

Q2 2025 UPDATE

TowerXchange's Sub-Saharan African guide

A country-by-country guide to the
Sub-Saharan African tower industry

Introduction

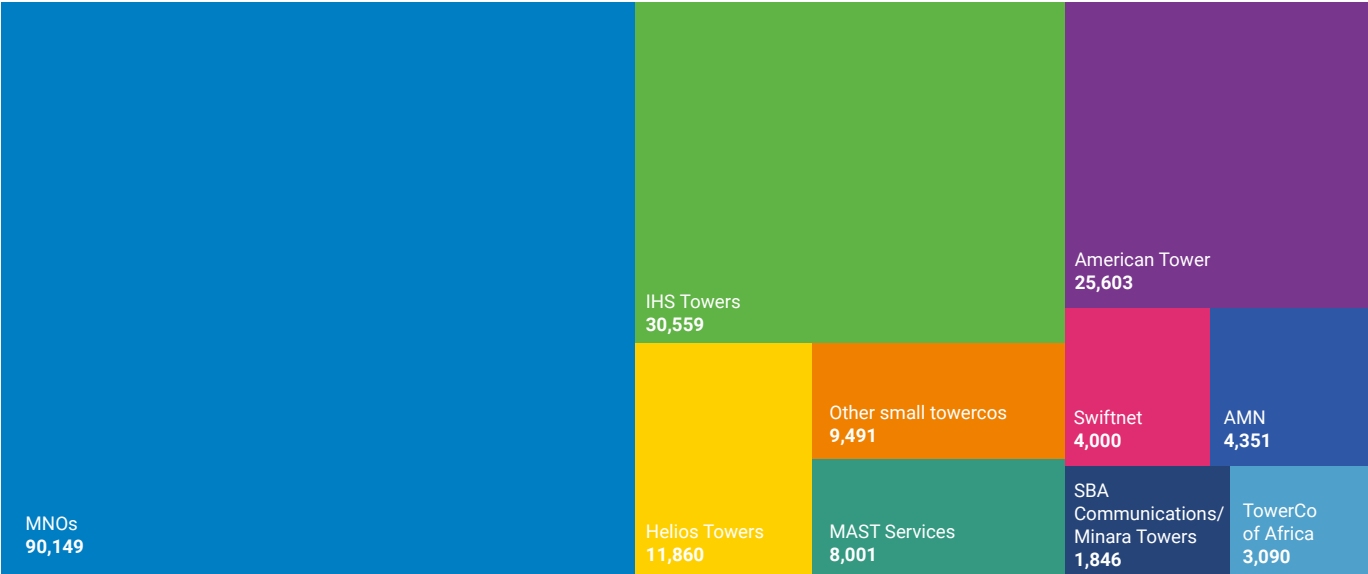
2025 sees the continuation of a conservative approach to towerco strategy, focusing on increasing co-locations, strategic build-to-suit, and driving operational efficiencies. In their end-of-year financial results, American Tower, Helios Towers and IHS Towers all expressed commitment to focusing on colocations and expanding partnerships with blue-chip operators.

Helios Towers closed 2024 returning to 2.0x after dipping below 2.0x following its acquisition spree in 2022. IHS Towers has pushed their tenancy ratio above the 1.5x mark, hitting 1.51x. American Tower does not publish its tenancy ratios, but reported over 80% of new site tenant billings coming from Africa & APAC in 2024.

In addition to tenancy growth, American Tower has also renewed its tower lease agreement with Airtel Africa for a 12-year extension of around 7,100 sites across Nigeria, Uganda, Kenya and Niger.

Outside the big three international towercos, other players have also been expanding their tenancies. Vodacom carve-out MAST Services, having now largely completed its initial operational and technical framework after 28 RFPs, has begun bidding for MTN tenancies in earnest. Swiftnet, having completed its acquisition from Telkom by Actis, is now gearing up for a similar process

Figure 1: Breakdown of ownership of Africa's 188,000 telecom towers



to win new tenancies. Other towercos such as Infratel, Minara Towers and TowerCo of Africa are also expanding partnerships beyond their anchor tenants.

Tenancy ratio expansion has become a key KPI for assessing growth and performance, as Africa's once highly active build-to-suit market has yet to return to pre-COVID levels. There are some exceptions; Tanzania has become one of Africa's busiest tower markets driven by

intense competition between its three leading operators. Kenya also continues to see steady rollout driven by market demand from Safaricom, Airtel Kenya and Jamii.

Nigeria has seen consistent organic growth despite volatile macroeconomic conditions, but a recovery period spurred on by the regulators decision to increase tariffs by 50% for the first time in 12 years, and as part of this a heavy focus on quality of service, is breathing life into



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a deeply distressed telco sector. The government has announced a new public-private partnership including the investment and co-ownership of 7,000 new towers.

The MTN-Airtel-IHS three-way lease renewal has also seen some progress. This comes after MTN Group originally declined to renew 2,500 sites with IHS Towers, instead turning to American Tower, which was since revised to split these leases between both towercos: American Tower hosting MTN on 2,100 new sites while IHS retains 1,430. After some stalling of discussions post-announcement, American Tower has seen a healthy number of tenancies from MTN with an expectation of relocating all equipment by H2 2025.

Two of Africa's once busiest tower markets, South Africa and the DRC, have fared differently. The former remains Africa's most competitive tower market, with a recorded 38 towercos present, but mobile operator network expansion spending has not returned despite the recovery of South Africa's grid. In 2023, grid utility company ESKOM saw a rapid decline in its ability to meet demand, leading to heavy loadshedding. As a result, mobile operators scrambled to redirect capital from rollout to resiliency, and towercos were driven into power-as-a-service. After a liberalisation of the grid to allow independent power producers, and several new power plants coming online, mobile operators haven't yet returned their investment levels in network rollout to what they were.

Africa's M&A landscape has remained conservative since the last wave of sale leasebacks completed in 2022. In 2023, Vodacom South Africa carved out MAST Services, in 2024 Actis acquired Swiftnet from Telkom. However, Africa might be on the cusp of a new round of acquisitions. The latest deal to surface is Paradigm Tower Ventures' acquisition of IHS Rwanda, which was part of a rumored sale driven by IHS Towers' need to raise capital and exit smaller markets.

A familiar name, Paradigm Tower Ventures, previously Paradigm Infrastructure, had acquired Airtel Tanzania's tower portfolio in a joint venture with SBA Communications under Minara Towers. While not confirmed, it is expected that Paradigm will sell its stake in Minara to SBA Communications (who have a right of first refusal).

Alongside Rwanda, IHS Towers was rumored to be exploring a sale of Zambia as well. JP Morgan is understood to be the mediator of this deal, and while nothing has been made public, TowerXchange is aware that Zambian towerco Infratel is considering making a formal inquiry.

The sale of both Rwanda (and potentially Zambia), in addition to previous sales of their Kuwait portfolio to TASC Towers, will allow IHS Towers to focus on its core markets; namely Nigeria, South Africa and Brazil. The towerco also secured a US\$1.2bn bond issuance, widely seen as a surprising success and an indication

that despite tough market conditions, investors continue to see value in both IHS Towers and emerging market towercos. The funds will enable IHS Towers to refinance some of its near-term debt and lengthen its debt maturity profile, as well as support organic growth.

There are also rumblings of potential future deals on the horizon. With MAST Services operationally active in South Africa, Vodacom is exploring options for its remaining African portfolio. In the DRC, Vodacom and Orange have announced a joint-venture rural towerco to deploy and operate rural towers in a bid to make geographic coverage more economically viable for both operators.

In Lesotho, TowerXchange is aware of an ongoing inquiry into the acquisition of Vodacom's 500 tower portfolio, although there has been no confirmation of sale. Vodacom also operate towers in Ghana, Mozambique, and a large portfolio of sites in Egypt after Vodafone Egypt was transferred to Vodacom.

Safaricom, part-owned by Vodacom and the Kenyan government, has also been reviewing its towers in Kenya and Ethiopia. Safaricom continues to lobby the Ethiopian government to license towercos and assist the operator with its ongoing network rollout, while in Kenya corporation tax frameworks have proven to be the leading barrier to any carve-out.

Orange still retains the majority of its tower portfolio in Africa and has hinted at a deal for some time. Most

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recently, in a press release announcing a partnership between Orange Middle East and Africa and the International Finance Corporation (IFC), “various telecom infrastructure construction and deployment projects (towers, fiber, etc.) will be carried out in the targeted countries over the coming years”. This clue suggests we can expect to see something from Orange, albeit not in the short-term.

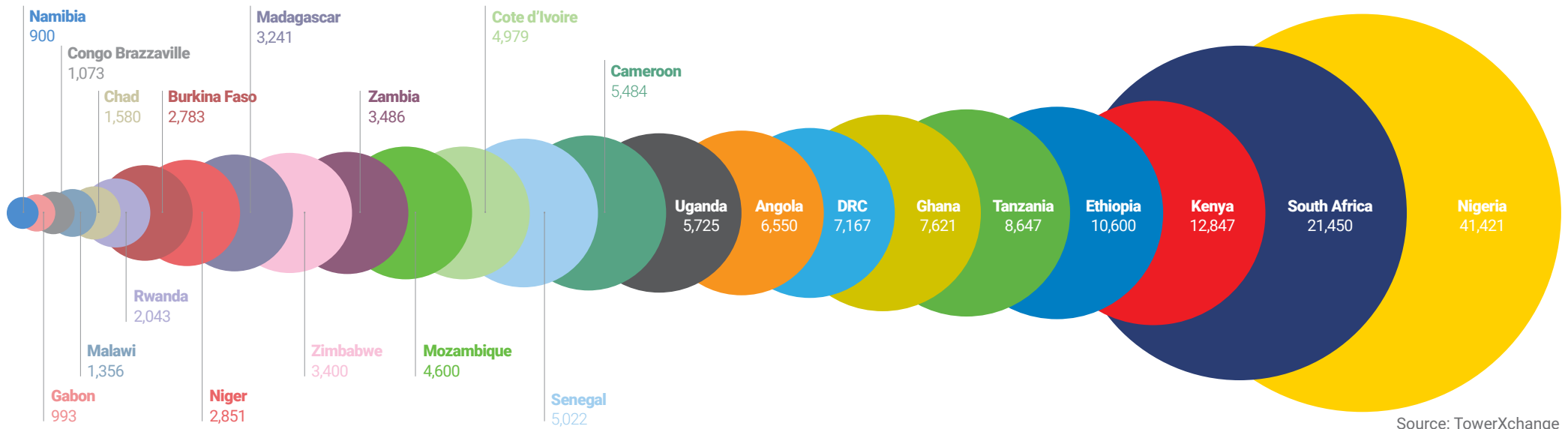
Mobile operator partnerships are also expanding outside towercos. Airtel Africa and MTN announced a collaboration of fibre and wireless infrastructure sharing

to improve network efficiency in Nigeria and Uganda, agreeing to access each other’s mobile networks over a potential RAN sharing model. Currently the deal only applies to where MTN and Airtel Africa have overlapping markets, but further deals in Congo-Brazzaville, Rwanda and Zambia are being explored. Both operators have also commented that they remain open to collaborating with other operators across all of their markets.

