THE VERTICAL ECONOMY

A Unified Policy Framework for India's Drone, Near Space and Space Sectors

From 400 Feet to 400 Kilometres
A Policy Concept Paper for Submission to the Government of India

KNOWLEDGE CHAMBER OF COMMERCE AND INDUSTRY OF INDIA

Prepared through the SkyTech India 2026 consultation process
Space Economy and Drone Innovation Summit, Ahmedabad, 6 to 8 August 2026

Status: Consultation Draft v1.0 | July 2026

Lead Author and Convenor: **Group Captain Sameer Kulkarni (Retd)**,
Director, Ashwini Systech Private Limited
Member Advisory Council, Knowledge Chamber of Commerce and Industry of India

Foreword by Knowledge Chamber of Commerce and Industry

At a time when India is emerging as a global force in aerospace, drones, space technologies, and advanced manufacturing, this document provides a timely and forward-looking perspective on the opportunities that lie ahead.

Bharat Patel
Hon. Director General
Knowledge Chamber of
Commerce and Industry

It gives me immense pleasure to present “The Vertical Economy: A Unified Policy Framework for India's Drone, Near Space and Space Sectors”, a visionary policy concept paper developed by **Ashwini Systech Private Limited** through extensive industry consultation and thought leadership.
The concept of the **Vertical Economy** articulated in this paper is both innovative and strategic. By viewing drones, near-space platforms, and orbital activities as a single interconnected economic continuum, the paper encourages policymakers, industry leaders, investors, and innovators to think beyond traditional sectoral boundaries. Such an integrated approach has the potential to accelerate innovation, strengthen national capabilities, and create new pathways for economic growth and global competitiveness.

The **Knowledge Chamber of Commerce and Industry of India (KCCI)** has always championed emerging technologies, entrepreneurship, and industry-led policy advocacy. We believe that India's aspirations in the space and drone sectors can only be realized through strong collaboration between government, industry, academia, startups, and investors. This paper contributes meaningfully to that dialogue by presenting actionable recommendations across governance, infrastructure, manufacturing, finance, cybersecurity, talent, and global positioning.

I commend **Group Captain Sameer Kulkarni (Retd.)**, Director, Ashwini Systech Private Limited, and his team for their dedication, research, and commitment in developing this comprehensive framework. Their efforts reflect a deep understanding of the evolving aerospace ecosystem and a genuine desire to contribute to India's long-term strategic and economic interests.

As this paper is deliberated upon by policymakers and stakeholders, I am confident it will stimulate constructive discussions and inspire collaborative action. The ideas presented herein align closely with India's vision of becoming a global leader in innovation, technology, and space-driven growth. KCCI is proud to support initiatives that advance these national objectives and foster a vibrant ecosystem for future-ready industries.

I congratulate **Ashwini Systech Private Limited** on this significant contribution and extend my best wishes for the successful adoption of the recommendations outlined in this paper. Together, let us build an ecosystem that transforms India's potential into global leadership - from **400 Feet to 400 Kilometres.**

"Empowering Innovation. Enabling Growth. Shaping India's Vertical Economy."

CONTENTS

1. EXECUTIVE SUMMARY

India's airspace is a single physical continuum from the ground to orbit. India's policy treats it as three separate worlds. Drones below 400 feet answer to the Ministry of Civil Aviation and the Directorate General of Civil Aviation under the Drone Rules, 2021. Satellites in orbit answer to the Department of Space and IN-SPACe under the Indian Space Policy, 2023. The near space band between roughly 20 and 100 kilometres, where high altitude platforms, stratospheric balloons and long endurance aerostats will operate, answers to no dedicated framework at all.

This paper proposes that India become the first major economy to govern, measure and finance this entire continuum as one integrated national sector: the Vertical Economy. The proposal is not a merger of ministries. It is a coordination architecture, a shared statistical base, a common security and data trust layer, and a financing platform that together convert two promising but siloed reform stories into a single national mission.

The timing is deliberate. For the first time, both foundational laws of this continuum are on the anvil simultaneously. A new draft of the Space Activities Bill was finalised in 2025 and is in inter-ministerial consultation. The draft Civil Drone (Promotion and Regulation) Bill, 2025 was released by the Ministry of Civil Aviation for public consultation on 16 September 2025. India has a narrow and historic window to align these two statutes, and the rules to be framed under them, before they harden into another generation of silos.

The competitive context is equally pointed. China named its low altitude economy a strategic industry, wrote it into the 2024 Government Work Report, created a dedicated department in its national planning body, notified a statistical classification for the sector in December 2025, and now projects the market at roughly 1.5 trillion yuan (about USD 210 billion) in 2025, growing to 3.5 trillion yuan by 2035. By the end of 2025 China had 3.29 million registered drones. India, as of February 2026, had about 38,500. India's answer should not be imitation. China named only the bottom kilometre of the sky. India can name, govern and finance the full column, from 400 feet to 400 kilometres, and set the global template for doing so.

The paper makes twenty eight recommendations across seven pillars. Five headline recommendations deserve immediate attention:

One. Notify a National Vertical Economy Policy and constitute an empowered Vertical Economy Council under the Cabinet Secretariat, modelled on the PM Gati Shakti Network Planning Group, to harmonise the Civil Drone Bill, the Space Activities Bill and new near space rules into one coherent architecture.

Two. Enact both pending laws in the 2026-27 legislative calendar, with the industry facing corrections identified in this paper: research and development carve outs, graded civil penalties in place of criminal penalties for minor technical violations, statutory timelines with deemed approvals, and publication of draft rules alongside each Act.

