

Broadband Must **Evolve**

From a **telecom** service delivering Mbps

→ to a **Unified Digital Infrastructure Platform** delivering applications, intelligence, security, and outcomes.



Not This

FTTH vs. 5G · Fiber vs. Wireless
· Broadband vs. Enterprise



The Future

Cloud-Native · AI-Governed ·
Multi-Modal Multi Business
Segments Broadband Fabric

Ultimate Goal: Broadband for All (B2C, B2B) → Intelligence for All

Broadband Grid: The SaaS Model for Connectivity

Why depend on one pipe when you can run on a grid?

✗ LEGACY MODEL

Like running your own server (On-Prem)

One Provider

e.g., FTTH, FWA

Single Point of Failure

Downtime Risk

100-200 hrs/year offline

Fixed Capacity

No elasticity

You Own the Risk & Cost

✓ CLOUD BROADBAND GRID

Like subscribing to cloud infrastructure

Multi-Provider (Jio, Airtel, BSNL, VI, ISPs.....)

FTTH + FWA+ Satellite

AI-Decided Path Switching

Best path per application in real-time

Near-Zero Downtime

99.999% availability = <5 min/year offline

Elastic Capacity

Scales with demand

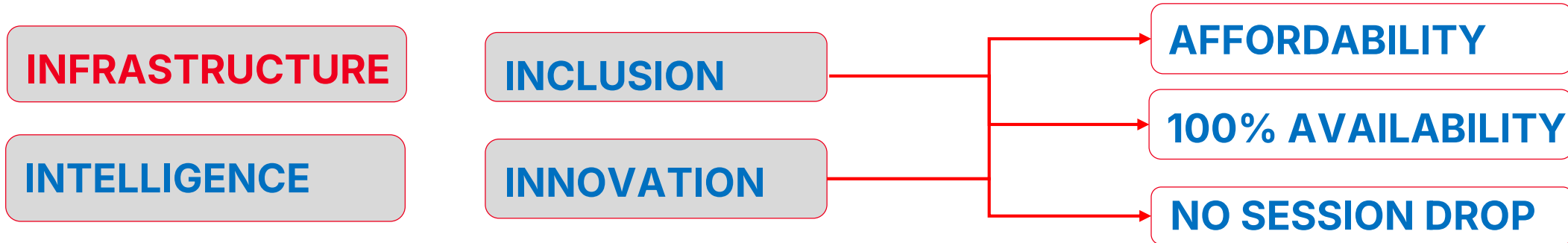
Zero Risk Ownership

Pay as You Use

Broadband Grid = Always On · Always Intelligent · Always Affordable

Broadband Leadership in the AI Era

From Connectivity to Autonomous Digital Infrastructure



- | | | |
|------------------------------|---------------------------------|--------------------------------|
| 1. Why Broadband Must Evolve | 2. Core Principles | 3. Cloud-Native & Multi-Modal |
| 4. BCG & AI Infrastructure | 5. Bonding, Security & Identity | 6. WFH-SOHO, Branches -Offices |
| 7. Enterprise Convergence | 8. Inclusion & Sustainability | 9. Autonomous Digital Infra |

