
PASSENGER, ASTRONAUT OR SPACEFLIGHT PARTICIPANT? DESIGNING AN INDIAN LIABILITY REGIME FOR COMMERCIAL SPACE TOURISM

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ABSTRACT

Commercial human spaceflight has moved from speculation to an emerging transport and experience industry. Private individuals have undertaken sub-orbital journeys and private orbital missions, yet the international space treaties were drafted when every human in space was closely connected with a State programme. India is entering the same regulatory transition. The Indian Space Policy, 2023 encourages private participation in human presence in outer space, while IN-SPACe already authorises sub-orbital and orbital launches and regulates third-party liability. No corresponding framework presently determines the legal status, rights or compensation of a paying human occupant. This article examines whether such an occupant should be treated as an astronaut, an air passenger or a distinct spaceflight participant. It argues for the third approach. India should create a statutory commercial human-spaceflight category, adopt informed consent without permitting wholesale waivers of operator responsibility, establish mandatory no-fault passenger insurance supplemented by fault-based liability, and introduce a dedicated human-spaceflight authorisation regime. The proposed model seeks to accommodate the exceptional risks of an emerging industry without transferring the entire cost of technological experimentation to the individual who purchases the flight.

Keywords: space tourism, private participation, commercial human-spaceflight, liability framework

I. INTRODUCTION

For most of the space age, the identity of the human being inside a spacecraft presented little legal difficulty. Human spaceflight was overwhelmingly conducted by States. Those travelling beyond the atmosphere were professional astronauts, cosmonauts or other State-selected personnel who underwent extensive technical, medical and operational preparation. International space law developed around that reality. The Outer Space Treaty of 1967 describes astronauts as “envoys of mankind.” The Rescue Agreement of 1968 speaks more broadly of the “personnel of a spacecraft.” Neither instrument was drafted with a passenger purchasing several minutes of weightlessness from a private company in contemplation.¹

That factual assumption no longer holds.

Commercial human spaceflight has already carried private individuals on sub-orbital trajectories and into Earth orbit. Blue Origin’s New Shepard programme had carried ninety-eight humans above the Kármán line by January 2026 before the company announced a pause in New Shepard flights while reallocating resources to lunar programmes.² Virgin Galactic has conducted commercial sub-orbital flights and has been developing its Delta-class vehicles for a larger commercial flight programme.³ At the orbital level, Axiom Space has organised private astronaut missions to the International Space Station using SpaceX transportation, while NASA selected Axiom in January 2026 for a fifth private astronaut mission targeted no earlier than 2027.⁴ The emerging market therefore covers several very different activities. A person may purchase a short sub-orbital experience, undertake a multi-day orbital mission involving research and training, or eventually travel aboard a commercial station.

India has not yet developed a commercial tourism service of this kind, but its legal and institutional trajectory makes the problem increasingly concrete. The Indian Space Policy, 2023 expressly directs IN-SPACe to encourage non-governmental entities to participate in space

¹ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies arts. V, VIII, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205; Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space arts. 1–4, Apr. 22, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119.

² Blue Origin, *Blue Origin Completes 38th New Shepard Flight to Space* (Jan. 22, 2026); Blue Origin, *Blue Origin to Pause New Shepard Flights for No Less Than Two Years* (Jan. 30, 2026).

³ Virgin Galactic, *Virgin Galactic Completes 12th Successful Spaceflight* (June 8, 2024); Virgin Galactic, *Virgin Galactic Begins Operations at Delta Spaceship Ground Testing Facility* (2025).

⁴ Axiom Space, *Axiom Mission 1* (last visited Sept. 24, 2026); Axiom Space, *NASA Selects Axiom Space for Fifth Private Astronaut Mission to International Space Station* (Jan. 30, 2026).

exploration and in having a human presence in outer space. ISRO is simultaneously developing the Gaganyaan programme and longer-term human-spaceflight capabilities, while India's private space sector has been opened to end-to-end participation.⁵ IN-SPACE's present Norms, Guidelines and Procedures already require authorisation for qualifying sub-orbital and orbital launches by Indian entities and contain detailed rules governing third-party liability and insurance.⁶ The regulatory framework therefore covers the vehicle and the launch before it adequately addresses the legal position of a private human occupant.

The gap is visible in the language of the existing rules. The IN-SPACE framework discusses launch operators, space objects, payloads, third-party damage, registration and governmental indemnification. It does not establish an equivalent to the American or British concept of a "space flight participant." The 2026 IN-SPACE advisory guidelines on low-power sub-orbital launches deepen regulation of sub-orbital activity, but their focus is model rocketry, research, technology demonstration and comparable launches below the authorisation threshold. They do not constitute a commercial human-spaceflight code.⁷

This absence is especially striking because ISRO itself has identified the problem. Its *Research Areas in Space 2025* lists "Developing Insurance Models for Space Tourism" as a research area, expressly noting the difficulty of insuring non-astronauts in a high-risk environment and the need to study liability, health coverage and customised insurance products.⁸ In March 2026, a parliamentary committee also recorded that India's space activities were still not governed by a comprehensive legislative framework and welcomed the Department of Space's ongoing work on a Bill intended to address authorisation, liability, insurance and related questions.⁹ Space-tourism regulation is therefore not a problem artificially projected onto a distant market. It falls squarely within regulatory questions India is already beginning to confront.

The difficulty lies in classification. A paying human aboard a spacecraft resembles a passenger because transportation or an experience has been purchased for consideration. Yet ordinary

⁵ Dep't of Space, Gov't of India, *Indian Space Policy – 2023* §§ 5–6 (2023).

⁶ Indian Nat'l Space Promotion & Authorization Ctr., *Norms, Guidelines and Procedures for Implementation of Indian Space Policy-2023 in Respect of Authorization of Space Activities* chs. VIII, X (May 3, 2024).

⁷ Indian Nat'l Space Promotion & Authorization Ctr., *Advisory Guidelines for Suborbital Launches*, Doc. No. IN:PMA:AGSL2026/V1.0, at 1–2 (2026).

⁸ Indian Space Research Organisation, *Research Areas in Space–2025*, B1.2, "Developing Insurance Models for Space Tourism" (2025).

⁹ Dep't-Related Parliamentary Standing Comm. on Sci. & Tech., Env't, Forests & Climate Change, *Demands for Grants (2026–27) of the Department of Space* ¶¶ 92–93 (2026); Press Information Bureau, Gov't of India, *Space Law* (Mar. 2026).

passenger law developed around mature transportation systems governed by established certification standards. Commercial human spaceflight remains experimental by comparison. The person also resembles an astronaut because he or she physically travels through outer space and may fall within humanitarian protections developed for spacecraft personnel. But extending the full legal and symbolic status of a professional astronaut to any person who purchases a ticket stretches terminology created for a different institutional context.

