

ZAMTEL NETWORK & SERVICE QUALITY REPORT

National Operator Perspective: Performance, Resilience & Strategic Outlook
A Regulator-Aligned View of Network Performance and Resilience

ZAMTEL A member of the IDC Group of Companies



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At a Glance

Zambia's national telecommunications operator, government-owned, nationally trusted, and committed to universal connectivity.



10

Provinces

Nationwide Coverage



✓ 2G, 3G, 4G/LTE
✓ Fibre Backbone
✓ National Reach
**Multi-Technology
Network**

Voice, Data & Fibre



1,826

Sites

Across all technologies



30+

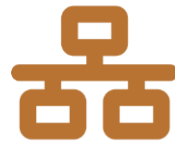
Years

As Zambia's National Operator

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Our Network Journey

From analogue roots to a digitally-connected nation



1994

ANALOGUE PSTN

Post & Telecommunications
Act ZPTC splits into ZAMTEL.
Inherited copper PSTN
backbone.

2004

2G GSM

Nationwide GSM rollout.
Voice and SMS services
extended to all 10 provinces.

2011

3G HSPA+

High-speed data introduced.
Mobile broadband enables
first wave of internet
adoption.

2016

4G LTE

LTE launched in Lusaka. Urban
data speeds exceeding 50
Mbps transforming user
experience.

2020

4G+ National

4G+ extended across
Copperbelt, Livingstone,
Ndola. Pandemic accelerated
digital demand.

2025

610 4G Sites Network Expansion

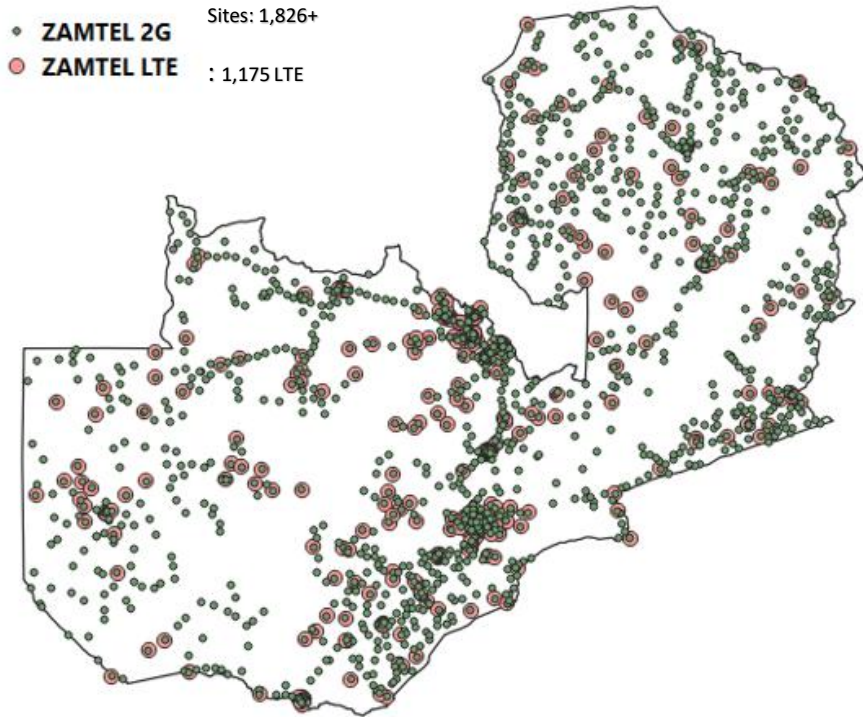
4G Network Expansion and
Fiber backbone densification.

ZAMTEL's journey reflects Zambia's broader aspiration: universal connectivity as a national right, not a privilege.