The New Broadband Paradigm

5 Principles and 10 Pillars of Future Architecture



Always Connected

Near-zero perceived
downtime



Always Intelligent

AI continuously optimises
connectivity



Always Available

Multi-provider redundancy



Always Affordable

Application-driven economics



Always Inclusive and Secure

Every Home, SMBs, IoT and enterprise connected

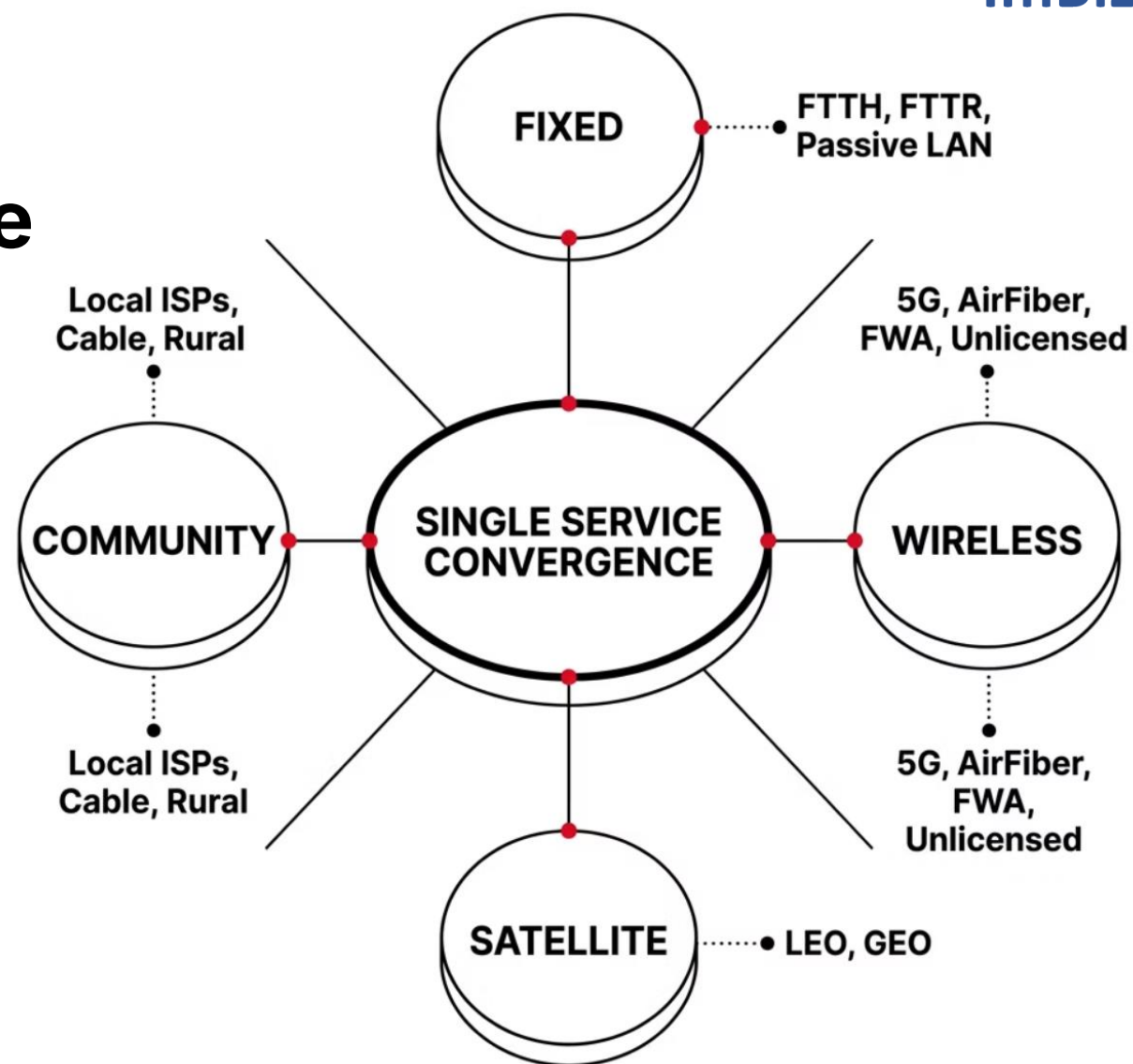
Pillar-1 Cloud-Native Infra & Multi-Modal Convergence

Pillar-2 Cloud-Native BB

The network evolves from hardware-centric
→ software-centric.

Future operators will run more software than
hardware.

Multi-Modal Access Fabric



Cloud-Native BNG & Core

Cloud-Native OSS/BSS

Cloud-Native AI Platforms

Cloud-Native Security

Pillar-3 The BCG: Centre of Architecture



Multi-Provider & Multi-Tech Controller

Jio FTTH · Airtel 5G · BSNL · Satellite — provider-agnostic



AI Decision Engine

Dynamically selects, bonds, or backs up any network per application



Security Gateway & Application Optimiser

Zero-trust security + application-aware routing

Pillar-4 AI as the Intelligence Layer

Static policies replaced by continuous AI evaluation of:

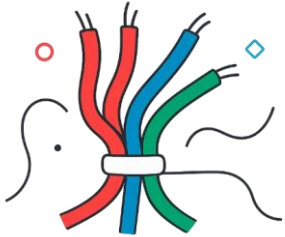
User Experience

Cost

Capacity

 Networks become self-planning, self-healing, self-optimising, and self-scaling.