Africa’s Energy Service Companies (ESCOs) have also seen growth. Communication & Renewable Energy Infrastructure (CREI) signed partnerships with MTN

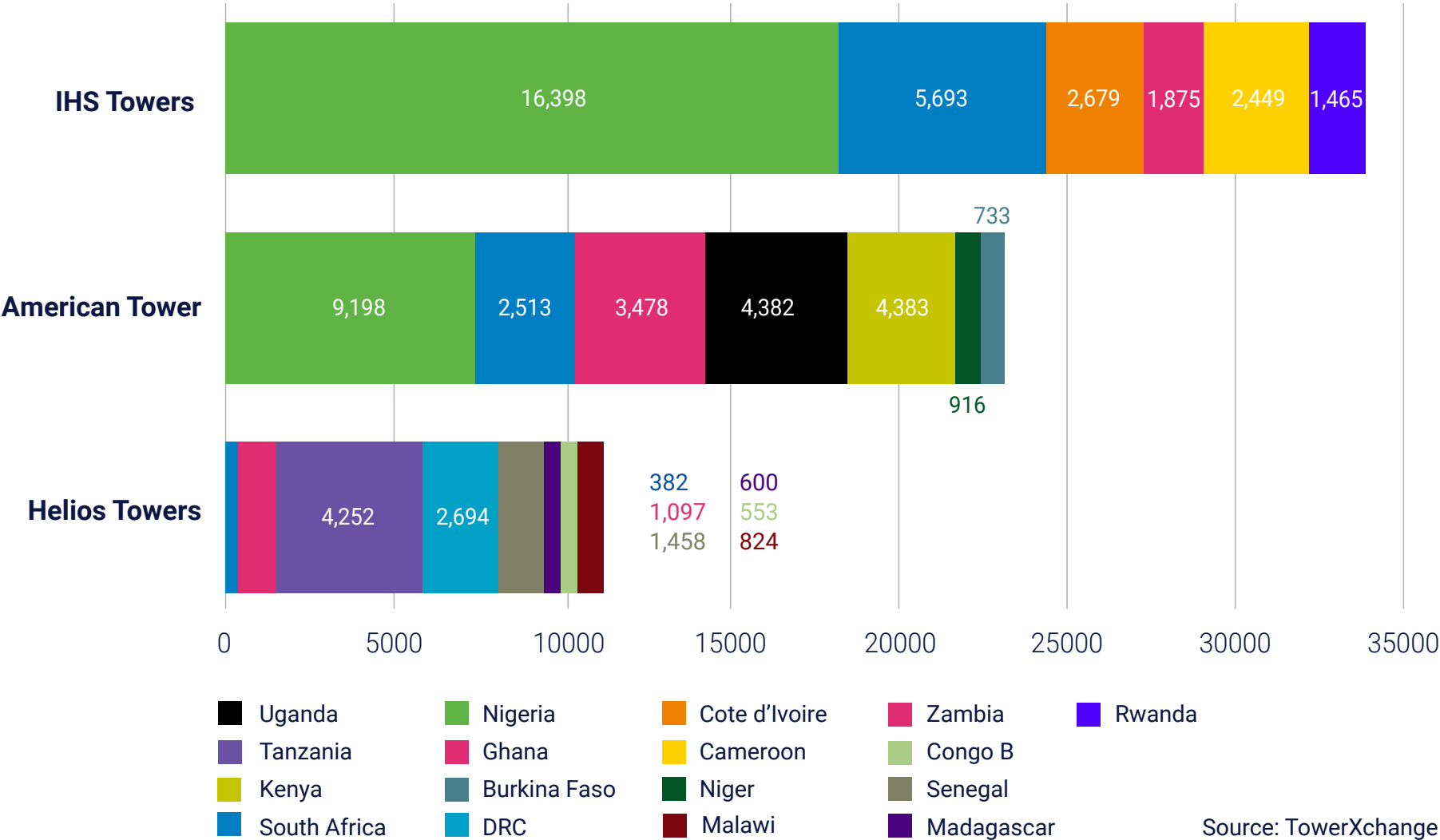
South Sudan and received US\$16mn in investment from Norfund to deploy ESCO service to 2,876 towers in Mali. While no further deals have been made public, TowerXchange understands that there are several ongoing ESCO RFPs and discussions taking place.

Figure 2: Estimated tower counts for selected countries in SSA



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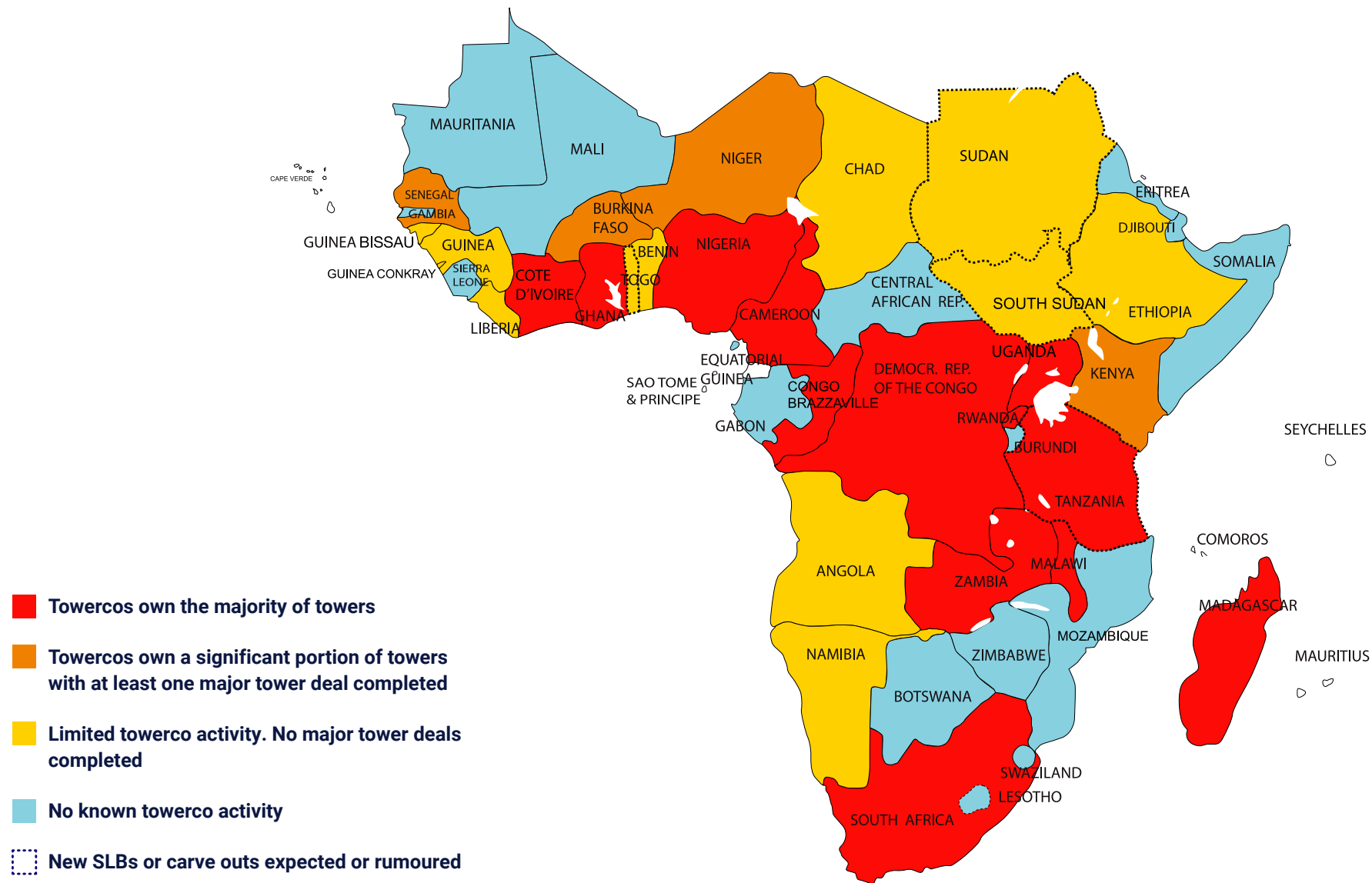
Figure 3: Tower ownership by Africa’s three largest independent towercos



