



STARLINK IN INDIA A NEW FRONTIER OR A REGULATORY DEAD END



Timeline

Competitive Landscape

User Persona(s)

User Journey

Stakeholder Analysis

Case-Study

ABOUT:

Starlink is a satellite internet project developed by SpaceX,the aerospace company founded by Elon Musk.

It's goal is to provide high speed internet access to every part of the world, especially to rural and remote areas where normal broadband services are not available or are very low.

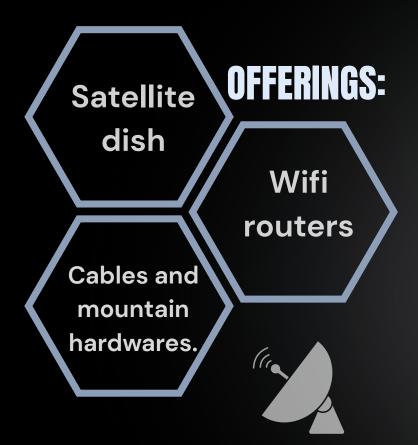
STARLINK IN INDIA

LAUNCH STATUS

As early June 2025, starlink has recieved a Letter Of Intent(LOI), indicating the preliminary approval to offer satellite internet services in India. Final licencing is pending.

COLLABORATION

Starlink is exploring partnership with major indian telecom companies, including Reliance, Jio, Bharti Airtel and Vodafone Idea, to facilitate service delivery and infrastructure support



KEY FEATURES

GLOBAL COVERAGE:

Internet even in deserts,mountains,oceans and villages.

SPEED:

Between 50 Mbps((can go higher)

LATENCY:

20-40 milliseconds, good for video calls ,gaming etc.

PORTABILITY:

Can be used while travelling with special plans.



PRICING AND PLANS

PRICI	PRICING AND PLANS				
MONTHLY SUBSCRIPTION	Introductory plans are expected to start at rupee 840-1000 per month, offering unlimited data.				
HARDWARE COST	Around 29,700 Ru including the satellite dish and wifi router.				
PREMIUM KIT	Around 50,000 Ru, featuring a personal ground station for enhanced performance				

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CRITICAL TOOL

FOR RESCUE AND

COMMUNICATE

EMERGENCIES.

CONNECTIVITY=,

INCOME GROWTH &

RURAL

WHY DOES STARLINK MATTER IN INDIA?



1. BRIDGING THE DIGITAL GAP:

Over 65% of Indians live in villages, many without good internet. laying fibre optic cables in hills, forest, or deserts is expensive and slow.



4. DISASTER AND EMERGENCY SUPPORT:

During floods, earthquakes, mobile network often fails. Starlink can work independently of ground based infrastructure.



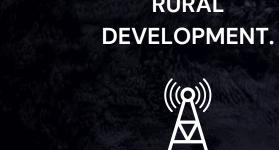
2. SUPPORT FOR EDUCATION AND **HEALTH:**

During COVID, many rural students couldnot attend online classes. Starlink can enable online schools and virtual healthcare services



5. EMPOWERING THE ECONOMY:

Rural enetrprenuers, farmers, and artisans can acess: digital payments, online marketplace, government scheme



STARTIGICAL **TOOL IN DIFFICULT TERRAINS LIKE** LADAKH, NORTHEAST ETC.

3. BOOST TO NATIONAL PROGRAM:

Helps achieve goals of digital India, smart villages and e-governance. Useful for public services delivery: land records, adhar, subsidies etc.



6. ENHANCING BORDER SECURITY:

Remote military posts often lack secure internet. Starlink could support real-time communication for defense and surveilliance.

Competitive Stakeholder Overview **Timeline User Persona(s) User Journey Case-Study Analysis** Landscape **Global Expansion Begins** • 2020: Starlink May 2019: SpaceX Strategic Partnerships & Imminent Launch < initiates the commences project, Starlink beta services • 2022: Starlink faces launching its first select ongoing regulatory • March 2025: Starlink announces batch of low-Earth challenges in India, regions, partnerships with Indian telecom giants (LEO) rapidly orbit Bharti Airtel and Reliance Jio to offer delaying its service expanding its satellites to launch. satellite internet services, aiming to global provide satellite enhance connectivity in remote areas. internet • May 2025: The Indian government constellation. satellite Regulatory Hurdles & coverage. grants Starlink a Letter of Intent (Lol) **Strategic Moves** for a satellite communication license, a 2021 •--significant step towards operational September 2023: approval. 2022 Reports indicate • June 2025: Starlink is expected to 2019 2020 that Starlink has launch services in India soon, with plans to offer high-speed internet at received "inprinciple" competitive prices, targeting **Entry into the Indian Market** government underserved regions. approval, pending • Early 2021: Starlink starts accepting pre-orders in final clearances. India, requiring a refundable deposit of \$99 (~₹7,400). • November 2021: The Indian Department of Telecommunications (DoT) issues a public advisory stating that Starlink is not licensed to offer satellite-based internet services in India and 2025 2023 directs the company to halt pre-bookings immediately. **Progress Towards Launch** December 2021: The Telecom Regulatory Authority of India (TRAI) reinforces the DoT's April 2024: Starlink addresses government \ directive, emphasizing that Starlink must obtain concerns by submitting necessary declarations the necessary licenses before offering services. regarding its ownership structure. January 2022: Starlink announces refunds for all • October 2024: The company reportedly receives Indian pre-orders, complying with "in-principle" approval from the Indian government, government's directive. moving closer to launching services.

Overview	Timeline	Competitive Landscape	User Persona(s)		holder lysis
Features/ Products	Business Moddel/ Tech Stack	Speed & Latency	Market Reach & Strategy	Competitive Advantages	Status in India
Jio	Based on a terrestrial network with 4G, rapidly rolling out 5G, and introducing Jio AirFiber for fixed wireless access.	5G speeds vary based on region and infrastructure; expected to provide low latency and high bandwidth.	Serves ~430 million subscribers(2024), with 5G expanding to over 7,000 towns. Focuses on rural and semi-urban penetration.	Cost leadership, strong government backing, and widespread infrastructure give Jio dominance in the Indian market.	Actively rolling out 5G across the country. Expanding fiber-optic and fixed wireless broadband services in rural regions.
BSNL	Public sector ISP primarily focused on fiber-optic internet deployment under the BharatNet initiative.	Fiber speeds are competitive but rollout delays and infrastructure limitations affect service quality.	BharatNet aims to connect 600,000 villages via fiber, making it a key player in rural connectivity.	Government-backed, crucial for bridging the digital divide, but lacks the agility of private-sector competitors.	Continues expanding fiber networks but faces slow execution and limited private-sector innovation, restricting its scalability.
airtel	Operates a dual-mode network: terrestrial 5G and fiber, combined with satellite connectivity via OneWeb.	minimal latency,	Strong presence in both urban and rural India. Uses OneWeb's satellite system to extend coverage where fiber is not feasible.	a diversified approach	Already rolling out 5G services while expanding satellite offerings via OneWeb for underserved regions.
STARLINK	Uses a Low Earth Orbit (LEO) satellite network to deliver internet directly to users via a terminal.	Offers speeds between 50-250 Mbps (theoretical), with latency ranging from ~20-40ms.	Currently unavailable in India. Globally, aims to provide high-speed internet to remote areas.	Provides global satellite coverage, independent of ground infrastructure, making it ideal for rural and remote locations.	Not yet licensed for commercial operations. Regulatory delays led to refunds of 5,000+ pre-orders (as of 2021). Awaiting Department of Telecommunications (DoT) approvals and spectrum allocation.