Three. Open the near space: a joint DGCA, IN-SPACe and Ministry of Defence single window for high altitude platforms, stratospheric balloons and aerostats, together with a designated national near space test range.

Four. Make GIFT City the financing capital of the Vertical Economy by extending the IFSCA leasing framework from aircraft to unmanned aircraft fleets and space assets, and by building domestic space insurance capacity.

Five. Build trust by design: a Drone Cyber Trust Mark certification, a Space Systems Cybersecurity Framework, and an Aerial Data Governance Code under the Digital Personal Data Protection Act, 2023.

Every recommendation names a lead agency and a time horizon (Annexure B). The paper also proposes Gujarat, home to IN-SPACe, the ISRO Space Applications Centre, the country's first dedicated state SpaceTech policy and the GIFT City international financial services centre, as the first integrated national testbed through a Gujarat Vertical Economy Corridor.

The Knowledge Chamber of Commerce and Industry of India (KCCI) offers this paper as a constructive input to the Government of India's own stated ambitions: a USD 44 billion space economy by 2033 and global leadership in drones. Nothing here asks the Government to change direction. Everything here asks the Government to connect what it has already set in motion.

2. WHY THIS PAPER AND WHY NOW

Two laws in motion at once. The draft Civil Drone (Promotion and Regulation) Bill, 2025, covering unmanned aircraft systems up to 500 kilograms, would replace the Drone Rules, 2021 with a dedicated statute and gives explicit legal recognition to beyond visual line of sight operations. In parallel, a redrafted Space Activities Bill, replacing the shelved 2017 draft, has been finalised and is moving through inter-ministerial and public consultation, with statutory authority for IN-SPACe and insurance provisions among its confirmed features. The decisions taken in these two processes over the next twelve to eighteen months will define the operating environment of both sectors for a generation. Industry input is most valuable now, before the drafting concludes, not after.

A security inflection point. The four day India-Pakistan military exchange of May 2025 was, as widely reported, the first time the two countries employed unmanned aerial vehicles at scale against each other. The Government's response included plans for a Rs 2,000 crore incentive program over three years covering drones, components, software, counter drone systems and allied services, with a stated target that at least 40 percent of key components be made in India by 2027-28 (Reuters, July 2025). Security has moved drone policy from the margins to the centre of national attention. Civil and commercial policy must now keep pace, or the sector will develop a defence only character and forfeit the far larger civilian market.

A fiscal and rule making calendar that rewards early movers. Rules under both new Acts will be drafted through 2026-27. Pre-budget consultations for the Union Budget 2027-28 will open in late 2026. Recommendations submitted in August 2026 arrive exactly when they can be absorbed.

The cost of waiting is measurable. China's low altitude economy was worth roughly 506 billion yuan in 2023 according to CCID Consulting, and the Civil Aviation Administration of China now projects about 1.5 trillion yuan in 2025. Registered drones in China nearly tripled

from 1.27 million in 2023 to 3.29 million by the end of 2025, with annual flight hours exceeding 45 million. About thirty provincial level governments have issued low altitude economy policies, ten central departments have jointly issued standardisation guidelines targeting more than 300 standards by 2030, and mandatory national standards on drone identity broadcast and registration took effect on 1 May 2026. None of this happened because China's technology was unrecognisably better. It happened because China named the sector, measured it, and organised its state machinery around it.

Why a chamber paper, and why KCCI. Sector bodies necessarily advocate for their own vertical. The Drone Federation of India champions drones. The Indian Space Association and SIA-India champion space. Each does excellent work, and this paper is designed to complement, not duplicate, their efforts. What no single sector body is positioned to argue is the integrated case: that drones, near space platforms and satellites are one economic continuum sharing supply chains, spectrum, talent, data, security threats and capital. A chamber of commerce, speaking for MSMEs, startups, financiers and users across sectors, is the natural author of that argument. KCCI, headquartered in Ahmedabad alongside IN-SPACe and adjacent to GIFT City, convenes exactly the constituencies this continuum needs.

3. INDIA'S STARTING POSITION: TWO REFORM STORIES

3.1 Space: from monopoly to marketplace

The 2020 reforms created IN-SPACe as the promoter, enabler and authoriser of private space activity. The Indian Space Policy, 2023 defined roles across IN-SPACe, ISRO, NSIL and the Department of Space, and the Norms, Guidelines and Procedures document operationalised authorisations. The February 2024 FDI reform permitted up to 74 percent foreign investment under the automatic route in satellite manufacturing and operation, up to 49 percent in launch vehicles and spaceports, and up to 100 percent in components. The Union Cabinet approved a Rs 1,000 crore venture capital fund for space startups in October 2024. The IN-SPACe Decadal Vision targets growth of the Indian space economy from about USD 8.4 billion, roughly 2 percent of the global market, to USD 44 billion and an 8 percent share by 2033, including USD 11 billion of exports, with around USD 22 billion of investment anticipated over the decade.

The capability story has kept pace: India's first private rocket launch in 2022; the world's first flight of a single piece 3D printed rocket engine from a private launchpad at Sriharikota in 2024; the SpaDeX docking demonstration in January 2025 that made India the fourth nation to dock spacecraft in orbit; the NASA-ISRO NISAR radar satellite launched in July 2025; the first Indian aboard the International Space Station in 2025; a second spaceport under development at Kulasekarapattinam; and approved national goals of a Bharatiya Antariksh Station by 2035 and an Indian on the Moon by 2040. More than 400 private companies and startups have entered the sector since 2019. Three states have issued dedicated space policies, with Tamil Nadu focused on launch vehicles, Gujarat on satellites and payloads, and Karnataka as a general hub.

