



THE FUTURE OF CONNECTIVITY: HOW TOWER CO LOCATION IS FUELING AFFORDABLE MOBILE GROWTH IN ZAMBIA

Powered by INFRATEL corporation Limited

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Executive Summary

The demand for mobile data, voice, and internet services in Zambia is growing rapidly. However, rolling out mobile networks across urban and, more challengingly, rural areas involves heavy infrastructure investments. Tower deployment, maintenance, power, and security all add up.

Tower collocation—sharing a single tower for multiple operators—offers a cost efficient, scalable solution. INFRATEL's tower collocation services enable Mobile Network Operators (MNOs) and other institutional customers to expand their coverage without heavy passive infrastructure expenditure. This white paper examines how tower co location

- reduces capital and operational costs for MNOs;
- enables faster rural expansion;
- improves service reliability;
- makes mobile and internet service more affordable for end users;
- supports Zambia's digital inclusion and economic growth goals.

INTRODUCTION

Mobile connectivity is no longer a luxury—it is essential for commerce, education, healthcare, and social inclusion. Yet large portions of Zambia—especially rural and remote areas—still suffer from inconsistent or no mobile service.

Building standalone towers everywhere is costly and often duplicative. Many MNOs end up creating overlapping infrastructure, which wastes resources and delays rollout. Tower colocation, when done well, solves many of these inefficiencies. INFRATEL, via its Tower Services, is positioned to be a key enabler for expanding connectivity faster and more affordably.



INFRATEL'S TOWER COLOCATION SERVICES: WHAT THEY OFFER

- Tower Space & Ground Space — INFRATEL owns a large network of towers, and provides space on existing towers and the ground at tower sites for new installations.
- DC Power & Cooling / Hybrid Power Solutions — In addition to grid power, many sites include deep cycle batteries and diesel generators. There's also use of hybrid power (e.g. solar + batteries) to ensure uptime in areas with unstable grid supply.
- Remote Site Monitoring — Real time monitoring of site equipment, allowing proactive maintenance and response to power or environmental issues.
- Physical Security — Site security via manned guards, access control, etc., to protect equipment and infrastructure investments.



**WHY TOWER
COLOCATION
MATTERS
FOR ZAMBIA**



Benefit	How It Impacts Coverage & Affordability
Reduced Capital Expenditure (CapEx)	MNOs don't have to build every tower themselves—sharing reduces redundancy, brings cost savings in site acquisition, structure, fencing, etc.
Reduced Operational Expenditure (OpEx)	Shared maintenance, security, power, cooling, monitoring reduce recurring costs for each operator.
Faster Deployment	When tower infrastructure is pre-built, operators can roll out service faster—especially in rural or hard-to-reach regions.
Improved Reliability	INFRATEL's hybrid power, remote monitoring, and security help maintain uptime even when grid power fails or in harsh environments.
Lower End-User Costs	Saving on infrastructure & operational costs can translate into more affordable subscription/data plans, broader service reach.
Environmental & Land Use Efficiency	Fewer towers, less land clearing, shared footings, less duplication => smaller environmental footprint.



Case Studies: Urban vs Rural Scenarios

Urban Scenario (Lusaka / Ndola region)

An MNO wants to densify capacity to serve growing user demand. Instead of building a new tower, they collocate on an INFRATEL tower. Result: 40% faster deployment, 30% cost saving on tower-related CapEx, and maintenance costs shared, enabling a more competitive data pricing.

Rural Scenario (Remote Districts)

In a district without reliable grid power, an INFRATEL site with hybrid power (solar + batteries + backup generator) allows an operator to deploy service with reduced risk. Remote monitoring cuts down on site visits, lowering transport and maintenance cost. With collocation, community receives mobile connectivity faster; end users benefit from better signal and lower cost of entry.



Challenge	Mitigation / Best Practice
Land access / site acquisition issues	INFRATEL owns many towers and ground space; clear permitting and site documentation help; engage with local communities early.
Power instability in remote areas	Use of hybrid power systems, backup generators; invest in solar + battery setups.
Security threats / vandalism	Physical security, remote monitoring, local guards.
Regulatory & policy hurdles	Favorable policies needed: streamlined permitting, incentives for shared infrastructure, transparent access pricing.
Coordination among multiple operators	Clear agreements, fair cost-sharing models, defined SLAs.

**Challenges & How
to Overcome
Them**

RECOMMENDATIONS

- **Scaling Tower Inventory & Power Resilience** — INFRATEL should continue expanding towers with hybrid/solar power, ensuring sites are resilient to grid failures.
- **Promote Transparent Colocation Pricing & SLAs** — Clear, standardized pricing and strong service level agreements help MNOs plan better and build trust.
- **Policy Incentives & Regulation Support** — Advocate for policies that encourage infrastructure sharing: tax incentives for operators who colocate; easier permitting for shared installations; regulation that ensures open access.
- **Partnerships for Last-Mile Reach** — Work with local governments, NGOs, and donors to subsidize connectivity in truly remote areas where commercial viability is low.
- **Customer Support & Remote Monitoring Services** — Strengthen remote monitoring, site management, and maintenance services to reduce downtime and operational costs.

Conclusion

Tower co-location is not just a technical or business decision—it's a catalyst for closing Zambia's digital divide. By sharing infrastructure, we unlock faster growth, more reliable connectivity, and more affordable mobile services for everyone.

INFRATEL invites MNOs, regulators, institutions, and development partners to collaborate: let's leverage existing towers, scale resilient sites, and accelerate connectivity. Together, we can make universal mobile access a reality in Zambia.

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Accessible. Everywhere.

ABOUT INFRATEL

INFRATEL Corporation Limited is Zambia's leading digital infrastructure provider, dedicated to powering digital transformation through Towers, Fibre, Data Centres, and Cloud services. With a focus on innovation, efficiency, and national development, INFRATEL is building Zambia's digital future.

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