Timeline

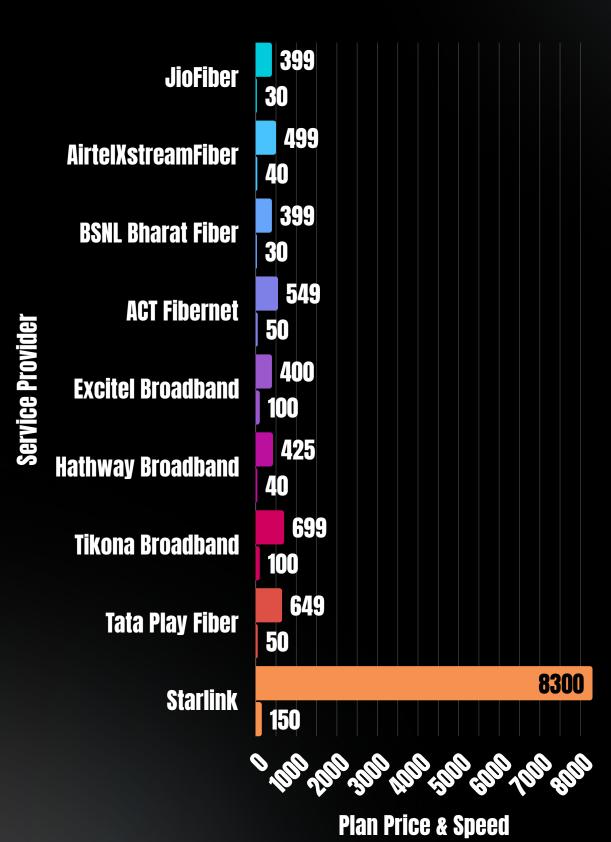
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Provider	Plan Price (Monthly in Rs)	Speed	Data Limit	Additional Notes
JioFiber	399	30 Mbps	Unlimited	Includes free voice calling
Airtel Xstream Fiber	499	40 Mbps	Unlimited	Comes with Airtel Thanks benefits
BSNL Bharat Fiber	399	30 Mbps	Unlimited	Speed reduces after 1400GB
ACT Fibernet	549	50 Mbps	Unlimited	Equal upload and download speed
Excitel Broadband	400	100 Mbps	Unlimited	No data caps
Hathway Broadband	425	40 Mbps	Unlimited	Free Wi-Fi router
Tikona Broadband	699	100 Mbps	Unlimited	Available in selected locations
Tata Play Fiber	649	50 Mbps Unlimited		Free installation and router
Starlink	8300	50-250 Mbps	Unlimited	High latency in some areas, ideal for remote regions, setup

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Cuba, New Mexico, had no existing infrastructure for internet access.

The region faced multiple hurdles:

- Sparse local population
- Limited budget
- Disagreements among tribal, federal, and state agencies
- These challenges made the installation of traditional fiber optic cables unfeasible.

The outbreak of the pandemic highlighted the town's digital divide, especially in education.

- Remote learning became essential.
- Students in the Cuba Independent School District were unable to participate due to lack of connectivity.

The superintendent and school staff took proactive steps:

- Recognizing the urgency to bridge the digital gap.
- Partnered to bring Starlink satellite internet to homes.

Implementation of Starlink

- Starlink was installed in the homes of both students and teachers.
- Over 400 households received internet access.

The initiative supported more than just education:

- Improved access to learning resources for Indigenous families.
- Enabled timely communication like weather alerts affecting school transportation.
- Marked a step forward in rural digital inclusion.

Remote Hospitals

Mission of St. Jude Children's Research Hospital

St. Jude is committed to:

- Curing, treating, and defeating childhood cancer
- Addressing other life-threatening diseases in children

Global Disparity in Childhood Cancer Survival Rates

- In high-income countries (e.g., the U.S.): Survival rate is over 80%
- In low- and middle-income countries (LMICs): Survival rate is only 30%
- Note: Nearly 90% of childhood cancer cases occur in LMICs

Improved internet access can:

- Expand access to medical research
- Enable advanced treatment options
- Help raise survival rates in underserved regions

The Polaris Program donated Starlink terminals to 9 St. Jude Global partners which is spanned in five countries Chile, Brazil, Peru, Mozambique and Philippines.
With Starlink connectivity, medical teams can now:

- Conduct remote teleconferencing with global experts
- Collaborate on patient treatment plans
- Transmit critical data efficiently
- Access ongoing training and education
- Improve healthcare delivery in real-time

In East Carroll Parish, Louisiana, 63 percent of households do not have internet access. Louisiana State and Delta Interfaith, a coalition of local churches, are aiming to improve digital accessibility through increased connectivity, and so far have secured Starlink for 120 households in the parish. Now more students can access remote learning, and their parents can advance their careers by applying for and accepting remote jobs.

User Journey





The technology is perfect for accessing the internet from isolated or underdeveloped places because users only need a power source to secure connectivity from Starlink satellites in space. The Tony Blair Institute is funding 50 kits to kick-off the program, and the results of this initiative will inform how to bring the remaining schools online as well.

The Rwandan government hopes to enhance its country's education system by bringing internet access to 500 schools. The Rwandan government hopes to enhance its country's education system by bringing internet access to 500 schools. This is a challenge because traditional internet infrastructure is expensive and hard to install in remote areas. The Tony Blair Institute for Global Change, a nonprofit established by former UK Prime Minister Tony Blair, saw Starlink as the solution.



