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Role of SATCOM in Bridging the Digital Divide



The Digital Divide –An overview

What is it ?

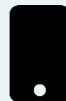
The gap between the digital haves and the have nots.

Fixed Broadband

High Capacity. Limited Reach.

Mobile Broadband

Low per capita consumption.
High Coverage



The Global Scale

2.7 Bn people worldwide remain unconnected.



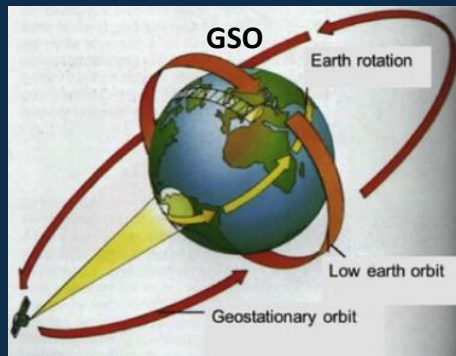
The Scale in India

*47% citizens are unconnected [GSMA Intelligence, 2026]
Almost 650Mn people are still unconnected*

Difficult terrain, low population density and cost of fiber is very prohibitive

Impact: Limited access to online education, remote healthcare (telemedicine), and digital financial services.

SATCOM Technologies-GSO & NGSO(LEO/MEO)

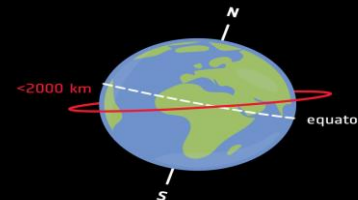


Fixed Orbital distance -36000 kms

Due to longer round trip times, the latency is higher (~600ms)

Major players are Viasat, SES , ISRO (GSAT Series)

LEO



Orbital distances are usually between 0.5-2K kms

Supports ULL (~25ms) enabling real-time video calls and online gaming, besides 5G like speeds

Major players are Starlink, OneWeb, Amazon

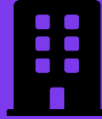
Unlocking Opportunities in Rural Areas-Use Cases



**Remote
Education**



Telemedicine



**Agriculture (IoT driven
precision
farming**



**Disaster
Resilience**



**Citizens
Direct Access (CFA + D2D)**



**Broadband Speeds
matching 5G**



**Seamless Coverage
over Oceans,
Deserts & Polar
Regions**



**Inclusive and
Accessible
Connectivity**

"Satcom is globally accepted as a technology for Digital inclusion"

Overcoming Key Challenges

- Infrastructure Costs
- Spectrum Assignment & Allocation
- Spectrum Pricing
- Affordability
- Space Sustainability



*Just as UPI transformed fragmented payments → seamless national experience,
a similar neutral layer can unify PM-WANI into a national broadband platform.*

The Future Landscape : Hybrid Networks



Integration with 5G/6G

Seamlessly blend Terrestrial 5G/6G with Non-Terrestrial networks



Direct-to Device

Emerging Technology that will enable standard smartphones to be connected to Satellites directly



AI optimization

AI will manage bandwidth, predict congestion and optimize signal routing



Digital Inclusion

Broadband access for millions of underserved and unserved citizens.

Conclusions

01 NGSO technologies represents a monumental shift in overcoming the tyranny of distance and infrastructure constraints

02 Due to integration of Terrestrial Networks with Non-Terrestrial Networks/Satcom, connecting the unconnected is highly achievable .

03 Enabling Regulatory and Spectrum Assignment & Allocation Policies are essential to ensure these Satcom services are affordable and accessible to all .



THANK YOU