Ultimus

SPACETECH
OPPORTUNITIES

November 2025

Peripheral Thinking

Our Guest Editor

Dr. Aarya Menon, our guest editor, is a globally recognized space-economy strategist and technology futurist. With over two decades of experience spanning aerospace consulting, orbital-systems research, and policy advisory, she bridges the worlds of science, business, and strategy with exceptional clarity. Dr. Menon began her career at the European Space Agency before leading innovation strategy at OrbitalX, a private satellite-analytics firm that pioneered modular nanosatellite networks across Asia.

She currently serves as Director of the Global Institute for Space Commerce in Singapore, where she advises governments and corporations on commercial-space frameworks, sustainable orbital operations, and downstream data monetization. Her publications on reusable launch economics and space-data integration have been featured by MIT Technology Review and World Economic Forum.

As Guest Editor, Dr. Menon brings academic rigor, policy depth, and industry foresight to this journal. Her editorial leadership ensures that Spacetech Opportunities is not merely a compilation of reports, but a forward-looking intelligence platform for senior executives, investors, and innovators. Under her guidance, this edition integrates global perspectives, Indian breakthroughs, and actionable insights—making it an indispensable resource for anyone shaping the next decade of the space economy.

SECTION 1: GLOBAL OVERVIEW

Spacetech at a Glance

- **Global space economy 2023:** $570B | CAGR ~ 7.3%
- **Global Spacetech market 2030 forecast**: $770 B | CAGR ~ 9.3%
- **India market growth**: $10 B (2023) → $21 B (2030) | CAGR ~ 11.2%
- **Commercial revenues**: ~ 80% of the global space economy

"From niche missions to mainstream commerce — space is becoming the new digital infrastructure for earth-bound industries." (PwC, Grand View Research)

Market Size & Growth

The global space technology landscape is entering its most dynamic decade yet.
According to Grand View Research, the Spacetech market is projected to reach ~USD 770 billion by 2030, expanding at ~9.3% CAGR.
PwC estimates the overall space economy at USD 570 billion in 2023, growing ~7.4% year-on-year.
What was once a government-led domain is now a high-growth commercial market shaping telecom, agriculture, energy and defence.

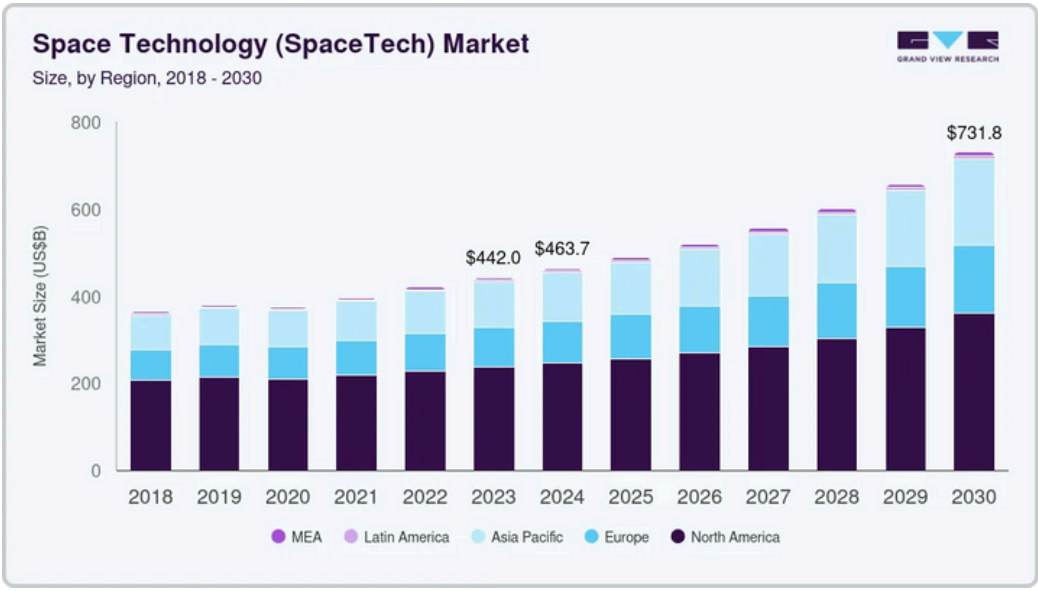

Figure 1: Global Spacetech Market Projection 2020-2030
Source: Grand View Research (2025); PwC Space Industry Trends (2024)

SECTION 1: GLOBAL OVERVIEW

Commercialisation & Changing Value Chain

From Government Programs to Commercial Ecosystems

Nearly 80% of today's space revenues stem from commercial activity.
Satellite miniaturisation, AI-driven analytics, and reusable launch vehicles have lowered entry barriers, inviting start-ups and private capital.
The value chain has fragmented into three synergistic tiers: Upstream (launch & manufacturing), Mid-stream (in-orbit operations), and Downstream (data & applications).