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User	Location	Use Case	Plan Details	Benefits Experienced	Desired Improvements
Rural Business Hub Operator	Rural New Zealand	Personal + multiple farms and businesses, local school	NZ\$160 (~US \$100) for unlimited residential plan (270 Mbps down / 50 Mbps up); extra NZ\$80 for static IP & 40GB port forwarding	Sub-30ms latency; supports VOIP, Zoom, Google Classroom, Teams; handles 30+ small businesses (1–4 users each) effectively	More business-grade options (unlimited static IP, higher data caps for port forwarding)
Small Business Owner + Home User	United States	Small business internet + household usage	\$140/month for residential with some priority data; used in business building and home	Better than previous WISP; reliable during storms/power outages with generator; sufficient for video calls and daily operations	True business-tier support (instead of piggybacking on residential)
Retail Operations Manager (Casey's)	Midwest USA (16 states)	Reliable internet for 450+ retail outlets	Assumed enterprise-scale deployment	Scalable and easy installation; consistent connectivity across remote locations; enhances customer service and store operations	Centralized management & analytics tools across locations
Cruise Line IT & Guest Experience Head	Global (Carnival Cruise Line)	Onboard guest and crew connectivity, operations management	Enterprise plan enabling fleet-wide low-latency service	Real-time sharing for guests; crew stays in touch with families; supports equipment monitoring and ship-to-shore operations	Even higher bandwidth and capacity during peak guest usage

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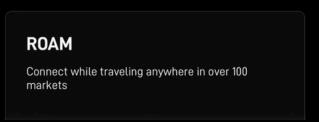
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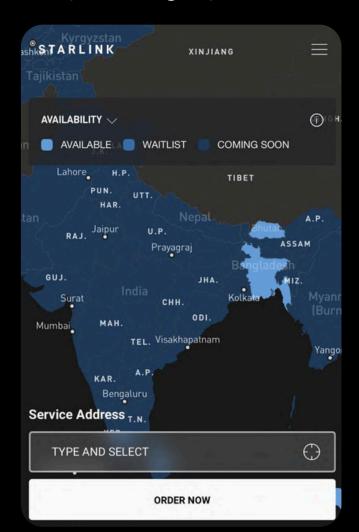






Inquiry

- Potential users explore Starlink's satellite internet service through ads, news, and online research.
- They visit the official Starlink website to check coverage in their area.
- Starlink provides an interactive availability map showing expected service regions.





Starlink is being used by so many people, businesses, and organizations in more than 135 countries, territories, and other markets around the world,

Subcription

- Users sign up by entering their location and choosing a plan.
- A one-time hardware fee is required to purchase the Starlink kit (satellite dish, router, cables).
- Monthly subscription costs depend on location and selected plan.

STARLINK		=
SIGN IN		
Email		
Password	0	
Sign In	إي-	
Need Help?		
Activate Your Starlink Received a Starlink Kit and ready to set it up		>
Order Starlink 30 day trial with full refund if not satisfied		>

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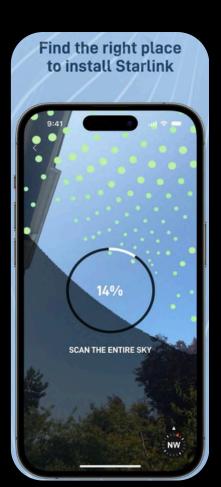
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Installation

- Starlink ships the hardware to users, typically within a few weeks.
- Users self-install the satellite dish using the provided instructions.
- The Starlink app assists in finding the best dish placement for optimal connectivity.





Service Usage

- After installation, users experience highspeed internet, even in remote areas.
- Starlink offers unlimited data plans, enabling smooth browsing, gaming, and streaming.
- The service is designed to be weatherresistant, ensuring connectivity in rain and snow.



FLEXIBLE SERVICE PLANS

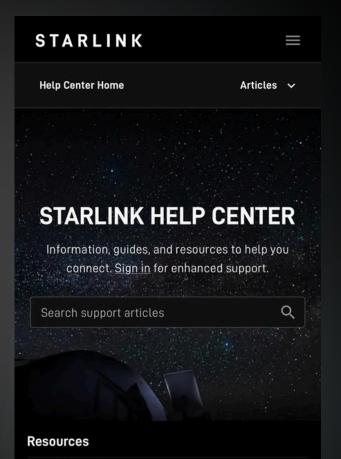
Starlink offers flexible service plans everywhere. Check availability by entering your address **here**.



• Users can access customer support via the Starlink website and app.

Support

- FAQs and guides help resolve common issues like signal obstructions or router settings.
- Starlink continuously expands coverage, improving speeds and reliability over time.





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STARLINK IN ACTIVE DEPLOYMENT REGION

(CANADA, US, CHILE, UKRAINE, EU, SOUTH AFRICA)

PRIMARY STAKEHOLDERS

RURAL HOUSES AND INDIVIDUALS

REMOTE SCHOOLS AND STUDENTS

SPACEX / STARLINK

FARMERS AND RANCHERS

ROLE / INTEREST

GET INTERNET IN
AREAS WITH NO
FIBRES OR POOR
COVERAGE

ACCESS ONLINE EDUCATION RESOURCES

SERVICE
DEPLOYMENT, USER
EQUISITION, BARND
REPUTATION

USE OF MARKET DATA AND WEATHER INFO VIA INTERNET

SECONDARY STAKEHOLDERS

GOVERNMENT (NATIONAL/LOCAL)

MILITIARY AND SECURITY AGENCIES

DISASTER RELIEF ORGANISATIONS

TELECOM COMPETITORS

ROLE / INTEREST

ENCOURAGE RURAL
CONNECTIVITY;
REGULATORY APPROVAL

USE STARLINK FOR A SECURED BATTLEFIELD OR TACTICAL COMMS.

COMMUNICATE DURING EARTHQUAKES, WARS OR DISASTERS

COMPETE OR COOPORATE WITH STARLINK.

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STARLINK IN INDIA

PRIMARY STAKEHOLDERS SPACEX /
STARLINK
US COMPANY

GOVERNMENT OF INDIA DoT, TRAI

INDIAN CONSUMERS RURAL+URBAN

INDIAN ISPs JIO, AIRTEL ETC

ROLE / INTEREST

LAUNCHING SERVICES, MAKING PROFITS, EXPANDING GLOBAL PRESENCE REGULATING SATELITE
COMMUNICATION AND
FORIEGN TECH
COMPANIES