The term “space tourist” creates its own problems. It describes motive rather than legal status. A private passenger may conduct scientific experiments. A researcher may pay for the flight. A corporation may purchase a seat for an employee. A national government may contract with a commercial operator to carry an individual who is neither employed by the operator nor a conventional State astronaut. Modern missions already blur these categories.

The better legal question is functional: what rights and obligations should attach to a person who is carried aboard a commercial spaceflight but does not exercise a safety-critical operational role?

This article argues that Indian law should answer that question by creating the legal category of spaceflight participant. The classification should apply to a human occupant carried with the operator’s permission who is not part of the flight crew, regardless of whether the individual describes the journey as tourism, research, employment-related travel or another private purpose. The category should coexist with, rather than attempt to redefine, the international treaty concept of the astronaut.

Classification alone is insufficient. The central issue is liability.

Two regulatory instincts compete. The first borrows from passenger protection. A person who pays a commercial operator should receive substantial protection against injury, negligent operation and defective equipment. The second begins with the unusually hazardous and developmental character of human spaceflight. If every adverse outcome generates airline-like liability regardless of accepted risk, the cost of insurance and litigation may prevent the market from developing. The United States has responded largely through informed consent and assumption of risk. The United Kingdom combines informed consent with a substantially more

structured safety, licensing and medical framework.¹⁰

India should adopt neither approach without modification.

The article proposes four connected reforms. First, a future Indian space statute should create a precise distinction between crew, government astronauts and commercial spaceflight participants, while treating rescue obligations broadly enough to cover every human occupant. Second, informed consent should operate as acceptance of inherent and specifically disclosed risks rather than a contractual waiver of the operator's basic safety duties. Third, India should establish a two-tier compensation model consisting of compulsory no-fault passenger accident insurance and additional fault-based liability for operator misconduct or safety failures. Fourth, commercial human flight should require a distinct IN-SPACe human-spaceflight authorisation covering vehicle safety, training, medical fitness, emergency systems, accident investigation and hybrid air-space operations.

The resulting regime would acknowledge the experimental characteristics of spaceflight without treating a paying individual as the financier of regulatory risk. The objective is neither to reproduce ordinary aviation law nor to exempt commercial operators from ordinary principles of responsibility. It is to construct a liability system appropriate to an industry that increasingly resembles transport while retaining risks closer to experimental flight.

II. SPACE TOURISM HAS OUTGROWN THE LANGUAGE OF THE ORIGINAL SPACE TREATIES

The international legal framework contains no treaty definition of "space tourist." That omission is unsurprising. The major United Nations space treaties were concluded during the 1960s and 1970s, when governments dominated access to outer space.

Article V of the Outer Space Treaty provides that States Parties shall regard astronauts as envoys of mankind and render them all possible assistance in the event of accident, distress or emergency landing. Article VIII provides that the State of registry retains jurisdiction and control over a registered space object and "any personnel thereof" while in outer space or on a celestial body.¹¹ The terminology already contains a distinction. "Astronaut" appears in the

¹⁰ 51 U.S.C. § 50905 (2024); Space Industry Act 2018, c. 5, §§ 17–18, 34 (UK).

¹¹ Outer Space Treaty, *supra*-Citation [1], arts. V, VIII.

humanitarian provisions, while “personnel” appears in the jurisdictional provision.

The Rescue Agreement broadens the wording further. Rather than relying exclusively upon “astronaut,” it imposes duties concerning “personnel of a spacecraft.” Where such personnel suffer accident, experience distress or make an emergency or unintended landing, Contracting Parties are required to take measures for rescue and safe return.¹² The change in language is significant because “personnel” may encompass a wider category than professional astronauts.

A United Nations space-law workshop examining treaty implementation concluded that the expression “personnel of a spacecraft” should be construed to encompass all persons aboard a spacecraft.¹³ That interpretation is particularly valuable for commercial human flight. It permits the humanitarian obligations of rescue and return to evolve with technology without requiring every private passenger to become an “envoy of mankind.”

A commercial tourist should therefore be distinguished from an astronaut for regulatory purposes without being excluded from rescue protection.

The distinction avoids a conceptual error that would otherwise arise. “Astronaut” has historically signified considerably more than physical altitude. It is associated with professional selection, mission responsibilities, training and representation of a governmental or institutional programme. The United States Federal Aviation Administration now illustrates the trend away from altitude-based astronaut status. It no longer designates people as commercial astronauts merely because they reach a specified height; instead, it maintains a human-spaceflight recognition list and uses statutory classifications such as “crew,” “government astronaut” and “space flight participant.”¹⁴

The legal difference becomes more important when private missions involve people with varying roles. An individual responsible for piloting a spacecraft cannot sensibly be subject to the same training and liability regime as a passenger who has no control over the vehicle. A government astronaut travelling on a commercially operated spacecraft may be subject to institutional agreements different from those governing a privately paying participant. A

¹² Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space arts. 1–4, Apr. 22, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119.

¹³ U.N. Office for Outer Space Affairs, *Report on the United Nations/International Institute of Air and Space Law Workshop on Capacity Building in Space Law*, U.N. Doc. A/AC.105/814, ¶ 37 (2003).

¹⁴ Federal Aviation Administration, *Human Space Flight* (last visited Sept. 24, 2026).

scientist may conduct experiments aboard the flight but exercise no safety-critical function. Legal status should follow responsibility rather than prestige.

The term “passenger” nevertheless remains tempting because commercial spaceflight is purchased transportation. Indian aviation law already protects persons carried for reward through the Carriage by Air Act, 1972, which incorporates the Montreal Convention framework for international carriage by air. The Third Schedule applies to international carriage of persons, baggage or cargo performed by aircraft for reward and establishes a specialised liability system for passenger injury, delay and baggage claims.¹⁵

Applying that regime directly to spaceflight would be difficult.

The first obstacle is technological classification. The Montreal framework applies to carriage by aircraft. A conventional rocket does not derive its support in the atmosphere in the same way as an aircraft throughout its journey. Sub-orbital vehicles complicate the question further because some systems operate through both aviation and spaceflight phases. Virgin Galactic’s architecture, for example, involves an aircraft carrying a rocket-powered spaceplane before release. Future point-to-point aerospace vehicles could depart from one State, traverse outer space and return to another State within a single commercial journey.