What is missing is the statute. India has ratified the Outer Space Treaty and carries international liability for all national space activities, including private ones, yet IN-SPACe still operates without statutory authority, and liability, insurance and intellectual property

questions remain unsettled. The Devas-Antrix arbitration remains the cautionary tale for what unclear frameworks cost.

3.2 Drones: from prohibition to platform

The Drone Rules, 2021 replaced a restrictive regime with a trust based one: approval forms reduced from twenty five to five, most offences decriminalised, the Digital Sky platform established as the single window, airspace mapped into green, yellow and red zones, and type certification instituted. The February 2022 ban on import of fully built drones, the Rs 120 crore production linked incentive scheme that concluded in 2024, and the GST Council's 2025 rationalisation of drone GST to a uniform 5 percent completed the first policy cycle. Flagship demand programmes followed: agricultural drone deployment through the Namo Drone Didi programme for 15,000 women self help groups, and nationwide village land mapping by drone under the SVAMITVA scheme.

The results are real but modest against the opportunity. As of February 2026, India had more than 38,500 registered drones, close to 40,000 certified remote pilots and over 240 approved remote pilot training organisations (IBEF, June 2026). India's drone market was valued at about USD 1.22 billion in 2025 and is projected to reach about USD 3.23 billion by 2030 at a compound annual growth rate of roughly 21.5 percent. More than 600 drone manufacturing and associated companies operate in India, yet the sector still imports most high value components, and beyond visual line of sight operations, the gateway to drone logistics at scale, remain confined to case by case approvals and limited corridors.

3.3 What the two stories share

Set side by side, the two sectors are living the same life. Both were opened to private enterprise around 2020-21. Both are governed by policy and rules while awaiting their first statute, and both statutes are now simultaneously in draft. Both depend on imported critical electronics and both are targeted by localisation programmes. Both face security clearance friction across multiple ministries. Both lack purpose built financing and insurance ecosystems. Both are constrained by the same shortage of certified technical talent. A framework that addresses these shared constraints once, coherently, will outperform two parallel frameworks that address them twice, inconsistently.

4. ONE SKY, THREE REGULATORY WORLDS

4.1 The regulatory stack today

Below roughly 400 feet above ground level sits the operational world of civil drones, governed by the Ministry of Civil Aviation and DGCA. Above that, conventional manned aviation occupies controlled airspace up to about 20 kilometres. Beyond about 100 kilometres, the conventional threshold of outer space, the Department of Space and IN-SPACe govern orbital activity. Each world has its own law or draft law, its own registry, its own clearance chain and its own vocabulary.

4.2 The missing eighty kilometres

Between roughly 20 and 100 kilometres lies near space: too high for aircraft regulation as currently framed, too low for space law. This is precisely where the next class of platforms operates. High altitude platform stations are solar powered unmanned aircraft or airships that station keep in the stratosphere at around 18 to 25 kilometres for weeks or months, providing telecommunications relay, persistent earth observation, border and maritime surveillance, and disaster communications at a fraction of satellite cost. Stratospheric balloons and long endurance aerostats serve adjacent missions. Indian public research programmes, including at CSIR-National Aerospace Laboratories, are developing high altitude platform demonstrators, and the SkyTech India 2026 summit itself features aerostat, airship and lighter than air systems as a core theme.

No Indian framework today tells an entrepreneur how to obtain authorisation to operate a high altitude platform: the draft Civil Drone Bill caps its scope at 500 kilograms of unmanned aircraft, and the Indian Space Policy addresses orbital activity. Nor has any major jurisdiction resolved this cleanly; international law itself does not define where airspace ends and outer space begins. That is the opportunity. The first country to legislate a clear, investable near space authorisation regime will attract the platforms, the patents and the standards leadership. India, with a continental landmass, long borders and coastlines, frequent natural disasters and a proven space establishment, has more use cases for near space platforms than almost any nation on earth.

4.3 Why silos are costly: three illustrations

Consider three composite, illustrative cases drawn from consultation inputs. First, a drone logistics firm seeking satellite enabled command and control for beyond visual line of sight routes must engage DGCA for the operation, the Department of Telecommunications for spectrum, IN-SPACe for the space segment and the Ministry of Home Affairs for security clearance, with no common window and no agency accountable for the whole. Second, a disaster management aerostat for a coastal state falls between aviation rules written for aircraft and procurement channels written for defence, with no civil authorisation pathway at all. Third, an earth observation analytics startup must simultaneously satisfy space authorisation norms, the National Geospatial Policy, drone rules for aerial supplementation, and the Digital Personal Data Protection Act, with no harmonised guidance on how these interact. In each case the technology exists, the demand exists, and the delay is institutional.

4.4 Naming as policy: the lesson of measurement

India has repeatedly shown that naming and measuring a sector changes its trajectory: Digital India, Make in India, and the unified logistics view of PM Gati Shakti all preceded measurable acceleration. China's low altitude economy demonstrates the same mechanism: once named, the sector acquired a statistical classification, a dedicated planning department, provincial competition and capital allocation. India currently publishes no unified statistics for its drone, near space and space activity. What is not measured cannot be championed at budget time. The Vertical Economy framing exists precisely to make the continuum visible, countable and fundable.

