ANALYSING THE COMPATIBILITY OF INDIA'S MILITARY SPACE DOCTRINE 2025 WITH ITS CIVILIAN SPACE POLICY: LEGAL AND REGULATORY CHALLENGES

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ABSTRACT

This research compares India's future Military Space Doctrine 2025 with its existing Civilian Space Policy 2023 focusing on legal and regulatory issues arising out of their intersection. While the civilian policy encourages commercialization, private sector participation, peaceful exploration of outer space, the military doctrine is all about deterrence, space situational awareness, and counterspace. The research examines the implications of dual-use technologies, regulatory loopholes, international legal obligations, and the private sector's contribution to military space missions. The research establishes the need for a National Space Security Strategy, harmonized regulations, and enhanced oversight mechanisms to do away with overlaps, comply with international treaties, and maintain India's position as a benign power in outer space. Through case studies like Mission Shakti and the planned program for a 52-satellite constellation, the research demonstrates how India can handle the complex interconnection between national security interests and international space governance norms.

Keywords: Dual-use technologies, Space governance, IN-SPACe, Military Space Doctrine 2025, Civilian Space Policy 2023, Outer Space Treaty compliance

I. Introduction

The 21st century has witnessed unparalleled expansion in the strategic importance of outer space. Hitherto used as a sphere only for scientific exploration, space is now the basis for many critical operations in civilian, commercial, and increasingly military spheres.[1] This development is accompanied by a growing international trend towards the militarization of space, with major powers like China and the United States actively engaged in cultivating counter-space capabilities, a shift in the strategic matrix beyond Earth's atmosphere.[2] As a response to this paradigm shift, India has augmented its ambitions within the space domain, reflecting significant progress in both its civilian and military capabilities.[3] Within this context of increasing strategic importance and militarization, the integration of India's future Military Space Doctrine 2025 with its existing Civilian Space Policy (ISP 2023) assumes paramount importance. Harmonizing these policies is essential to ensure strategic coherence, optimize utilization of resources, and maneuver the complex space of space governance deftly.[4]

The dual-use nature of space technologies and infrastructure is intrinsic, and this creates potential conflict and challenges to be analyzed with prudence.[5] A significant amount of assets and capabilities used for communication, surveillance, and navigation are dual use for both civilian and military purposes, with compounded operational imperatives and legal ambiguity.[6] It is further complicated by India's growing emphasis on attaining self-reliance in strategic technologies, such as satellite systems with both military and commercial applications.[7] India's obligations under the Outer Space Treaty and the Liability Convention also require clear identification of the role of state and non-state actors involved in space activities.[8] Policy consistency must be ensured, particularly as India increases cooperation with private space

[1] KGT Papadopoulou, "Space Technologies, Applications and Services (STAR)" (2024) University of Athens, https://pergamos.lib.uoa.gr/uoa/dl/object/3450279/file.pdf
[2] M. Joshi, "China's Military-Civil Fusion Strategy, the US Response and Implications for India" (2022) ZBW, https://www.zbw.eu/econis-archiv/bitstream/11159/8530/1/1800501927_0.pdf
[3] A. Lele, "Indian Space Force: A Strategic Inevitability" (2023) Space Policy, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964622000522
[4] G.S. Sachdeva, *The Philosophy of Space Policy: With a Case Study of India* (2025) https://books.google.com/books?id=Z3E2EQAAQBAJ
[5] N. Kaushiki & J.S. Bawa, "India's Grand Strategy of Multialignment" (2023) 13 GNLU JL Dev Pol, https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/gnlujldp13&section=15
[6] C. Jorgensen, "Old Law for a New Frontier: The Sufficiency of International Humanitarian Law in Outer Space" (2025) Case W JIL, https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?article=2703&context=jil.
[7] S. Kumar & A.N. Ganguly, "Military Modernization and India's Security Challenges Post-2020" (2024) IRJHIS, https://irjhis.com/paper/IRJHIS2403035.pdf
[8] U.R. Iyengar, "Trading of Space Technology and the Role of International Cooperation" (2021) McGill University, https://escholarship.mcgill.ca/downloads/g158bp311

players and develops an expanding domestic space industry with compounded public and private investments in dual-use infrastructure.[9]

Chinese civil-defense fusion case studies and American integrated doctrine development emphasize how synergy between civil and defense space policy has the potential to provide operational utility and global capability.[10] [11] India's initiative has to balance ambition and conformity, particularly as it has ambitions to be a responsible space power in the face of increasing geopolitical tensions in the low Earth orbit.[12] A harmonized doctrine that eschews duplication, clarifies jurisdictional overlapping, and provides legal certainty will be central to India's ambition as a regional and global space power.