ICAO and the United Nations have recognised this uncertainty for years. ICAO describes a sub-orbital flight as a flight to very high altitude that does not place the vehicle into orbit, while UNOOSA materials acknowledge that such flights may implicate both air law and space law depending upon their design and purpose. There is still no internationally settled boundary between airspace and outer space.¹⁶ A 2025 paper presented to the UN Legal Subcommittee again described sub-orbital travel as a hybrid activity that creates uncertainty concerning classification, passenger protection and applicable law.¹⁷

Direct application of air-passenger rules would also ignore differences in technological maturity. Commercial airlines operate through airworthiness certification, detailed maintenance standards, operational regulation and an enormous body of empirical safety

¹⁵ Carriage by Air Act, No. 69 of 1972, Third Schedule, r. 1, India Code (1972).

¹⁶ U.N. Comm. on the Peaceful Uses of Outer Space, Legal Subcomm., *Questions on Suborbital Flights for Scientific Missions and/or for Human Transportation*, U.N. Doc. A/AC.105/C.2/2022/CRP.24, at 8–9 (2022).

¹⁷ Nat’l Space Soc’y, *Air/Space Delimitation & Suborbital Space Travel*, U.N. Doc. A/AC.105/C.2/2025/CRP.22 (2025).

information. A passenger is not ordinarily expected to investigate the technical safety record of an individual aircraft design before boarding.

Human spaceflight currently operates differently. Commercial spacecraft may have relatively few crewed flights. Catastrophic failure cannot be assessed using the statistical base available for conventional aviation. Some risks remain unknown. A legal model that assumes ordinary passenger expectations may therefore misdescribe the transaction.

But the opposite conclusion is equally unsatisfactory. A company should not be able to avoid consumer and safety obligations simply by calling the customer a “participant” rather than a passenger.

The correct classification must therefore occupy an intermediate position.

III. CURRENT INTERNATIONAL PRACTICE: THE UNITED STATES AND THE UNITED KINGDOM

The United States provides the most developed example of an informed-consent approach to commercial human spaceflight.

Title 51 of the United States Code defines a space flight participant as an individual who is not crew and is carried aboard a launch or re-entry vehicle. An operator may carry such a participant only after providing specified risk information and obtaining written informed consent. The operator must inform the participant that the United States Government has not certified the vehicle as safe for carrying crew or spaceflight participants. It must disclose risks associated with launch and re-entry, relevant vehicle safety records and other prescribed information.¹⁸

The philosophy deliberately differs from ordinary aviation certification. The FAA itself explains that it licenses commercial launches and verifies compliance with public-safety requirements but does not certify commercial launch vehicles as safe in the same manner as passenger aircraft. Federal legislation has also limited the FAA’s ability to impose general occupant-safety regulation during what has commonly been called the commercial human-

¹⁸ 51 U.S.C. § 50905(b)(5) (2024).

spaceflight “learning period,” currently extended until 1 January 2028.¹⁹

The participant therefore assumes a substantial portion of personal risk.

The American framework also uses financial-responsibility rules and reciprocal waivers. FAA-licensed operators must satisfy specified financial-responsibility requirements concerning third-party liability and governmental property. Commercial space arrangements commonly include waiver-of-claims structures among participants in the launch operation, while the statutory and regulatory framework separately addresses risks to the uninvolved public.²⁰

This approach has a coherent regulatory rationale. Early human spaceflight is risky. A participant receives extensive disclosure and voluntarily chooses whether to accept that risk. Heavy ex ante regulation could freeze a developing technology before sufficient operational evidence exists.

Yet the model becomes harder to defend as commercial flight becomes routine.

Informed consent is meaningful only when the relevant risk can be communicated. Unknown design defects cannot be genuinely accepted. A participant has almost no ability to assess whether an operator’s engineering culture, maintenance practice or software-verification process is adequate. The customer can understand that a rocket is dangerous; the customer cannot independently evaluate whether the operator negligently installed a component or ignored a warning generated during testing.

There is therefore an important difference between accepting inherent spaceflight risk and accepting avoidable operator failure.

The United Kingdom has adopted a more structured model. The Space Industry Act 2018 and Space Industry Regulations 2021 distinguish crew members from “spaceflight participants,” defined as persons other than crew carried aboard the launch vehicle with the operator’s permission.²¹ Section 17 of the Act requires informed consent from individuals taking part in prescribed capacities. The participant must receive the operator’s risk assessment and satisfy

¹⁹ 51 U.S.C. § 50905(c) (2024); Federal Aviation Administration, *Human Space Flight* (last visited Sept. 24, 2026).

²⁰ 51 U.S.C. §§ 50914–50915 (2018); Federal Aviation Administration, *Financial Responsibility* (last visited Sept. 24, 2026).

²¹ Space Industry Regulations 2021, SI 2021/792, reg. 2 (UK).

requirements concerning age and mental capacity.²²

British regulation also addresses training and medical fitness in greater detail. Regulatory guidance requires participants to understand the possibility of death or injury and the fact that the regulator does not certify the launch vehicle to conventional national or international passenger-safety standards. Medical assessment and training requirements are tailored to the demands of human spaceflight, including the stresses generated by acceleration, microgravity and emergency procedures.²³

The liability system is particularly instructive. Section 34 of the Space Industry Act creates strict operator liability for specified third-party injury and damage in the United Kingdom, but persons voluntarily participating in the spaceflight may be excluded from that special strict-liability route. A spaceflight participant who has given informed consent therefore does not simply acquire the same no-fault claim as an uninvolved member of the public. This does not mean that informed consent necessarily abolishes every possible claim against the operator. British guidance makes clear that the participant may still have to establish negligence, intention or another cause of action.²⁴

This distinction is useful for India. A participant may accept the exceptional background risks of spaceflight without agreeing that the operator may act carelessly.

The comparative experience also exposes an emerging regulatory choice. The American model starts from autonomy and experimentation. The British model retains informed consent while placing more emphasis on licensing, human-occupant standards and regulatory risk assessment. Neither treats a participant exactly like an airline passenger.

India has an opportunity to adopt the useful elements of both while avoiding their weaknesses.

IV. INDIA'S EXISTING SPACE FRAMEWORK AND THE MISSING HUMAN OCCUPANT

The Indian Space Policy, 2023 was designed to create a stable framework for an increasingly

²² Space Industry Act 2018, c. 5, § 17 (UK).

²³ Civil Aviation Authority, *Guidance for Launch and Return Operator Licence Applicants and Licensees* ¶¶ 7.37–7.53 (May 2024); Space Industry Regulations 2021, SI 2021/792, pt. 7 (UK).