5. THE VERTICAL ECONOMY FRAMEWORK

KCCI proposes the following working definition. The Vertical Economy is all economic activity conducted in, enabled by, or serving the airspace and outer space above India, organised as three interoperable layers with common enablers.

- Layer 1, the Low Altitude Economy: unmanned aircraft systems, advanced air mobility, drone traffic management services and ground infrastructure, from the surface to about 1,000 feet above ground level, extendable as rules mature.
- Layer 2, the Near Space Economy: high altitude platform stations, stratospheric balloons, high altitude aerostats and lighter than air systems operating from roughly 20 to 100 kilometres.
- Layer 3, the Orbital Economy: launch, satellites, ground segment, space applications and in space activities as covered by the Indian Space Policy, 2023.

Cutting across all three layers are five enablers: manufacturing and supply chains; finance and insurance; data, security and trust; human capital; and standards and exports. The seven pillars of recommendations in Section 6 map onto this structure.

Six design principles govern the framework. One, one continuum with risk based rules per layer, not one regulator for everything. Two, single windows over serial clearances, with statutory timelines. Three, measure what we govern: a national statistical account for the sector. Four, security and trust engineered in from the start, not retrofitted. Five, states as laboratories, with model policies and corridors that let willing states move first. Six, finance follows clarity: every regulatory recommendation is paired with the financing and insurance machinery that lets private capital act on it.

6. RECOMMENDATIONS

Pillar 1: Governance and Law

R1. Notify a National Vertical Economy Policy. A Cabinet approved umbrella policy should formally define the three layers and five enablers, assign lead and coordinating agencies for each, and set a headline national ambition that unifies existing targets, for example a USD 50 billion Vertical Economy by 2035, combining the IN-SPACe decadal target of USD 44 billion for space by 2033 with the projected growth of the drone economy and the new near space segment. The policy should invite states to adopt model state policies. Lead: Cabinet Secretariat with the Ministry of Civil Aviation, Department of Space, Ministry of Defence, MeitY and NITI Aayog.

R2. Constitute an empowered Vertical Economy Council. An inter-ministerial council modelled on the PM Gati Shakti Network Planning Group should meet quarterly, resolve inter-agency conflicts, sequence rule making under the two new Acts, and maintain a permanent industry consultation window with standing invitations to sector bodies including the Drone Federation of India, the Indian Space Association, SIA-India and chambers of commerce. Its decisions and action taken reports should be published. Lead: Cabinet Secretariat.

R3. Enact both pending statutes in the 2026-27 legislative calendar, with corrections. For the Civil Drone (Promotion and Regulation) Bill, 2025: restore the research and development, prototype and model aircraft carve outs that existed under the Drone Rules, 2021; replace criminal penalties with graded civil penalties for minor technical violations, reserving criminal liability for wilful and dangerous acts; provide statutory timelines with deemed approvals; and publish draft rules alongside the Bill so that consultation is meaningful, a concern raised across public submissions. For the Space Activities Bill: confer statutory authority on IN-SPACe with an independent appellate mechanism; codify liability caps for authorised operators with government indemnity above the cap; establish the insurance framework the draft already contemplates; adopt differentiated licensing by activity class; and vest intellectual property created in space with the creator rather than the state, correcting the widely criticised approach of the 2017 draft. Lead: Ministry of Civil Aviation and Department of Space respectively.

R4. Create a Near Space Authorisation FrameworkA joint authorisation cell of DGCA, IN-SPACe, the Ministry of Defence and the Department of Telecommunications should offer a single application route for high altitude platforms, stratospheric balloons and high altitude aerostats. The framework should define the near space band in law, publish safety and coordination norms, and open an interim experimental authorisation route within twelve months so Indian demonstrators are not forced abroad. Lead: Ministry of Civil Aviation and Department of Space jointly, with Ministry of Defence concurrence.

R5. Publish an annual Vertical Economy Satellite Account. The Ministry of Statistics and Programme Implementation should compile an annual statistical account of the sector, covering registered craft, flights and launches, revenue, employment, investment and exports, drawing data from Digital Sky, IN-SPACe and DGFT. The satellite account technique is already proven in Indian national accounting through the Tourism Satellite Account, and China notified a comparable statistical classification for its low altitude economy in December 2025. What India measures, India will grow. Lead: MoSPI with the Vertical Economy Council.

Pillar 2: Airspace and Infrastructure

R6. Deliver time bound, risk based BVLOS rules. Rules for beyond visual line of sight operations should be published within twelve months of the Drone Act's passage, using internationally recognised risk assessment methodology, and should scale from today's corridor pilots to route networks, with medical and essential goods logistics prioritised. The United States released its proposed BVLOS rule, Part 108, in August 2025, and the European Union's U-space regulation has applied since January 2023; India should not concede this decade defining capability to others. Lead: Ministry of Civil Aviation and DGCA.

R7. Build unmanned traffic management as Digital Public Infrastructure. India's UTM layer should be an open protocol, interoperable public rail with published APIs, on which licensed private traffic management service providers compete, with Digital Sky evolving into the registry and authorisation layer. Built this way, the stack becomes exportable to the Global South as India's next digital public infrastructure success after the payments and identity rails. Lead: Ministry of Civil Aviation with MeitY.

R8. Make the airspace map dynamic and machine readable. The static green, yellow and red zone map should become a dynamically updated national airspace data layer integrated with the PM Gati Shakti National Master Plan, with periodic review to rationalise red zones

and published standards for temporary restrictions. Lead: DGCA with the Airports Authority of India and the Indian Air Force.

