

PRE-BUDGET MEMORANDUM 2024-2025

Preamble:

As the leading industry association for the space sector in India, SatCom Industry Association - India (SIA-India) is honored to present its Pre-Budget Memorandum for the fiscal year 2024-25. This comprehensive document encapsulates the collective recommendations and insights of SIA-India's members, representing a wide spectrum of stakeholders within the commercial space sector viz., satellite operators, satellite systems, launch vehicles, ground and terminal equipment manufacturers and suppliers, satellite-based IOT/M2M solution providers, space startups, innovation hubs etc.

In a dynamic global landscape where space activities are assuming an increasingly pivotal role, our memorandum outlines key fiscal and regulatory reforms crucial for fostering innovation, ensuring global competitiveness, and propelling the Indian space industry to new heights. SIA-India envisions a roadmap that not only addresses current challenges but also aligns with the aspirations of a burgeoning space sector seeking sustainable growth.

As we stand at the cusp of technological breakthroughs and transformative advancements, this memorandum reflects our commitment to advancing the interests of the commercial space sector.

Our submissions cover a range of thematic areas, encompassing taxation reforms, regulatory frameworks, economic stimulus measures, and sector-specific concerns. We trust that our recommendations will contribute to the formulation of a progressive and inclusive budget that resonates with the goals of the Indian space industry, aligning with broader national objectives of economic development and technological leadership.

SIA-India extends its gratitude to the Ministry of Finance for providing this valuable opportunity to articulate our perspectives. We remain steadfast in our dedication to fostering a conducive environment for the growth of the space industry, ensuring its pivotal role in India's journey towards becoming a global space powerhouse.

Reforms for the Commercial Space Sector

This comprehensive pre-budget submission focuses on pivotal measures aimed at propelling the Commercial Space Sector, with a special emphasis on nurturing and supporting deeptech space startups. Recognizing the transformative potential of the space industry, these recommendations span financial, taxation, regulatory, and infrastructural domains. Emphasizing the imperative of increased funding, we propose a substantial boost in India's space budget, aligning it with global standards. Financial incentives, interest rate subsidies, and collaborative frameworks between academic institutions and startups are advocated to nurture innovation.

Taxation reforms include extending tax holiday periods for startups and deferring Minimum Alternate Tax (MAT). Customs duty exemptions, GST relaxations, and capital gains tax waivers aim to enhance the financial flexibility of deep tech startups. Regulatory suggestions encompass a Comprehensive Space Activities Bill, quantifying the space economy, and encouraging CSR funding for startups.

Infrastructure-wise, our proposal advocates for local certification facilities, streamlined visa programs, and specialized R&D hubs for deep tech startups. In summary, these recommendations aspire to fortify India's position in the global space arena, fostering innovation, economic growth, and sustainable development.

We plan to provide our suggestions under the following heads:

Financial Measures:

- Increased Space Budget: Propose a substantial increase in India's space budget to align with global standards, fostering innovation and competitiveness.
- Interest Rate Subsidies: Offer interest rate subsidies for startup loans to enhance affordability, empowering founders in the crucial early stages.
- Financial Incentives for Academia: Introduce financial incentives for academic institutions to actively engage with startups, facilitating collaborative innovation.

Taxation Reforms:

- Tax Incentives for R&D: Create tax incentives to encourage private sector involvement in high-risk ventures, specifically for deep tech R&D.
- Extended Tax Holiday: Extend the tax holiday period for deep tech startups to seven years, providing a longer growth runway.
- Customs Duty Exemptions: Extend customs duty exemptions to Tier 1 and Tier 2 contractors in space projects to reduce overall project costs.

Regulatory Framework:

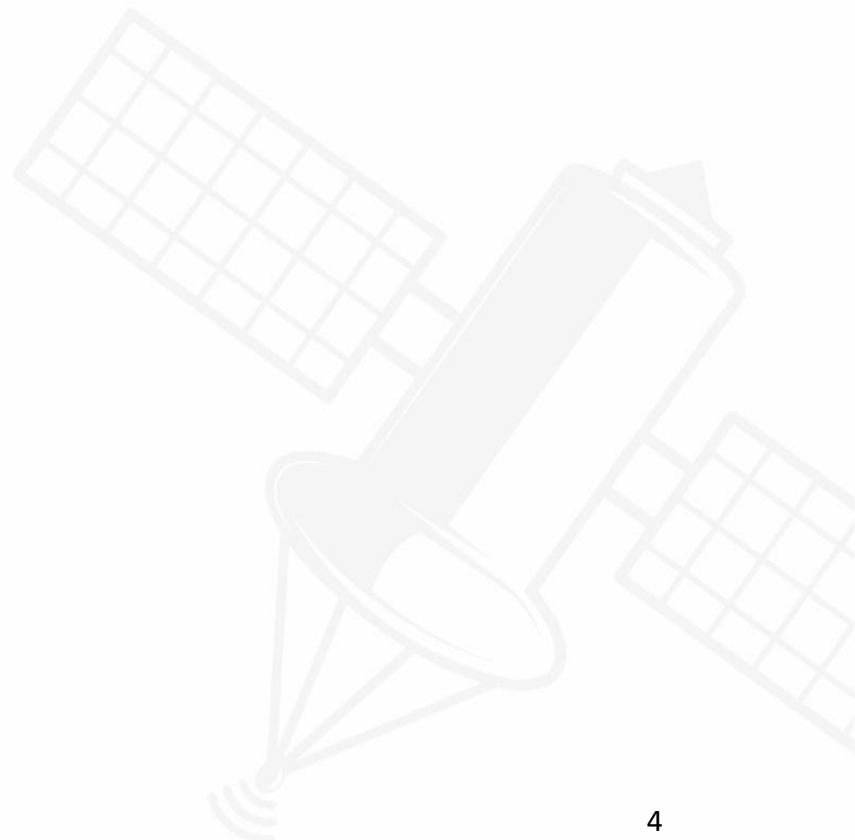
- Comprehensive Space Activities Bill: Advocate for a forward-looking legislation addressing diverse aspects of India's space goals, ensuring a level playing field for private entities.
- CSR Funding for Startups: Encourage corporations to allocate CSR funds to deep tech startups through incentivized tax benefits.
- Startup Validity Extension: Extend the startup validity period for deep tech startups by another four years to support longer gestation periods.