Source: TowerXchange



Figure 4: TowerXchange SSA towerco activity and tower transaction heatmap



Source: TowerXchange

Figure 5a: Multi-country towerco footprints in sub-Saharan Africa

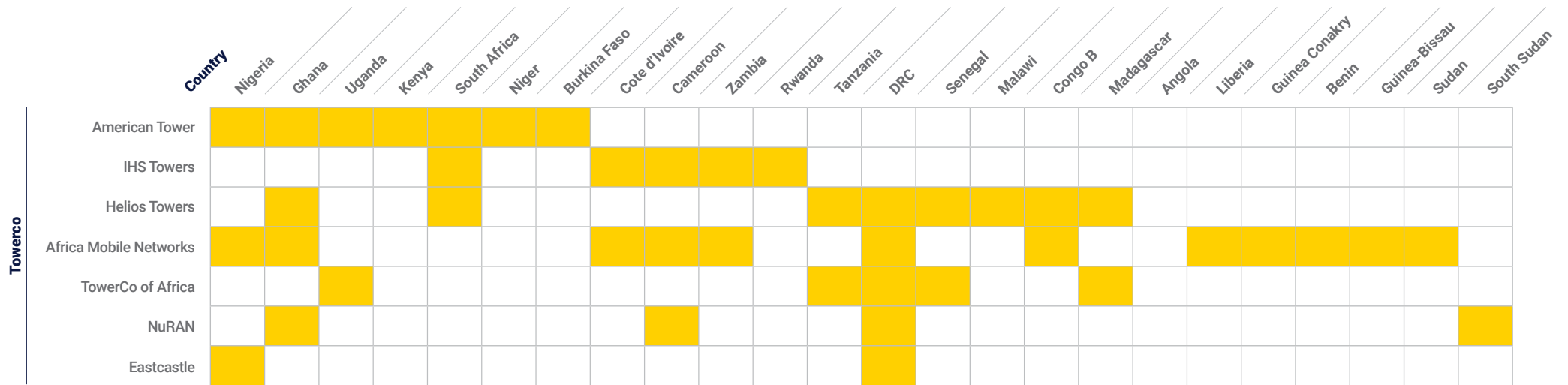
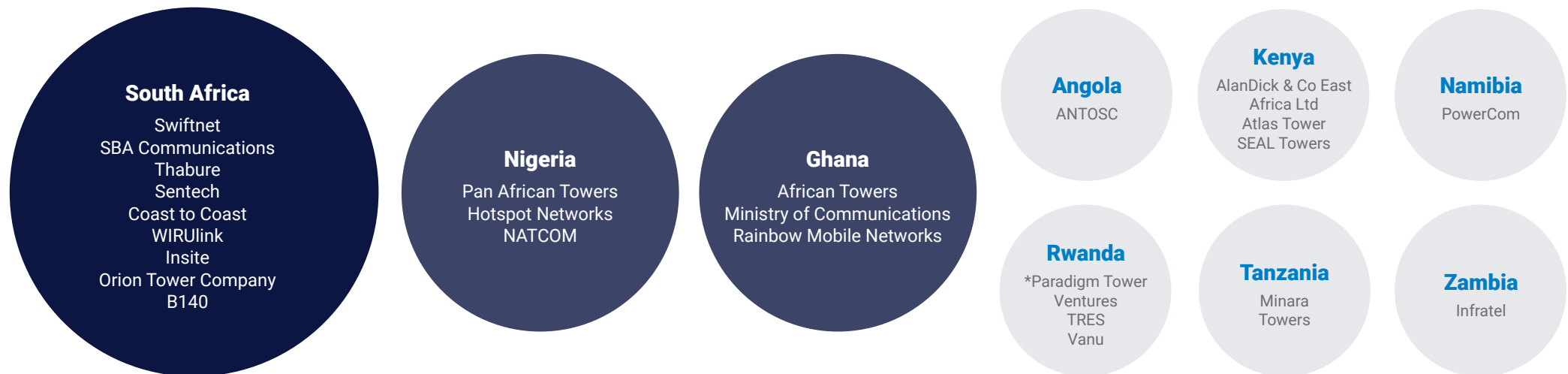


Figure 5b: Single-country towercos



Source: TowerXchange

* IHS Towers sale to Paradigm Tower Ventures pending completion

Figure 6: ESCO markets and global footprint ESCO markets and global footprint

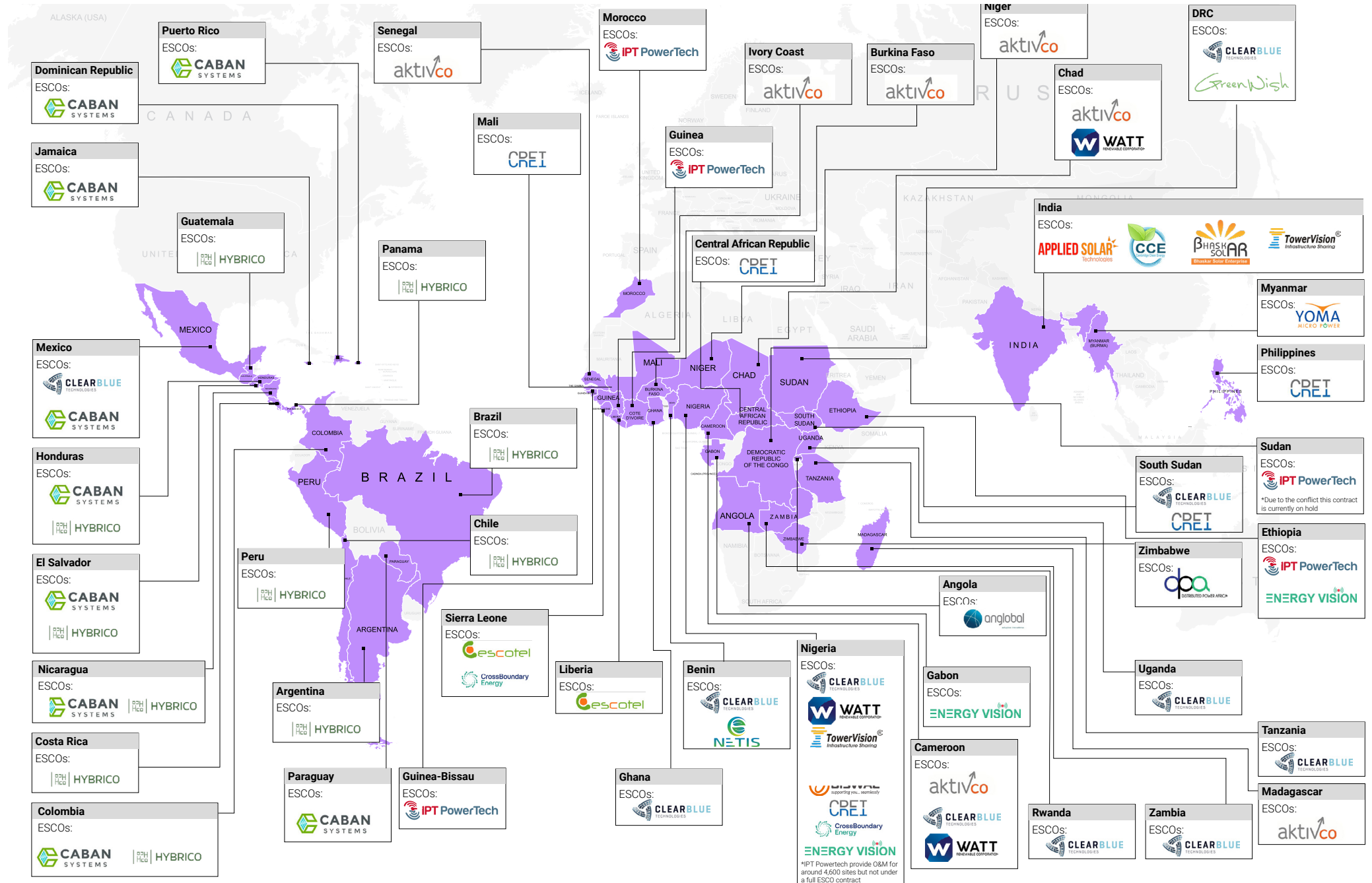
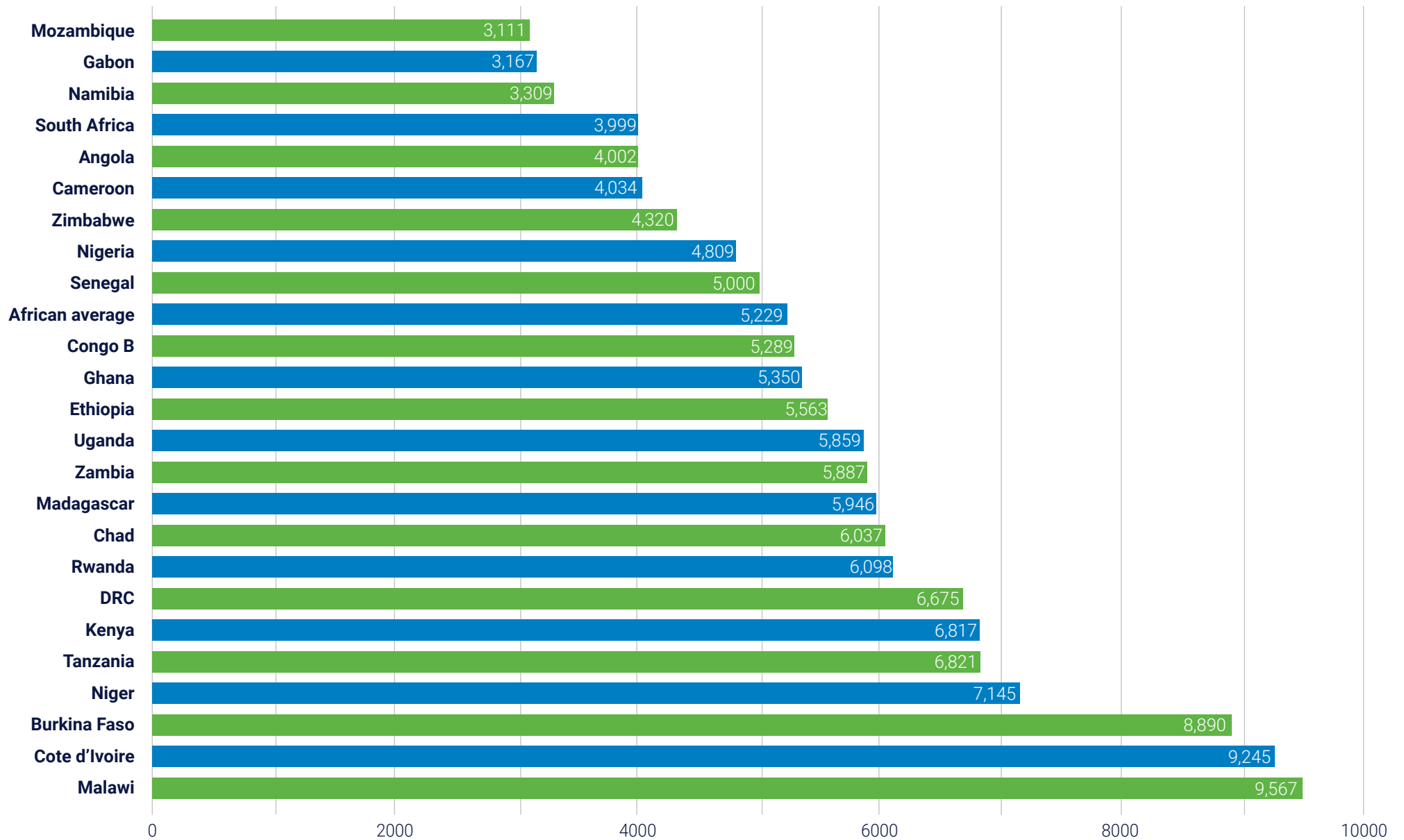