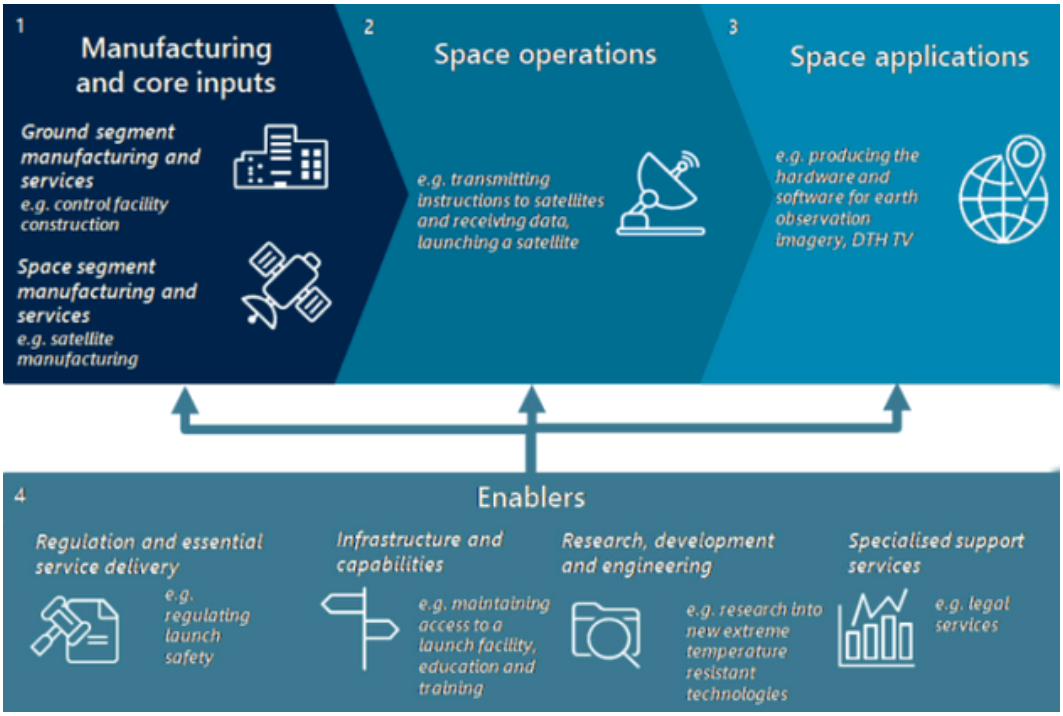

Figure 2: A general space technology value chain infographic
Source: Australia Government

"The real economic multiplier lies downstream — in data from space, not hardware in space." (PwC Space Industry Trends 2024)

Regional Spotlight – India and Asia Pacific

Asia Takes Off — India Leads the Way

Asia-Pacific has emerged as the fastest-growing region, valued at USD 90.9 B in 2023 and forecast to reach USD 169 B by 2030 (CAGR 9.3%).
India alone contributes USD 10 B today, expected to cross USD 21 B by 2030 (CAGR 11.2%).
With policy liberalization and private sector participation, India is positioned as the region's most cost-efficient launch and data hub.