Infrastructural Enhancements:

- Certification Facilities: Establish local certification facilities within India to reduce expenses and foster growth for deep tech startups.

- Visa Programs for Entrepreneurs: Create streamlined visa programs for foreign entrepreneurs and investors, promoting global collaboration.
- Research and Development Hubs: Establish specialized R&D hubs for deep tech startups in fields like AI and space technology, providing state-of-the-art facilities.

This strategic roadmap aims to fortify the foundation for sustainable growth in the Commercial Space Sector, recognizing the unique challenges and opportunities faced by deeptech space startups. By implementing these recommendations, India can position itself as a global leader in space innovation and technology.



A. Financial

Subject/Section	Issues	Recommendations	Rationale for recommendation
Increased Space Budget	India's current space budget of \$1.4 billion falls significantly short when compared to other major space economies globally. The inadequacy of financial support hampers India's ability to emerge as a significant contributor to the trillion-dollar space economy.	<i>Increase India's space budget substantially to meet the growing demands and ambitions of its space program.</i>	India's current space budget ¹ of approximately \$1.4 billion pales in comparison to the global leaders in space expenditure. The United States leads with an astronomical \$62 billion, followed by China, Russia, Japan, France, and Germany, all significantly outpacing India. To support its growing space endeavors, encourage private sector involvement, align with global space race ambitions, drive technological advancements, and strategically position itself, India must substantially increase its space budget to align with India's strategic vision, reinforcing the nation's role as a key player

¹ <https://www.statista.com/chart/29454/governments-with-the-largest-space-budgets/>

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			in the rapidly evolving landscape of space ecosystem.
Enhancing Funding Support for Indian Space Startups	Limited Access to Substantial Early-Stage Funding for Indian Startups, Especially in Space Technologies	<p><i>Implement Extensive Funding Programs, Modeled After IDEx, for Substantial Early-Stage Funding.</i></p> <p><i>Create Financial Instruments or Funds Offering Venture Debt Support to Deep Tech Startups as an Alternative to Equity Financing.</i></p> <p><i>Institute an Incentive Scheme within the IFSC, Granting Support to Space Tech Companies for Operations Setup, Innovation, and Industry Collaboration.</i></p>	Indian startups, particularly in space technologies, face a funding gap due to limited access to substantial government grants. To bridge this gap, adopting initiatives like IDEx and introducing venture debt support can provide crucial financial backing. Establishing an IFSC incentive scheme and exploring AIFs focused on space tech within the IFSC further enhances financial support, encouraging innovation and collaboration. Leveraging the IFSC's unique position can unlock opportunities for sustained growth in the domestic and international space tech landscape.

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		<p><i>Explore the Formation of Alternate Investment Funds (AIFs) in the IFSC, Tailored for Space Tech, with Favorable Regulatory Conditions to Attract Long-Term Project Investors.</i></p> <p><i>Emphasize IFSC's Role in Supporting Space Technology and the Financial Sector, Creating Synergies for Domestic and International Space Tech Companies.</i></p>	
Government Approach to Startup Valuation	Discrepancies in Startup Valuation Growth and Revenue Generation, Leading to Regulatory and Tax Challenges.	<i>Develop transparent and standardized guidelines for startup valuation, considering factors beyond revenue to provide a comprehensive assessment.</i>	High-growth startups often face challenges as their valuations outpace revenue, causing regulatory and tax uncertainties. Clear and standardized valuation guidelines, informed by industry

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	<p>According to a global survey, 68% of startups face challenges in communicating their valuation methodologies to tax authorities.</p> <p>In countries with clear startup valuation guidelines, tax-related uncertainties for high-growth startups have reduced by 45%.</p>	<p><i>Foster collaboration between government authorities and industry experts to enhance understanding of the unique valuation dynamics in the startup ecosystem.</i></p> <p><i>Provide training programs for tax authorities to equip them with the knowledge required to assess and comprehend startup valuation methodologies.</i></p>	<p>collaboration and supported by specialized training for tax authorities, can create a more conducive environment for high-growth startups. This approach ensures that regulatory scrutiny aligns with the unique dynamics of startup valuation, fostering a supportive ecosystem.</p> <p>United States: The IRS collaborates with industry experts and utilizes benchmarks from comparable transactions to assess startup valuations.</p> <p>United Kingdom: The British Business Bank provides guidance on startup valuation methodologies, contributing to a more informed evaluation by tax authorities.</p>

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Escrow account duration:	Short Escrow Account Duration Limit Hindering Incremental Capital Raises for Startups	Revise regulations to extend the allowable duration for funds held in escrow accounts from 18 to 36 months.	The current 18-month escrow duration limit constrains startups, especially those raising capital incrementally based on achieving milestones. Extending the duration to 36 months aligns India with global standards and provides startups with a more flexible timeline to secure funding, fostering sustainable growth. This adjustment recognizes the diverse funding models prevalent in the startup ecosystem and supports a conducive environment for investment.

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Interest Rate Subsidies for Startup Loans	Startups encounter obstacles in securing budget-friendly loans due to the prevalent high interest rates. The constrained lending options, especially for pre-Series A startups, force them into borrowing at exorbitant rates.	<i>Offer interest rate subsidies for startup loans to enhance affordability.</i>	<p>According to recent industry reports, startups, especially those in the deep tech sector, face an average interest rate ranging from 19.66% to 26% p.a.² This substantial financial burden impedes their growth and innovation capabilities. By introducing a subsidy on interest rates, the government can stimulate economic growth, foster innovation, and enhance our global competitiveness. We urge you to consider this proposal to support the backbone of our economy and secure our nation's leadership in technology and innovation.</p> <p>Interest rate subsidies would enhance affordability by providing founders with access to competitive market rates. By</p>

² <https://www.bankbazaar.com/personal-loan/business-start-up-loan.html>

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			facilitating reasonable borrowing conditions, this measure empowers entrepreneurs to generate value within their ventures before contemplating equity dilution, thereby cultivating a more supportive environment for startups.
Financial Incentives for Academic Institutions	Lack of financial incentives for academic institutions to engage with startups and provide infrastructure access.	<i>Introduce financial incentives for academic institutions and R&D establishments to actively engage with startups.</i>	
Space Industry Testing Infrastructure Scheme (SITIS)	The space industry lacks a dedicated testing infrastructure scheme for accelerated growth.	<i>Implement SITIS modeled after the successful DTIS with an initial budget of Rs 400 crore over five years.</i>	Space technologies evolve rapidly, necessitating cutting-edge testing facilities to validate advancements. SITIS ensures that emerging technologies undergo thorough testing, fostering innovation.