**Figure 7:** SIMs per tower in Africa

Source: TowerXchange



Angola

**Towers:**

6,550

**Population:**

(mn):

34,503.77

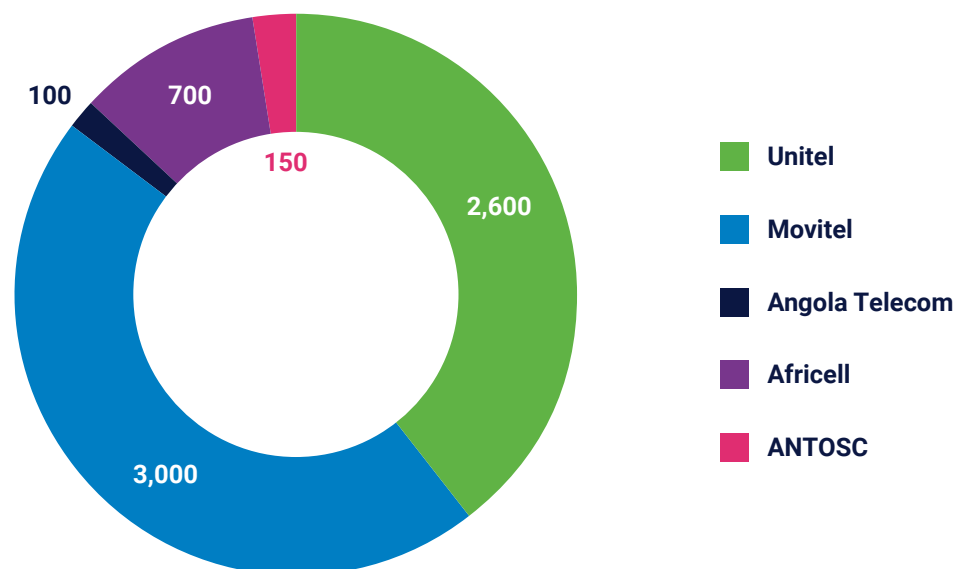
**Subscribers:**

(mn):

15,327.86

SIMs per tower: 4,002**SIM penetration:** 44%**MNOs:** Africell, Unitel, Movitel, Angola Telecom**Towercos:** ANTOSC**ESCOs:** Anglobal

Figure 8: Angola – estimated tower count



Source: TowerXchange

There are four MNOs active in the Angolan telecoms sector, with Africell quickly snapping up market share after launching in 2022 becoming the country's second largest operator.

Africell is competing with market-leader Unitel, which is being privatized by the Angolan government as part of a wider effort to diversify the economy away from oil. Both

Angola Telecom and Mobicel have small minority shares of the market due to ongoing capital and management process issues.

Investment in tower infrastructure is high, as Africell is expanding its network to remain competitive. Unitel missed its 2024 deadline to IPO, but is looking at a 2025 date to attract foreign investment and raise fresh

capital for network expansion, as well as supporting the government's privatisation plan.

Angola's ministry of telecommunications is also looking at expanding Angola Telecom's network, investing US\$188.8mn in rural expansion and working with the Angosat-2 communications satellite launched back in October 2022 to develop a shared



ANGOLA

infrastructure network for rural internet connectivity. With market competition intensifying, Unitel is upgrading and expanding its 4G network, and preparing sites for 5G implementation.

There is a nascent culture of tower sharing in Angola. ANTOSC has begun to make progress with Unitel and Africell, but state-owned Movitel's revolving door of senior executives has meant little institutional understanding of the model. At present local towerco ANTOSC's expansion is self-financing, and they are seeking US\$20-30mn in financing to enable them to expand.

Local MSP Anglobal is providing ESCO services on 2,500 generators while also managing 2,000 sites under a managed services contract, although only their ESCO sites with ANTOSC are on a full energy-as-a-service model.

Multiple issues make passive infrastructure management in Angola challenging. Like other post-communist states land is officially owned by the government so local landowners often lack the required documents for tower permitting, which explains the high numbers of rooftop sites. Energy is also a challenge, both due to the high cost of imported equipment and the poor quality of the grid.

Grid availability is relatively stable and quite good in Luanda, Benguela, Lobito and Lubango, and when available is relatively cheap at 5 US cents per kilowatt hour.

However, especially in summer the grid is unreliable and back-up generators are required, genset cycling is also becoming more common. Land is scarce in Luanda so solar has seen little roll-out, although government subsidies may see uptake increase in less dense areas. Africell has installed back up gensets at most site locations, but run time is minimal



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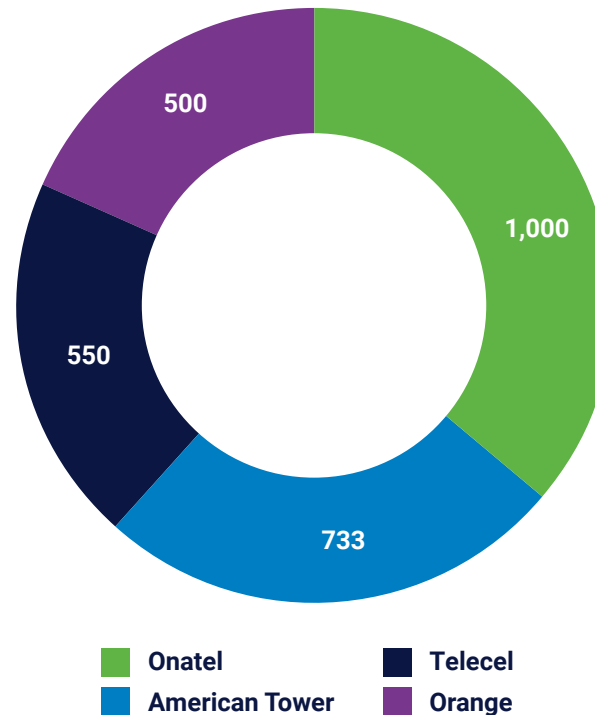
Find out more at www.towerxchangeafrica.com



Burkina Faso

Towers:	Population:	Subscribers:
2,783	(mn): 22,100.68	(mn): 24,678.31
SIMs per tower: 8,890		SIM penetration: 112%
MNOs: Onatel, Orange, Telecel		
Towercos: American Tower, Vanu		
ESCOs: Aktivco		

Figure 9: Burkino Faso – estimated tower count



Source: TowerXchange

to roll out 800 additional sites to address white zones that lack sufficient network coverage.

Out of the 800 planned sites 250 will be delivered through

the PACTDIGITAL initiative, 500 financed via the Universal Service and Access Fund (FASU) and an additional 50 added as white spots are cleared, supported by FASU. This builds on a previous announcement to extend mobile and internet services to 1,000 remote areas, addressing white zones that lack access.

American Tower is the only towerco in the market, acquiring Eaton Towers in 2020 and working predominantly with Orange as the anchor tenant. Network-as-a-Service provider Vanu is also working with Orange to deploy rural telecom sites, of which 170 have been contracted. American Tower has been mostly focusing on build-to-suit as well as upgrading energy systems providing power-as-service having taken over energy equipment from Airtel. Orange also reports that it leases space on just over 100 towers owned by the other MNOs whilst retaining a portfolio of around 300 sites. In July 2018, Orange signed a ten-year ESCO agreement with Camusat's Aktivco, and whilst the number of sites this covers has not been disclosed, TowerXchange estimate this to be around 500, including some organic growth delivered by Camusat.

The government has launched plans to deploy new sites to cover 1,700 identified white zones which MNOs have not covered due to lack of profitability, driven by a CFA 6.2bn (US\$10.47mn) investment from Burkina Faso's Universal Access and Service Fund.



Cameroon

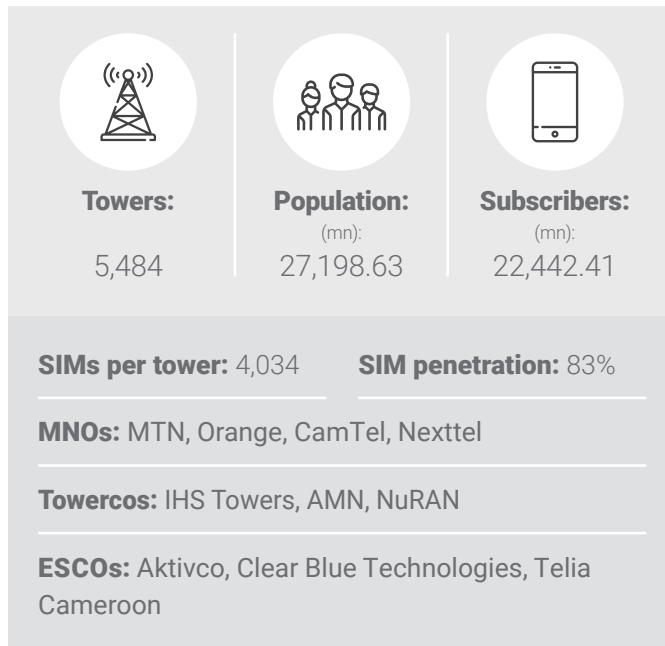
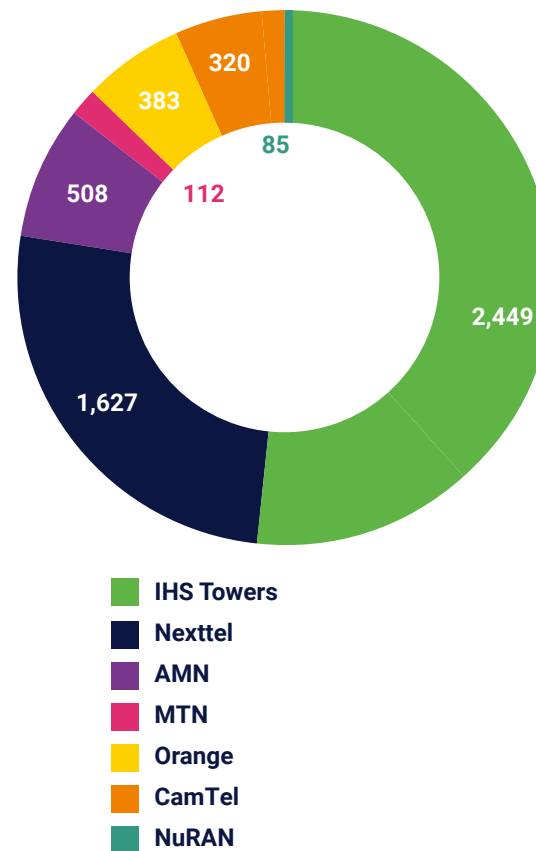