SECTION 1: GLOBAL OVERVIEW

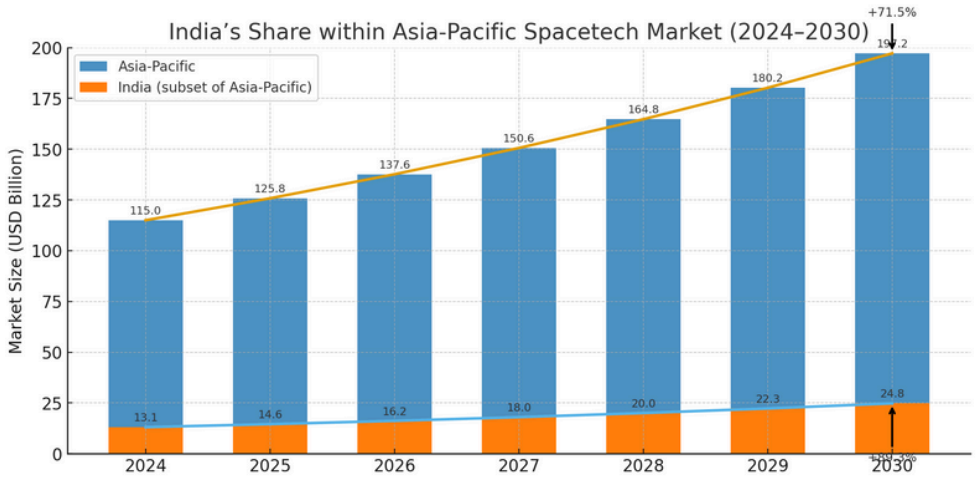

Figure 3: Graph comparing 2023 vs 2030 market sizes for Asia-Pacific and India

"India's space sector targets a $77 B opportunity by 2030." (Dezerv, 2024)

Strategic Implications for Indian Leaders

Charting India's Orbit of Opportunity

- **Downstream data dominates**: Analytics & Earth Observation drive commercial value.
- **Policy tailwinds**: IN-SPACe, FDI relaxations & production incentives fuel growth.
- **Partnerships as force multipliers**: Cross-border collaboration for exports & innovation.
- **Talent & infrastructure**: Workforce development and supply chain capability are critical.
- **Strategic focus**: Choose between full-stack integration or niche specialization.

Figure 4: The Centres of India Space Programme

SECTION 1: GLOBAL OVERVIEW

"Space is the next digital layer of India's industrial growth story." — Accenture "Space for Growth" Report (2024)

Future Outlook & Takeaways

Orbit 2025-2035 — What Lies Ahead

Space as Foundational Infrastructure: By 2030, satellites will act as digital highways connecting the planet. Expanding small-satellite constellations will enable continuous coverage, driving growth in communications, logistics, and environmental monitoring. For India, this evolution creates new opportunities in broadband access, agriculture analytics, and geospatial intelligence—making space technology integral to both national infrastructure and business operations.

Proliferation of New Business Models: The industry is shifting toward recurring, service-based revenues. Models such as Space-as-a-Service, satellite-data licensing, and in-orbit manufacturing will reduce launch costs and diversify income streams. Subscription-based access to Earth-observation and analytics platforms will become mainstream. Indian start-ups, leveraging affordability and engineering talent, are well placed to join global collaborations and provide niche data and manufacturing solutions.

India's Competitive Advantage: India's strength lies in cost-efficient production, R&D capabilities, and an expanding investor base. With strong design, launch, and analytics competencies, Indian firms can compete globally in small-satellite manufacturing and downstream data services. Supportive policies and a skilled workforce will help position India as Asia's primary hub for affordable, data-driven space solutions.

Over the next decade, Spacetech will shift from frontier innovation to essential infrastructure. For senior leaders, investing early in partnerships, analytics, and space-enabled connectivity will be key to competitiveness. India's maturing ecosystem provides the ideal platform for global firms to collaborate, innovate, and capture emerging opportunities in the expanding space economy.

Key Takeaway: *The coming decade is when India moves from launch provider to data powerhouse — integrating space capability with digital transformation on Earth.*

"Space will be the next economic platform — not for astronauts, but for enterprises on Earth."
— Accenture 'Space for Growth' 2024

SECTION 2: THOUGHT LEADERSHIP

In this section, we examine emerging strategic thinking shaping the spacetech domain. We synthesize two key perspectives: the industry-wide business-model insights from KPMG's space-sector survey and the cross-industry mobilisation of mobilised enterprise strategy as illustrated by Stellantis' "Dare Forward 2030". Our objective is to highlight how senior executives can translate these ideas into actionable pathways in the Indian/Asia-Pacific context.

The Changing Face of Space Business

By 2030, the global space industry is projected to surpass US $600 billion, with most growth coming from commercial and secondary industries.