II. India's Military Space Doctrine 2025: An Overview

India is formulating its first comprehensive Military Space Doctrine, with publication expected by mid-2025. It is a strategic recognition of space as a warfare domain and places it on par with land, sea, air, and cyber domains.[13] The core objective of the doctrine is to defend India's growing space-based assets and project greater military capability to effectively counter growing threats in this increasingly contested domain. Expected key characteristics of the doctrine are likely to include a focus on deterrence, greater Intelligence, Surveillance, and Reconnaissance (ISR) capability, early warning, and force projection through space-based assets.[14]

The new doctrine will most likely institutionalize the structural paradigm for military activity in space, define clear-cut operational parameters, and ensure seamless integration with India's existing defense infrastructure.[15] Its aim is to increase the synergy between the needs of the military and the production and deployment of space assets dedicated to defense. In reaction

[9] R. Abbasi & M.S. Uzzaman, *Changing Patterns of Warfare Between India and Pakistan* (Routledge 2023) https://www.taylorfrancis.com/books/mono/10.4324/9781003340171.
[10] M. Joshi, "China's Military-Civil Fusion Strategy, the US Response and Implications for India" (2022) ZBW, https://www.zbw.eu/econis-archiv/bitstream/11159/8530/1/1800501927_0.pdf
[11] A. Lele, "Indian Space Force: A Strategic Inevitability" (2023) Space Policy, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964622000522
[12] A.S. Palayi, "Dynamics of India-USA Strategic Partnership and Defence Industrial Cooperation" (2024) http://iqac.unigoa.ac.in/criterion1/1.3.4-23-24-4.pdf
[13] A. Lele, "Indian Space Force: A Strategic Inevitability" (2023) Space Policy, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964622000522
[14] S. Chawla, *India's Neighbourhood: Challenges and Opportunities* (2023) https://books.google.com/books?id=o57WEAAAQBAJ.
[15] R. Abbasi & M.S. Uzzaman, *Changing Patterns of Warfare Between India and Pakistan* (Routledge 2023) https://www.taylorfrancis.com/books/mono/10.4324/9781003340171

to intensifying threats in space, the doctrine will focus on the development of Space Situational Awareness (SSA) capabilities to properly track and monitor objects in orbit, including operational satellites as well as potentially threatening space debris.[16] The doctrine is also set to prioritize investments in counterspace and defense technologies to safeguard India's space assets against hostile activities, a reaction partly driven by the advances of adversaries toward Anti-Satellite (ASAT) capabilities.[17] Interoperability with friendly nations and international coalition forces is also set to form a major component, an element of increasing interdependence in the universe of space security.

In harmony with India's more extensive strategic interests, the doctrine seeks to develop "Atmanirbhar Bharat" (self-reliant India) in space technology, stimulating indigenous innovation and collaboration.[18] Several key drivers and motivations stand behind the document's formulation. [19] The increasing militarization of space by other countries like China and the United States is a primary driver, which is compelling India to develop indigenous capabilities in order to be able to maintain a credible deterrent. Furthermore, the increasing dangers from anti-satellite missiles, the spread of space debris, and the danger of electronic warfare in space only serve to enhance the need for an articulated doctrine.[20]

The Defence Space Agency (DSA) has a central role to play in developing and implementing India's military strategy in relation to space. The DSA's mandate includes doctrine development and implementation of national military space policy, development of an integrated satellite communication system to enable military operations across domains, and the identification of threats by state and non-state actors in the space domain.[21] In addition, it is charged with developing space warfare technology indigenously, thus enhancing India's strategic deterrence in the orbital domain.