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			<p>Global space exploration and satellite deployment are intensifying, requiring India to compete with state-of-the-art technologies. SITIS positions India as a competitive player by providing advanced testing infrastructure.</p> <p>Examples from Global Best Practices stated in <u>Annexure I</u></p>
<p>Cyber Security Budget for Space Assets</p>	<p>Vulnerabilities in space infrastructure pose risks to various societal functions.</p>	<p><i>Allocate sufficient resources for an effective cyber security system for space assets.</i></p> <p><i>There is a gap in integrating space-related cybersecurity measures into the National Cybersecurity Strategy. Critical space infrastructure should be explicitly included in the</i></p>	<p>Various critical sectors, including oil and gas, telecommunications, power, disaster management, manufacturing, logistics, delivery services, public transportation, eCommerce, insurance, law enforcement, and defense verticals, rely on global positioning, navigation, and timing provided by space assets. With India ranking 10th globally in the 2020 United</p>

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		<p><i>definition of "Critical Information Infrastructure."</i></p>	<p>Nations' International Telecommunication Union Global Cybersecurity Index, there is an increasing need to address cybersecurity challenges in the space domain. The expanding space ecosystem, including startups and collaborations, brings new players into the field, widening the attack surface.</p> <p>The US Space Force's \$30 billion budget request for fiscal year 2024 includes \$700 million to "enhance the cyber defense of their critical networks associated with space operations alone. Hence, a dedicated cybersecurity budget is crucial for India.</p>

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Bridging the Gap in Space Insurance for Indian Startups	Absence of customized insurance products for startups, especially in deep tech and space industries.	<p><i>Establish a Space Insurance Regulatory Authority to drive a resilient Indian space insurance market, fostering innovation, mitigating financial risks, and supporting the domestic space industry.</i></p> <p><i>Collaborate with insurers to craft specialized products for industry-specific risks, ensuring a proactive response to global market dynamics.</i></p>	<p>To address the current void in customized insurance offerings for startups, particularly in deep tech and space, India should proactively establish a dedicated regulatory authority. This initiative will drive innovation, mitigate financial risks associated with industry-specific challenges, and contribute to the overall growth and sustainability of the domestic space sector.</p> <p>The global challenges and losses experienced in the space insurance market present a timely opportunity for India to step in, leveraging collaboration with insurers to craft specialized products that align with the evolving dynamics of the global market. The establishment of a resilient space insurance market is imperative for supporting the unique needs</p>

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			of startups and fostering their success in the competitive space industry.

B. Taxation

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Private Investment in Deep Tech R&D Section 35	Lack of incentives for private capital	<i>Recommend the creation of targeted tax incentives and investment-friendly policies to stimulate private sector participation in high-risk</i>	Encouraging private investment is paramount for fostering innovation and advancing technological capabilities in the country. The proposed measures aim to mitigate the perceived risks associated with

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		<i>ventures related to deep tech R&D.</i>	such ventures and attract substantial private funding.
Tax Holiday for Deep Tech Start-ups Section 10A	Short tax Holiday period	<i>Advocate for an extension of the tax holiday period for deep tech startups to at least seven years, accompanied by simplifying the process for startups seeking tax exemptions.</i>	Recognizing the prolonged gestation period inherent in deep tech startups, an extended tax holiday would afford them the necessary financial breathing space to navigate the challenging journey from conceptualization to revenue generation. Streamlining exemption processes further reduces operational barriers.
Minimum Alternate Tax (MAT) Section 115JB	Burden on deep tech startups	<i>Propose deferring MAT liability from the 4th to the 14th year during the initial 3-year tax holiday period to enhance financial flexibility for deep tech startups.</i>	The suggested adjustment aligns tax policies with the unique financing and growth dynamics of startups, particularly deep tech ventures that often experience significant R&D expenditures in their formative years. This flexibility enhances their chances of sustained success.
Custom Duty Exemption for Space Projects	Exclusion of Tier 1 and Tier 2 contractors	<i>Recommend extending customs duty exemption to Tier 1 and Tier 2 contractors and sub-contractors involved in Department of Space projects, in</i>	Enabling exemptions for sub-contractors is crucial to reducing the overall cost of space projects, fostering collaboration, and ensuring competitiveness in the global market for space-related technologies.

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		<i>alignment with Sr no. 539 of Customs notification 50/2017.</i>	
Import Clearance for Semiconductors	Equal import duties for imported products	<i>Propose legislation to establish a favorable import duty structure for domestically designed products, particularly semiconductors, reflecting actual product costs.</i>	Creating a competitive advantage for Indian-designed products is imperative for fostering a thriving domestic semiconductor industry. Transparent customs duty benchmarks aligned with actual costs will support the growth of the space industry in India.
Angel Tax Reforms	Early-stage startups, including those in deep tech, face concerns related to the Angel Tax.	<i>Address Angel Tax concerns and implement reforms for a conducive environment for angel investors.</i>	Creates a favorable environment for early-stage startups, encouraging angel investment without excessive taxation burdens.
Rationalization of TDS Provisions Section 197	Challenges in adhering to strict timelines	<i>Suggest the waiver of interest for delayed TDS deduction, provided the payment is made within the prescribed due dates.</i>	Recognizing the practical challenges faced by startups, especially those with limited resources, in adhering to strict TDS timelines, the proposed waiver acknowledges these challenges while ensuring adherence to the prescribed timelines.