²⁴ Space Industry Act 2018, c. 5, § 34 (UK); Civil Aviation Authority, *Guidance on Insurance Requirements and Liabilities Under the Space Industry Act 2018* ¶¶ 3.1–3.6 (Nov. 2025).

commercial space sector. It permits non-governmental entities to undertake end-to-end activities in the space domain and assigns IN-SPACe responsibility for authorising and supervising activities that require regulatory approval.²⁵ The Policy expressly instructs IN-SPACe to encourage private entities to participate in space exploration and human presence in outer space, while ISRO remains responsible for demonstrating human-spaceflight capability and developing the technologies and ecosystem required for sustained human presence.²⁶

This division is sensible. Gaganyaan remains a State-led human-spaceflight programme, but Indian policy does not reserve every future human mission to ISRO.

The IN-SPACe Norms, Guidelines and Procedures of 2024 supply the present authorisation framework. An Indian entity undertaking a qualifying sub-orbital or orbital launch from Indian territory or abroad requires IN-SPACe authorisation. A foreign launch operator seeking to launch from India must proceed through an Indian entity. The framework contains application, safety, registration, environmental and liability requirements.²⁷

Chapter X deals directly with liability. It acknowledges that India may incur international liability as a launching State under the Outer Space Treaty and Liability Convention. For launches from Indian territory, IN-SPACe may require the launch operator to maintain third-party liability insurance. IN-SPACe determines the amount, period and other conditions, while the Government of India is to be included as an insured entity in specified circumstances. The operator may also be required to indemnify the Government for liabilities generated by authorised activities.²⁸

This structure responds principally to external liability. It protects the State and third parties affected by the launch. It does not answer the separate question of compensation owed to the paying occupant inside the vehicle.

The distinction follows directly from the Liability Convention. Article II imposes absolute launching-State liability for damage caused by a space object on the surface of the Earth or to aircraft in flight. Article III applies fault-based liability where one space object causes damage

²⁵ Dep't of Space, Gov't of India, *Indian Space Policy – 2023* §§ 3–5 (2023).

²⁶ *Id.* §§ 5–6.

²⁷ Indian Nat'l Space Promotion & Authorization Ctr., *Norms, Guidelines and Procedures for Implementation of Indian Space Policy-2023 in Respect of Authorization of Space Activities* ch. VIII, at 50–54 (May 3, 2024).

²⁸ *Id.* ch. X, at 57–61.

in outer space to another space object or persons or property aboard it.²⁹ The treaty is fundamentally inter-State. Claims are presented through States, and its architecture was not designed as a comprehensive passenger-compensation system for persons aboard the operator's own spacecraft.

An Indian tourist injured aboard an Indian commercial spacecraft would therefore require domestic law to determine the operator's private liability. The existence of international launching-State liability does not answer that question.

Ordinary Indian private law offers possible causes of action, but it does not supply a coherent human-spaceflight regime.

The Consumer Protection Act, 2019 defines "service" broadly and expressly includes transport and other services made available to potential users for consideration. It recognises complaints concerning deficient services, hazardous services and unfair contracts.³⁰ A person purchasing a commercial recreational spaceflight would have a strong argument that he or she is a consumer of a service, subject to the facts of the transaction. The Act's treatment of unfair contracts also creates potential constraints on exceptionally broad exclusion clauses.³¹

The Indian Contract Act, 1872 would govern the contractual relationship as well. Consent must be free, contractual objects must be lawful, and section 28 restricts agreements that absolutely restrain enforcement of contractual rights through ordinary legal proceedings, subject to recognised exceptions.³² These principles could become relevant where a commercial operator requires a participant to execute extensive risk waivers.

Yet ordinary contract and consumer law are poor substitutes for a tailored liability regime.

They do not determine what information counts as adequate spaceflight risk disclosure. They do not establish a medical or training threshold. They do not distinguish unavoidable risks from negligence unique to commercial human spaceflight. They offer no sector-specific insurance floor. Nor do they resolve which rules apply if the flight contains both aviation and space

²⁹ Convention on International Liability for Damage Caused by Space Objects arts. I–III, Mar. 29, 1972, 24 U.S.T. 2389, 961 U.N.T.S. 187.

³⁰ Consumer Protection Act, No. 35 of 2019, § 2(42), India Code (2019).

³¹ *Id.* §§ 2(6), 2(7), 2(46), 47, 49, 58.

³² Indian Contract Act, No. 9 of 1872, §§ 10–19, 23, 28, India Code (1872).

phases.

The Carriage by Air Act produces a further uncertainty. Its Montreal Convention framework applies to carriage by aircraft for reward.³³ A conventional vertical-launch spacecraft is unlikely to fit naturally within this framework. A winged sub-orbital vehicle or carrier-aircraft system presents a more difficult case. One portion of a journey may unmistakably occur aboard an aircraft, while another occurs aboard a launch vehicle. A future Indian operator offering point-to-point sub-orbital transport could raise a serious question about where air carriage ends and space carriage begins.

India should resolve these questions before the first commercial human flight rather than after the first accident.

The case for legislation has become stronger for a more fundamental reason. As of September 2026, India still lacks a comprehensive national space statute. A parliamentary committee recorded in March that the Department of Space was in an advanced stage of preparing legislation intended to address the entities entitled to undertake space activities, the authorisation process, legal implications, liability, insurance, penalties and dispute adjudication.³⁴ This legislative exercise creates a timely opportunity to include commercial human spaceflight before the market forms around contractual practice alone.

V. THE LEGAL STATUS OF THE COMMERCIAL SPACE TOURIST

Indian law should not use “space tourist” as its primary statutory category.

Tourism is a commercial description, not a stable legal characteristic. The relevant question is whether the person performs an operational role. A wealthy individual purchasing a sub-orbital experience, a university researcher paying for orbital laboratory access and a corporate employee sent to conduct experiments may have different motives but the same relationship to the operator’s safety systems. None necessarily controls the spacecraft.

A future Indian statute should therefore define a spaceflight participant as a natural person carried aboard a launch vehicle, re-entry vehicle or spacecraft with the operator’s permission

³³ Carriage by Air Act, No. 69 of 1972, § 4A & Third Schedule, India Code (1972).

³⁴ Dep’t-Related Parliamentary Standing Comm. on Sci. & Tech., Env’t, Forests & Climate Change, *Demands for Grants (2026–27) of the Department of Space* ¶¶ 92–93 (2026).

who is not a member of the crew or a designated government astronaut. The definition should apply irrespective of whether the participant personally paid the fare.

Crew should be defined functionally. A person should qualify as crew where he or she performs safety-critical, operational or mission-control functions directly related to launch, flight, re-entry or emergency response. This prevents operators from designating paying participants as “crew” merely to avoid consumer protections.