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[16] C. Jorgensen, "Old Law for a New Frontier: The Sufficiency of International Humanitarian Law in Outer Space" (2025) Case W JIL, https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?article=2703&context=jil.

[17] A. Chopra, "India–China: Competition or Confrontation" in *India's Neighbourhood* (2023) Taylor & Francis, https://www.taylorfrancis.com/chapters/edit/10.4324/9781032617374-1/india-china-competition-confrontation-anil-chopra

[18] N. Kaushiki & J.S. Bawa, "India's Grand Strategy of Multialignment" (2023) 13 GNLU JL Dev Pol, https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/gnlujldp13&section=15.

[19] M. Joshi, "China's Military-Civil Fusion Strategy and Implications for India" (2022) ZBW, https://www.zbw.eu/econis-archiv/bitstream/11159/8530/1/1800501927_0.pdf

[20] U.R. Iyengar, "Trading of Space Technology and the Role of International Cooperation" (2021) McGill University, https://escholarship.mcgill.ca/downloads/g158bp311

[21] A. Lele, "Indian Space Force: A Strategic Inevitability" (2023) Space Policy, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964622000522

In a major development, India has set up five fundamental principles, known as "Panchsheel," to be the guiding principles of its space military operations. They are to be in accordance with international space law, adherence to the no-first-use policy of aggressive space operations, adherence to international cooperation, proactive space debris management, and acknowledgment of the loopholes in India's national space legal framework.[22] These guiding principles indicate India's attempt to be a responsible actor in space while simultaneously enhancing its military might.

III. India's Civilian Space Policy (2023): Principles and Framework

India's Civilian Space Policy, officially approved in April 2023, is a holistic framework intended to encourage and regulate space-related activities in the country. At the center of the policy are its vision and core principles, which are geared towards enhancing India's overall capability in space while, at the same time, fostering a strong commercial foundation in this field.[23] Tops on the agenda of objectives is the utilization of space as an impetus for technological development, resulting in concrete socio-economic payoffs across different sectors. Furthermore, the policy emphasizes the need for establishing strong international partnerships in the field of space as well as the development of a favorable climate for the effective utilization of space applications among all stakeholders involved.[24] This compliance with these principles is based on the adherence to the peaceful exploration and use of outer space.[25]

In realization of its vision, the Civilian Space Policy lays out a series of key goals and strategies to be pursued. One of the most significant priorities is the development of increased involvement of the private sector in the whole value chain of the space economy and hence stimulating non-governmental entities (NGEs) to participate in a wide range of space activities.[26] Furthermore, the policy is aimed at stimulating higher-order research and

[22] A. Chopra, "India–China: Competition or Confrontation" in *India's Neighbourhood* (2023) Taylor & Francis, https://www.taylorfrancis.com/chapters/edit/10.4324/9781032617374-1/india-china-competition-confrontation-anil-chopra.
[23] S. Bhat, "Outlining Inconsistencies in the Indian Space Policy 2023" (2023) *Lex ad Coelum*, https://journals.nujs.edu/index.php/lac/article/download/58/39
[24] R.P. Rajagopalan & D. Stroikos, "The Transformation of India's Space Policy" (2024) *Space Policy*, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964624000249
[25] A. Sharma, "Economic Analysis of Indian Space Policy 2023" (2023) *Jus Corpus LJ*, HeinOnline, https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/juscrp4&section=84
[26] D. Deshpande, S. Palit & S. Hazra, "Propelling Indian Economy Through Space Exploration and Applications" (2024) *Current Science*, https://www.researchgate.net/publication/382104474.

development (R&D) in the space segment to support and further develop India's space program. The development of a stable and predictable regulatory regime is another key strategy, with the Indian National Space Promotion & Authorisation Centre (IN-SPACe) playing a crucial role in facilitating a level playing field for all players.[27] Furthermore, the policy outlines the role of the Indian Space Research Organisation (ISRO) so that it may be able to concentrate its resources on frontier R&D and activities pertaining to deep space exploration.[28] Commercialization of space technologies and platforms developed with public funds will be spearheaded mainly by New Space India Limited (NSIL), the commercial entity of the Department of Space.[29] Finally, the Civilian Space Policy is aimed at substantially increasing India's contribution to the international space economy and hence making the nation a leading player in the world space market.[30]