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GST Refund for Capital Goods to Exporters Section 16	Accumulation of GST input credits	<i>Recommend allowing a refund of GST on capital goods for startups with limited revenues to optimize their financial flow during the research and development phase.</i>	Acknowledging the substantial GST input credits accumulated during the R&D phase, this recommendation aims to provide startups with a mechanism to utilize these funds for working capital, promoting financial efficiency.
Waiver of Capital Gains Tax for Startup Founders Section 112A	Encourage investment through first-time equity sales	<i>Advocate for a waiver of capital gains tax on first-time secondary equity sales by startup founders within five years, coupled with the option for startups to issue ESOPs to founders.</i>	Providing tax incentives for founders and facilitating the issuance of ESOPs encourages long-term commitment and fosters a conducive environment for startup growth.
Revision of ESOP Taxation Policies Section 56(2)(viib)	Difficulty in liquidating ESOPs	<i>Propose revising taxation policies related to ESOPs, suggesting that ESOPs should be taxable on the sale of shares instead of taxability on allotment.</i>	Recognizing the unique challenges of deep tech startups in liquidating ESOPs, this revision aims to make ESOPs more accessible and beneficial for employees, aligning with the objectives of Startup India.
Deductions for License Fees and Spectrum Usage Charges Section 35ABA and 35ABB	Absence of deductions for space industry	<i>Propose extending existing provisions under Sections 35ABA and 35ABB of the Income Tax Act to explicitly include</i>	Aligning with the needs of the space industry, this recommendation seeks to provide the same deductions afforded to telecommunication services,

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		<i>deductions for license fees and spectrum usage charges incurred by entities in the space industry.</i>	fostering equitable treatment and supporting the growth of the space sector.
High-Tech Employment Incentives Section 80JJAA	Limitations of Section 80JJAA	<i>Suggest a revamped incentive scheme similar to Section 80JJAA but with significantly elevated monthly limits, specifically tailored to the space industry.</i>	To attract and retain top-tier talent in the space sector, a targeted incentive scheme with enhanced monthly limits is essential, ensuring a highly skilled workforce that propels innovation, research, and development.
GST Refunds on Capital Goods for Exporters Section 16(3)(b) of IGST Act 2017	Hurdles in obtaining GST refunds	<i>Propose enabling the refund of GST on capital goods for LuT-based exporters in the space industry, addressing working capital challenges faced by service exporters.</i>	Enhancing 'Ease of Doing Business' for space sector exporters, this recommendation aims to alleviate working capital constraints and promote technological advancements.
Rationalization of GST on Supply of Spacecraft and Space Launch Vehicle	Inverted duty structure for completed goods	<i>Recommend treating goods under HSN code 88026000, including spacecraft and launch vehicles, as "ZERO RATED SUPPLY" with a GST refund to the supplier. Alternatively, impose a 5% GST</i>	Ensuring fairness in the supply chain, these recommendations align tax treatment for both Indian and foreign payload launches, fostering flexibility and competitiveness in the space industry.

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		<i>rate on these goods with a refund for accumulated credit due to an inverted duty structure.</i>	
GST ITC on Construction/Renovation Section 17(5)(c) and (d)	Limited ITC eligibility for property construction	<i>Propose the retrospective omission of Section 17(5)(c) and (d) of the CGST Act to enhance Input Tax Credit (ITC) eligibility for the construction/renovation of immovable property used for business purposes in the space industry.</i>	Recognizing the unique characteristics of the space industry, this adjustment aligns with GST principles and supports industry growth by ensuring equitable treatment.
Export Benefit to Cross-Border Services	Non-recognition of services as exports	<i>Recommend recognizing services supplied by an office in India to another office outside India in the field of space research and technology as exports, extending export benefits to such transactions.</i>	Aligning with global practices, this recommendation acknowledges the contribution of collaborations to India's forex reserves and incentivizes collaboration within the space industry.

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Taxation of Contingent Consideration Section 45	Lack of clarity in tax treatment	<i>Propose clarifying the tax treatment of contingent consideration in private equity transactions, specifying that contingent portions become taxable as capital gains only in the year of crystallization.</i>	Enhancing clarity in private equity exits is essential for fostering investor confidence and promoting the growth of the startup ecosystem.
Extension of Sunset Clause for Concessional Tax Rates Sections 194LC and 194LD	Lack of Concession in the tax rates	<i>Recommend extending the sunset period for concessional tax rates under Sections 194LC and 194LD to support deep tech startups reliant on external funding.</i>	Providing continued support through concessional tax rates incentivizes foreign investors to invest in Indian businesses, fostering economic growth and technological innovation.
Buy-back Tax in Case of Redemption of Preference Shares	Applicability of buy-back tax on capital restructuring	<i>Propose the exclusion of redemption of preference shares from the buy-back tax to facilitate capital restructuring for startups.</i>	This recommendation aims to provide startups with financial flexibility, allowing strategic financial decisions without additional tax burdens.
Form 3CEB Filing for Taxpayers Exempt from Income-tax Return	Compliance burden for non-resident startups	<i>Recommend exempting startups from filing Form 3CEB when they are already exempt from</i>	Aligning compliance requirements with the tax status of startups enhances efficiency and reduces unnecessary administrative burdens.

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		<i>filing tax returns, streamlining compliance processes and reducing administrative overhead.</i>	

C. Regulatory

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Comprehensive Space Activities Bill	The absence of a comprehensive space law poses legal uncertainties and challenges, especially in determining responsibility and compensation for incidents like the 2007	<i>A Comprehensive Space Act is essential to provide a clear legal framework for India's space activities, covering various aspects, such as international obligations, private sector participation, liability frameworks, and ethical considerations.</i>	International Obligations: Ensure compliance with international space law, treaties, and agreements, promoting responsible and collaborative space exploration on the global stage. Level Playing Field for Private Entities: Foster fair competition, encourage private sector involvement, and nurture a robust space industry contributing to national development.