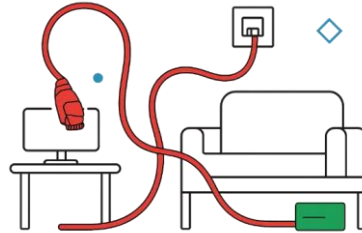
Bonding, Integrated LAN & Fixed Identity



Pillar-5 Broadband Bonding & Redundancy

Multiple active paths combined.
Automatic failover — **near-zero downtime**.

Application steering for Voice, Video, ERP, Healthcare.

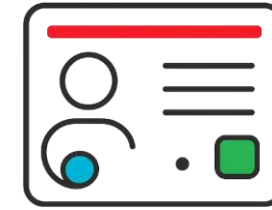


Pillar-6 FTTR, WiFi & Passive LAN

Broadband extends to the user edge.

Higher performance, lower power, better reliability.

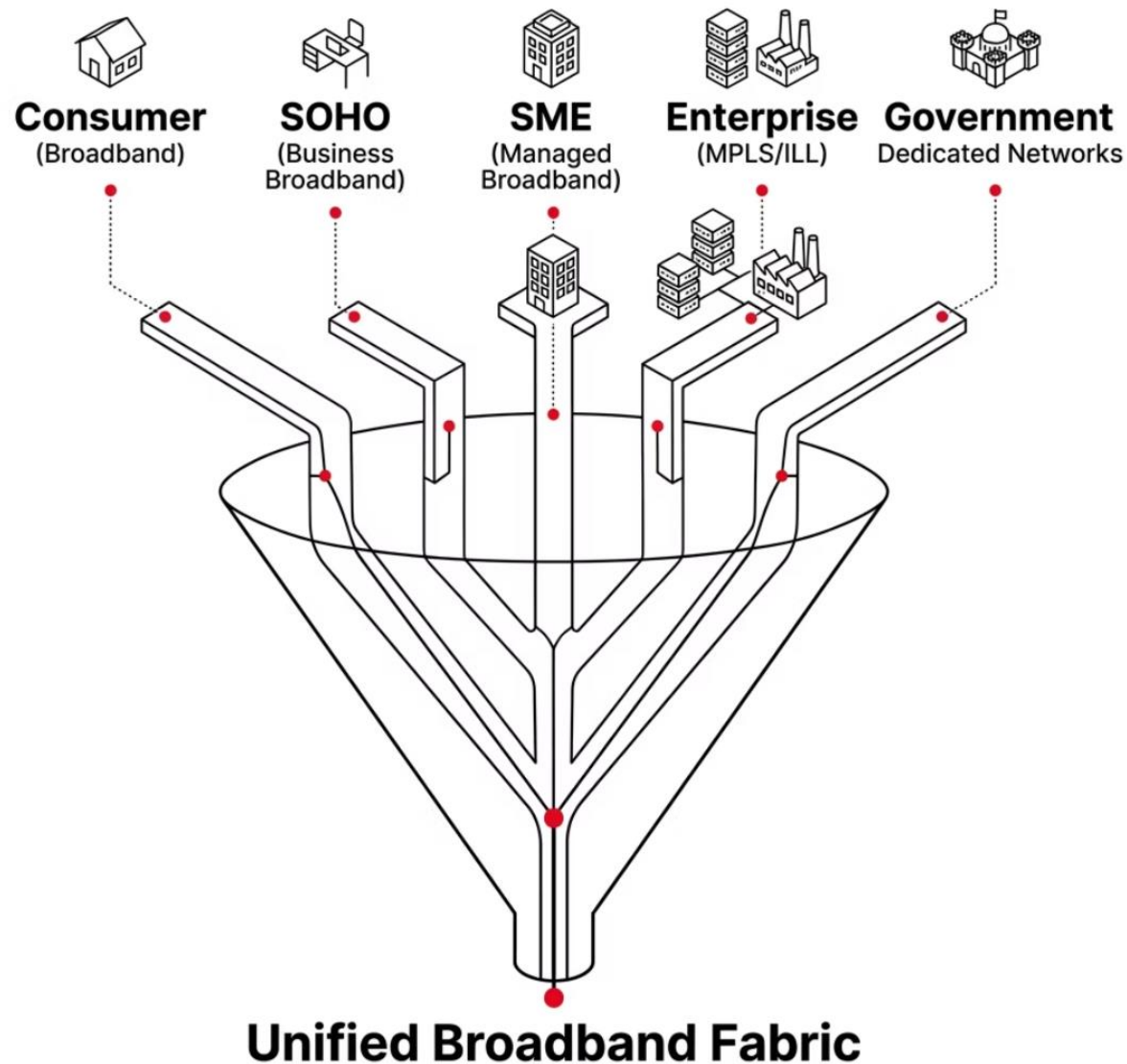
LAN and WiFi Integrated



Pillar-7 Fixed Identity Broadband

Each subscriber carries a fixed digital identity — static IP, security and application policies — consistent across FTTH, 5G, Satellite.

Broadband Portability – agnostic to Connectivity



Pillar 8 One Fabric. Every Segment.

A single broadband infrastructure — differentiated by policy — serving all customer segments.

Pillar 9 Branch → Cloud

Applications now live in AWS, Azure, Google Cloud, Telco Cloud — not telco Broadband gateways .