The Civilian Space Policy clearly demarcates the roles and functions of various key organisations. The Department of Space (DoS) is the apex body, and it will be responsible for framing and executing national policies for space activities, as well as coordinating international cooperation in global space management.[31] The Indian Space Research Organisation (ISRO), the national space agency, will focus mainly on cutting-edge research and development of space technologies and applications, as well as enriching human understanding of outer space through exploration and research. The Indian National Space Promotion & Authorisation Centre (IN-SPACe) is an autonomous, nodal agency operating under the DoS, which will be responsible for promoting, facilitating, authorising, and monitoring various activities pertaining to the space sector conducted by government as well as non-governmental entities.[32] NewSpace India Limited (NSIL), a public sector undertaking of the DoS, will be tasked to commercialise space technologies and platforms developed with

[27] Government of India, *Space Policy - 2023*, Indian National Space Promotion and Authorization Centre (IN-SPACe), Ministry of Defence, Government of India, 2023
[28] R. Kaul, "India: Recent Developments in Space Business and Regulation" in *Routledge Handbook of Commercial Space Law* (2023), https://www.taylorfrancis.com/chapters/edit/10.4324/9781003268475-18/india-ranjana-kaul.
[29] S. Mani, V.K. Dadhwal & C.S. Shaijumon, "Space Economy of India" (2025) *Space Policy*, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964625000165
[30] A. Saxena, "India's Space Policy and Counter-Space Capabilities" (2023) *Strategic Analysis*, Taylor & Francis, https://www.academia.edu/101424570.
[31] G. Makam, "An Analysis of Space Law in India: Current Developments and Future Perspectives" (2023) SSRN, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4487755
[32] T. Porel & T.K. Singh, "Evolution of India's Space Industry: From Dependency to Commercialization" (2025) *New Space*, https://www.liebertpub.com/doi/abs/10.1089/space.2024.0040.

public investments as well as undertaking commercial space activities based on market demand.

The Civilian Space Policy has several mechanisms meant to actively induce participation by the private sector in India's space industry. The policy allows private industry to take part in complete space activities, including design, development, and deployment of space objects, as well as provision of space-based services.[33] The policy also makes available existing ISRO infrastructure, technological expertise, and capabilities to private players, allowing them to use publicly funded facilities in support of their initiatives. The establishment of IN-SPACe as a single authorization agency aims to streamline the regulatory mechanism and create a more predictable and favorable environment for private players. The policy also enables investment by private industry in development of new infrastructure in the space industry, further boosting local capabilities. Further, the policy provides for transfer of matured technologies developed by ISRO to private industry for commercialization, thus stimulating private space economy growth and innovation.[34]

IV. Synergies and Overlaps Between Military and Civilian Space Policies

In spite of their divergent primary objectives, India's Military Space Doctrine 2025 and its Civilian Space Policy (ISP 2023) share a number of essential synergies and areas of convergence, driven mainly by the inherent nature of space technology and infrastructure.[35] One of the key areas of convergence is in the dual-use applicability for infrastructures and technologies. Civilian satellites, particularly those designed for Earth observation, communication, and navigation, are typically used to augment military operations through the delivery of required data and connectivity. On the other hand, infrastructure and technologies designed for the military can be used for civilian and commercial space purposes.[36] The proposed 52-satellite constellation for defense is a case in point, with the exercise involving active collaboration between the military, the Indian Space Research Organisation (ISRO), and