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	Chinese anti-satellite missile test.		<p>Balancing National Aspirations and Public Interests: Achieve equilibrium between national development goals and public interests, addressing societal needs through space-based applications.</p> <p>Liability and Insurance: Define clear liability frameworks and insurance requirements, mitigating risks associated with space activities and safeguarding public and commercial interests.</p> <p>Resource Utilization: Establish guidelines for responsible and sustainable resource utilization, promoting ethical practices in outer space activities.</p> <p>Safety and Traffic Management: Implement measures for ensuring the safety of space activities and effective traffic management, enhancing space situational awareness.</p> <p>Intellectual Property and Data Protection: Provide robust provisions for protecting intellectual property and data, stimulating innovation in the space sector.</p>

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			<p>International Cooperation: Facilitate collaboration with international partners, encouraging joint efforts in space exploration and technology development.</p> <p>Dispute Resolution: Outline effective dispute resolution mechanisms, reducing legal uncertainties in the context of space activities.</p>
Space Frequency Assignment and Co-ordination	Satellite Spectrum assignment policy should be based on international best practices.	<p><i>Assign satellite spectrum under administrative licensing following ITU guidelines to ensure global harmonization.</i></p> <p><i>Preserve Key Satellite Bands:</i></p> <p><i>Safeguard crucial satellite bands to support diverse applications and prevent interference with existing services.</i></p> <p><i>The government should incentivize experimentation for startups and academia by</i></p>	<p>Global Harmonization: Aligning with ITU guidelines ensures a standardized approach, promoting global harmonization in spectrum usage.</p> <p>Fair Access: Transparent and administrative spectrum allocation ensures fair access without favoritism or higher costs for certain entities.</p> <p>Protection from Interference: Shielding existing investments from interference ensures the uninterrupted functioning of satellite services.</p>

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		<p><i>ensuring the availability of satellite spectrum.</i></p> <p><i>Assign satellite spectrum transparently through an administrative process to ensure fair access.</i></p> <p><i>Implement measures to protect existing satellite investments from harmful radio frequency interference, ensuring uninterrupted services.</i></p> <p><i>Harmonize spectrum policies to provide Indian and foreign players easy access to each other's resources, fostering collaboration.</i></p> <p><i>Make the right spectrum band and required bandwidth</i></p>	<p>Collaboration and Coordination: Harmonizing spectrum policies and facilitating coordination support collaboration among domestic and foreign players, encouraging resource-sharing.</p> <p>Local Capacity Building: Facilitating access to satellite capacity within India supports local companies and enhances the nation's capacity in space activities.</p>

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		<i>accessible to facilitate the growth of satellite services.</i>	
Measuring the Space Economy and Implementing a Satellite Account	Lack of Comprehensive Data would hinder effective policymaking and strategic planning for the Indian space economy.	<i>Conduct a detailed quantitative analysis, define space economy sectors, and adopt a satellite account aligned with the US BEA framework</i>	<p>The lack of comprehensive data hinders a connected framework with central accounts for the Indian space economy. Conducting a detailed quantitative analysis and adopting a satellite account aligned with global standards ensures accurate measurement, prevents double counting, and boosts funding while evaluating both direct and indirect impacts on the space economy.</p> <p>Several economies have measured their space economy using satellite accounts and frameworks aligned with global standards. The United States, for instance, has a well-established system through the Bureau of Economic Analysis (BEA), providing comprehensive data on the economic contributions of the space sector. In the European Union, Eurostat has been involved in efforts to measure the space economy, emphasizing its importance for policy development and economic planning.</p>

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			Canada has also implemented a satellite account for the space sector, contributing to a better understanding of its economic impact.
Clear Liability Rules	Ensuring Accountability	<i>Implement clear liability rules for space activities</i>	Clear liability rules are essential for establishing accountability in space activities. They safeguard both private entities and the public from potential risks, fostering a responsible and secure environment for space endeavors.
Encouraging CSR Funding for Deep Tech Startups	Limited Allocation of CSR Funds despite having mandatory allocation guidelines	<i>Establish clear and structured guidelines for corporations to allocate CSR funds to deep-tech startups.</i>	Despite CSR guidelines' liberalization, startup funding remains limited, constituting only 0.2% of total CSR spending on research and technology. Clear guidelines aligned with CSR objectives are crucial to bolster support for deep tech startups, fostering innovation.

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	<p>The lack of structured guidelines hampers CSR funding to startups, particularly in the deep tech sector.</p> <p>Companies exhibit a lack of awareness regarding CSR funding opportunities for innovation, necessitating targeted awareness campaigns.</p>	<p><i>Policymakers should address disparities in CSR spending across states and incentivize collaboration between industry and public institutions.</i></p>	<p>A September 2020 survey revealed 24% of corporates were unaware that funding innovations in tech incubators counted towards CSR, and 45% lacked information on suitable technologies. Policymakers must address industry awareness gaps and focus on states with low CSR funding, encouraging targeted CSR funds to public institutions and state-funded incubators. Strategic amendments, similar to those during the pandemic, can guide policymakers in promoting national priority research areas and collaborations between industry and public institutions.</p> <p>[Refer to Annexure III for successful global strategies in CSR funding for startups and innovation.]</p>
Revising Procurement Policies	Deep tech startups encounter difficulties accessing benefits from public procurements.	<p><i>Revise procurement policies to incorporate partial payments at initial project stages.</i></p> <p><i>Adoption of Value-Based Procurement principles,</i></p>	Revising procurement policies for deep tech startups is crucial due to their struggles in gaining benefits from public procurements. Introducing partial payments at the project's outset addresses financial challenges. Embracing Value-Based Procurement principles

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		<p><i>integration of paid pilot programs to demonstrate practical value, implementation of flexible payment terms aligned with project milestones, promotion of Agile Request for Proposal processes, and the establishment of a comprehensive policy framework.</i></p> <p><i>Additionally, incentivizing higher fixed payouts, cultivating a supportive startup ecosystem, providing specialized training for procurement officials, and initiating pilot programs with continuous evaluation is crucial.</i></p>	<p>prioritizes potential value, while paid pilot programs, flexible payment terms, and Agile Request for Proposal processes expedite innovation. A comprehensive policy framework, incentivizing fixed payouts, supportive ecosystems, specialized training, and pilot programs collectively streamline procurement, encouraging a fair, transparent, and beneficial environment for startups and public procurement.</p> <p>The Canadian government has introduced measures to increase opportunities for Indigenous businesses in federal procurement. They have mandated a minimum of 5% of the total value of contracts to be held by Indigenous businesses, with phased implementation over three years.</p> <p>Singapore has implemented flexible payment terms in public procurements, particularly beneficial for startups. This approach aims to boost startup participation by offering more adaptable financial arrangements aligned with project milestones.</p>