ACCESS TO FAST RELIABLE INTERNET, ESPECIALLY IN REMOTE AREAS POTENTIAL
PARTNERS OR
COMPETITORS
FOR STARLINK

SECONDARY STAKEHOLDERS

EDUCATION SECTOR SCHOOLS AND NGOs

HEALTHCARE SECTORS

STARTUP AND RURAL ENTERPRENUERS

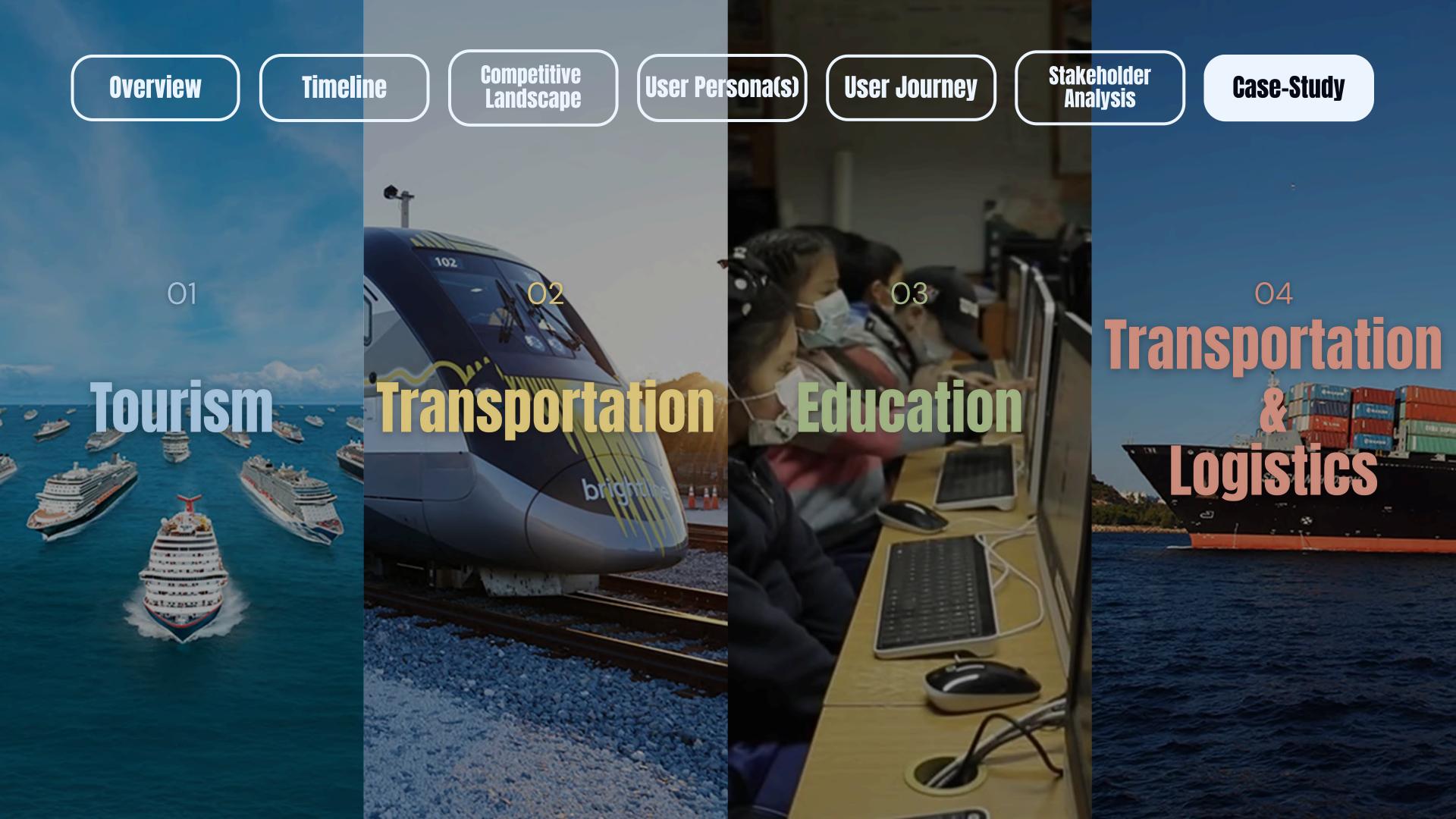
DEFENSE ESTABILISHMENT

ROLE / INTEREST

USE STARLINK FOR e-LEARNING AND DIGITAL LITERACY USE INTERNET
FOR REMOTE
CONSULTATIONS

INTERNET FOR
GROWTH IN REMOTE
AREAS

STARTEGIC USE OF SATELLITE INETRNET IN BORDER ZONES





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03

01. Carnival Corporation (Cruise Lines)



Region: Global



CHALLENGE

Cruise ships often struggle to offer seamless internet connectivity at sea due to traditional satellite systems' latency and coverage limitations. Guests expect streaming-quality internet and crews need reliable communication with families.



Starlink's Solution

Starlink's low Earth orbit (LEO) satellite internet was deployed across Carnival's nine cruise lines, providing high-speed, low-latency internet fleet-wide.



Outcome & Impact

- Guests can now stream, video-call, and share moments in real-time.
- Crew members stay in touch with families without interruptions.
- Enabled new guest-focused digital services and equipment monitoring.



66 Quote:

"Starlink helps our amazing crew stay in touch... and makes it as easy as possible for our guests to share all their great moments and memories."

- John Harshaw, VP of IT Connectivity, Carnival Corp.



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03

SEASPA

O2. Brightline (High-Speed Trains, U.S.)



Region: Florida, United States



CHALLENGE

Maintaining consistent, high-quality internet on fast-moving trains posed a challenge due to handoff issues and weak signal zones along tracks.



Starlink's Solution

Brightline adopted Starlink satellite internet across its fleet to ensure seamless internet access for travelers throughout the journey.



Outcome & Impact

- Passengers now enjoy fast, reliable Wi-Fi throughout the ride.
- Boosted customer satisfaction and business traveler convenience.
- Brightline improved its tech-forward brand image.

66 Quote:

"Starlink gave us the new beginning we were looking for. It gave us connectivity we can be proud to share with our guests..."

- Brightline

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03. Enseña School District (Chile)



Region: Enseña, Chile



CHALLENGE

A rural school struggled with sluggish, unstable internet, limiting students' access to digital education tools and remote learning.



Starlink's Solution

Starlink installed high-speed satellite internet, transforming the school's connectivity.



Outcome & Impact

- All 36 students gained simultaneous access to digital content.
- Teachers could use real-time educational platforms and video tools.
- Marked improvement in learning outcomes and digital literacy.

66 Quote:

"We went from slow, ineffective connectivity to high-speed internet where all 36 of our children can learn effectively at the same time."

- Aaron M., Superintendent

- Tor

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04. Seaspan Corporation (Global Maritime)



Region: Global Shipping Routes



CHALLENGE

Global shipping vessels face critical communication gaps at sea, affecting crew morale, real-time coordination, and operations.



Starlink's Solution

Seaspan deployed Starlink across its fleet, offering real-time high-bandwidth connectivity to crew and systems.



Outcome & Impact

- Vessels now operate as remote-connected offices.
- Enhanced crew wellness, safety, and communication.
- Enabled advanced monitoring, support systems, and operational decisions.