R9. Notify vertiport and drone port standards. National standards for drone ports, vertiports and charging infrastructure should be notified and embedded in greenfield airport and industrial corridor planning, including at Dholera, together with model land use codes for states. Lead: Ministry of Civil Aviation.

R10. Expand launch and navigation infrastructure. Complete the second spaceport at Kulasekarapattinam, notify a clear framework for additional private launchpads building on the 2024 private launchpad precedent, commission a feasibility study for west coast launch and recovery infrastructure, and publish a NavIC adoption roadmap for unmanned aviation with incentives for NavIC enabled flight controllers. Lead: Department of Space with the Ministry of Civil Aviation.

Pillar 3: Manufacturing and Supply Chain

R11. Design the Rs 2,000 crore drone programme components first. The successor to the Rs 120 crore PLI should weight incentives toward the components that decide sovereignty: flight controllers, motors, electronic speed controllers, batteries, gimbals, sensors and radio links. The stated 40 percent local content target for key components by 2027-28 should be verified through a transparent value addition audit trail, and beneficiary outcomes published annually. Lead: Ministry of Civil Aviation.

R12. Secure critical inputs and connect them to demand. Rare earth magnets and cells should be linked to the National Critical Mineral Mission; space grade electronic components should be qualified domestically; and the semiconductor fabrication and assembly capacity coming up in Gujarat and elsewhere should be connected to drone and satellite chip demand through anchor procurement commitments. Lead: Ministry of Mines, MeitY and Department of Space.

R13. Institute a trusted source regime for drone electronics. Government and critical infrastructure drone procurement should require components from trusted sources, adapting the model already proven in Indian telecom, with security testing at designated laboratories. This converts the May 2025 security lessons into standing industrial policy. Lead: National Security Council Secretariat with MeitY and the Ministry of Civil Aviation.

R14. Bridge dual use pathways and make government the first buyer. Create mutual recognition pathways between civil type certification and military airworthiness where appropriate, support iDEX innovations transitioning to civil markets, and deepen Government e-Marketplace categories with multi year rate contracts for drone services so that government demand anchors the industry. Lead: Ministry of Defence and Ministry of Civil Aviation with DGCA.

Pillar 4: Finance, Insurance and GIFT City

R15. Extend the GIFT City leasing framework from aircraft to the full vertical. Aircraft leasing was notified as a financial product under the IFSCA Act through 2020 24 notifications, and the framework, since widened to helicopters, engines, ground support equipment and simulators, had attracted more than twenty registered lessors by 2025 with transaction volumes reportedly up about 30 percent in 2024. The Government has articulated an objective of GIFT City handling about a quarter of India's aircraft leasing by 2030. The same machinery should now be extended by notifying unmanned aircraft fleet leasing and satellite and space asset leasing as financial products. India would become the first jurisdiction with a purpose built satellite leasing regime, capturing financing flows that today default to foreign centres. Lead: Department of Economic Affairs and IFSCA.

R16. Build domestic space and drone insurance capacity at GIFT City. A pooled facility for launch and in orbit cover, standardised third party drone liability wordings, and per flight digital microinsurance issued through Digital Sky APIs should be developed with insurers and reinsurers in the IFSC. The Space Activities Bill's insurance provisions will be commercially meaningful only if domestic capacity exists to serve them. Lead: IFSCA with IRDAI and IN-SPACe.

R17. Deploy catalytic capital across both sectors. The Rs 1,000 crore space venture fund approved in October 2024 should be deployed with private co investment multipliers; a parallel drone growth fund of funds should be considered through SIDBI, whose concessional lending role in the new drone programme is already reported; agricultural drones should be recognised under priority sector lending; and a first loss credit guarantee on the CGTMSE pattern should cover drone service enterprises and custom hiring centres. Lead: Department of Financial Services, SIDBI and NABARD.

R18. Make government the anchor customer through service contracts. Ministries and states should procure outcomes, such as earth observation data as a service, survey coverage, and delivery flights, through multi year advance market commitments rather than one time asset purchases, with payment discipline standards. Predictable demand is the cheapest subsidy the Government can offer. Lead: Department of Expenditure with NITI Aayog.

R19. Guarantee fiscal continuity. The uniform 5 percent GST achieved in the 2025 rationalisation should be preserved with stable classification of drone components and services, and customs treatment of not yet localised subsystems should follow a predictable glide path aligned with the 40 percent localisation target. Lead: Department of Revenue and the GST Council.

Pillar 5: Security, Cyber and Data Governance

R20. Institute a Drone Cyber Trust Mark. A certification scheme administered through CERT-In and STQC, aligned with DGCA type certification, should cover secure boot, signed firmware, encrypted command and control links, satellite navigation spoofing resilience and geofencing integrity. The mark should be mandatory for government and critical infrastructure procurement and voluntary but incentive linked in the open market. No major jurisdiction has yet fielded such a scheme; India can define the global benchmark. Lead: MeitY with CERT-In, STQC and DGCA.

R21. Issue a Space Systems Cybersecurity Fra mework. IN-SPACe, with CERT-In, should issue baseline cybersecurity controls for private space operators covering ground segments, telemetry and command links and software supply chains, building on CERT-In's February 2025 advisory to satellite communication providers. Ground infrastructure of critical constellations should be designated protected systems under the national critical information infrastructure regime, with mandatory incident reporting. Lead: Department of Space and IN-SPACe with CERT-In and NCIIPC.