Government astronauts should form a separate category where an individual is designated by India or another cooperating State for an official human-spaceflight mission. Agreements between governments may then determine additional rights, immunities, training standards and compensation.

This structure follows useful elements of contemporary American and British practice.³⁵ Its value lies in the legal consequences of classification. Crew may be subjected to stringent training and professional obligations. Government astronauts may operate under intergovernmental arrangements. Spaceflight participants receive consumer-oriented protection combined with informed assumption of extraordinary risk.

The statute should separately clarify that every human occupant qualifies as “personnel of a spacecraft” for purposes of India’s implementation of the Rescue Agreement.

This avoids the unnecessary question whether a tourist is technically an “astronaut.” The humanitarian obligation should follow physical vulnerability. A spacecraft passenger making an emergency landing in another State needs rescue as urgently as a professional astronaut. The UN interpretation favouring coverage of all persons aboard the spacecraft supports that result.³⁶

The symbolic phrase “envoy of mankind” need not do the legal work.

This distinction would also assist jurisdiction. Under Article VIII of the Outer Space Treaty, the State of registry retains jurisdiction and control over the registered space object and personnel while in outer space.³⁷ India should implement that principle domestically by specifying the criminal, civil and regulatory jurisdiction applicable aboard Indian-registered

³⁵ 51 U.S.C. § 50902 (2018); Space Industry Regulations 2021, SI 2021/792, reg. 2 (UK).

³⁶ U.N. Doc. A/AC.105/814, *supra* Citation [13], ¶ 37.

³⁷ Outer Space Treaty, *supra* Citation [1], art. VIII.

commercial spacecraft, subject to applicable international agreements and foreign jurisdiction.

Commercial stations will eventually make such rules essential. Personal injury, assault, contractual disputes, medical decisions and property damage may occur in a spacecraft carrying persons of several nationalities. Registration provides a jurisdictional anchor, but domestic legislation must translate that international rule into workable procedures.

VI. THE FIRST MAJOR LACUNA: INFORMED CONSENT WITHOUT A DEFINITION OF WHAT CAN BE CONSENTED TO

Some version of informed consent should form part of Indian commercial human-spaceflight law. A participant must understand that spaceflight carries risks materially greater than ordinary passenger aviation. It would be artificial to permit a person to purchase an experimental sub-orbital journey and subsequently claim to have expected airline-level safety.

But the expression “informed consent” can conceal several different legal propositions.

The first is risk disclosure. The operator explains the nature of the vehicle, known hazards, flight profile, relevant safety history, medical stresses and emergency limitations. The participant then decides whether to fly.

The second is assumption of inherent risk. Where an adequately disclosed risk materialises despite compliance with the required standard of care, the participant cannot automatically treat the occurrence itself as proof of operator liability.

The third is waiver of negligence claims. The participant agrees not to sue even where the operator failed to comply with an applicable safety duty.

The fourth is waiver of gross negligence or intentional wrongdoing. This would allow a commercial operator to rely upon the consent document even where it disregarded a known serious risk.

These propositions should not be treated alike.

The American framework places substantial emphasis upon disclosure and acceptance. The participant receives information concerning known risks and safety records and is told that the

Federal Government has not certified the vehicle as safe for human carriage.³⁸ This approach is defensible during an experimental stage, but the bargaining structure deserves attention. A participant cannot negotiate spacecraft engineering. The customer purchases access on the operator's terms.

India should therefore create a statutory informed-consent document whose minimum content is prescribed by IN-SPACe.

The disclosure should identify the flight profile, whether the flight is sub-orbital or orbital, maximum anticipated acceleration, duration of microgravity, major known hazards, abort capability, emergency recovery arrangements, radiation exposure where relevant, operator and vehicle human-flight history, serious anomalies involving the vehicle family, and the extent to which the vehicle has been independently evaluated. Material unknown risks should be acknowledged expressly.

Technical disclosure must also be intelligible. Giving a participant several hundred pages of engineering documentation would satisfy form while defeating substance. The regulator should require a concise risk statement written for a reasonably informed non-specialist, followed by access to more detailed material.

Consent should occur sufficiently before flight to permit reflection. An operator should not be permitted to present a materially new waiver immediately before boarding after the participant has travelled, trained and incurred substantial non-refundable expenditure.

The participant should also receive an opportunity to ask questions and obtain independent medical advice.

The legal effect of the consent must then be prescribed.

India should provide that informed consent constitutes acceptance of inherent risks that were specifically disclosed or that could not reasonably have been eliminated through compliance with the authorised safety system. It should not waive claims arising from fraud, wilful misconduct, gross negligence, concealment of a material safety fact, operation outside the

³⁸ 51 U.S.C. § 50905(b)(5) (2024); 14 C.F.R. § 460.45 (2026).

authorisation, or breach of mandatory occupant-safety requirements.

Ordinary negligence presents the hardest question.

A complete prohibition on contractual allocation of ordinary negligence risk may produce substantial insurance costs during early operations. A complete waiver, on the other hand, could weaken the operator's incentive to comply with its own procedures. The better approach is to distinguish technical risk inherent in an authorised experimental system from departure from the approved system.

Where an injury occurs despite the operator complying with the approved vehicle configuration, maintenance regime and mission rules, compensation should primarily arise through mandatory no-fault insurance rather than a negligence action. Where the operator deviates materially from those requirements, fault-based liability should remain available.

This gives informed consent a meaningful function without allowing contract to replace regulation.

The participant accepts that the authorised system itself is risky. The operator remains responsible for operating that system as promised.

VII. THE SECOND LACUNA: THIRD-PARTY INSURANCE DOES NOT PROTECT THE PERSON INSIDE THE SPACECRAFT

IN-SPACe's existing liability framework focuses heavily on third-party risk. That is appropriate because the Liability Convention can expose India to substantial international claims arising from private launch activity. A rocket accident may injure persons on the ground, damage foreign property or create liability involving another space object.

The commercial participant presents a different risk.

A person who knowingly boards the launch vehicle is not an uninvolved third party. If existing third-party insurance excludes launch participants, the individual may receive little protection from the insurance IN-SPACe requires to protect the State.

The result would be difficult to justify. The most physically exposed person in the operation could have weaker guaranteed compensation than a person standing several kilometres from

the launch site.

India should therefore require a separate human-occupant insurance layer.

The framework should begin with compulsory personal accident coverage for every spaceflight participant. The policy should pay a prescribed amount for death and specified bodily injury without requiring proof of negligence. Medical evacuation, emergency treatment and reasonable post-flight treatment for injuries attributable to the mission should also be covered.