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Liberalizing Domestic Investment Regulations	Attracting More Funding	<i>Liberalize regulations to attract more funding from venture capitalists and simplify FDI processes</i>	The FDI in the space sector, focuses on three different areas: sub-system manufacturing, launch vehicle operations, and satellite operations and establishments. The policy, which is currently under consideration and expected to be released later this year, aims to encourage collaboration, innovation, and technological advancements. By attracting foreign investments through an automatic route or streamlined process, the government aims to supplement limited domestic funds and achieve the target of reaching \$13 billion by 2025 and capturing 10% of the global space economy by 2030. This favorable FDI policy will not only spur growth in the space sector but also have positive effects on various other sectors, including telecommunications, energy, and transport. The increasing investment in space activities, including venture capital funding for space start-ups, reflects the growing interest and potential in the Indian space industry.
Introduction of Production Linked	Boosting Domestic Manufacturing	<i>Introduce PLI/PMP in the space sector as a part of the</i>	Introducing a Production Linked Incentive Scheme (PLI) or Phased Manufacturing Incentive Plan (PMP)

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Incentive Scheme (PLI) / Phased Manufacturing Incentive Plan (PMP)		<i>'AtmaNirbhar' Bharat programme</i>	supports the 'AtmaNirbhar' Bharat initiative, promoting domestic satellite manufacturing and fostering growth in the space industry.
Lending Rates and Tokenisation	Addressing Challenges in Domestic Lending	<i>Address challenges posed by domestic lending rates and revisit laws on "Tokenization"</i>	Challenges in domestic lending rates impact investor attraction. Revisiting laws on "Tokenization" and adopting a more progressive stance on contracting terms aligns regulations with evolving financial market dynamics, contributing to a more investor-friendly landscape.
Extension of Startup Validity Period	Short Validity Period for Deep Tech Startups	<i>Extend the startup validity period for deep tech startups for another 4 years</i>	<p>Deep tech startups have longer gestation periods. Extending the startup validity period provides startups with a better chance to validate their technology in the market, refine their strategies, and foster sustained innovation.</p> <p>Extending the startup validity period by four years accommodates extended research cycles, facilitates market validation, ensures regulatory compliance,</p>

Subject/Section	Issue	SIA-India Recommendations	Rationale for Recommendation
			supports gradual scaling, enhances investor attractiveness, encourages international collaboration, aids talent acquisition, and fosters a sustainable innovation ecosystem.
Relaxing Financial Qualification Criteria (QC) and EMD Requirements	Barriers in Government Projects	<i>Relax financial qualification criteria and EMD requirements for government projects</i>	Barriers in financial qualification criteria and EMD requirements hinder startup participation in government projects. Relaxing these criteria creates an equitable and innovative procurement landscape, promoting startup involvement.
Launch Risk Mitigation Programs	Mitigating Financial Risks for Project Failures	<i>Implement programs providing insurance or financial support in case of project failures</i>	<p>Financial risks associated with project failures or unforeseen challenges can deter investment in the space sector. Implementing launch risk mitigation programs provides insurance or financial support, fostering investor confidence and encouraging participation in space projects.</p> <p>Several countries have implemented policies and mechanisms to mitigate launch and project risks in the space sector. Here are some examples: [Annexure IV]</p>

Subject/Section	Issue	SIA-India Recommendations	Rationale for Recommendation
Distinct Regulations within EODB Framework	Necessity for Distinct Startup Regulations	<i>Implement distinct regulations for startups within the Ease of Doing Business (EODB) framework</i>	Recognizing the unique needs of startups within the EODB framework is essential. Implementing distinct regulations ensures a conducive business environment, fostering the growth and development of startups in the space sector.
Clarity on Place of Supply Determination for Internet Connectivity Services via GST Law	Lack of Clarity in GST Law	<i>Provide clarity on place of supply for internet connectivity services via satellite under GST law</i>	Lack of clarity in GST law regarding the place of supply for internet connectivity services hampers operational efficiency. Providing clarity ensures smoother operations within the space sector, contributing to a more transparent and compliant taxation framework.
Leveraging USOF for Space Connectivity	Insufficient Investment in Satellite and Mobile Convergence Projects	<i>Adopt a strategy inspired by the USO fund for space projects, allowing licensed VSAT operators to bid for USOF in underserved areas. Extend USOF Gap Funding availability to more than 2 years, allocating unutilized funds for satellite services in remote regions.</i>	Drawing from successful models like India's Universal Service Obligation (USO) fund, this strategy encourages investment in satellite and mobile convergence projects. By providing subsidies, tax incentives, and technology innovation grants, operators are incentivized to invest in areas where traditional connectivity is infeasible. Allowing licensed VSAT operators to bid for USOF and extending the funding availability supports the goal of bridging the

Subject/Section	Issue	SIA-India Recommendations	Rationale for Recommendation
			<p>digital divide, ensuring equitable access to communication services, and utilizing unutilized funds for critical satellite services in remote regions.</p> <p>The European Commission's Connecting Europe Broadband Fund aims to invest in broadband network projects, including satellite solutions, to promote high-speed internet access across the EU, with a particular focus on rural and remote areas.</p>
<p>Extension of Depreciation Benefits for Satellite Ownership and Operation</p>	<p>The current depreciation benefits do not adequately address the unique capital-intensive nature of satellite ownership and operation, potentially hindering investment in domestic satellite manufacturing and related infrastructure.</p>	<p><i>Extend additional depreciation benefits specifically tailored for satellite ownership and operation to incentivize capital investments and spur growth within the space industry.</i></p>	<p>Satellite projects involve substantial upfront capital expenditures, and their long operational lifespans often exceed the typical depreciation periods applied to other assets. By offering additional depreciation benefits, the government can attract more investors to participate in satellite ventures, stimulating domestic satellite manufacturing, fostering technological advancements, and enhancing the country's capabilities in space-based activities. This measure aligns with the goal of promoting a robust and</p>

Subject/Section	Issue	SIA-India Recommendations	Rationale for Recommendation
			competitive space industry while acknowledging the unique economic dynamics of satellite projects.