"Starlink's high-speed service is a major milestone in solving the connectivity challenge for a global, mobile workforce."

- Torsten Pedersen, COO, Seaspan Corp.





LESS MASS, MORE COMPACT

Each satellite features a compact, flat-panel design that minimizes volume, allowing for a dense launch stack to take full advantage of SpaceX's Falcon 9 rocket's launch capabilities.



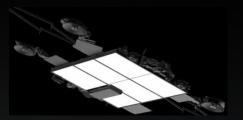
STAR TRACKER

Starlink's custom-built navigation sensors survey the stars to determine each satellite's location, altitude, and orientation, enabling precise placement of broadband throughput.



ACKER OPTICAL SPACE LASERS

Each Starlink satellite contains 3 space lasers (Optical Intersatellite Links or ISLs) operating at up to 200 Gbps, which together across the constellation form a global internet mesh that can connect customers anywhere in the world.



ANTENNAS

Each Starlink satellite uses 5 advanced Ku-band phased array antennas and 3 dualband (Ka-band and E-band) antennas to provide high-bandwidth connectivity to Starlink customers.



ION PROPULSION SYSTEMS

Efficient argon thrusters enable Starlink satellites to orbit raise, maneuver in space, and deorbit at the end of their useful life. Starlink is the first argon propelled spacecraft ever flown in space.



Starlink delivers high-speed, low-latency internet to users all over

the world

POWER SYSTEM

Starlink satellites feature a dual solar array and high capacity battery to provide power to the payloads. The two solar arrays are also aero-neutral which enable faster on-orbit maneuvers.



REACTION WHEELS

Four reaction wheels provide agile attitude control for the vehicle. The hot-spare configuration ensures high reliability operation and its aluminum flywheel is fully demisable at end-of-life.

Metrics

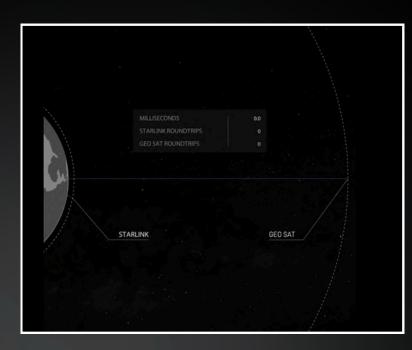
Prioritization

Insights

Concern

Governance

Prospects

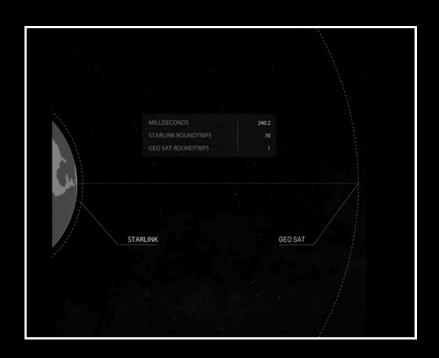


HOW STARLINK WORKS?

GTM

Most satellite internet services come from single geostationary satellites that orbit the planet at 35,786 km. As a result, the round trip data time between the user and satellite—also known as latency—is high, making it nearly impossible to support streaming, online gaming, video calls or other high data rate activities.

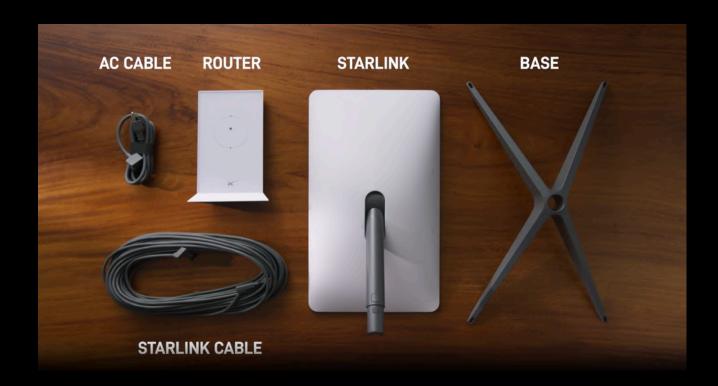
Starlink is a constellation of thousands of satellites that orbit the planet much closer to Earth, at about 550km, and cover the entire globe. Because Starlink satellites are in a low orbit, latency is significantly lower—around 25 ms vs 600+ ms.





REGULAR ACCESS TO SPACE

As the world's leading provider of launch services, SpaceX is the only satellite operator with the ability to launch its own satellites as needed. With frequent, low-cost launches, Starlink satellites are constantly updated with the newest technology.



Metrics

Prioritization

GTM

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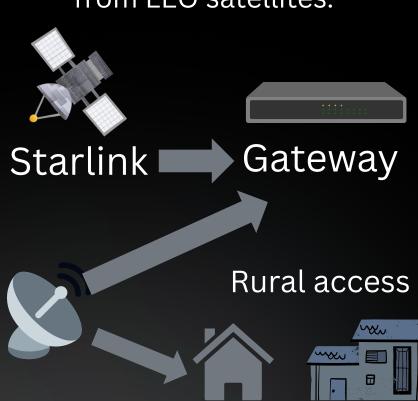
Governance

Prospects

STARLINK HYBRID NETWORK

How it Works?

Starlink dish recieves internet from LEO satellites.



Starlink — Gateway — 4G Towers — Rural access

Impacts & Benefits



Telemedicine

Remote clinics get reliable connectivity.



Digital Learning

Schools can access online education.



4G Access

Farmers and Families stay connected.



eGovernance and PaymentsSupports digital authorization

and transactions.

Benefits VS Challenges

Benefits	Considerations
No fibre needed	Towers and dish placements
Fast deployment	Powers backups (e.g. solars)
Mobile friendly	Regulatory approvals, local supports
Scalable to villagers	Training and maintenance by locals

Solutions $\left(\begin{array}{c} \text{Metrics} \\ \end{array}\right) \left(\begin{array}{c} \text{Prioritization} \\ \end{array}\right) \left(\begin{array}{c} \text{GTM} \\ \end{array}\right) \left(\begin{array}{c} \text{Insights} \\ \end{array}\right) \left(\begin{array}{c} \text{Concern} \\ \end{array}\right) \left(\begin{array}{c} \text{Governance} \\ \end{array}\right) \left(\begin{array}{c} \text{Prospects} \\ \end{array}\right)$

Why Policy Support is Needed?

Policy support is crucial because a significant internet gap still exists in rural India, with only around 37% of the population having access to the internet. Technologies like Starlink offer a promising solution by providing high-speed internet without the need for traditional cable infrastructure.

However, for a fast and secure rollout of such services, it is essential to have clear and supportive government policies in place. These policies can help streamline deployment, ensure regulatory compliance, and promote equitable digital access across the country.