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CURRENT NETWORK STATE

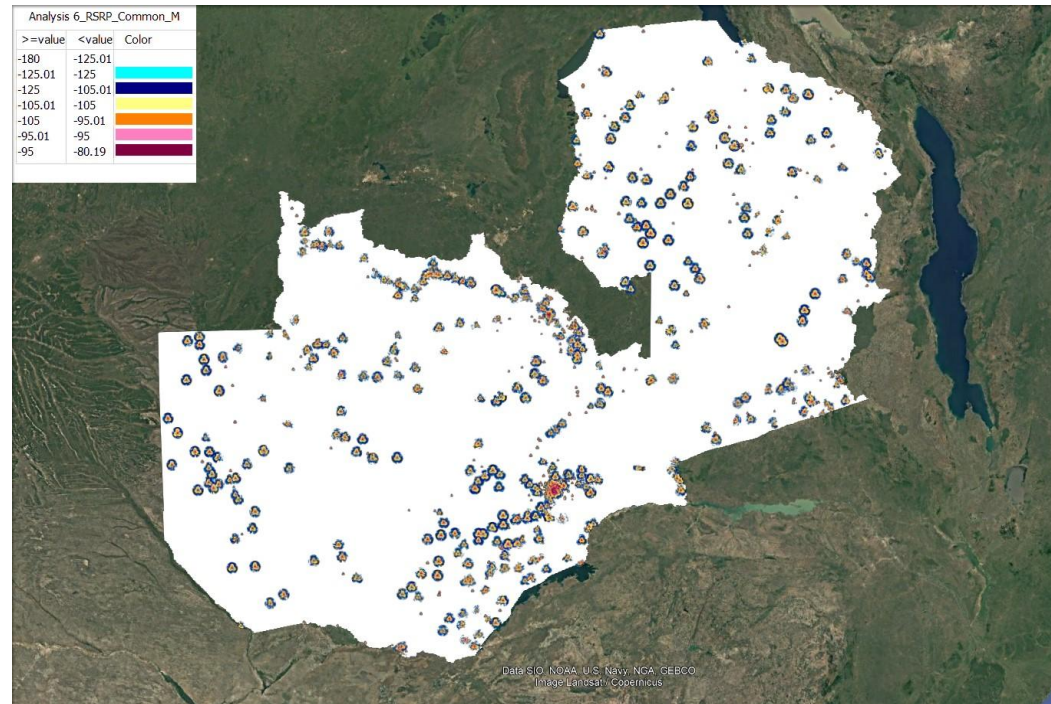


Zamtel Network at a Glance

- Presence across all 10 provinces
- 1,826+ active network sites (multi-technology)

Population Coverage:

2G: 90.2% | 3G: 53.3% | 4G/LTE: 65.5%



LTE Infrastructure

- 1,175 LTE sites on national fibre backbone

LTE is now the primary data access layer for Zambian subscribers

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QoS KPI Dashboard

Q1 2026 Performance against ZICTA Quality of Service benchmarks. Data reflects network-wide averages.



98.09%

CALL SETUP SUCCESS

Exceeds ZICTA benchmark due to Consistent improvement across voice services.



0.83%

CALL DROP RATE

Below ZICTA threshold of not more than 2%.



Grid: 98.57%
Solar: 90.64%

LTE AVAILABILITY

Network uptime target met. 24/7 NOC monitoring ensures rapid fault resolution.



16.93 Mbps

LTE DL THROUGHPUT

Average download speed. Peak speeds exceeding 20 Mbps in urban LTE zones.

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QoS Achievements

Measurable Improvements in Network Performance

✓ KEY MILESTONES



Call Setup Success Rate at 98.09%, exceeding ZICTA benchmark



✓ ACHIEVEMENTS

LTE rollout reduced legacy 3G congestion, improving user experience across urban and peri-urban areas



Call Drop Rate reduced to 0.83%, well below the 2% ZICTA threshold



Spectrum refarming added 1800MHz band on congested G900-only sites, increasing traffic channel capacity



LTE availability at 98.57% on grid and 90.64% on solar-powered sites



24/7 NOC monitoring with improved fault management achieving rapid resolution times

QoS and QoE Challenges and Operational Responses

Ongoing Quality of Service and Quality of Experience Framework

⚠ CHALLENGE



Congestion on 2G/3G traffic channels



✓ OUR RESPONSE

Timely optimization and phased spectrum refarming at high-traffic sites, including the addition of the 1800MHz and 2100MHz bands on congested G900/U2100-only sites to increase traffic channel capacity and improve network performance



Customer complaints related to poor QoS and QoE



Quarterly drive tests and targeted optimization activities in affected areas to improve network performance and customer experience



High call and service drop rates



24/7 Network Operations Center (NOC) monitoring and improved fault management processes to support faster issue resolution and enhanced network reliability



Low subscriber attachment to 4G services



Consistent TAC/LAC harmonization and ongoing optimization exercises to improve network efficiency, mobility management, and overall customer experience



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Many of these QoS challenges were compounded by Zambia's prolonged national energy crisis (Feb 2024 – Nov 2025), detailed in the following slides.

Power Crisis & Resilience Response

Engineering-led interventions during Zambia's prolonged energy crisis (Feb 2024 – Nov 2025)

⚠️ LOADSHEDDING IMPACT



Up to 14 hours daily loadshedding causing tower power instability across 1,822+ sites nationwide



✓ HOW WE RESOLVED IT

IHS Power Colocation Project: 323 sites connected to more stable power through IHS infrastructure, significantly reducing outage duration during loadshedding periods



Transmission route failures from grid instability impacting inter-site connectivity and backhaul



Transmission rerouting to more stable routes, ensuring site uptime during loadshedding. Crisis ended mid-December 2025 with grid recovery



Backup battery degradation on critical hub and aggregation sites, reducing autonomy below design limits



Restoration efforts prioritised 10 critical diesel generator (DG) sites nationwide, complemented by intensified refuelling at high-priority locations to stabilise uptime. In parallel, Zamtel commenced the procurement and rollout of solar power solutions across 10 key hub sites, reducing reliance on diesel and improving energy resilience. Additionally, the ongoing Infratel project is deploying battery backup systems to 105 and 444 rural sites, significantly extending power autonomy and strengthening overall service continuity.

Strategic Outlook (2026)

Concrete Targets for Network Transformation

✓ STRATEGIC PRIORITIES

- 2025 Network upgrade Phase delivered 610 new 4G sites, expanding network reach and significantly enhancing service availability and user experience nationwide.
- 5G network deployment.
- Low-band spectrum expansion 700 MHz targeting more population coverage in rural areas
- Solar Projects: Hybrid solar-lithium deployment at critical sites, targeting reduction in grid dependency
- Supplier Partnerships: strategic partners agreements in progress to scale power stabilisation nationwide
- National fibre backbone densification to support high data speeds and LTE/5G throughputs
- Alignment with Zambia Digital Transformation Strategy and Smart Zambia Institute Master Plan

Thank You



create your world