[33] C. Giri, "Potential Role of Academia-Industry Interface for Space Economy" (2023), *RIS Discussion Paper 275*, https://www.ris.org.in/sites/default/files/Publication/DP-275_Chaitanya-Giri.pdf
[34] R. Kaul, "India: Recent Developments in Space Business and Regulation" in *Routledge Handbook of Commercial Space Law* (2023), https://www.taylorfrancis.com/chapters/edit/10.4324/9781003268475-18/india-ranjana-kaul.
[35] N. Fasola, S. Lucarelli, A. Marrone, F. N. Moro, "Space: Exploring NATO's Final Frontier" (2024) University of Bologna, https://cris.unibo.it/handle/11585/969968.
[36] S. Lucarelli & A. Marrone, "Dual-Use Dilemmas in Emerging Space Powers" in *NATO Final Frontier Report*, 2024.

private companies in the design and manufacture of the satellites. This collaborative framework allows the military to draw on the technical and creative capabilities of the civilian space sector, while at the same time providing private companies with the opportunity to enhance their capabilities and reach market.[37]

Space Situational Awareness (SSA) is one of the most important fields where collaborative efforts can be considered. The SSA capabilities established under the Military Space Doctrine to monitor and observe foreign satellites and space debris are essential in ensuring the safety and long-term sustainability of civilian space activities.[38] By accurately tracking debris and detecting potential collision threats, these capabilities can potentially protect valuable civilian space assets. Improved cooperation and sharing of information between the military and civilian players in the SSA field can lead to a deeper and more effective understanding of the space environment, which in turn can benefit everyone involved.[39]

Research and Development (R&D) efforts in the space industry also provide potential for cooperative synergy. Advances in high-tech sensors, secure communications, and high-efficiency propulsion systems have significant military and civilian uses. By encouraging cooperative R&D efforts and technology and knowledge transfers between military and civilian institutions, India can reap maximum returns on its investments and accelerate developments in significant space-related areas.[40]

The development of a qualified labor force for the space industry is crucial to the success of space military and civil programs. Educational institutions and training programs can be tailored to meet the needs of the two industries and thus offer a steady supply of qualified professionals with specialized knowledge in areas that span satellite engineering to operational procedures to space law and policy.[41]

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[37] R. Kaul, "India: Recent Developments in Space Business and Regulation" in *Routledge Handbook of Commercial Space Law* (2023), https://www.taylorfrancis.com/chapters/edit/10.4324/9781003268475-18/india-ranjana-kaul.

[38] A. Saxena, "India's Space Policy and Counter-Space Capabilities" (2023) *Strategic Analysis*, Taylor & Francis, https://www.academia.edu/101424570

[39] N. Fasola, S. Lucarelli, A. Marrone, F. N. Moro, "Space: Exploring NATO's Final Frontier" (2024) University of Bologna, https://cris.unibo.it/handle/11585/969968.

[40] D. Deshpande, S. Palit & S. Hazra, "Propelling Indian Economy Through Space Exploration and Applications" (2024) *Current Science*, https://www.researchgate.net/publication/382104474.

[41] R. Kaul, "India: Recent Developments in Space Business and Regulation" in *Routledge Handbook of Commercial Space Law* (2023), https://www.taylorfrancis.com/chapters/edit/10.4324/9781003268475-18/india-ranjana-kaul.

Finally, India's engagement in international cooperation in space can have implications that may impact its defense and non-defense space programs. Collaboration with other countries with space capability in scientific exploration, technological advancement, or the establishment of international norms for responsible behavior in outer space can help foster the advancement of India's interests in the peaceful use of space and strategic military goals in space.[42]

Policy Name	**Primary Objective**	**Key Focus Areas**	**Responsible Agencies**	**Private Sector Role**	**International Cooperation**
Military Space Doctrine 2025	Protect space assets, enhance military capabilities	Deterrence, ISR, SSA, counterspace, defense integration	Defence Space Agency (DSA)	Collaboration for satellite & tech development	Operational alignment with allies
Civilian Space Policy 2023	Augment space capabilities, foster commercial growth	R&D, commercialization, socio-economic applications	DoS, ISRO, IN-SPACe, NSIL	End-to-end participation, tech transfer, private launchers	Multilateral space partnerships, regulatory dialogue

V. Legal and Regulatory Challenges at the Intersection

The increasing convergence of military and civilian aerospace activities in India creates a complex set of legal and regulatory problems that need to be carefully analyzed.[43] A basic challenge arises from the ambiguity that surrounds the meaning of "peaceful purposes" as defined in the 1967 Outer Space Treaty. While the treaty expressly forbids the stationing of weapons of mass destruction in outer space, the meaning of "peaceful purposes" is contentious, some interpreting it to be absolutely non-military while others interpreting it as non-aggressive.