This first layer would resemble no-fault passenger protection, though the amount and structure need not replicate aviation conventions.

The regulatory justification is straightforward. A participant may accept that spaceflight is dangerous while still requiring assurance that a catastrophic injury will not leave the individual or family dependent upon uncertain litigation. No-fault insurance allows the operator and insurer to price the risk in advance.

The minimum coverage should be fixed periodically by IN-SPACe or under regulations, with different floors permitted for short sub-orbital and longer orbital missions where risk exposure differs materially. Operators should remain free to purchase higher coverage or include it within premium ticket packages, but the statutory minimum should not be waivable.

A second layer should address operator fault.

Where injury results from breach of mandatory safety conditions, concealment of known material defects, negligent maintenance, unauthorised modification, gross negligence or intentional misconduct, the no-fault payment should not extinguish further liability. The participant or estate should remain able to pursue damages subject to ordinary rules of proof.

This creates a two-tier liability system.

The first tier asks only whether covered injury arose from participation in the authorised spaceflight. Compensation is automatic up to the insured limit.

The second asks whether the operator legally caused additional loss through actionable conduct. The claimant must establish the necessary elements of liability, but informed consent cannot automatically defeat the claim where the relevant risk arose from a breach of a

mandatory safety duty.

The model solves several problems simultaneously.

It allows participants to accept inherent technological risk without abandoning economic protection. It gives insurers a predictable base layer to price. It preserves incentives for safe operation. It also prevents catastrophic damages arising from an inherently risky activity from automatically being imposed upon a young operator where no safety breach occurred.

Government indemnification should remain separate.

IN-SPACe's existing rules provide for insurance and contractual arrangements protecting the Government against international liability generated by authorised private space activities.³⁹ A future statute should preserve this system but clearly distinguish governmental indemnity, third-party public liability and participant compensation. A single generic requirement to maintain "adequate insurance" would invite disputes after an accident.

India should also explore a pooled catastrophic-risk mechanism once the market becomes sufficiently developed. ISRO has already identified both space-tourism insurance and international space-risk pooling as current research areas.⁴⁰ A market containing only one or two operators may have difficulty obtaining extremely high private coverage at commercially realistic premiums. A public-private excess layer could eventually cover low-probability catastrophic losses above private insurance limits, subject to strict operator compliance.

Such governmental support should never indemnify wilful misconduct. The purpose would be to address genuinely catastrophic technological risk that ordinary insurance markets cannot efficiently absorb.

VIII. THE THIRD LACUNA: INDIA HAS LAUNCH AUTHORISATION, BUT NOT YET A HUMAN-SPACEFLIGHT AUTHORISATION

Authorising a rocket to launch is not the same regulatory task as authorising a commercial operator to carry people.

³⁹ Indian Nat'l Space Promotion & Authorization Ctr., *Norms, Guidelines and Procedures for Implementation of Indian Space Policy-2023 in Respect of Authorization of Space Activities* ch. X, at 57–61 (May 3, 2024).

⁴⁰ Indian Space Research Organisation, *Research Areas in Space-2025*, B1.2–B1.4 (2025).

The present IN-SPACe framework understandably concentrates upon launch safety, third-party exposure, registration of space objects, debris mitigation, national security and international responsibility.⁴¹ These issues remain essential. Human carriage adds a new regulatory object: the health and survival of a person who voluntarily enters the hazardous system.

India should therefore create a supplementary Commercial Human Spaceflight Authorisation.

An operator proposing to carry participants should first obtain the ordinary authorisation for the launch and space-transportation system. Human carriage would then require a separate approval showing compliance with occupant-related conditions. This approach avoids rebuilding the entire launch-authorisation regime while ensuring that carrying a person is treated differently from carrying a payload.

The authorisation should be performance-based where possible.

Spacecraft design is likely to evolve quickly. Overly prescriptive requirements based on one architecture could entrench present technologies and make safer alternatives harder to introduce. IN-SPACe should therefore identify required safety outcomes rather than specifying every engineering method.

The vehicle should demonstrate adequate life support for the planned mission duration, occupant restraint, fire detection and suppression appropriate to the environment, emergency communications, abort or survival strategy where technically feasible, and recovery procedures. The regulator should examine redundancy in safety-critical systems and require a defined process for configuration control after successful human-flight testing.

A commercial participant should not fly on the first full-scale vehicle test.

The United States already requires an operator to demonstrate through actual operational testing that a vehicle intended to carry humans performs as intended before carrying spaceflight participants.⁴² India should adopt an equivalent principle. The number and nature of required test flights can remain risk-based, but the operator must generate evidence before placing

⁴¹ Indian Nat'l Space Promotion & Authorization Ctr., *Norms, Guidelines and Procedures for Implementation of Indian Space Policy-2023 in Respect of Authorization of Space Activities* chs. VIII–XI (May 3, 2024).

⁴² 14 C.F.R. § 460.17 (2026); Federal Aviation Administration, *Human Space Flight* (last visited Sept. 24, 2026).

paying occupants aboard.

The authorisation should also govern training.

Participants do not need astronaut training. They do need sufficient instruction to avoid becoming a hazard to themselves or others. Training should cover restraint systems, emergency commands, evacuation, fire or depressurisation procedures where relevant, communications and behaviour during launch and re-entry. A sub-orbital participant may need only a short training programme. An orbital participant may require substantially more.

Medical regulation should follow the same proportional approach.

India should resist imposing professional astronaut medical standards on tourists. Doing so would unnecessarily exclude older persons and individuals with disabilities even where the vehicle can safely accommodate them. Blue Origin's 2025 New Shepard operations, for example, demonstrated that commercial human flight can encompass a wider range of participants than traditional State astronaut programmes.⁴³

At the same time, informed consent cannot justify allowing a medical condition to endanger other occupants or compromise emergency procedures. Operators should therefore maintain a regulator-approved medical screening protocol addressing conditions that create mission-specific risk. The participant should receive individual medical advice about risks that primarily affect him or her. Mandatory exclusion should be reserved for conditions creating an unacceptable risk to the safety of the flight or other occupants.

India's growing work in space medicine provides an institutional foundation for such standards. ISRO signed cooperation arrangements with medical institutions in 2025 and 2026 to develop expertise in human physiology, behavioural health, microgravity, biomedical systems and other aspects of human performance during spaceflight.⁴⁴ These capabilities could inform commercial standards without equating tourists with Gaganyaan crew.

⁴³ Blue Origin, *Human Flight Missions* (last visited Sept. 24, 2026).