R22. Notify a national counter unmanned aircraft systems framework. A graded framework should define who may detect, jam or interdict drones and where, maintain a protected sites register, set counter drone procurement standards, and mandate state police standard operating procedures and training, with clear civil military airspace coordination protocols reflecting the lessons of May 2025. Lead: Ministry of Home Affairs with the Ministry of Defence and Ministry of Civil Aviation.

R23. Adopt an Aerial Data Governance Code under the DPDP Act, 2023. Aerial imagery routinely captures persons, vehicles and private property. A code under the Digital Personal Data Protection Act should set notice and consent norms, anonymisation standards, retention limits and lawful use guidance for drone, aerostat and satellite imagery, harmonised with the National Geospatial Policy, 2022. India would be the first major economy to answer the privacy from above question comprehensively, converting a looming trust deficit into a competitive advantage. KCCI offers to convene industry drafting support. Lead: MeitY with the Data Protection Board.

R24. Reform security clearances with deemed approval timelines. Verified entities should receive time bound, single window security clearances with deemed approval on expiry of the timeline and periodic review in place of per project reclearance. Clearance friction is consistently reported by startups in both sectors as a larger obstacle than technology. Lead: Ministry of Home Affairs with the Vertical Economy Council.

Pillar 6: Human Capital

R25. Launch a Vertical Economy Skills Mission. Expand remote pilot training organisations beyond the current 240 plus into tier 2 and tier 3 districts with standardised instructor pipelines; create a Veterans to Vertical Economy pathway certifying ex-servicemen as instructors, safety officers and operations managers through Directorate General Resettlement channels; introduce drone technician trades in ITIs under the National Skills Qualifications Framework; and scale women operator programmes on the Namo Drone Didi foundation. Lead: Ministry of Skill Development and Entrepreneurship with the Ministry of Civil Aviation and Ministry of Defence.

R26. Build the research and higher education base Constitute a near space and high altitude platform research consortium spanning CSIR-NAL, ISRO, the IITs and private industry with shared testbed access; introduce space law, space insurance and aviation finance programmes, including at institutions in the GIFT City ecosystem; and expand university small satellite and unmanned systems design programmes. Lead: Ministry of Education with the Department of Space and CSIR.

Pillar 7: Exports, Standards and Global Positioning

R27. Build the export architecture. Create streamlined SCOMET licensing lanes for approved civil unmanned aircraft classes; deploy lines of credit and ITEC training partnerships that bundle Indian drones, training and the UTM digital public infrastructure stack for Global South partners, with medical logistics networks as the flagship use case; and mount a Designed and Made in India, Sky to Space brand mission aligned with the decadal export target of USD 11 billion for space. Lead: Ministry of External Affairs with DGFT and the Ministry of Civil Aviation.

R28. Be the rule maker, not the rule taker. Fund sustained Indian participation in international standards bodies for unmanned aviation and space, and host an annual international dialogue on near space governance in India, with Ahmedabad, the home of IN-SPACe, as the proposed venue. Because no country has yet legislated near space coherently, the nation that convenes the conversation will shape the norms. Lead: Ministry of External Affairs with the Department of Space and Bureau of Indian Standards.

7. GUJARAT AS THE NATIONAL TESTBED

Every element of the Vertical Economy already exists in one state. Gujarat hosts the national space regulator, IN-SPACe, headquartered in Ahmedabad; the ISRO Space Applications Centre and the Physical Research Laboratory; the country's first dedicated state space policy, the Gujarat SpaceTech Policy 2025-30, focused on satellites and payloads; a Space Manufacturing Park under development at GIDC Khoraj on 50 acres, expandable to 100, with IN-SPACe committing up to Rs 100 crore for common technical facilities; the GIFT City international financial services centre where the aircraft leasing ecosystem is already operating; the Dholera Special Investment Region with India's semiconductor fabrication programme; the Tata Advanced Systems and Airbus C-295 aircraft facility at Vadodara, from which the first Made in India C-295 has flown; the BISAG-N geospatial institution at Gandhinagar; and a dense startup and academic ecosystem including i-Hub, IIT Gandhinagar and DA-IICT.

KCCI accordingly proposes that the Government of India, with the Government of Gujarat, designate a Gujarat Vertical Economy Corridor as the first integrated national pilot, comprising five elements:

- A BVLOS logistics corridor between Ahmedabad and Dholera, pairing the new greenfield airport and industrial city with drone logistics from day one.
- A near space experimental range over the sparsely populated Rann of Kutch region, subject to Ministry of Defence concurrence, serving high altitude platform, balloon and aerostat trials with obvious border and disaster management relevance.
- A GIFT City regulatory sandbox for unmanned aircraft fleet leasing, satellite leasing and drone insurance products, sequenced with R15 and R16.
- A skills campus linking remote pilot training organisations, ITIs and the Khoraj space park under the Vertical Economy Skills Mission.
- An annual public measurement report on corridor outcomes, so that the pilot generates evidence, not only activity.

The corridor is designed to be replicable, not exclusive: Tamil Nadu's launch focus, Karnataka's services depth and other state strengths would anchor subsequent corridors. KCCI offers to serve as the industry secretariat for the Gujarat corridor consultation.

8. IMPLEMENTATION ROADMAP

Within 100 days. Announce the National Vertical Economy Policy intent and constitute the Vertical Economy Council (R1, R2). Publish the BVLOS rule making concept and timeline (R6). Notify the interim near space experimental authorisation route (R4). Commission scoping of the Vertical Economy Satellite Account (R5). Announce the Gujarat corridor consultation (Section 7).