D. Infrastructural

E. Subject/Section	Issue	SIA-India Recommendations	Rationale for Recommendation
Certification Facilities within India	Avoidance of Certification Expenses	<i>Establish certification facilities within India</i>	Local certification facilities can help avoid certification expenses, reducing the financial burden on businesses. For deep tech startups in fields like artificial intelligence or space technology, local facilities expedite product development cycles, enhancing global competitiveness and positioning India as a hub for innovation.
Streamlined Visa Programs for Foreign Entrepreneurs	Encouraging Foreign Contribution	<i>Create streamlined visa programs for foreign entrepreneurs and investors</i>	Streamlined visa programs attract foreign entrepreneurs and investors, contributing to India's startup ecosystem. This encourages international collaboration, knowledge exchange, and investment, fostering growth in the country's startup landscape.

E. Subject/Section	Issue	SIA-India Recommendations	Rationale for Recommendation
Research and Development Hubs	Specialized Support for Deep Tech Startups	<i>Establish specialized research and development hubs for deep tech startups, focusing on AI and space technology</i>	Specialized hubs provide state-of-the-art facilities, mentorship, and collaboration opportunities, supporting the unique needs of deep tech startups. This infrastructure accelerates innovation and development in critical fields like artificial intelligence and space technology.
Testing Facilities for Space-related Technologies	Reduction of Development Time and Costs	<i>Invest in advanced testing facilities for space-related technologies</i>	Accessible and well-equipped testing infrastructure significantly reduces development time and costs for startups in the space sector. This accelerates the pace of innovation and ensures the reliability of space-related technologies.
Data Centers for Space Industry	Handling Massive Data from Space-related Activities	Establish specialized data centers for handling data generated by space-related activities	Specialized data centers are essential for processing, analyzing, and storing the massive amounts of data generated by space-related activities. This infrastructure is critical for managing and utilizing the data from satellites and other space assets efficiently.

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Annexure I

Dedicated testing infrastructure schemes Globally

NASA's Space Environmental Testing Facilities (SETF), USA: The National Aeronautics and Space Administration (NASA) operates multiple SETFs to simulate the harsh conditions of space, including extreme temperatures, vacuum, and radiation. These facilities are crucial for testing spacecraft, satellites, and instruments before launch, ensuring they can withstand the challenges of space.

European Space Research and Technology Centre (ESTEC), Netherlands: ESTEC, part of the European Space Agency (ESA), provides extensive testing facilities for space missions. It includes the Large Space Simulator (LSS) for simulating space conditions, thermal vacuum chambers, and electromagnetic testing facilities.

Tsukuba Space Center (TKSC), Japan: TKSC, operated by the Japan Aerospace Exploration Agency (JAXA), offers various testing facilities for spacecraft and satellites. The center includes thermal vacuum chambers, an acoustic chamber, and vibration testing facilities.

Russian Satellite Testing Facilities, Russia: Russia has specialized testing facilities for satellite systems, such as vibration and thermal vacuum chambers. These facilities are crucial for testing the durability and functionality of satellites before they are launched.

Canadian Space Agency's David Florida Laboratory, Canada: The David Florida Laboratory provides state-of-the-art testing facilities for spacecraft and satellite systems in Canada. It includes thermal vacuum chambers, vibration testing equipment, and acoustic testing facilities.

Guiana Space Centre (CSG), French Guiana: While not a testing facility per se, CSG serves as the European Spaceport for launching satellites into space. It represents an example of international collaboration in space activities, showcasing the importance of launch infrastructure.

These examples highlight the global importance of dedicated testing infrastructure to support space exploration and satellite missions. Each facility plays a crucial role in ensuring the reliability and success of space-related endeavors.

Annexure II

Global Models of Innovation Support: Nurturing Startups Worldwide

1. United States: SBIR/STTR Programs: The U.S. Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs allocate a specific percentage of federal research and development funds to small businesses, encouraging innovation and research. SBIR Program encourages university-startup collaborations through federal agency funding.
2. United Kingdom: Innovate UK: The UK government's innovation agency, Innovate UK, collaborates with businesses to fund and support innovation. It encourages corporate partnerships and funding for startups through various programs. Connecting Capability Fund is another scheme that supports UK universities in partnering with startups for research and knowledge exchange.
3. Germany: EXIST Program: Germany's EXIST program supports university-based startup projects. It provides funding, coaching, and support for startups emerging from academic research, promoting collaboration between academia and industry.
4. Singapore: SGInnovate: Singapore's government-backed organization, SGInnovate, focuses on fostering deep tech startups. It collaborates with corporations to fund and support startups in areas such as artificial intelligence, quantum technologies, and robotics.
5. Technology Enterprise Commercialization Scheme (TECS) encourages academia-startup collaborations, providing funding for technology commercialization.
6. Israel: Israel Innovation Authority: Israel has a robust innovation ecosystem supported by the Israel Innovation Authority. It facilitates collaboration between corporations and startups, providing funding and incentives for research and development. Encourages collaboration between academic institutions and startups, fostering innovation and knowledge exchange. There are several global examples of such collaborations. Yozma Program of Israel provides incentives and funding for technology incubators on university campuses.
7. South Korea: University Startup Support program provides financial aid for universities actively engaging with startups.
8. Australia: Incubator Support Program funds university-linked incubators to provide startups with infrastructure support and mentorship.

Annexure III

Successful Corporate Social Responsibility (CSR) strategies to encourage funding for startups and innovation.

United States: Federal Support Programs offer tax incentives for corporations engaging in research and development activities, indirectly encouraging CSR funding for startups. The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs also align with innovation-focused CSR initiatives.