Figure 10: Cameroon – estimated tower count



Source: TowerXchange

There are four MNOs in Cameroon; MTN, Orange, state-owned CamTel and Viettel-owned Nexttel, which has been looking for new investors for some time. IHS Towers is the sole towerco in Cameroon having acquired sites from MTN and entered a management contract with Orange. IHS has also resigned with MTN Cameroon for another 10 years and has used their local opco to shift some of their US\$ debt into local currency with a better interest rate.

Co-location rates in Cameroon are quite low, although government pressure on MNOs to share infrastructure has helped IHS tenant CamTel on some of their sites. MTN has committed US\$250mn into network upgrades to increase their market share from 37% to over 40%, mostly in renewing, modernising and extending their network.

Cameroon has a massive coverage shortage, with less than 50% of the territory having mobile access. All four of Cameroon's MNOs have been fined a total of US\$8.8mn in poor service quality. Previous protests from unsatisfied subscribers had pushed MTN and Orange to accelerate network upgrades, and now all four MNOs have brought their network upgrade plans for 2023 forward.

The regulator has been putting pressure on MNOs to increase network coverage and improve service quality and face massive fines if they fail to meet these requirements. Both AMN and NuRAN have contracts with Orange to support rural infrastructure needs, with NuRAN also working as a local delivery partner for MSP NETIS.

In the capital Yaounde grid availability is around 75%, but there is a significant decline in uptime during the dry season between January and June. Cameroon



CAMEROON

relies on hydroelectric dams to provide grid power, so loadshedding can be as high as 90% in some areas during the dry season. However, the recently constructed Nachtigal hydropower plant has started supplying energy into the grid and is expected to become fully operational by end of 2024..

Despite IHS having nearly all of their sites on-grid, the towerco has invested heavily in on-site energy typologies including solar hybrid solutions. Cameroon

was identified as one of IHS Towers' key markets for Project Green, the company's carbon reduction roadmap, which commits US\$214mn to reduce emissions and maximize energy savings.

MTN's sites are managed internally, but Orange's sites are managed by its ESCO partner, Camusat's Aktivco. Camtel has been relatively stagnant in the market. ESCO Clear Blue Technologies International have started deploying their smart off-grid power solution

for Telia Cameroon as part of its rollout for MTN. IHS Towers have been working with Orange and MTN on a new inbuilding project, having surveyed 5 sites at Douala International Airport to assess coverage levels.

IHS is also working on a small cell project, as some areas in Yaonde suffer from capacity constraints, and are working on a 4G small cell PoC with MTN and Orange. IHS Towers are also interested in exploring fibre provision, but currently fibre rollout is monopolised by Camtel.



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Chad

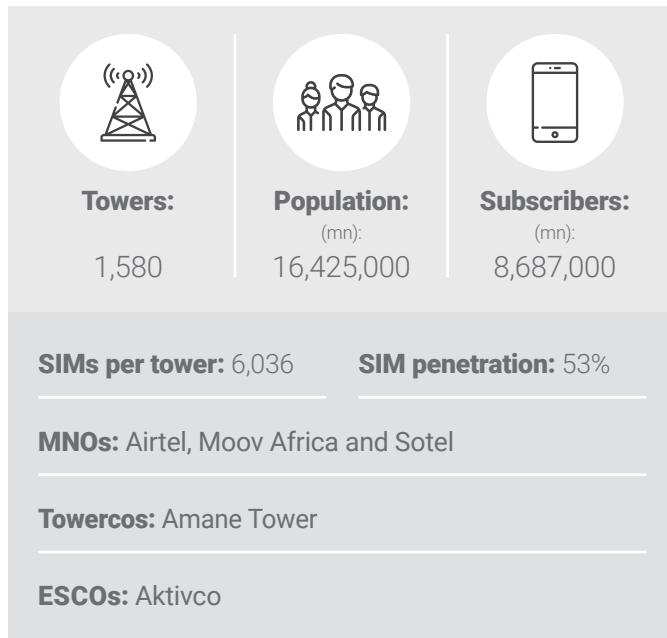
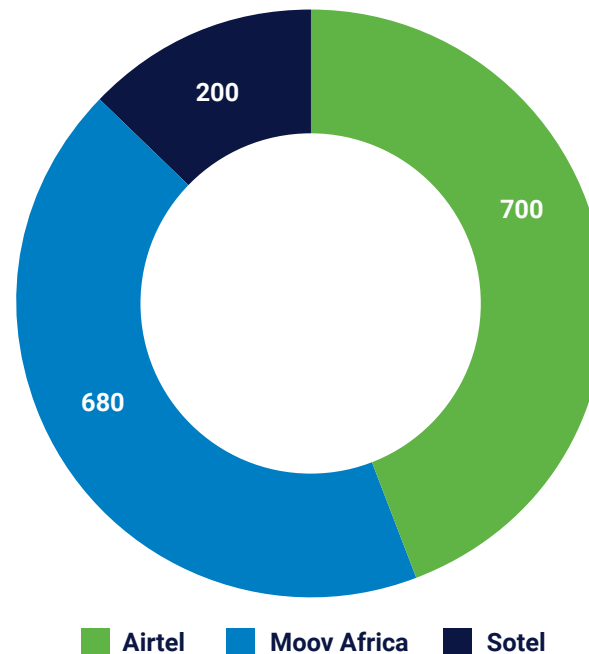


Figure 11: Chad– estimated tower count



Source: TowerXchange

plans to buy towers in Malawi, Madagascar and Gabon. However, the deal was allowed to lapse due to regulatory difficulties in the market. Only one towerco licence has been issued in Chad, to Amane Towers, and Helios Towers was not able to secure another licence.

This is the second time Helios Towers has abandoned plans to purchase towers in Chad following the withdrawal of the last potential deal in 2015.

MNO network expansion has been very limited due to the high rate of fines imposed on operators as a result of poor coverage, totalling US\$12mn, with MNOs being unable to meet their mandated SLAs.

BTS is very limited, with Amane Towers delivering around 50-100 new sites and Airtel commissioning 250 rural towers by 2024. The regulator is issuing coverage obligations fines to operators in Chad which is leading to an increase in the construction of new sites to increase population and geographic coverage.

Chad has one the lowest electricity access rates in the world at just 6.4%. The government, with funding from the World Bank, hopes to achieve 53% access by 2023, but the vast majority of sites remain off-grid. Amane Towers is working on an ESCO deal with Airtel Chad to provide a 100% solarized network on 1,000 sites over 5 years, with the potential to extend into a full sale leaseback in future.

There are three MNOs (Airtel, Maroc Telecom and Sotel) and approximately 1,500 towers in Chad, a country where just 26% of its geography has mobile coverage, 65% population coverage and mobile penetration under 50%.

Tigo sold their Opco to Maroc Telecom in July 2019. Plans by Helios Towers to acquire Airtel's 539 towers were announced at the end of March 2021, alongside



Congo Brazzaville

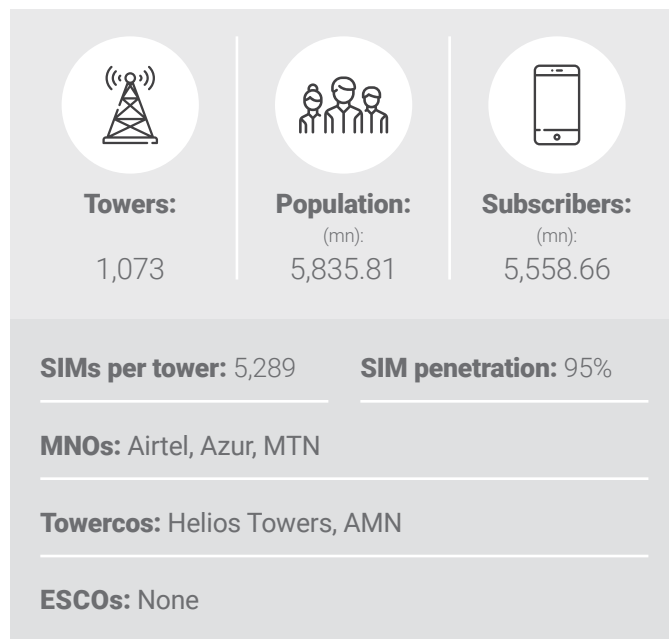
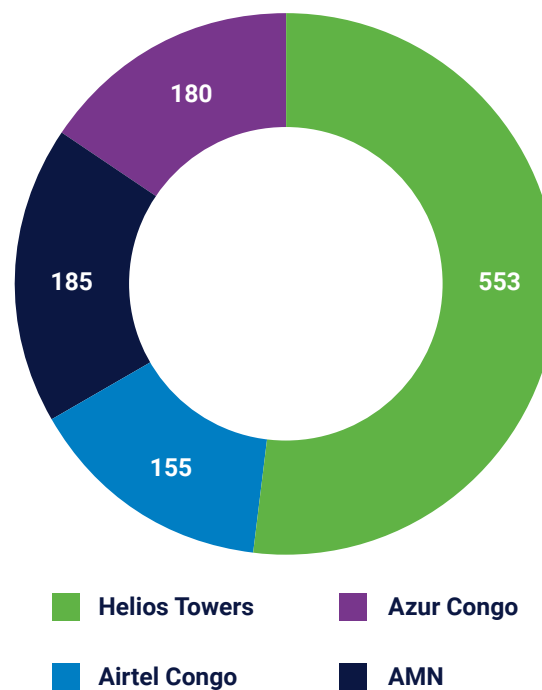


Figure 12: Congo Brazzaville – estimated tower count



Source: TowerXchange

traffic driven largely by end-use digital activity as well as increasing adoption of digital services by government and enterprise. This has been driven by Congo Digital

2025 launched in 2019 which has been pushing investment in telecom infrastructure and supported by a US\$100mn World Bank loan to increase internet access and digital acceleration.

