Space Infrastructure as a Service: Enriching Geospatial Platforms and Spatial Intelligence

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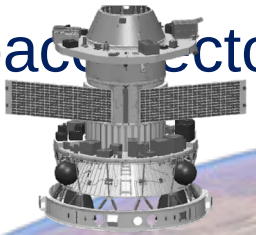
Government of India

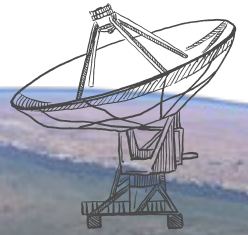
Promote
and develop Indian space ecosystem accelerating space economy.

Enable
and nurture NGEs to accomplish their ventures in space sector.

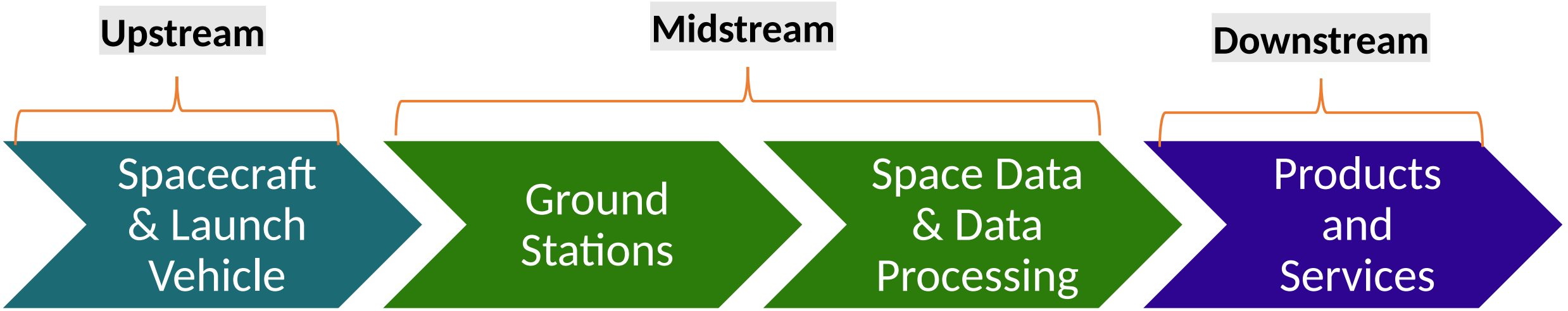
Authorize
space operations and services in the country through well defined framework.

Supervise
the space activities of NGEs in the country





Space Sector Value Chain



- Satellite mfr.
- Launch vehicle System
- Launch Services
- In-orbit operations

- Ground segment systems & network
- Ground segment operations
- EO Data and processing

- Data and satellite services (DTH, broadband, etc.)
- EO data & products
- User Terminals (GNSS modules, radio transceivers, etc.)

Elements of Indian Space Ecosystem

Ease of Doing Business

Support & Mentorship:

IP, Investment, Business Dev.