Legacy Path

Branch → MPLS → Data Centre

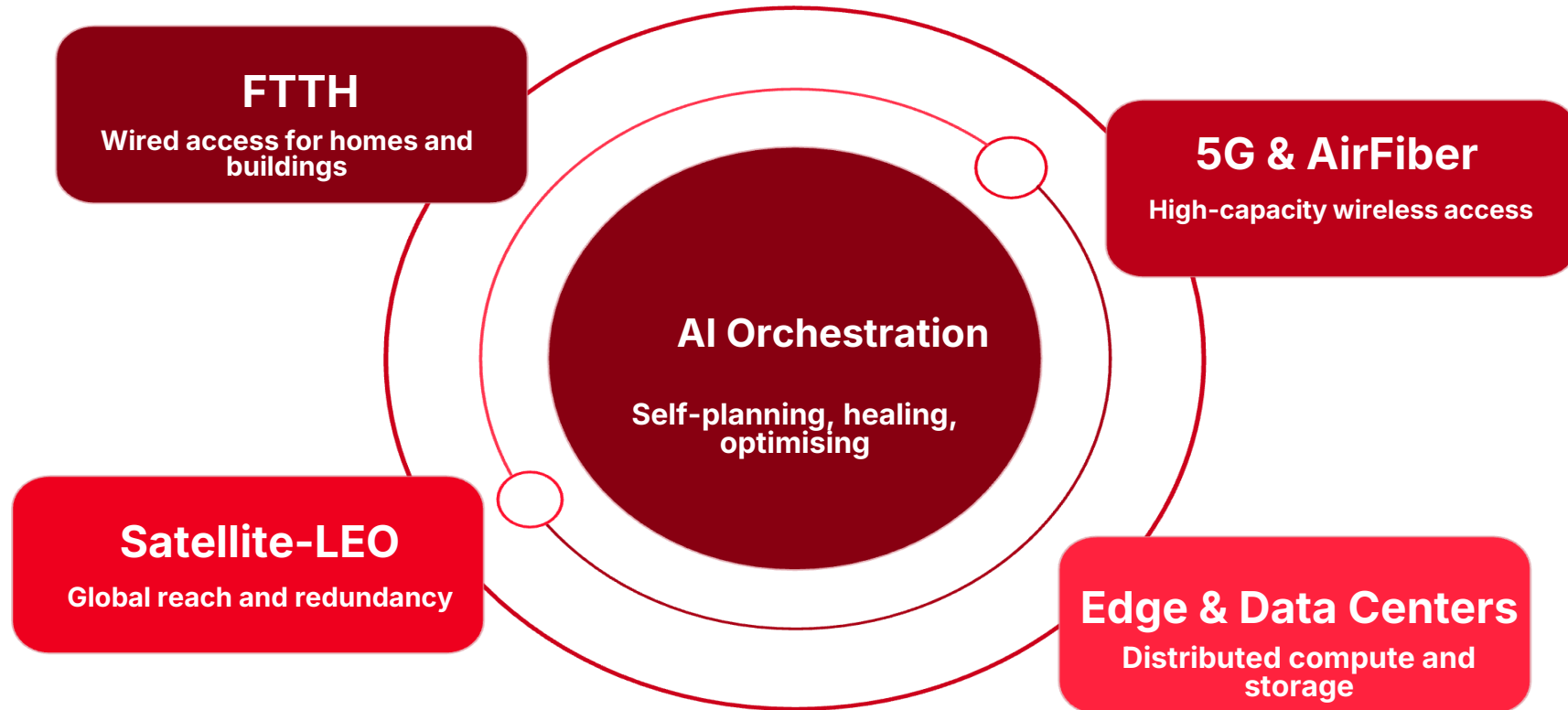
Future Path

Branch → BCG + AI → Cloud

1. 50%–80% reduction in WAN expenditure
- ✓ 2. Faster activation
3. Better cloud access
4. Simplified operations

Autonomous Broadband Digital Infra

Not a fiber network. Not a mobile network. Not a satellite network.



A single intelligent platform — **self-planning, self-healing, self-optimising** — delivering every application, to every user, at the lowest cost and highest availability.

3 National Objectives

Accessibility and Security

Connect every citizen —
urban, rural, and remote

Affordability

Reduce the cost of digital
access for all segments

Sustainability and Portability across B2C,B2B

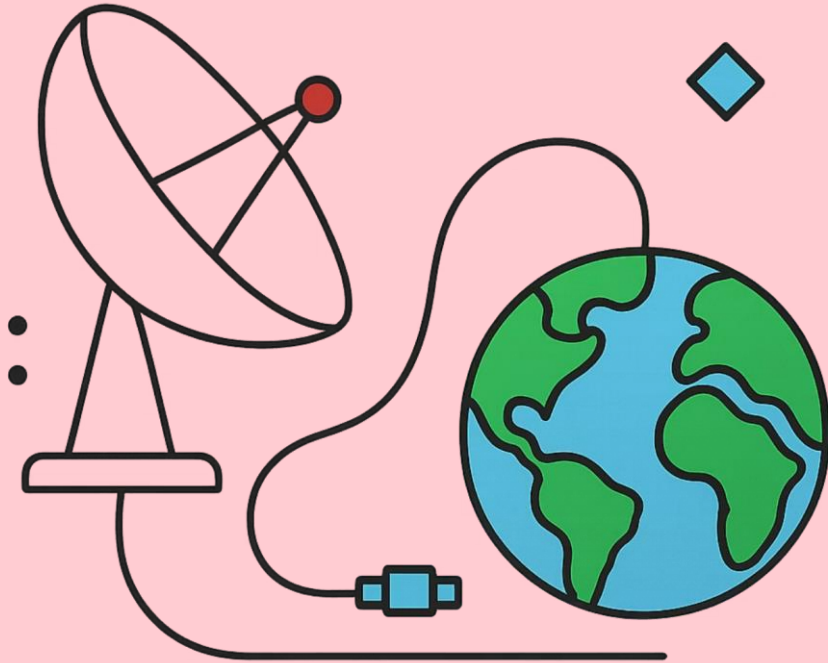
Optimise energy, infrastructure, and operational resources

Current Policies- Now

Aligned for Connectivity which is Foundational

Future Policies-

Focus on Broadband Fabric covering Accessibility, Affordability ,
Sustainability , Availability , Security , Portability



Wake Up for Telcos and ISPs

"In the AI era, broadband is no longer a connectivity service. It is the foundation of national digital infrastructure... The future belongs to Autonomous Broadband Digital Infrastructure." — Dhiraj Sharma

"Broadband is the Fabric of Digital Life, Not Just Connectivity."

1. Broadband is the foundational fabric through which AI, Cloud, Applications, Security, Content, and Digital Experiences are delivered.
2. *Telcos that continue to sell only bandwidth risk repeating the Internet-era mistake of creating infrastructure while Internet/ OTT Companies capture the value.*
3. The next generation of growth will come from transforming broadband into an intelligent digital platform that enables outcomes, not just connections.