Helios Towers is the sole traditional towerco in Congo Brazzaville, having acquired Airtel's 384 towers and built more since. Around half of Helios' sites are reported to be off-grid, with power availability of on-grid sites averaging 15 hours a day. A rural specialist towerco, AMN, has built 60 low-cost rural sites for MTN. MTN explored an ESCO RFP for their sites in the country but have pulled the RFP with the intention to relaunch it at a later date.

Intelsat is working with Vodacom to provide satellite backhaul as part of Vodacom's Rural Communication Solution initiative: RCS looks to combine available transport networks and hybrid power solutions.

MTN Congo has launched the country's first 5G pilot in collaboration with ZTE in preparation for the launch of commercial 5G. Demands for high-speed connectivity have been growing and the government is keen to accelerate connectivity, offering operators a technologically neutral licence for cellular mobile networks.

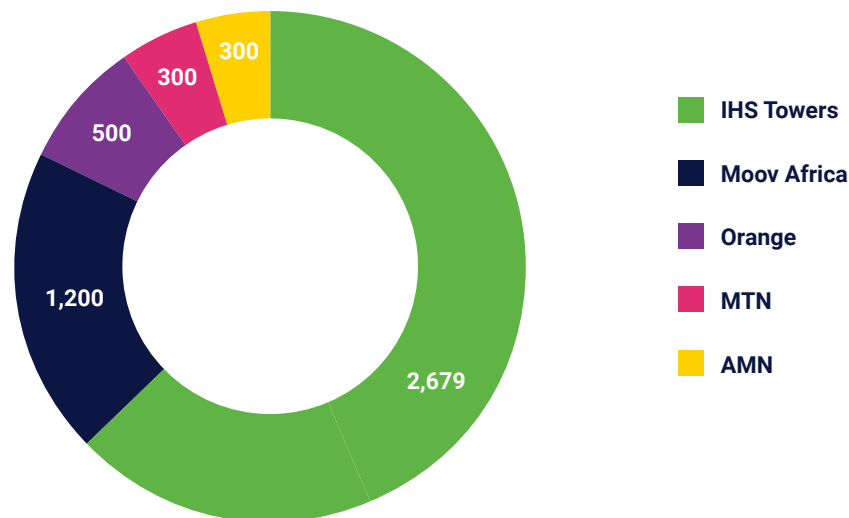
There are three mobile network operators in Congo Brazzaville, all of which are backed by regional players. MTN Congo and Airtel Congo compete with the much smaller Bintel-owned Equateur Télécom (trading as Azur Congo).

Mobile and internet growth has been growing exponentially, with mobile internet subscribers having grown 61% over the last 5 years from 2.1mn to 3.4mn according to ARPCE, as well as 337% boost in data

Cote d'Ivoire

		
Towers:	Population:	Subscribers:
4,979	(mn): 27,478.25	(mn): 44,561.50
SIMs per tower: 9,245		
SIM penetration: 162%		
MNOs: Moov, MTN, Orange		
Towercos: IHS Towers, AMN, Vanu, NuRAN		
ESCOs: Aktivco		

Figure 13: Cote d'Ivoire – estimated tower count



Source: TowerXchange

IHS Towers own or manage over half the sites in the country, having acquired sites from MTN and entered into a 15 years Manage with License to Lease (MLL) arrangement with Orange in 2013. Number three MNO, Moov still retains their tower portfolio which numbers about 1,200 sites. IHS Towers announced in August 2024 that it had completed its lease renewals in six African markets, including Cote d'Ivoire.

IHS Towers has invested substantial resources

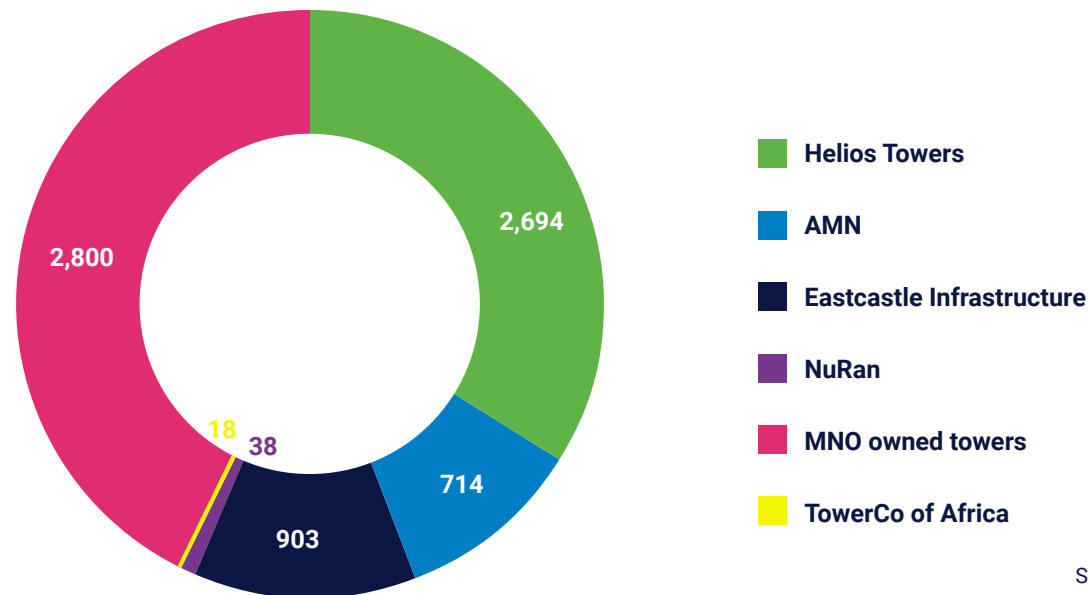
into decommissioning sites and reducing parallel infrastructure. Build-to-suit in the market has been limited with both MTN and Orange resuming site construction themselves. Camusat's Aktivco is the only ESCO active in the market working with Orange as well as rural specialist Vanu deploying and managing power for 500 rural sites by 2025, prioritising mobility and autonomous energy usage. IHS Towers is providing power-as-a-service, investing in upgrading energy equipment with over 70% of its sites now equipped with solar hybrid solutions.

Recently three rural specialists have entered the market: AMN is working with Orange and already has sites live and generating revenue. Orange has contracted with US-based wireless solutions provider Vanu to deploy 700 sites (as well as 170 in Burkina Faso and 200 in Liberia), and MTN has inked a deal with NuRAN to deploy 1,000 sites. In major cities MTN has also begun its 5G deployments.



		
Towers:	Population:	Subscribers:
7,167	(mn): 95,894.12	(mn): 40,798.40
SIMs per tower: 6,675 SIM penetration: 43%		
MNOs: Africell, Airtel, Orange, Vodacom		
Towercos: Helios Towers, Eastcastle Infrastructure, AMN, NuRAN, TowerCo of Africa		
ESCOs: None		

Figure 14: DRC – estimated tower count



Source: TowerXchange

There are four MNOs in the DRC with Orange, Airtel and Vodacom all having around 30% market share each, and Africell at 10% but growing. Despite the extremely challenging operating environment, the DRC has become one of the most active tower markets in Africa due to the huge demand for new infrastructure. Mobile penetration sits at just 54.9% and subscribers are projects to grow from 56mn in 2023 to 99mn by

2033, mostly by low-cost data packages and mobile money services. Low tower penetration, three financially healthy and active MNOs, and plenty of room for scale has made the market very competitive.

Helios Towers has three new competitors in what was once a single market towerco; Eastcastle Infrastructure entered in 2022 and has become highly active deploying

over 800 towers in around two years, TowerCo of Africa has now set up its licensing framework and is bidding for new tower contracts, and rural specialists AMN and NuRAN have a combined contract pipeline of 2,500 sites to deploy for Orange. Standard Telecom, a local ISP and fibre, own 23 large broadcast towers.

While hungry for new infrastructure, there has been



recent tension between MNOs and the DRC government, who is pushing operators to pay an extra US\$585mn through to 2030, which will have an impact on capex budgets for further infrastructure rollout.

Orange and Vodacom have announced the formation of a new joint-venture towerco to build, own and operate rural sites, of which 2,000 are planned to be built over the next 6 years. The deal does not seem to include existing towers, only a commitment to share ownership and management of new rural sites to make remote coverage expansion more cost-effective. It is not clear how much

competition this would be for the DRC's towercos, but it will likely be disruptive to the rural network-as-a-service providers active in the market; AMN and NuRAN.

The DRC's huge geographic size and lack of underlying transportation infrastructure makes it one of the world's most challenging markets to operate in. The local ecosystem is also underdeveloped and is largely reliant on imports for equipment.

This means that lead times are commonly over 6 months and cost of new builds are high, but rapid growth in data

consumption and a competitive market means that tenancy revenues are high. There is also a lack of local talent availability, and operational practices on-site are often poor.

Energy is a massive challenge in the DRC, with the national grid extending little beyond urban areas and poor underlying infrastructure stretching fuel supply chains. Solarisation has become extensive and is helping mitigate both energy costs and generator run-time. Helios Towers and Eastcastle are solarising all their sites, and TowerCo of Africa is planning 100% solar greenfield site installations.