⁴⁴ Indian Space Research Organisation, *ISRO, Department of Space and Sree Chitra Tirunal Institute Sign Framework Memorandum of Understanding on Cooperation in Space Medicine* (Apr. 25, 2025); Indian Space Research Organisation, *ISRO and AIIMS New Delhi Sign Framework Memorandum of Understanding for Cooperation in Space Medicine and Research* (Mar. 10, 2026).

Finally, the authorisation regime should mandate independent accident investigation.

A catastrophic commercial human-spaceflight accident would raise technical, consumer, criminal and international questions simultaneously. The investigating authority must be able to identify causes without having its safety investigation converted automatically into litigation evidence. India's aviation experience with AAIB offers useful institutional lessons, but spacecraft accidents may require a specialised IN-SPACe or independent spaceflight-investigation mechanism incorporating expertise from ISRO, aviation authorities and foreign agencies where required.

Human spaceflight cannot develop sustainably if every accident is analysed exclusively as a contractual dispute between operator and participant.

IX. THE FOURTH LACUNA: THE AIR-SPACE BOUNDARY CANNOT DETERMINE PASSENGER RIGHTS

Commercial sub-orbital flight exposes a deeper problem in international law. There is no universally accepted legal boundary separating sovereign airspace from outer space.

The distinction is fundamental. Article 1 of the Chicago Convention recognises complete and exclusive State sovereignty over the airspace above its territory.⁴⁵ Outer space is governed by the opposite starting principle. Under Article I of the Outer Space Treaty, exploration and use are free for all States, while Article II prohibits national appropriation.⁴⁶

A sub-orbital vehicle can operate through both environments during one continuous journey.

Attempting to determine passenger rights by altitude would therefore create instability. An individual could theoretically be an air passenger during ascent, a spaceflight participant above a chosen boundary, and an air passenger again during descent. Liability rules might change during a flight lasting only minutes.

The functional character of the operation provides a better basis.

India should apply its commercial human-spaceflight regime to the entire integrated spaceflight

⁴⁵ Convention on International Civil Aviation art. 1, Dec. 7, 1944, 61 Stat. 1180, 15 U.N.T.S. 295.

⁴⁶ Outer Space Treaty, *supra* Citation [1], arts. I–II.

operation where the principal purpose of the journey is sub-orbital or orbital spaceflight and the vehicle operates pursuant to an IN-SPACe human-spaceflight authorisation. The regime should begin at the legally defined commencement of the spaceflight operation and continue through landing and disembarkation.

Where a separate conventional aircraft carries a launch vehicle, ordinary aviation law should continue to govern the independent carrier-aircraft operation to the extent appropriate, but the statute should define how liability transfers when the participant moves into the launch phase.

This approach follows the mission rather than an arbitrary vertical line.

Point-to-point transportation will eventually require a different analysis. If a reusable vehicle begins carrying ordinary travellers between Delhi and New York through a sub-orbital trajectory, its economic function will resemble aviation far more closely than present-day tourism. At that stage, passenger-protection rules should move toward aviation standards.

The statute should therefore distinguish experience-based spaceflight from point-to-point commercial transportation. The former exists primarily to provide the experience of space, microgravity, research access or participation in an orbital mission. Informed assumption of extraordinary risk remains appropriate.

The latter exists primarily to transport a person between terrestrial destinations. Once companies market space vehicles as substitutes for international airlines, it becomes far harder to justify materially lower passenger protection merely because the trajectory briefly leaves the atmosphere. This distinction provides a way to future-proof the regime without resolving the international delimitation of outer space.

X. REASSESSMENT: A DISTINCT INDIAN MODEL FOR COMMERCIAL SPACE TOURISM

India should resist the assumption that it must choose between treating a space tourist as a conventional airline passenger and adopting the American model of highly autonomous risk acceptance.

A more coherent system begins with a different premise. Commercial human spaceflight is a regulated hazardous service. The word “hazardous” recognises technological reality. The word

“service” recognises the commercial relationship. Both matter. The participant is not simply an experimental subject. A company has chosen to sell access to the system and derive revenue from the transaction. This justifies statutory duties that cannot be removed through standard-form contracts.

At the same time, the participant is not an ordinary airline customer. The individual knowingly chooses an activity with exceptional residual risk and may accept hazards that would be unacceptable in mass transportation.

The four reforms developed above can be integrated into a single statutory architecture.

The first is status. Indian law should define the spaceflight participant according to operational role rather than motive. The participant remains distinct from crew and government astronauts. Rescue obligations should extend to every human occupant, without requiring a tourist to acquire the international status of an “envoy of mankind.”

The second is risk allocation. Informed consent should have real legal consequences, but only for inherent and properly disclosed risks. It should not operate as a licence for negligent departure from mandatory safety requirements. Fraud, concealment, gross negligence and intentional wrongdoing must remain outside contractual waiver.

The third is compensation. Every participant should receive compulsory no-fault accident coverage. Fault-based claims remain available where the operator breaches relevant legal duties. Third-party insurance and governmental indemnification continue separately under IN-SPACe rules.

The fourth is authorisation. Carrying human beings requires additional regulatory scrutiny of vehicle performance, participant training, medical screening, emergency systems and accident response. Launch approval alone is insufficient.

These four elements are mutually reinforcing.

Informed consent becomes more credible when the State has established a minimum safety floor. No-fault insurance becomes financially manageable when participants accept residual inherent risk. Fault-based liability maintains operator incentives. Clear participant status tells courts, regulators and insurers which regime applies.

This is preferable to resolving each issue through contract. A purely contractual system would favour the party drafting the contract. Early space tourists may be affluent and sophisticated, but wealth does not create access to the engineering information required to evaluate spacecraft safety. Nor does commercial sophistication justify allowing an operator to externalise the cost of safety failures.

Consumer law should therefore remain applicable as a background safeguard. Commercial human-spaceflight legislation should expressly state that its informed-consent regime does not exclude remedies under general Indian law for fraud, misleading disclosure, unfair contractual terms or legally actionable conduct falling outside accepted inherent risk.

The regulator should publish the standard risk categories that operators must disclose, while each operator adds vehicle-specific information.

This produces regulatory comparability. A participant comparing two operators should be able to understand whether one vehicle has completed fifty human flights and another five, whether either has suffered major anomalies, and what safety features differ between the systems.

There should also be regulatory disclosure of accident and serious-incident history.

Commercial confidentiality cannot extend to safety information necessary for meaningful informed consent. Operators may protect proprietary technical designs, but the existence of a serious safety occurrence and its verified implications should not be hidden from future participants.

The regulator's role should nevertheless have limits. IN-SPACe should not market an authorised vehicle as "safe." Human spaceflight authorisation should mean that the operator has met the statutory conditions for offering the activity, not that risk has disappeared.

