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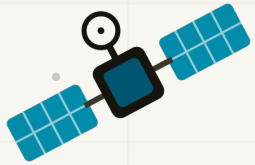

India as a Global SatCom Hub

What is the direction, what is the current status, what is missing — and how we build it.
Maargin's approach to India's place in the global space economy.

Aniruddh Rao Kabbinale
Founder & CEO · Maargin Research and Innovation Pvt. Ltd.

23 July 2026 · The Imperial, New Delhi
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Maargin — building the space network from India

Unified fabric for communication and compute. A multi-shell LEO constellation based — global scale connectivity network with an AI fabric to cluster satellites into a coherent, programmable data center in Space.

WHOWE SERVE

Enterprises
SLA-grade backhaul for fleets, remote sites & critical infrastructure

Aviation & maritime
Gate-to-gate, port-to-port broadband on multi-orbit handover

Telecom operators
NTN xHaul — front/mid/backhaul beyond fibre reach

Satellites & deep space
Connectivity and onboard compute services for fellow missions

Design & standards phase · White papers published · Bengaluru · IN-SPACe registered · ISpA & SIA-India member

BUILT IN-HOUSE

Network architecture
Shell design dense over tropical / Indian latitudes Optical ISL mesh routing

3GPP NTN standards compliant

Communication modules
Near infra-red optical inter-satellite links Towards SDA OCT standards; driving open ISL

standards SDR-based RF modules — Ku, Ka & Q/V

bands

AI fabric & orbital compute
AI Fabric Weaver — virtual satellite clusters on demand Distributed inference · compute-as-a-service

Onboard AI models · sovereign control

Economics-focused playbook
Economics as a major design input

300 satellites · 1,000 km · COTS electronics

< $1B CAPEX · < $100M OPEX

324
satellites — frugal-LEO constellation design

< $1B
total constellation CAPEX

100 Gbps
optical inter-satellite links

25 TFLOPS–3 PFLOPS
per node · ~100 kW AI compute

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India’s satcom moment — big market, bigger gaps

$44B

India’s space-economy target by 2033 — up from $8.4B in 2022 (IN-SPACe Decadal Vision / FICCI–EY)

$14.9B

SatCom share by 2033 — $12.7B domestic + $2.2B exports: the largest commercial slice

NEEDS ARISING FROM THE MARKET

Unconnected India
Rural broadband & disaster resilience where terrestrial economics don’t close — satellite is the only viable last mile

Enterprise & mobility
Aviation & maritime corridors, fleets and critical infrastructure demand SLA-grade, always-on links

Direct-to-device & IoT
Standards-based satellite-to-phone and NB-IoT services expected commercially from end-2026

The AI era
Compute and data movement are going orbital — and sovereignty of that infrastructure matters

India is a satcom market today. **A hub owns networks, standards and exports — that is the gap.**

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What Maargin is doing about it

Eight moves — from India as a satcom market to India as network owner, compute provider and exporter.

1

Own the infrastructure layer

An Indian-designed, Indian-operated multi-orbit network — sovereign capacity, not leased capacity.

2

Make it financeable

Frugal engineering: 70–90% lower CAPEX turns an Indian constellation from moonshot into a fundable project.

3

Build the modules in-house

Design & build SDR-based RF communication modules, optical communication modules and AI compute modules.

4

Standards over silos

3GPP NTN backhaul · OISL standardisation · Interop is our export advantage.

5

Weave the AI fabric

AI Fabric Weaver turns satellite clusters into one programmable data centre — distributed inference served as compute-as-a-service.

6

Onboard AI models

A local brain on every node — workload scheduler and failure prediction in build today; anomaly detection and data routing.

7

Design for revenue from day one

Sell design licenses — subscription based. Enterprise, aviation & maritime, xHaul anchor the business case.

8

Sell to the world

Subscription-based connectivity, compute-as-a-service and licensable design IPs — India as exporter, not just consumer.

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Policy & spectrum — what is delivered

Policy foundation

- Indian Space Policy 2023 — IN-SPACe as single-window promoter & authoriser
- FDI reform 2024 — up to 100% across space sub-sectors
- ₹1,000 cr Cabinet-approved space VC fund; fast-growing start-up base

Spectrum settled in law

Telecommunications Act 2023 — satellite spectrum in the First Schedule

- Administrative assignment settled — the auction debate is closed
- TRAI recommendation (May 2025): SUC 4% of AGR + ₹3,500/MHz floor; 5-year assignment (+2)
- NFAP-2025 in force (Dec 2025) — refreshed Ku- & Ka-band allocations

Market access moving

- GMPCS licences granted — Starlink, OneWeb, Jio-SES
- TRAI consultation (Apr 2026): SCN authorisation & SCN-as-a-Service model

The framework is 80% built — the missing 20% is what separates a market from a hub.

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What comes next — Maargin's view

DO NEXT
Complete the first NGSO spectrum assignments
Longer spectrum tenure — 5 years does not match 10–15-year constellation investment cycles
Clear NGSO–NGSO and NGSO–GSO sharing & coordination rules
Committed public procurement — government as first customer
Liability & insurance framework to be defined
Export promotion & bilateral market-access agreements

"Hubs are defined by who writes the standards and who offers spectrum certainty. India can do both."

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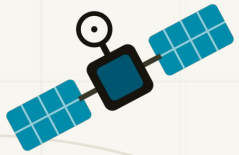
Thank you.

Let’s build the space network — from India, for the world.



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