[42] R.P. Rajagopalan & D. Stroikos, "The Transformation of India's Space Policy" (2024) *Space Policy*, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964624000249

[43] A. Variath, "Legal Implications of Mission Shakti and India's Dual-Use Dilemma" (2024) NUJS Centre for Aviation and Space Laws, https://nujs.edu/casl/tag/space-security/.

This ambiguity takes on special significance because of the dual-use nature of much space technology.[44] Technologies initially intended for civilian use, like remote sensing and communications satellites, are readily adaptable for military intelligence gathering and secure communications and hence obfuscate the lines of demarcation between their intended uses.[45]

The Civilian Space Policy places significant emphasis on private sector involvement in space issues, such as the development of military satellites, and thus an added layer of regulatory complexity. The problem of ensuring that private actors in military space activities uphold stringent military processes and security measures is significant. Determining the legal bounds of responsibility and liability in the case of injury or undesirable incident arising from private sector involvement in military space operations is a subject of close scrutiny.[46] Additionally, the potential for conflicts of interest and ethical conflicts arising from the involvement of profit-making private companies in sensitive military training needs to be addressed with serious concern.[47]

India's exhibition of its anti-space capabilities in Mission Shakti in 2019, while a display of technological advancement, has far-reaching legal implications. The test created a lot of space debris, posing questions about the long-term sustainability and safety of outer space utilization.[48] Although India has adhered to its commitment to the peaceful use of outer space, the evolution and exhibition of ASAT capabilities necessarily obfuscates the distinction between militarization and weaponization, requiring a delicate balance between deterrence and respect for international norms.[49]

It is necessary to resolve the issues of liability associated with civil and military space activities. The United Nations Liability Convention, while establishing an overall regime of state liability, might not be fully effective in dealing with the complexities of modern space activities by

[44] S. Bhat, "Outlining Inconsistencies in the Indian Space Policy 2023" (2023) *Lex ad Coelum*, https://journals.nujs.edu/index.php/lac/article/download/58/39
[45] R. Kaul, "India: Recent Developments in Space Business and Regulation" in *Routledge Handbook of Commercial Space Law* (2023), https://www.taylorfrancis.com/chapters/edit/10.4324/9781003268475-18/india-ranjana-kaul.
[46] A. Sharma, "Economic Analysis of Indian Space Policy 2023" (2023) *Jus Corpus LJ*, HeinOnline, https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/juscrp4&section=84
[47] R.P. Rajagopalan & D. Stroikos, "The Transformation of India's Space Policy" (2024) *Space Policy*, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964624000249
[48] A. Variath, "Legal Implications of Mission Shakti and India's Dual-Use Dilemma" (2024) NUJS Centre for Aviation and Space Laws, https://nujs.edu/casl/tag/space-security/.
[49] A. Saxena, "India's Space Policy and Counter-Space Capabilities" (2023) *Strategic Analysis*, Taylor & Francis, https://www.academia.edu/101424570.

private parties and dual-use technologies. The designation of well-established mechanisms for determining liability and compensation in the event of damage caused by military or dual-use space objects that can be controlled by private operators requires an overarching legal and regulatory regime.[50] It is also necessary to specifically delineate the role of insurance and indemnification towards mitigating economic risks associated with space activities.

Finally, the blending of military and civilian space endeavors requires stringent oversight and approval mechanisms. While IN-SPACe is leading the charge in approval of civil space activities and those of a private sector nature, its oversight of projects with immediate military implications may be confronted with challenges.[51] Ensuring transparence and accountability of military-related space activities with the private sector, without compromising national security interests, requires a fine balance. Formulating well-defined legal frameworks and guidelines purposed to regulate these combined activities is central to ensuring a secure and responsible space environment.