KPMG's "30 Voices on 2030" highlights a major paradigm shift

"***Every business will be a space business.***"

Traditional sectors like agriculture, logistics, and finance will embed satellite-derived data and analytics directly into their value chains.
Governments will evolve into anchor customers — buying services from private players rather than leading every mission themselves.

Executive cue: The next frontier lies in building services around space data, not just in rockets or satellites.

Strategic Lessons Beyond Aerospace

Drawing inspiration from Stellantis' Dare Forward 2030 strategy, cross-industry reinvention offers a strong template.
The automaker's pivot from a traditional manufacturer to a tech-driven mobility provider demonstrates how legacy firms can reposition around data, digitalisation, and sustainability.
Similarly, space-sector leaders must evolve from one-off hardware sales to recurring, service-based models — embedding space intelligence into sectors like logistics, mobility, and urban infrastructure.

"Transformation begins when technology meets customer need." — Stellantis 2030 Strategy

The winning organizations of the next decade won't just build satellites, they'll build businesses powered by space-derived data. For Indian leaders, the opportunity lies in merging engineering affordability with service innovation, positioning the nation as the Asia-Pacific hub for accessible, data-driven space solutions.

SECTION 3: WORKSHOPS, SEMINARS & WEBINARS

Spotlight on Emerging Forums for Space Technology Insight & Networking

Global Technical Conference: IEEE SMC-IT/SCC 2025

The upcoming joint event—taking place 28 July to 1 August 2025 in Los Angeles at the California Science Center—brings together system architects, engineers and mission-computing specialists focusing on space mission design, computing, ground systems and autonomy.
Key themes include: radiation-tolerant computing, in-orbit servicing architectures, software/hardware convergence, and mission-data lifecycle. For Indian and Asia-Pacific strategists, this forum offers a vantage point into the "next-gen space mission stack" and partner-ecosystem trends.
Executive take-away: Build awareness of emerging mission-computing paradigms now — they will influence cost curves and system design frameworks for satellites and constellations within the region.

Use this link to get more information

Intellectual-Property & Capacity-Building Forum: World Intellectual Property Organization (WIPO) Workshops & Seminars

WIPO runs regular global and regional workshops and seminars on IP, innovation policy, and technology transfer—including in domains closely associated with space and advanced technologies. These sessions enable participants to deepen expertise in IP regimes, technology licensing, commercialization of high-technology platforms, and building innovation ecosystems.
Significance for Indian/Asia-Pacific players: As Indian spacetech firms scale and begin to export components or services, a robust IP strategy will become a competitive advantage, especially in partnerships, data-licensing, and downstream satellite-analytics models.

Use this link to gather more information

SECTION 3: WORKSHOPS, SEMINARS & WEBINARS

Webinars

Seraphim Capital VC Index Q2 2025 Explained

This live webinar presents the latest trends in the space-investment ecosystem, analysing the performance and outlook of the Seraphim SpaceTech VC Index and identifying the sectors gaining investor interest (e.g., small-sat constellations, in-orbit servicing, downstream data). For Indian and Asia-Pacific senior leaders, the session offers direct visibility into capital-flow dynamics, valuation benchmarks, and emerging investor themes shaping the next wave of Spacetech innovation.

Use this link to gather more information

SpaceNews Webinars (online series)

The SpaceNews webinar series covers cutting-edge topics such as space-budgeting strategies, policy impacts on commercial space, and emerging business models in the satellite/data economy. For corporate strategists, these sessions act as timely “pulse checks” on sector trends and regulatory shifts, offering actionable insight for decision-making in the India-Asia ecosystem

Use this link to gather more information

Global Spacetech Case Studies & Innovations

SpaceX: Starship for Interplanetary Missions

Focus: Starship is SpaceX's fully reusable super-heavy launch system designed for missions to the Moon, Mars, and beyond. It integrates rapid reusability, high payload capacity, and stainless-steel architecture.
Strategic Impact: By enabling multiple launches with the same vehicle, Starship has redefined the cost economics of deep-space transport. It can carry over 100 tonnes to low-Earth orbit, radically improving logistics for lunar and Martian infrastructure.
Why It Matters: Starship sets a new global benchmark for scalability and reusability. For policymakers and investors, it demonstrates how private innovation can push interplanetary ambitions while transforming launch affordability for emerging space nations.