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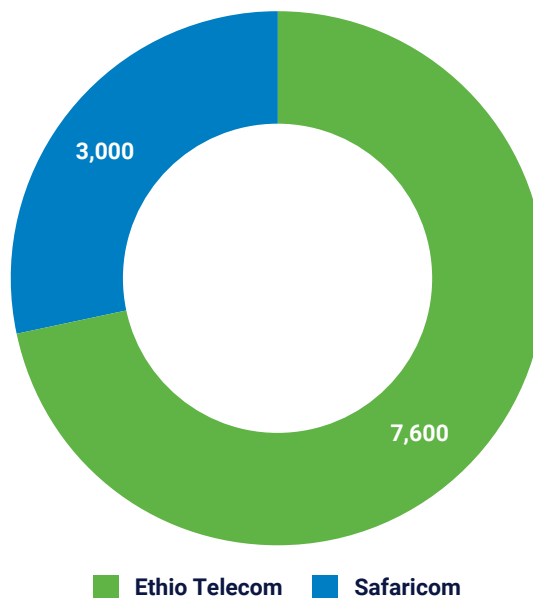
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Ethiopia

		
Towers:	Population:	Subscribers:
10,600	(mn): 120,283.03	(mn): 44,500.00
SIMs per tower: 5,563		
SIM penetration: 37%		
MNOs: Ethiotel, Safaricom Ethiopia		
Towercos: None		
ESCOs: Energy Vision, IPT Powertech		

Figure 15: Ethiopia – estimated tower count



Source: TowerXchange

After launching operations in late 2022, Safaricom Ethiopia has now established itself as a competitor to state-owned incumbent Ethiotel, although the latter still has most of the market share. Safaricom continues to invest in expanding its network infrastructure, having committed US\$3bn in the country to expand coverage. There has been some cooperation, although slow, to co-locate with Ethiotel on their sites. The regulator has implemented strict coverage obligations for both

operators that is pushing investment commitments. Ethiopia's population is large and distributed, making infrastructure sharing an effective solution to managing network costs.

However, there has so far been no licensing of independent towercos, although it is understood that

the regulator is evaluating proposals to liberalise the sector, under lobbying from Safaricom. So far, Nokia and Huawei have been managing network rollout, working with several local managed service companies. Safaricom has signed an agreement to use locally produced telecom towers with Ethiopian manufacturer Woda Metals, the country's first manufacturer of its type.

While the towerco license process develops, the government has been prioritising a sale of Ethiotel. The IPO in April received modest reaction, selling just 10% of the shares on offer for a total of US\$24.2mn compared to the US\$227mn expected. The government has also been in extended talks to license a third operator, which has not yet seen any progress. It will be important for Ethiopia to privatise the sector and attract foreign investment, including addressing fiscal challenges, to create an attractive framework for towercos to enter the market

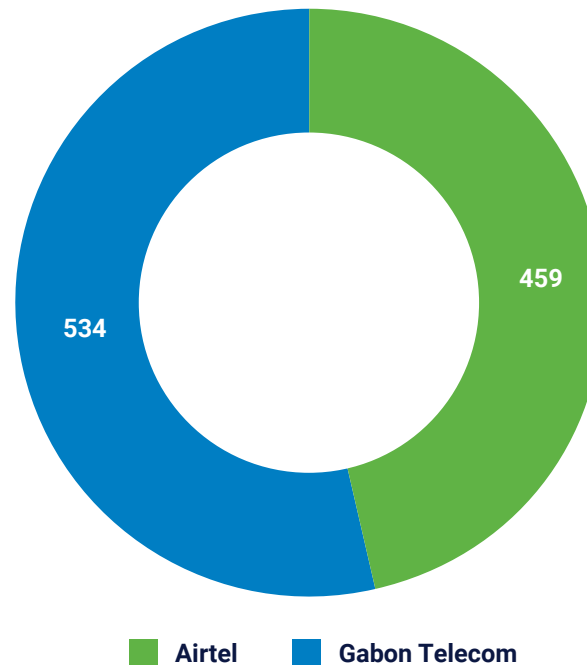
ESCOs have seen more success in Ethiopia, with Energy Vision and IPT Powertech being awarded contracts with Ethiotel. Safaricom plans to offload power to a towerco in a power-as-a-service deal as part of a sale leaseback.



Gabon

Towers:	Population:	Subscribers:
993	(mn): 2,341.18	(mn): 3,144.61
SIMs per tower: 3,167 SIM penetration: 134%		
MNOs: Airtel, Moov Africa Gabon Telecom		
Towercos: None		
ESCOs: Energy Vision		

Figure 16: Gabon – estimated tower count



Source: TowerXchange

to achieve national 4G coverage, and the World Bank has signed a US\$68.5mn loan for the Digital Gabon Project. Both MNOs are also deploying 200 rural sites in white zones for mobile and internet access.

Whilst the electricity grid in the main cities is okay, the

grid is much less extensive in more rural areas leading to 30-35% of the country's sites being off-grid. Energy Vision are providing ESCO services to Airtel on a fixed monthly price with no upfront capex and are working through recent disruption due to the coup. With the failure of Helios Towers' sale and leaseback with Airtel, Energy Vision is being allowed to manage power at more core sites.

The project encompasses a full solar hybrid system with CDC batteries and is in the process of being extended to cover 500 sites (of which 40% are off grid, 10% are on unreliable grid and 50% are on grid). Energy Vision has also been awarded responsibility for all passive elements of the sites, with a view to extend this to sites on unreliable grid. Gabon Telecom and Airtel have deployed LTE, and despite comments in 2019 by the Telecom Regulator no moves have been made to roll-out 5G. 4G coverage is still largely limited to cities with rural areas still underdeveloped. ARPU's are high for Africa, with prepaid customers at 4,903CFA (US\$9.02) and postpaid 48,650CFA (US\$89.46), although postpaid represents less than 2% of the market.

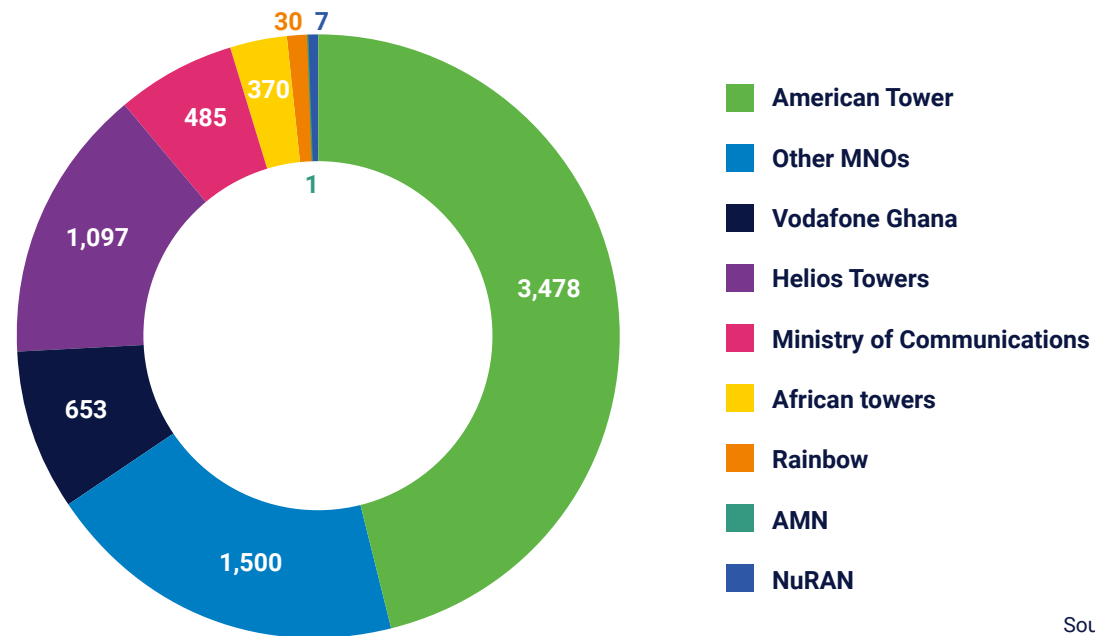
In March 2023, Helios Towers announced it was abandoning its plans to acquire 459 towers in Gabon and Airtel Gabon's commitment to 60 further BTS sites. Regulatory issues held up the deal last time around and



Ghana

		
Towers:	Population:	Subscribers:
7,621	(mn): 32,833.03	(mn): 40,454.07
SIMs per tower: 5,350 SIM penetration: 123%		
MNOs: AirtelTigo, GNIC, MTN, Vodafone		
Towercos: American Tower, Helios Towers, AMN, NuRAN, Rainbow, Ministry of Communications		
ESCOs: None		

Figure 17: Ghana – estimated tower count



Source: TowerXchange

Ghana has three MNOs, but regional giant MTN has over 75% market share there, which is raising concern from the regulator and ICT ministry who argue it is creating competition issues. Radisys (a part of Jio), owned by Indian billionaire Mukesh Ambani, is expanding into Ghana with a new Next-

Gen Infrastructure Company (NGIC) providing 5G broadband services to MNOs and ISPs, possessing the only 5G license in the country.

Vodafone has sold a 70% majority stake in Vodafone Ghana to Telecel Group and is expanding its 4G

footprint as part of a major expansion programme including 2,000 4G sites, filling in white spots and densifying existing networks. Government-owned AT (AirtelTigo) signed a joint-partnership with Hannam Investments to invest in building up the MNOs 4G network.



GHANA

New legislation is due to be introduced to push localisation of the telecom sector, promoting the utilisation of domestically produced products, services and labour while reducing dependency on international consultants and contractors seen by the Minister of ICT as unhealthy, particularly with large foreign subcontractors which have won most local contracts. American Tower has reported facing issues around rental fees for tower sites, which are impacting operations and long-term planning.

The largest share of Ghana's towers sit with American Tower, with Helios Towers owning just over 1,000 sites. There are also two local towercos, African Towers and Rainbow, as well as rural specialist AMN. The ministry of communications is also understood to own under 500 rural and strategic sites directly.

The MNO has announced the expansion of its national roaming agreement with MTN after a successful pilot in April 2022 which will now extend to nationwide coverage. MTN is investing US\$1bn in network infrastructure by 2025, with plans to deploy 4G on around 1,000 new sites by the end of 2023 as well as expanding its fibre network to increase capacity, reaching 2G, 3G and 4G coverage levels of 99.5% and 99.3%. Vodacom is also expanding its 4G footprint to 300 new sites, as well as planning the launch of 4G+.