VI. Compatibility with International Space Law

India's space policies, the proposed Military Space Doctrine 2025 and the existing Civilian Space Policy (ISP 2023), must be examined in detail to determine how they uphold the established standards of international space law.[52]

The cornerstone of international space law, the Outer Space Treaty of 1967, establishes basic principles for the behavior of states in the exploration and use of outer space. As a signatory to the treaty, India is bound by the principles of peaceful use, non-appropriation, and encouragement of international cooperation. India reiterates its "non-weaponization of outer space" in diplomatic forums, but its quest for counter-space capabilities under military doctrine creates potential conflict with the wide interpretation of "peaceful purposes".[53]

India is also a signatory to the Convention on International Liability for Damage Caused by

[50] G. Makam, "An Analysis of Space Law in India: Current Developments and Future Perspectives" (2023) SSRN, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4487755
[51] S. Bhat, "Outlining Inconsistencies in the Indian Space Policy 2023" (2023) *Lex ad Coelum*, https://journals.nujs.edu/index.php/lac/article/download/58/39
[52] R.P. Rajagopalan & D. Stroikos, "The Transformation of India's Space Policy" (2024) *Space Policy*, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964624000249
[53] S. Bhat, "Outlining Inconsistencies in the Indian Space Policy 2023" (2023) *Lex ad Coelum*, https://journals.nujs.edu/index.php/lac/article/download/58/39

Space Objects, commonly known as the Liability Convention. The convention creates international liability for damage caused by space objects, including activities carried out by military as well as private organizations.[54] For instance, the 2019 Mission Shakti ASAT test produced debris and hence the scope of liability in case such debris damages foreign countries' satellites.[55]

India has been a steady supporter of the UN's PAROS program. Nevertheless, ASAT technology development constitutes a strategic necessity vs diplomatic constraint scenario.[56] Likewise, being a member of the Inter-Agency Space Debris Coordination Committee (IADC), ISRO embraces global debris mitigation standards, in line with India's vision of debris-free missions by 2030.[57]

Other new developments such as the Artemis Accords also deserve mention. As a signatory, India will have to align its policy with principles of peaceful exploration, openness, interoperability, and sustainability in outer space.[58]

VII. Case Studies:

Mission Shakti (2019): India's ASAT test, though defensive and legitimate, generated space debris and international attention. It demonstrates the fine line between security and good space behavior.[59]

52-Satellite ISR Constellation: This joint military–ISRO–private sector initiative is an example of dual-use convergence. Contributing to national surveillance ability, it also raises concerns about private sector compliance with military-grade standards and protection from

[54] G. Makam, "An Analysis of Space Law in India: Current Developments and Future Perspectives" (2023) SSRN, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4487755
[55] A. Variath, "Legal Implications of Mission Shakti and India's Dual-Use Dilemma" (2024) NUJS CASL, https://nujs.edu/casl/tag/space-security/
[56] A. Saxena, "India's Space Policy and Counter-Space Capabilities" (2023) *Strategic Analysis*, Taylor & Francis, https://www.academia.edu/101424570.
[57] D. Deshpande, S. Palit & S. Hazra, "Propelling Indian Economy Through Space Exploration and Applications" (2024) *Current Science*, https://www.researchgate.net/publication/382104474.
[58] D.R. Chaudhury, "India's Artemis Accords Commitment: Strategic Implications" (2024) *The Economic Times*, https://economictimes.indiatimes.com/news/science/india-signs-artemis-accords/articleshow/102983751.cms.
[59] A. Variath, "Legal Implications of Mission Shakti and India's Dual-Use Dilemma" (2024) NUJS CASL, https://nujs.edu/casl/tag/space-security/

liability.[60]

Private Sector & Dual-Use Governance: ISP 2023 encourages private involvement, but there could be companies dealing with remote sensing or communications that fall between civilian and military sectors. This calls for control through regulations and security measures.[61]