United Kingdom: Regulatory Flexibility allows corporations flexibility in choosing CSR initiatives, fostering innovation support. Policies emphasize the importance of collaboration between businesses and startups, enabling a range of innovative projects.

Here are a few CSR best practices by firms around the globe:

Google for Startups: Google for Startups is an initiative that provides a range of support to startups worldwide. This includes mentorship, access to Google's resources, and participation in various programs. Google supports startups through its CSR efforts to foster innovation and entrepreneurship.

Microsoft for Startups: Microsoft for Startups is a program designed to help startups scale by providing access to technology, expertise, and a global network of customers. Microsoft's CSR initiatives include supporting startups that align with its mission of empowering every person and every organization on the planet.

Facebook Elevate: Facebook Elevate is a program aimed at supporting startups and small businesses. It provides training, mentorship, and financial support to underrepresented businesses. This initiative is part of Facebook's broader CSR efforts to promote diversity and inclusion in the business ecosystem.

Intel's Startup Ecosystem Support: Intel supports startups through various initiatives as part of its CSR activities. This includes providing funding, mentorship, and access to Intel's technology resources. The focus is often on startups working in areas aligned with Intel's expertise, such as technology and innovation.

IBM Corporate Social Responsibility: IBM's CSR efforts include initiatives to support startups and entrepreneurs. Through programs like IBM Global Entrepreneur, the company provides startups with access to IBM's technologies, cloud services, and expertise. This aligns with IBM's commitment to fostering innovation.

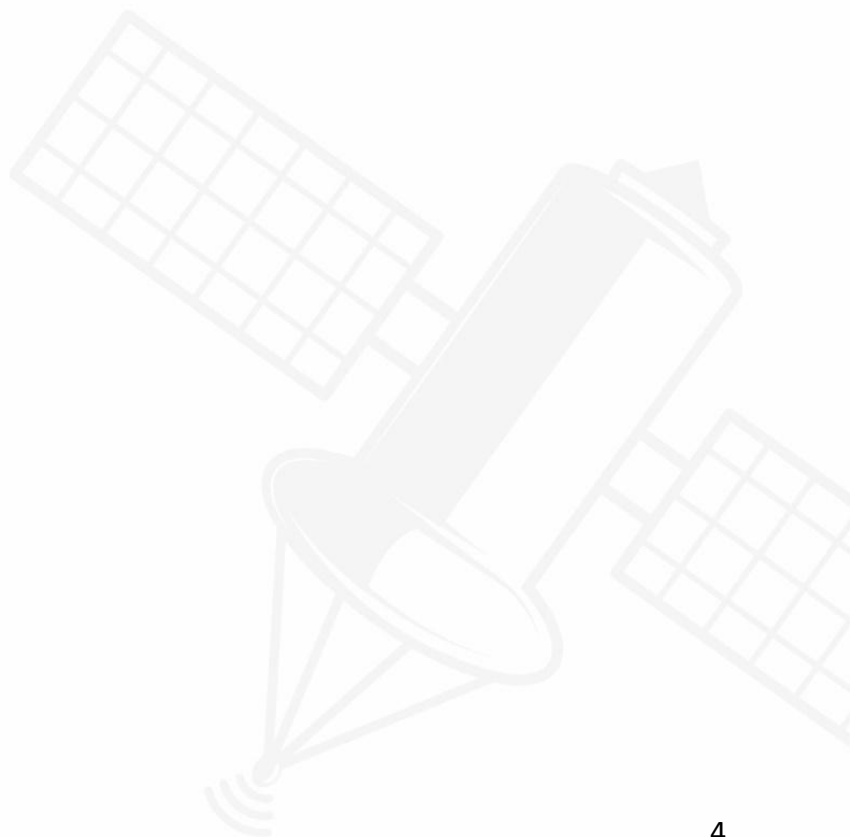
Samsung's Innovation Campus: Samsung's CSR initiatives include the establishment of Innovation Campuses in various countries. These campuses serve as hubs for fostering innovation and supporting startups. Samsung provides resources, mentorship, and collaborative spaces for startups working on cutting-edge technologies.

Cisco's Global Problem Solver Challenge: Cisco's CSR includes the Global Problem Solver Challenge, an annual competition that awards cash prizes to startups working on solutions to address social and

environmental challenges. This initiative reflects Cisco's commitment to using technology for positive social impact.

Vodafone Foundation's "Connecting for Good" Program: Vodafone Foundation runs the "Connecting for Good" program as part of its CSR initiatives. This program supports startups that leverage mobile technology for social good, focusing on areas like healthcare, education, and disaster response.

These examples showcase how large corporations integrate CSR into their strategies to support startups and contribute to social and environmental causes.



Annexure IV

Countries addressing launch and project risks in the space industry

United States: Launch Indemnification: The U.S. government provides indemnification to commercial launch providers through the Commercial Space Launch Act. This indemnification covers third-party liability claims in the event of a launch failure, encouraging private investment in space launches.

European Union: Horizon 2020 Program: The EU's Horizon 2020 program includes financial instruments such as the European Investment Bank (EIB) loans and guarantees to support space-related projects. These instruments aim to mitigate financial risks and attract private investment.

France: CNES Guarantee Fund: The French space agency, CNES, has established a Guarantee Fund to cover launch and satellite project risks. This fund provides financial backing to companies, promoting private investment in the French space industry.

Japan: Japan Space Systems (J-spacesystems): J-spacesystems, a Japanese organization, offers risk mitigation services, including insurance and financial support, to space projects. These services contribute to a more secure investment environment for space ventures.

Canada: Space Data Continuity Program: Canada's Space Data Continuity Program ensures the availability of critical Earth observation data in case of satellite mission interruptions. This program helps mitigate risks associated with data disruptions, benefiting both public and private users.

United Kingdom: UK Space Agency Grants: The UK Space Agency provides grants to support satellite launch projects and space-related activities. These grants aim to reduce financial barriers and encourage private sector involvement in the UK space industry.

Australia: Space Infrastructure Fund: Australia's Space Infrastructure Fund allocates funding to support space infrastructure projects, including those related to launch capabilities. This fund acts as a financial safety net and encourages private investment in the country's space sector.