Satellite Internet Policy Framework

- Define rules for LEO satellite services
- Cover licensing, data privacy, and spectrum
- Align with DoT and IN-SPACe standards

Promote Local Manufacturing

- Encourage terminal production in India
- Add satellite hardware to PLI schemes
- Lower import duties initially

Ensure Cybersecurity & Data Protection

- Store Indian user data locally
- Enforce end-to-end encryption
- Enable lawful interception by Indian agencies

Fair Spectrum Allocation

- Decide satellite spectrum pricing method (auction/admin)
- Reserve satellite-use bands for LEO services

Simplify Licensing for Global Players

- Fast-track GMPCS licensing
- Allow foreign satellite firms under clear Indian terms
- Maintain fair play in Indian telecom market

Support Public-Private Rural Projects

- Let satellite firms join BharatNet or Digital India
- Use USO funds for rural satellite Wi-Fi
- Setup shared terminals in schools, health centers

Approve Community Wi-Fi Models

- Allow one terminal to serve whole villages
- License rural entrepreneurs to run satellite kiosks
- Encourage cooperative or NGO-run models

Balance Global & National Needs

- Follow ITU rules on orbit/spectrum
- But protect India's telecom sovereignty
- Focus on India's rural & strategic needs first

Conclusion

Satellite internet is vital for bridging the digital divide in rural India, where traditional infrastructure is often lacking. Starlink, with its capability to deliver high-speed internet via satellites, has the potential to significantly improve connectivity in these underserved areas. To harness this opportunity effectively, India must establish a clear, inclusive, and secure policy framework that supports the deployment of satellite internet services while ensuring regulatory clarity and data protection.

Metrics

Prioritization

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Metric	Starlink (2024)	Traditional GEO	4G LTE	Fiber Optic
Latency	20-50 ms	500-700 ms	30-80 ms	1-5 ms
Average Speed	rage Speed 100-250 Mbps 15-50 Mbps 20-50 Mbps		20-50 Mbps	500+ Mbps
Monthly Subscription	\$90-120	\$70-150	\$40-70	\$50-100
Coverage Area	Global (LEO)	Global (GEO)	Regional	Urban
User Satisfaction (avg)	80-85%	\$55-60%	70-75%	90%+



Subscription Growth

"Starlink had over 400,000 active subscribers by early 2022 and exceeded 2 million in 2023, expanding to more than 70 countries." - Ma et al., 2023, IEEE INFOCOM

Growth is particularly strong in North America, Europe, and Southeast Asia, driven by limited broadband access in rural areas.



Latency Performance

Average latency: 20-50 ms (compared to 600 ms for traditional GEO satellites).

"Starlink achieves ~30 ms average latency in North America and Western Europe, outperforming all satellite competitors."

- Fang et al., 2024, ACM Transactions

"Low-latency performance is a critical competitive advantage over legacy satellite systems like HughesNet or Viasat."

- Lacy et al., 2023, NetForecast Report



Coverage Area

As of 2024, Starlink covers all seven continents, including Antarctica.

It uses over 6,000 satellites in orbit, with planned expansion to 12,000+.

Coverage is still limited in densely urban areas due to network congestion.

"LEO constellation ensures nearly full Earth coverage, with optimal throughput in remote, underserved regions."

- Shaengchart & Kraiwanit, 2024, SSRN

Metrics

Prioritization

GTM

Insights | |

Governance

Prospects

High Impact, Low Feasibility - Regulatory Reforms



Spectrum Allocation Policy

Starlink needs spectrum to work in India because, without it, the service can't run. But getting this spectrum is difficult, as the Indian government is careful about giving it to foreign companies due to security and control concerns.



GMPCS & ISP Licenses

Getting the required licenses would allow Starlink to officially launch its services across India. However, the process is slow because of government security concerns and long approval procedures.



Foreign Direct Investment (FDI) Rules in Telecom

Foreign investment would help Starlink grow and run its services better in India. But it's a sensitive issue because of concerns about global politics and the safety of user data.

Medium Impact, High Feasibility - Policy Supportive Steps



Trial Authorizations for Rural Pilots

Starlink can significantly benefit sectors like education, healthcare, and disaster relief by demonstrating its value in these areas. Implementing such initiatives is relatively feasible through pilot projects in collaboration with government bodies like the Department of Telecommunications (DoT) or the Ministry of Electronics and Information Technology (MEITY).



Public-Private Collaboration Models

Starlink can expand internet access in remote and hard-to-reach areas by partnering on initiatives similar to BharatNet. This is highly feasible, as the government is strongly committed to promoting digital inclusion across the country.

High Impact, Medium Feasibility - Technology Deployment



User Terminals (Dish + Modem)

Concern

Starlink's equipment is key for people to use its service, especially in remote places where internet is poor. Even though the devices cost a lot (about ₹60,000+), it's possible to handle and grow their supply.



Satellite Constellation Deployment

Starlink's global network coverage is crucial for providing seamless internet service worldwide. While this expansion is already progressing internationally, its deployment in India faces limitations due to pending regulatory clearances.

Low Impact, High Feasibility - Market Readiness Activities



Awareness Campaigns & Local Partnerships

Early adoption of Starlink in India can be boosted and trust built by collaborating with local partners and through effective marketing strategies, making this approach highly feasible and straightforward to implement.



Custom Pricing Models (EMI, Subsidy)

Starlink can make its technology affordable for users who are sensitive to price. This is easy to try out because there are no strict rules stopping them from doing so.