Within 12 months. Enact both statutes with the corrections in R3. Complete IFSCA consultation on unmanned aircraft and space asset leasing (R15). Pilot the Drone Cyber Trust Mark (R20). Issue the draft Aerial Data Governance Code (R23). Sign Gujarat corridor memoranda. Notify the trusted source regime for government drone procurement (R13).

Within 36 months. Operationalise the near space test range (R4, Section 7). Bring the UTM digital public infrastructure stack live in at least three states (R7). Publish the first Vertical Economy Satellite Account (R5). Verify the 40 percent component localisation milestone (R11). Complete the first satellite leasing transactions from GIFT City (R15). Host the first international near space governance dialogue in Ahmedabad (R28).

9. HOW THIS PAPER WAS PREPARED AND NEXT STEPS

This consultation draft was prepared by KCCI with inputs from industry, academia and domain experts, and is anchored to publicly verifiable data listed in Annexure C. It will be tabled for structured validation at SkyTech India 2026 in Ahmedabad on 6 to 8 August 2026, including a dedicated policy roundtable and a delegate consultation exercise, alongside release of a one page Ahmedabad Declaration on the Vertical Economy carrying the five headline recommendations. Comments received by 18 August 2026 will be incorporated, and the final paper will be formally submitted to the Government of India on the occasion of National Space Day, 23 August 2026. KCCI extends an open invitation to the Drone Federation of India, the Indian Space Association, SIA-India and all sector stakeholders to associate with this paper as knowledge partners, and welcomes corrections at info@ashwinisystech.com.

ANNEXURE A: INTERNATIONAL BENCHMARKS AT A GLANCE

Jurisdiction	Drones and low altitude	Near space	Space statute	Sector financing
India	Drone Rules 2021; BVLOS case by case; Civil Drone Bill 2025 in consultation; about 38,500 registered drones (Feb 2026)	No dedicated framework (gap this paper addresses)	Space Activities Bill redraft in consultation; Indian Space Policy 2023	GIFT IFSC aircraft leasing live; no UAS or satellite leasing product yet
China	Low altitude economy named a strategic industry (2024 Government Work Report); about 3.29 million registered drones (end 2025); mandatory remote ID standards from May 2026	Provincial pilot zones; national roadmap under dedicated legislation	Administrative regulations; comprehensive statute in progress with a low altitude chapter in the Civil Aviation Law	State directed funds; about 30 provincial policies
United States	FAA Part 107; Part 108 BVLOS proposed rule released August 2025	Case by case approvals; commercial high altitude trials	Long standing commercial space law under Title 51; Space Policy Directive 5 on space cybersecurity (2020)	Deep private capital markets
European Union	U-space regulation applicable since January 2023; risk based specific category	Research pilots; no dedicated band regime	EU Space Act proposed by the European Commission (2025)	Ireland aircraft leasing; Luxembourg space finance
Japan	Level 4 flights beyond visual line of sight over inhabited areas permitted from December 2022	Operator led high altitude platform programmes	Space Activities Act 2016; Space Resources Act 2021	Government backed funds

India is competitive layer by layer but no jurisdiction, India included, yet sells the continuum as one. That is the open leadership position this paper proposes India take.

ANNEXURE B: CONSOLIDATED TABLE OF RECOMMENDATIONS

No.	Recommendation (short title)	Lead agency	Horizon
R1	National Vertical Economy Policy	Cabinet Secretariat	100 days
R2	Vertical Economy Council	Cabinet Secretariat	100 days
R3	Enact both statutes with corrections	MoCA; Department of Space	12 months
R4	Near Space Authorisation Framework	MoCA and DoS jointly, with MoD	12 months
R5	Vertical Economy Satellite Account	MoSPI	36 months
R6	Time bound risk based BVLOS rules	MoCA and DGCA	12 months
R7	UTM as Digital Public Infrastructure	MoCA with MeitY	36 months
R8	Dynamic machine readable airspace map	DGCA with AAI and IAF	12 months
R9	Vertiport and drone port standards	MoCA	12 months
R10	Launch and NavIC infrastructure	DoS with MoCA	36 months
R11	Components first design of Rs 2,000 crore programme	MoCA	100 days
R12	Critical inputs linked to demand	Ministry of Mines, MeitY, DoS	36 months
R13	Trusted source regime for drone electronics	NSCS with MeitY and MoCA	12 months
R14	Dual use bridge; government first buyer	MoD and MoCA	12 months
R15	UAS and satellite leasing at GIFT City	DEA and IFSCA	12 months
R16	Space and drone insurance capacity	IFSCA with IRDAI and IN-SPACe	12 months
R17	Catalytic capital deployment	DFS, SIDBI, NABARD	12 months
R18	Government as anchor customer	Department of Expenditure, NITI Aayog	12 months
R19	Fiscal continuity on GST and customs	Department of Revenue, GST Council	Ongoing
R20	Drone Cyber Trust Mark	MeitY with CERT-In, STQC, DGCA	12 months
R21	Space Systems Cybersecurity Framework	DoS and IN-SPACe with CERT-In, NCIIPC	12 months

No.	Recommendation (short title)	Lead agency	Horizon
R22	National counter UAS framework	MHA with MoD and MoCA	12 months
R23	Aerial Data Governance Code under DPDP Act	MeitY with Data Protection Board	12 months
R24	Security clearance reform, deemed approvals	MHA with the Council	12 months
R25	Vertical Economy Skills Mission	MSDE with MoCA and MoD	36 months
R26	Near space research consortium; education	Ministry of Education, DoS, CSIR	36 months
R27	Export architecture and Global South partnerships	MEA with DGFT and MoCA	36 months
R28	Standards leadership; near space dialogue in India	MEA with DoS and BIS	36 months

ANNEXURE C: DATA SOURCES AND REFERENCES

All figures in this paper are drawn from the public sources below, as reported up to July 2026. KCCI will re-verify all figures before final submission and welcomes corrections.