VIII. Recommendations:

In order to enable the harmonious integration of India's Military Space Doctrine 2025 with its Civilian Space Policy (ISP 2023), it becomes essential to develop an over-arching National Space Security Strategy. The strategy has to list India's most vital space goals in accordance with prevailing international legal norms, viz., those enshrined in treaties like the Outer Space Treaty and the Liability Convention.[62] A crucial element of the strategy involves the development of clear definitions and regulation frameworks relating to dual-use technologies, which have to include end-use verification mechanisms and licensing mechanisms to minimize the potential for misuse or unauthorized use in sensitive fields.[63] To oversee the coordination of civilian and military activities, it is necessary to enhance the functions of IN-SPACe or create an overarching regulator governing integrated space operations and harmonized enforcement of legal and operational standards.[64] Adoption of stringent space debris mitigation measures is also important, in accordance with international guidelines like those issued by the United Nations and the Inter-Agency Space Debris Coordination Committee.[65] India also has to be a part of efforts towards developing confidence and transparency, viz., relating to its military space activities, to develop confidence internationally and avoid the risk of misinterpretation or escalation.[66] Finally, an essential step in the right direction would be the harmonization of

[60] R. Kaul, "India: Recent Developments in Space Business and Regulation" in *Routledge Handbook of Commercial Space Law* (2023), https://www.taylorfrancis.com/chapters/edit/10.4324/9781003268475-18/india-ranjana-kaul.
[61] S. Bhat, "Outlining Inconsistencies in the Indian Space Policy 2023" (2023) *Lex ad Coelum*, https://journals.nujs.edu/index.php/lac/article/download/58/39
[62] R.P. Rajagopalan & D. Stroikos, "The Transformation of India's Space Policy" (2024) *Space Policy*, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265964624000249
[63] R. Kaul, "India: Recent Developments in Space Business and Regulation" in *Routledge Handbook of Commercial Space Law* (2023), https://www.taylorfrancis.com/chapters/edit/10.4324/9781003268475-18/india-ranjana-kaul.
[64] S. Bhat, "Outlining Inconsistencies in the Indian Space Policy 2023" (2023) *Lex ad Coelum*, https://journals.nujs.edu/index.php/lac/article/download/58/39
[65] D. Deshpande, S. Palit & S. Hazra, "Propelling Indian Economy Through Space Exploration and Applications" (2024) *Current Science*, https://www.researchgate.net/publication/382104474.
[66] A. Saxena, "India's Space Policy and Counter-Space Capabilities" (2023) *Strategic Analysis*, Taylor & Francis, https://www.academia.edu/101424570.

India's national space legislation with its international treaty commitments, viz., the Outer Space Treaty, the Liability Convention, and the Artemis Accords, for ensuring consistency of the law and enhancing India's standing as a responsible player in space exploration.[67]

VIII. Conclusion

The analysis tilts towards a complex interplay between India's forthcoming Military Space Doctrine 2025 and existing Civilian Space Policy (ISP 2023). Although both documents are oriented towards the final goal of strengthening India's space capabilities, their basic goals and approaches differ significantly, particularly in relation to the military role and interpretation of "peaceful purposes." Growing convergence of military and civilian space activities, driven by the dual-use character of space technologies and the growing role of the private sector, adds substantial legal and regulatory complexities. These include the application of international space law, regulation of private sector participation in military activities, legal issues pertaining to counter-space capabilities, liability, and the need for effective oversight mechanisms.

Looking forward, the future trajectory of India as a responsible and consequential power in the field of space hinges on whether it can formulate a coherent and legally valid policy framework that effectively balances its military and civilian interests in space exploration. It will require tackling the recognized legal and regulatory issues through the formulation of a national space security strategy, the establishment of clear rules for dual-use technologies, the strengthening of control mechanisms, the imposition of strict policies for space debris mitigation, and a commitment to transparency and international cooperation. By positively harmonizing its domestic legislation with its international commitments, India can ensure the sustained development and viability of its space program, while simultaneously adhering to the principles of international space law and making a contribution to a peaceful and secure outer space for everyone.

[67] D.R. Chaudhury, "India's Artemis Accords Commitment: Strategic Implications" (2024) *The Economic Times*, https://economictimes.indiatimes.com/news/science/india-signs-artemis-accords/articleshow/102983751.cms.

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