Solutions	Metrics	Prioritization	GTM Ins	ights (Concern	Governance Prospects
	Мо	SCoW Analysis				ICE Score
Must Have	Should Have	Could Have	Won't Have	Factor	Score(1-10)	Explanation
Reliable High-Speed	Affordable Pricing	Advanced Al	Entertainment Bundles	Impact	9	Massive impact in rural/remote connectivity, defense, disaster- prone areas
Internet Starlink must provide consistent and fast interne	Competitive pricing to m satellite internet accessi		No streaming or media partnerships for now.	Confidence	6	Tech is proven, but regulatory approval and local fit are still uncertain
especially in remote areas.		efficiency.	5G Integration Not planned in the current	Ease	5	Easy setup per user, but high initial infra cost and legal hurdles
Security & Data Protection	Reduced lag for gaming, calls, and real-time	Video Space-Based Emergency Services	Space-Based rollout.		ICE Score	9 × 6 × 5 = 270
Strong encryption and cybersecurity measures to protect user data.	applications.	Disaster response and emergency Custom Hardware No personalized user devices at		RICE Score		
proceed ager data.		communication suppo	ommunication support. this stage.		Estimate	Notes
		KANO Model		Reach	2 (in millions)	Rural and defense sector in India
Feature Type	Definition	Starlink Example	User Impact	Impact	8 (high)	Solves broadband gap in unconnected regio
	Fundamental features customers	Stable internet connection, 24x7	If unavailable, users are unhappy	Confidence	5 (medium)	Due to government delays, unclear policy roadmap
Basic Needs	expect; if missing, leads to dissatisfaction.	uptime, regulatory compliance	and won't adopt.	Effort	6 (medium-hi	gh) Import dependencies, legal approvals
Performance	The better the feature, the higher the satisfaction.	Download/upload speed, latency, customer support	Drives adoption; better performance = more satisfaction.		RICE Score (2	2 × 8 × 5) / 6 = 13.3
Needs Excitement Needs	Unexpected features that pleasantly surprise users.	Global roaming (anywhere access), auto-aiming satellite dish	Not expected but creates strong differentiation.	Over time delightful innovation becomes another basic need	Performance needs Delighters Fully implemented	Test Results Supported by longitudinal user studies, large-scale MVP, alpha/beta, A/B experiments 10 0.01 Thematic support Aligns with: 7 0.03 Thematic support Aligns with: vision/strategy, current trends/buzzword, outside research, macro trends, product methodology
Indifferent	Features that don't affect satisfaction much either way.	Fancy mobile app animations or design of the terminal box	Doesn't influence user decision significantly.	Not implemented	Basic needs	product data, top user request, interviews with 20+ users, usability study, MVP Market Data Supported by surveys, smoke tests, all
			Power users may dislike limitations			competitors have it

Metrics

Prioritization

GTM

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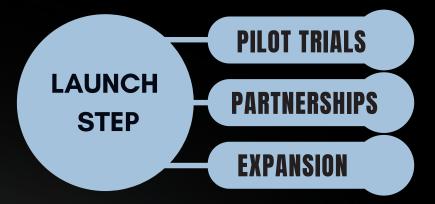
TARGET AREAS

Remote villages with no fibre or internet.

Schools and health centers in tribal/hilly areas.

Government offices(like panchayats) in remote zones.

Big companies working in forests, deserts or hilly areas



1. PILOT TRIALS

Start in selective rural areas(Ladakh or Northeast).

Take licenses and government approvals

2.PARTNERSHIPS

Work with ed-techs, agri-techs and NGOs Setup shared wifi in villages.

3. EXPANSION

Enter government schemes like BharatNet Sell kits or lease them to rural businesses

How will it reach people?

- Directly through government.
- With the help of local sellers and installers.
- Through rural enterpreneurs who resell internet. Show real success stories (education and
- Online (for premium users)

How to promote?

- Tell rural peoples about benefits in their language.
- Work with NGOs, schools and gram panchayat
- Show real success stories(education and healthcare)

PRICING PLANS

6500-8000/ month for personal users (costly)

Cheaper shared used in villages (Ru 100-200 per user)

Government or CSR can pay for group installation

MAIN CHALLENGES

CHALLENGES	STARLINK'S SOLUTION
TOO COSTLY	Group sharing and government support
RULES ARE COMPLEX	Take legal help, follow Indian laws
VILLAGERS NEED HELP	Partner wit NGOs to teach and support.
TELECOM OPPOSITION	Show, it helps where fibre can't reach.

Solutions $\left(\begin{array}{c} \text{Metrics} \\ \end{array} \right) \left(\begin{array}{c} \text{Prioritization} \\ \end{array} \right) \left(\begin{array}{c} \text{GTM} \\ \end{array} \right) \left(\begin{array}{c} \text{Insights} \\ \end{array} \right) \left(\begin{array}{c} \text{Concern} \\ \end{array} \right) \left(\begin{array}{c} \text{Governance} \\ \end{array} \right) \left(\begin{array}{c} \text{Prospects} \\ \end{array} \right)$

PROBLEM

As of now, only 37% of rural households have access to internet while 70% of access in urban areas. many villagers lack fibre optics or stable 4G coverage, especially in:

Northeast India

Jammu and Kashmir

Central tribal belts(Chattisgarh, Jharkhand)

OPPORTUNITY

Over 500 million+ rural users represent an untapped market for high speed internet. satellite internet can bypass physical infrastructure barriers. government programs like BharatNet are slow and have missed deadlines.

TECH READINESS

FACTOR	STATUS IN INDIA	IMPACT ON STARLINK DEPLOYMENT
Smartphone adaption	75% in rural India (low end android mostly)	High potential for basic internet services
Power supply stability	Improving but irregular in remote zones.	Ground terminal setup may need solar backups
Digital literacy	Growing due to UPI, mobile bankings and govt apps	Demand rising for e- learning, e-health etc.
Geographic terrain	Large areas of forest, desert and mountains.	Ideal use case for satellite over fibre.
Policy support	Government inviting FDI in tech and digital infra.	Environment is becoming more favorable.

Is Starlink affordable in India?

ANALYSIS

Starlink terminal kit:

55000 - 75000 Ru one time (import duty includes)

Monthly subscription:

6500 - 8000 Ru per month

Speeds offered:

50 - 150 mbps(download), 20-30 mbps(upload)

AFFORDABILITY CHALLENGES

Average rural monthly income: Ru8000-12000

Monthly starlink plan=65% of rural income, not viable for individuals

CONCLUSION

Stralink has huge potential in India but it need to pivot from individual subscription model to community based deployments. It must collaborate with government schemes and social organisations. It will heavily depend on tech readiness, rural affordability, and policy clarity.

Metrics

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Data Security & Privacy

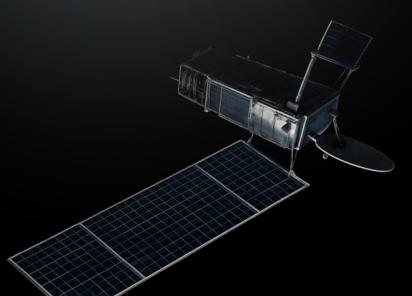
Starlink's global network may enable mass surveillance or data interception due to its ties to U.S. government and military raise fears of foreign intelligence access.

Risk of cyberattacks, including DDoS and data breaches.



Space & Environmental Ethics

Risks of space debris due to thousands of satellites in low Earth orbit. potential interference with space observations and the broader impact on the night sky





Digital Divide

High setup and subscription costs (approx. ₹50,000+ in India) limit access for low-income users. Unequal access could worsen existing educational and economic disparities.



Monopolistic Risks & Market Dynamics

Could undercut local ISPs, reducing competition in long run.



National Security Risks

Starlink used illegally in Indian regions like Manipur to bypass government restrictions Potential dual-use (civilian + military) capabilities raise red flags.