- IN-SPACe, Decadal Vision and Strategy for the Indian Space Economy (targets of USD 44 billion by 2033, 8 percent global share, USD 11 billion exports, about USD 22 billion investment), as reported by the World Economic Forum, January 2025.
- Ministry of Civil Aviation, Draft Civil Drone (Promotion and Regulation) Bill, 2025, released for public consultation on 16 Sept 2025 (civilaviation.gov.in); analyses by PRS Legislative Research and law firm commentaries, September to November 2025.
- Status of the redrafted Space Activities Bill: statements of the IN-SPACe Chairperson reported in The Indian Express, May 2025, and subsequent commentary (Council for Strategic and Defense Research; Chambers Global Practice Guide, Space Law 2025, India chapter).
- Reuters, July 2025: reports on the planned Rs 2,000 crore, three year drone incentive programme, the 40 percent local content target for key components by 2027-28, SIDBI concessional lending, and the count of over 600 drone companies.
- India Brand Equity Foundation (IBEF), India's Drone Ecosystem, June 2026: over 38,500 registered drones, 39,890 certified remote pilots, over 240 approved RPTOs as of February 2026; Indian drone market of USD 1,219.7 million in 2025 projected to USD 3,231.1 million by 2030 at 21.51 percent CAGR.
- Civil Aviation Administration of China projections and related reporting: China Daily, Xinhua and CGTN, 2025-26 (low altitude economy of about 1.5 trillion yuan in 2025 and 3.5 trillion by 2035; 3.29 million registered drones at end 2025 versus 1.27 million in 2023; over 45 million flight hours; about 30 provincial policies; NDRC statistical classification of December 2025; ten department standardisation guidelines targeting over 300 standards by 2030; mandatory national standards effective 1 May 2026). CCID Consulting estimate of about 506 billion yuan for 2023.
- Government of Gujarat, Department of Science and Technology: Gujarat SpaceTech Policy 2025-30 (dst.gujarat.gov.in); reports of the Gujarat and IN-SPACe agreement on Common Technical Facilities and the Space Manufacturing Park at GIDC Khoraj (50 acres, IN-SPACe support up to Rs 100 crore), announced at the 10th IN-SPACe Industry Connect, Ahmedabad, 2026.
- IFSCA: aircraft leasing framework materials (ifsca.gov.in) and industry analyses, 2024-26 (aircraft leasing notified as a financial product through 2020-21 notifications; over twenty registered lessors by 2025; transaction growth of about 30 percent in 2024; permitted assets widened to helicopters, engines, ground support equipment and simulators; stated objective of about 25 percent of India's aircraft leasing by 2030).
- Federal Aviation Administration, proposed Part 108 rule for beyond visual line of sight operations, August 2025, as publicly reported. European Union U-space regulatory package, applicable January 2023. Japan Level 4 operations permitted from December 2022. United States Space Policy Directive 5 (2020). Japan Space Activities Act 2016 and Space Resources Act 2021. EU Space Act proposal, European Commission, 2025.
- FDI reform for the space sector, February 2024 (up to 74 percent automatic in satellites, 49 percent in launch vehicles and spaceports, 100 percent in components); Union Cabinet approval of the Rs 1,000 crore space venture capital fund, October 2024; GST Council rate rationalisation for drones to a uniform 5 percent, 2025; all as publicly reported.
- CERT-In advisory to satellite communication providers, February 2025, as publicly reported.
- Reuters and national media reporting, May to July 2025, on the scale of unmanned systems use in the May 2025 India-Pakistan exchange.

ANNEXURE D: ABOUT KCCI AND SKYTECH INDIA 2026

The Knowledge Chamber of Commerce and Industry of India (KCCI) is an Ahmedabad headquartered chamber that convenes startups, MSMEs, corporates, investors, academia and government across emerging technology sectors. KCCI Corporate Office: 607-608, The Emporio, Motera, Ahmedabad 380005, Gujarat, India. Phone: +91 79 4840 8004. Email: info@knowledgechamber.org. Web: www.knowledgechamber.org.

SkyTech India 2026, the Space Economy and Drone Innovation Summit, is being held on 6 August 2026 at Narayani Heights, Ahmedabad, under the theme Orbiting Growth: Space Economy and Drone Tech as Catalysts for India's Next Leap, followed by the Innovate to Orbit Startup Pitch Arena on 7 and 8 August 2026 at i-HUB. The summit's key focus areas include the space economy and satellite ecosystem; drone technology and UAV applications; aerostat, airship and lighter than air systems; startup and entrepreneurship; investment and venture capital; the geospatial and data economy; agriculture, infrastructure, logistics and industrial applications; the policy and regulatory framework; and the role of Gujarat in the aerospace and advanced manufacturing ecosystem. Event highlights include drone demonstrations, a startup showcase, innovation stalls, business to government and business to business meetings, and MoU signings.

This concept paper is the designated policy outcome of SkyTech India 2026. Correspondence regarding this paper may be addressed to the Lead Author and Convenor, Group Captain Sameer Kulkarni (Retd), Director, Ashwini Systech, through the KCCI Corporate Office.