of space objects to Central Government within fifteen days of the grant of licence.	National Registry: Registration linked with authorisation; Indian space object definition. The Indian Entity owning a Space Object shall apply for registration of their Space Object to IN-SPACe by providing all the information. IN-SPACe approves for registration; Indian Entity required to report to IN-SPACe certain events and provide periodic updates.	2017 Bill – No express requirement to report changes in status of space objects/non-functionality, though Central Government approval is required for any deviation from orbital parameters. No provision on transfer of ownership and control of space objects ISP 2023 and NGP 2024 – With pre-registration and post-registration procedures. Change of ownership and functionality is reported.

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<p>Liability and insurance</p>	<p>States to obtain recourse/indemnification from owners/operators of space objects; States can introduce Insurance requirements.</p>	<p>Licensee indemnifies Government for any loss or damage; Central Government shall require prescribed insurance/financial guarantee from applicant.</p>	<p>Third-party liability; Liability Convention compliance; minimum insurance prescribed by IN-SPACE to be obtained.</p> <p>Government of India added as one of the insured entities. Apply to both orbital and sub-orbital launches</p>	<p>Compliant, but insurance coverage amount, term, etc. has not been prescribed yet.</p>
<p>Transfer of licence</p>	<p>Not addressed.</p>	<p>Prior government approval required.</p>	<p>Prior approval required, non-transferability.</p> <p>In case of change in management and control – 48-hour notification requirement; Fresh authorisation in certain cases.</p>	<p>2017 Bill – Additional Indian provision.</p> <p>ISP 2023 and NGP 2024 – Similar but more detailed.</p>

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Information disclosure & security	Not addressed.	Restrictions on disclosure, prohibited areas, and emergency takeover powers.	Mandatory disclosures; Change in control reporting; National security oversight; Confidentiality protections.	2017 Bill – Additional Indian provisions. ISP 2023 and NGP 2024 – Stronger protection.
Intellectual property	Not addressed.	Protection of IP; space-generated IP vested in Central Government.	Not addressed.	2017 Bill – Additional Indian provision. ISP 2023 and NGP 2024 – No dedicated IP framework.
Accident investigation	Not addressed.	Government empowered to investigate incidents/accidents.	24-hour incident reporting; 7-day follow-up report; Regulatory oversight.	2017 Bill – Additional Indian provision. ISP 2023 and NGP 2024 – Focus on reporting rather than investigation.
Authorisation process and timelines	Not addressed.	Not addressed.	Application scrutiny; Inter-ministerial consultation; 75–120-day processing timeline	ISP 2023 and NGP 2024 – New provision.

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