Prioritization Prospects Solutions Metrics GTM **Insights** Concern **Governance** POLICY AND LEGAL FRAMEWORK **TELECOM** INDIAN **OTHER DEPARTMENT OF TELE-IN-SPACe&INDIAN REGULATORY APPLICABLE TELEGRAPH SPACE POLICY** COMMUNICATIONS **AUTHORITY OF INDIA ACT (1885) INDIAN LAWS** (DoT) 2023 (TRAI) **GOVERNS ALL** LAW/POLICY RELEVANT **GRANTS ISP LICENSES** RECOMMEND LICENSE INDIAN NATIONAL SPACE TELECOMMUNICATION IN TO STARLINK ARE: IT AND GMPCS PROMOTION AND FEES, INTERNET INIDIA. IT IS TO BE ACT 2000. DATA LICENSES(FOR **AUTHORIZATION CENTER** CONNECTION. PROTECTION, CYBER REPLACED BY THE SATELLITE QUALITY OF SERVICE **GOVERNS PRIVATE AND TELECOMMUNICATION** SURVEILLANCE, COMMUNICATION) AND TARRIFS. FOREIGN ACTORS. INTERCEPTION. ACT, 2023. STARLINK NEEDS ISP FEMA (FOREIGN STARLINK MUST PLAYS A ROLE IN DEFINING CATEGORY 'A' LICENSE (PAN STARLINK MUST REGISTER EXCHANGE **OBTAION A UNIFIED** INDIA), GMPCS LICENSE(THE POLICY FOR SATELLITE-WITH IN-SPACe AND GET **MANAGEMENT ACT)** GLOBAL MOBILE PERSONAL LICENSE TO OPERATE AS **BASED INTERNET AND AUTHORIZATION FOR GOVERNS FOREIGN** A INTERNET SERVICE COMMUNICATION by REGULATING FOREIGN SPECTRUM USAGE AND **OWENERSHIP AND** SATELLITES), PERMISSION PROVIDER(ISP). PLAYERS LIKE STARLINK. SATELLITE DEPLOYMENT. INVESTMENT APPROVAL. TO SETUP EARTH STATIONS.

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INTERNATIONAL LEGAL PRECEDENTS



ITU (INTERNATIONAL TELE-COMMUNICATION UNION)

FCC-UNITED STATES

EXAMPLES FROMOTHER COUNTRIES

INTERNATIONAL
TELECOMMUNICATION
UNION COORDINATES
GLOBAL ALLOCATION
OF ORBITAL SLOTS
AND FREQUENCIES.

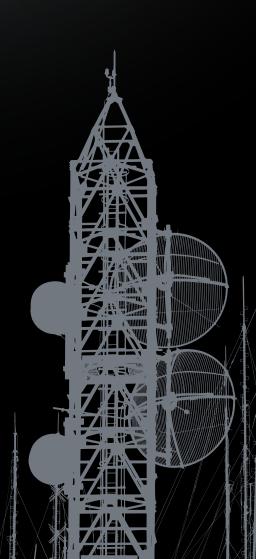
STARLINK IS LICENSED AND REGULATED UNDER THE FEDERAL COMMUNICATIONS COMMISSION.

FRANCE: TEMPORARILY BANNED
STARLINK PENDING SPECTRUM
REVIEW BY REGULATOR ARCEP.
CANADA: LICENSED AS A RURAL ISP
BY ISED CANAD UNDER UNIVERSAL
SERVICE MANDATES.

STARLINK SATELLITES
MUST COMPLY WITH THE
SPECTRUM
COORDINATION VIA U.S.

SETS STANDARDS FOR
NETWORK
PERFORMANCE,
EMERGENCY RESPONSE
AND INTERFERENCE
MANAGEMENT.

BRAZIL: APPROVED AS A PART OF
RURAL INTERNET INCLUSIN
STRATEGY.
UKRAINE: ACTIVATED DURING
THE WAR FOR MILITARY AND
EMERGENCY COMMUNICATIONS



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Starlink is close to launching its services in India after receiving govermental approval for a Global Mobile Personal Communication by Satellite (GMPCS) license.

Global Outlook

Revenue projections to between \$11.8.3 billion in 2025, marking a diversified revenue streams:

- Consumer Services: Approximates \$7.5 billion
- Hardware Sales: around \$1.3 billion
- Government Contracts: Estimated at \$3 billion, including significant deals like a \$837 million Pentagon contract to provide services for Ukraine's military forces.



Opportunities



⁻∰⁻ Digital Inclusion

- Provide high-speed internet in rural/remote areas
- Reduce Indias urban-rural divide.



Education & Health

- Enable online classes in villages
- Power telemedicine and Al based diagnostics



Boost to Innovation

- Satellite Internet works when fiber fails (floods, quakes, border areas)
- Useful for emergency service and military

∠ Commercial Use

• Connectivity fornining, ports, high-ways, and logistics



Digital Literacy Drives

• Train rural leaders, teachers , workers and codeployment



Recommendations



Regulatory Alignment

- Comply with DoT/TRAI spectrum policies
- Address concerns of Jio & Airtel to ensure fair competition



Partner with Govt

- Align with Digital India, tribal
- Collaborate with ISRO for satellite synergy



Make in India

- Manufacture Starlink Kits locally
- Create rural jobs via installation and service roles



Affordable Pricing

- Launch 7850/month
- Offer shared/puublic-use connections in schools/clinics.



Startup and Academia Collaboration

• Support research in remote universities

CONCLUSION

Transformative Potential

Starlink promises to revolutionize internet access in India's remote and rural regions, offering high-speed connectivity where traditional infrastructure falls short.

Regulatory Roadblocks

Its progress is hindered by unclear licensing policies, spectrum allocation issues, and national security concerns raised by regulators and domestic competitors.

Strategic Crossroads

India must carefully navigate the tension between embracing global tech innovation and safeguarding control over critical digital infrastructure.

Opportunity vs. Stagnation

Without regulatory clarity and policy support, India risks missing out on a transformative leap in digital inclusion and connectivity.

The Way Forward

The future of Starlink in India depends on building mutual trust, ensuring compliance with national interests, and evolving a transparent, innovation-friendly regulatory ecosystem.

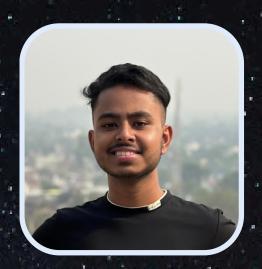
MEET THE TEAM





UNNATI JANGID

Product Management Team Member.



ARAJIT BHOWMIK

Event & PR Team Member



PIYUSH KUMAR

Technical Team Member



SHRIYASHREE BORAH

Creative Team Member



OM CHAUHAN

Analytical Team Member