Policy, Regulation

Sustainability

Global Supplier

Growth & Scalability

Funding

Disruptive & Innovative Technology

Technologies

Supply Chain

03

02

04

Sovereign Infrastructure

User Demand & Nation Building

Capacity Ahead of Demand

01

05

Infrastructure

Work Force

IN-SPACe Initiatives for NGEs

EO-PPP

ToT

SEED FUND SCHEME

PIE

DATA DISSEMINATION

Space Standards ISO

SSLV Tech. Transfer

TAF

₹1000 Cr VC Fund

Skill Dev. courses

ITU Filing

NGP

IN-SPACe Tech. Centre

FDI POLICY

SAAW / CAC

Space on GeM

SPACE SYSTEMS MANUFACTURING CLUSTER

GSaaS

Resident Experts

Demand Aggregation

SBaaS

Technical Advisors

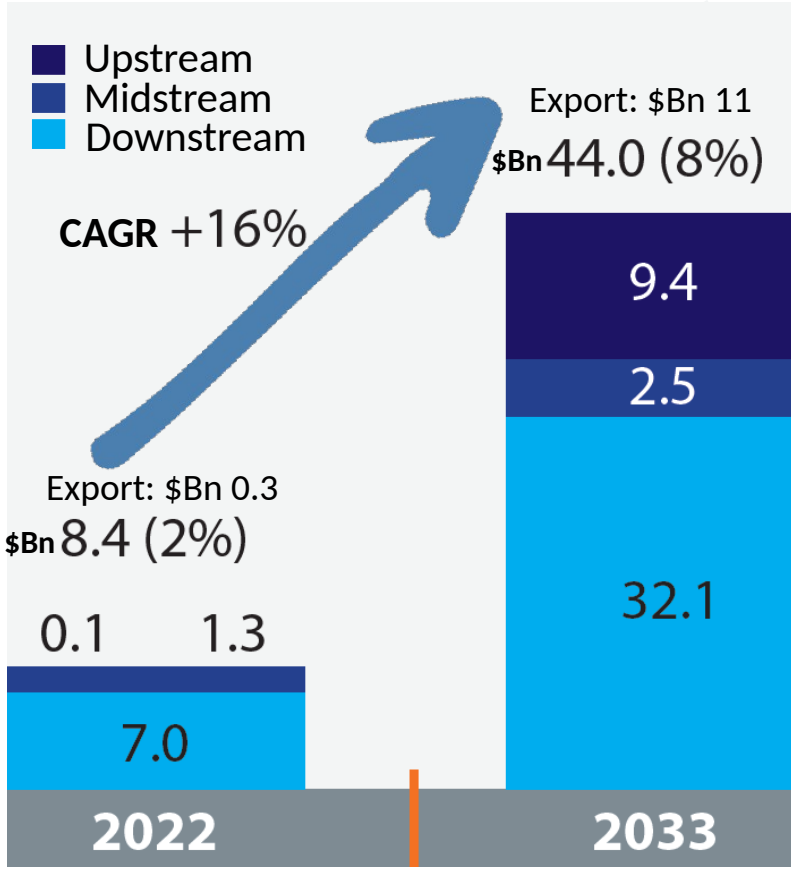
INVESTMENT INCENTIVE SCHEME

Price Support ₹olicy for NGEi

Spin-offs

International Engagement – B2B

Aspiration for Indian Space Economy: Soaring High



This can be achieved by creating an ecosystem where private, public and startups **collaborate** in **whole-of-nation approach**.

Segments	2022 ($ Bn)	2033 ($ Bn)	CAGR (%)
EO	0.52	8.00	28
Navigation	2.28	9.30	14
Communication	4.19	14.80	12
Ground Network	0.14	2.50	30
Sattellite Manf.	0.42	4.60	24
Launch Segment	0.72	3.50	15
SSA	0.00	0.30	68
In-orbit Economy	0.13	1.00	20
Total	8.40	44.00	16

Space for Earth *Access to Space* *Space for Space*

Investment of $Bn 22 is envisioned in next 10 years.

Enriching Geospatial Platforms

Policy-Supported PPP Models

Regulatory incentives and co-investment frameworks that attract commercial capital into national space infrastructure.

Downstream Commercialisation

Data platforms and investment vehicles that accelerate sector-specific applications at scale.

Entrepreneurship Enablement

Scalable, space-enabled digital solutions for startups — from sandbox environments to market access.

Collaborative Business Models

Enterprise-government-startup ecosystems that share risk, data, and reward across the value chain.

Spatial Governance :Resilience, Accuracy & Trust

The Trust Imperative

As space data drives critical decisions — from disaster response to food security — governance frameworks must ensure data integrity, security, and accountability.

Data Security & Privacy

End-to-end encryption, access controls, and privacy-by-design protocols for geospatial data.

EO Veracity Standards

Certification frameworks for Earth Observation data quality, calibration, and traceability.

Global Harmonisation

Aligning geospatial policies across regions to support seamless, scalable integration.

Transforming Sectors Through Space Intelligence

Agriculture

Precision farming, crop health monitoring, and yield prediction powered by EO & GNSS.

Climate Monitoring

Real-time environmental sensing for carbon tracking, deforestation, and water resource management.

Security & Governance

Border surveillance, infrastructure protection, and situational awareness for national security.

Smart Cities

Urban planning, traffic management, and utility monitoring through integrated geospatial platforms.

Major Application Sectors for NGEs

Blue Economy

- Potential Fishing Zone
- Dark shipping events
- Maritime & Port ops.
- Coastal Zone Mgmt.
- Coastal bathymetry
- Sea level change
- Coastal security
- Sea state monitoring
- Mangroves & Corals
- Oil spill detection

Green Economy

- Precision farming
- Pest and disease
- Crop Type, Yield
- Crop Rotation
- Crop Insurance
- Horticulture crop
- Fibre crop
- Fodder crop
- Makhana inventory
- Irrigation monitoring
- Farmers advisory
- Cash crop production
- Cold chain mgmt.
- Fertilizer inventory
- Soil health

Disasters

- Flood Risk/ Monitoring
- Urban flooding
- Heat Wave
- Forest Fire
- Cyclone
- Lightning
- Earthquake damage
- Pollution
- Weather advisory
- Disease outbreak
- Emergency Response

Resource Monitoring

- Energy Sector
- LU/LC change / Cadastral
- Water Resources
- Smart 3D City / IoT & GeoBIM
- Property valuation and taxation
- Tourism and cultural heritage
- Location based services & Traffic
- Forest, Biodiversity, Ecosystem & EIA
- Mining (prospecting and monitoring)
- Big data analytics & predictions
- Command & control centres

Thank You