NASA + ESA: Artemis & Lunar Gateway Program

Focus: The Artemis initiative—anchored by NASA and ESA—aims to establish a sustained human presence on the Moon through lunar surface bases and an orbital station known as the Lunar Gateway.
Strategic Impact: This collaboration unites the capabilities of the U.S., Europe, Japan, and Canada to pioneer off-Earth infrastructure and long-duration human missions. It also lays the groundwork for Mars exploration.
Why It Matters: Artemis represents geopolitical alignment and technical interdependence at an unprecedented scale. Its emphasis on shared logistics and science models signals how international partnerships can sustain complex multi-planetary goals over decades.

Specter Global Startup Map (490 + Companies)

Focus: Specter's 2025 map tracks nearly 500 emerging spacetech startups worldwide tackling distinct orbital challenges.
Strategic Impact: Notable examples include Catalyx (India/US) developing autonomous space-lab re-entry capsules, Spaceium (Canada) building in-orbit refueling depots, and Ecosmic (Italy) designing AI-based collision-avoidance systems.
Why It Matters: Together, these ventures illustrate a distributed orbital economy where specialized firms contribute to shared mission success. Their modular, service-based models mirror the evolution seen in cloud computing—scalable, interoperable, and globally networked—setting the foundation for collaborative, multi-operator space infrastructure.

Indian Spacetech Case Studies & Innovations

Pixxel: Hyperspectral Earth Observation

Focus: Pixxel's hyperspectral imaging satellites capture hundreds of spectral bands to monitor agriculture, mining, and climate indicators.
Strategic Impact: With global clients and a NASA contract for data access, Pixxel has become India's flagbearer in Earth-observation analytics. Its constellation offers near-real-time environmental insight, enabling precision farming and sustainability monitoring.
Why It Matters: By converting raw imagery into actionable data, Pixxel moves India up the value chain from manufacturing to information services, strengthening its position as a global data powerhouse in the EO domain.

Skyroot Aerospace: Reusable Launch Vehicles

Focus: Skyroot's Vikram series, especially Vikram-S and Vikram-1, marks India's first private launch vehicles built with modular architecture and reusable design principles.
Strategic Impact: Successful tests have cut launch costs by up to 50%, introducing private-sector efficiency into a domain once reserved for ISRO. Skyroot's pipeline targets commercial small-satellite deployments for both domestic and international clients.
Why It Matters: This achievement transforms India's launch ecosystem, proving that private innovation can coexist with public agencies to accelerate access to space and generate competitive export services.

Agnikul Cosmos: 3D-Printed Rocket Engines

Focus: Agnikul's Agnilet engine is the world's first single-piece, fully 3D-printed liquid rocket engine. Its Agnibaan launcher is customizable for small-satellite missions.
Strategic Impact: By printing entire engines in under 72 hours, Agnikul reduces production time and cost, bringing rapid iteration and scalable design to India's spacetech manufacturing capability.
Why It Matters: This innovation positions India as a regional leader in additive manufacturing for space, enabling faster prototyping and greater mission customization for commercial and research customers worldwide.

SECTION 4: CASE STUDIES & INNOVATION

Gaganyaan & Bharatiya Antariksh Station

Focus: India's human-spaceflight program (Gaganyaan) and its planned indigenous space station symbolize the nation's transition from orbital observation to crewed exploration.
Strategic Impact: By training astronauts and building critical life-support and docking systems, India joins a select group with human-flight capabilities. The Antariksh Station plan extends this legacy to sustained orbital operations.
Why It Matters: These initiatives enhance India's global space-diplomacy profile, stimulate domestic R&D, and create pathways for international partnerships in crewed and commercial space missions.

Digantara & Manastu Space: Orbital Safety & Green Propulsion

Focus: Digantara develops space-situational-awareness platforms for tracking orbital debris, while Manastu Space builds non-toxic, eco-friendly propulsion systems.
Strategic Impact: Their solutions address the critical challenges of space traffic management and sustainable fuel use in satellite operations.
Why It Matters: Together, they tackle the industry's most pressing risk—orbital congestion. By promoting responsible and green innovation, these start-ups ensure that India plays a lead role in keeping Earth's orbits safe and economically viable for decades ahead.