This distinction mirrors the basic premise of informed consent while avoiding the weakness of leaving occupant safety almost entirely to private decision-making.

The proposed model would also support insurance development. Insurers price uncertainty. A regime specifying participant status, non-waivable operator obligations, disclosure standards and no-fault limits creates more predictable exposure than an environment in which every accident must first be litigated under general contract and tort principles.

ISRO's identification of space-tourism insurance as an unresolved research area reinforces the importance of legal clarity.⁴⁷

There is another advantage. India can develop these rules before the industry acquires entrenched contractual practices. The American system emerged partly from a conscious policy choice to protect a nascent domestic commercial launch industry from premature occupant-safety regulation. India is entering the field later. It can observe more than two decades of commercial-human-spaceflight policy development, actual private missions and increasingly mature vehicle technologies.

There is no need to recreate the earliest stage of American regulatory experimentation. Nor should India copy airline regulation simply because it is familiar. The commercial human-spaceflight market has not yet reached the level of standardisation required for ordinary passenger-carriage assumptions.

The appropriate model lies between them.

XI. THE CASE FOR LEGISLATION RATHER THAN CONTINUED POLICY ALONE

IN-SPACe has created a substantial authorisation framework through policy, norms and guidelines. That framework has been indispensable in opening the private Indian space sector. Commercial human spaceflight, however, raises questions that should ultimately rest upon legislation.

Liability is one reason.

A requirement that a participant waive or retain particular categories of legal claims directly affects private rights. A mandatory compensation floor creates enforceable financial obligations. Operator indemnity may transfer potentially enormous financial exposure. Accident investigation can involve compulsory production of evidence. Criminal jurisdiction aboard an Indian spacecraft implicates State authority over individuals.

These are matters for which statutory grounding is preferable to administrative guidance.

⁴⁷ Indian Space Research Organisation, *Research Areas in Space-2025*, B1.2 (2025).

The March 2026 parliamentary committee reached the broader conclusion that India's expanding space economy requires comprehensive legislation and recorded that the proposed Bill was expected to deal with liability and insurance.⁴⁸ Commercial human spaceflight should be incorporated into that drafting process rather than left for a later amendment after private operations begin.

The statute need not contain every medical or engineering detail.

Parliament should establish the categories, principles of liability, minimum rights, regulator's powers and basic insurance obligations. IN-SPACe can then issue technical regulations and revise them as technology develops.

This separation is particularly important for informed consent. Parliament should decide which rights cannot be waived. IN-SPACe should decide what technical information must be disclosed.

Similarly, Parliament should establish the two-tier liability structure. Regulations can prescribe the monetary insurance floor and adjust it periodically.

The legislation should also permit regulatory sandboxes for emerging systems. An operator developing a novel human-spaceflight architecture could obtain a limited experimental authorisation subject to enhanced restrictions, without the regulator being forced either to prohibit the system or treat it immediately as a full commercial service.

No paying participant should be carried during a stage that the regulator classifies as unproven experimental testing.

This boundary should be strict. Technology demonstration can legitimately involve professional test personnel who understand and participate in the experimental mission. A customer paying for an experience occupies a different legal position.

XII. CONCLUSION

Commercial space tourism forces space law to confront a category of person its foundational

⁴⁸ Dep't-Related Parliamentary Standing Comm. on Sci. & Tech., Env't, Forests & Climate Change, *Demands for Grants (2026–27) of the Department of Space* ¶¶ 92–93 (2026).

treaties did not clearly anticipate. The early international framework assumed that those entering outer space would be professional participants in State missions. The modern commercial market has replaced that assumption with a far more varied reality. A person aboard a spacecraft may be a pilot, government astronaut, scientist, employee, privately funded researcher or customer purchasing several minutes of weightlessness.

Calling all of them astronauts obscures legally relevant differences. Calling all of them passengers imports assumptions from mature aviation law that commercial spaceflight cannot yet satisfy. “Space tourist” is narrower than the activity itself because motive does not determine operational responsibility.

India should therefore adopt the category of the spaceflight participant.

That classification provides a foundation, but its value depends on the rights attached to it. A participant should enter the activity with greater autonomy than an ordinary airline passenger. The person may knowingly accept severe acceleration, microgravity, imperfect abort capability and residual risks that cannot presently be engineered out of human spaceflight. Informed consent is therefore justified.

Consent must have limits.

A customer can accept an inherent risk of a properly authorised spacecraft. The customer cannot meaningfully consent to a defect the operator concealed, maintenance it negligently omitted or a mandatory safety requirement it deliberately ignored. Indian law should make that distinction explicit rather than leaving its resolution to the drafting of private waivers.

Compensation should reflect the same balance. Mandatory first-party accident insurance can compensate death and serious injury without forcing every family into litigation over fault. Additional liability should remain where the operator breaches the safety obligations on which the participant’s acceptance of risk depended. Public and third-party risks should continue to be insured separately under the existing IN-SPACe structure.

Human carriage also demands an authorisation beyond the ordinary launch licence. IN-SPACe already possesses the regulatory foundation for sub-orbital and orbital launches. The next step is a commercial human-spaceflight authorisation directed specifically to vehicle performance with occupants aboard, emergency survival, participant training, medical fitness, risk

disclosure and accident investigation.

The air-space boundary should not control those rights. A sub-orbital participant should not move between radically different compensation regimes as the vehicle climbs and descends through an internationally unsettled vertical boundary. Indian law should classify the integrated mission by function. Experience-based spaceflight can operate under a special risk regime. Future point-to-point commercial transportation, once it becomes a substitute for aviation, should progressively attract ordinary passenger protections.

India is in a favourable position because commercial human spaceflight has not yet hardened into domestic industry practice. The State can legislate before waivers become standardised, before an accident tests uncertain consumer remedies and before insurance structures are negotiated around legal ambiguity.

Its existing framework already points toward this future. The Indian Space Policy contemplates private participation in human presence beyond Earth. IN-SPACe regulates private launch activity and international liability. ISRO is building domestic expertise in human spaceflight and space medicine and has identified space-tourism insurance as a research problem. Parliament has recognised the need for a comprehensive space statute. The missing element is the human being who is neither professional astronaut nor uninvolved third party.

A future Indian space law should place that person at the centre of its commercial human-spaceflight chapter. The participant should be permitted to accept extraordinary risk, but the operator should remain legally responsible for the safety system it sells. That distinction offers a more durable foundation for Indian space tourism than either passenger law transplanted from aviation or unrestricted assumption of risk borrowed from the earliest period of commercial spaceflight.