Despite its current economic woes Ghana is one of Western Africa's more developed states and MTN has

already upgraded over 1,000 sites in preparation for 5G rollout under its Ambition 2025. However, operators are still waiting on licences and spectrum from the NCA.

Local towerco African Towers has deployed 300 organic multi-tenant sites; 50 being inbuilding solutions, 40-50 rooftop sites and 200 macro towers. The towerco grew out of deploying IBS for airports and is still focusing on the inbuilding DAS market and along transport corridors. African Tower is also deploying solar and exploring grid connections to reduce their carbon footprint.

AMN and NuRAN are both deploying rural sites on a network-as-a-service model, with small local towerco Rainbow also moving into the rural space and working on an O-RAN platform.

Helios Tower has been struggling with energy price fluctuations. While 95% of sites are on-grid with 22 hours of uptime per day, high grid energy prices has given on-site solar deployment a strong business case, and Helios Towers are looking to deploy 4-500 solar sites in 2023 to reduce grid dependency.



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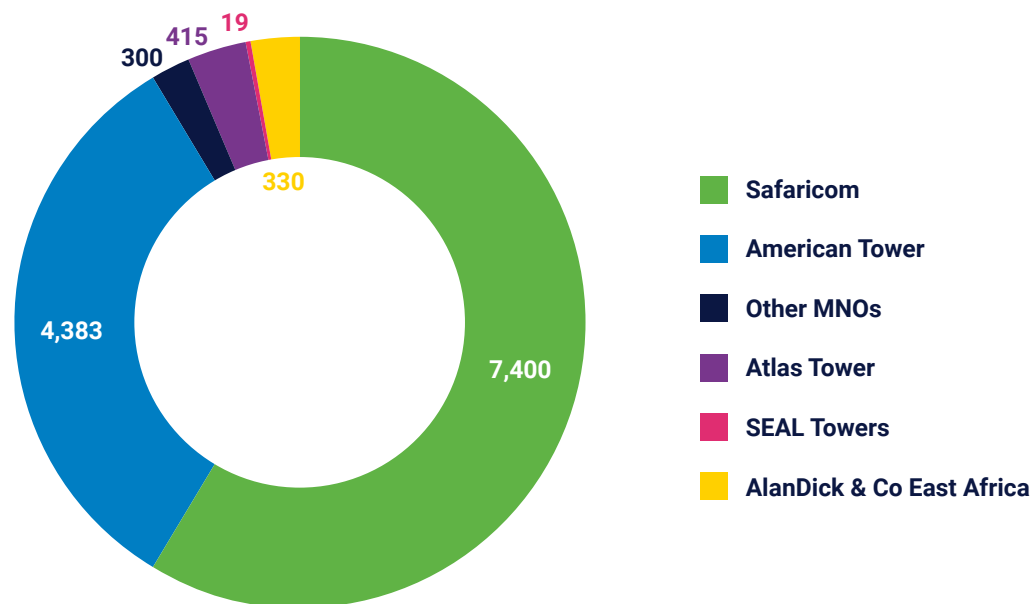
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Kenya

**Towers:**

12,847

**Population:**(mn):
53,005.61**Subscribers:**(mn):
65,085.72**SIMs per tower:** 6,817**SIM penetration:** 123%**MNOs:** Safaricom, Airtel, Telkom**Towercos:** AlanDick & Co East Africa, American Tower, Atlas Towers, SEAL Towers, Tetranet**ESCOs:** Safaricom RFP**Figure 18:** Kenya – estimated tower count

Source: TowerXchange

There are 3 MNOs operating in Kenya; market-leader Safaricom and Airtel Africa are highly active in competing for network coverage and quality. Safaricom has deployed around 1,000 new towers in the last 3 years, but Airtel has been aggressively expanding with around 1,000 new towers every year. This has generated a lot of organic building for all local towercos. Safaricom however is starting to slow

down its rollout as it's capex budget is being stretched across towers, fibre and data centres as well as growing its mobile money platform.

Safaricom continues to mull over its options to monetise their tower portfolio. Infrastructure sharing mandating from the regulator has forced Safaricom to their own towers

with Airtel and Jamii. Safaricom, joint-venture owned by Vodacom, has also seen the success of Vodacom South Africa's carve-out MAST Services. However, Kenya's tax environment makes it very challenging to deliver, due to the lost revenues in corporation tax that would occur because of a carve-out.



KENYA

State-owned Telkom Kenya however is facing competition challenges having declined in subscriber count since 2019 and has been in an ongoing payment dispute with its partner ATC Kenya, who is demand a payment of US\$3.26mn to reconnect 896 towers that have been cut off due to a failure to pay lease rates.

ATC Kenya delivers the bulk of site builds of Airtel Kenya, while smaller towercos AlanDick & Co and Atlas Towers rolling out sites for Safaricom. Nairobi's rapid urbanisation is mandating the need for 5G architecture. Safaricom is working with AlanDick & Co. East Africa to deploy a network of 150 5G small cells and rooftops and Distributed Antenna Systems (DAS) for indoor and outdoor whitespace coverage.

Local managed service provider Tetranet has recently acquired a towerco license and is now planning on shifting from O&M to tower ownership, receiving it's first contracts for new sites from Safaricom and Airtel Kenya. Tetranet's primary focus is Nairobi municipality and the co-hosting opportunities for Safaricom, Jamii and Airtel Kenya.

Kenya's energy grid is extensive, reliable and clean but is also expensive. Safaricom has been looking for an ESCO partner to help manage their energy capex and opex as well as meet ESG targets but is looking for an ESCO financing deal as the MNO wants to retain ownership of their power equipment.

Kenya is seeing a limited but sustained 5G rollout and is one of the leading 5G markets behind South Africa. Safaricom claims to have 500,000 5G users and is increasing 5G coverage, while Airtel reached 470 5G base stations by the end of 2023.

This has enabled Safaricom to achieve 5G coverage in all 39 counties through the deployment of 1,114 5G sites. However, just 15% of the population live in range of a 5G tower, and there is still huge demand for further 4G densification with 14.4% year-on-year growth in 4G devices.

Kenya's telecommunication regulators are also mandating 90% geographical coverage for MNOs and driving demand for low-cost rural solutions with the Universal Service Funds providing support to fund capex for remote site deployments which small local towerco Seal Tower has been competing for. ATC Kenya has been exploring a network-as-a-service solution to support operators with cost-effective rural coverage.

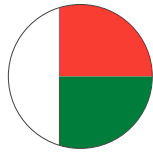


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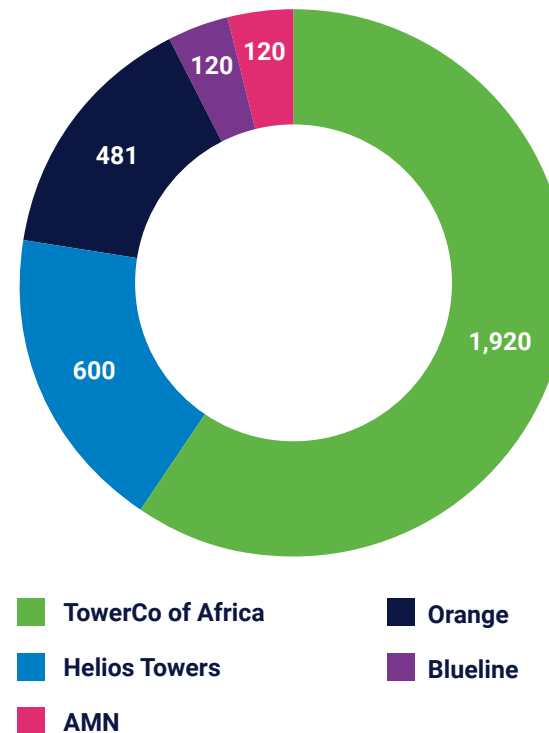
Find out more at
www.towerxchangeafrica.com



Madagascar

		
Towers:	Population:	Subscribers:
3,241	(mn): 28,915.65	(mn): 16,279.63
SIMs per tower: 5,946 SIM penetration: 56%		
MNOs: Telma, Orange, Airtel, Blueline		
Towercos: TowerCo of Madagascar, Helios Towers, AMN, NuRAN		
ESCOs: Aktivco, Confirmed or rumoured RFP		

Figure 19: Madagascar – estimated tower count



Source: TowerXchange

back wider adoption. Towerco of Madagascar (TOM) is the Madagascar operations of TowerCo of Africa, an independent tower business which AXIAN Group operates with sisters in Uganda, Tanzania and the DRC. TOM

operates over half of the sites in Madagascar. Madagascar is the first of the four Airtel markets to close its sale to Helios Towers where it acquired 490 towers, for US\$52mn, or US\$106k per tower.

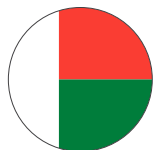
Further growth is anticipated through 135 committed build to suits over the next three years and colocation lease-up. Helios Towers inherited a tenancy ratio of 1.2x but expects increases in co-lo thanks to good relationships with Orange and Axian Group from the DRC and Senegal respectively.

Energy is a challenge in Madagascar, as around 50% of sites are off-grid with the country lacking robust energy infrastructure. Helios Towers has been connecting sites to the national grid where possible, while Camusat's ESCO Aktivco is delivering power services to 500 Orange sites. TowerCo of Africa is working with minigrid provider WeLight to identify synergies to connect towers to their minigrid networks as an anchor tenant and AMN has is piloting their own in-house minigrid solution.

Both NuRAN and AMN have signed rural network-as-a-service contracts with Orange to deploy remote sites, 1,000 in total, with AMN also working with Intelsat on their 500 sites to provide mobile broadband. The World Bank has also approved US\$400mn in credit to support the DECIM project to connect 3.4mn people to internet and energy.

Telma, Orange and Airtel operate in the Madagascar market, with Blueline the country's newest MNO specialising in LTE. Telma launched 4G operations in 2015, with Orange and Airtel following in 2017. In May 2020, Telma claimed to have completed its LTE-A rollout.

The market is still predominantly 2G/3G with limited fibre connectivity and low availability of 4G handsets holding



Malawi

**Towers:**

1,356

**Population:**

(mn):

19,889.74

**Subscribers:**

(mn):

11,940.14

SIMs per tower: 9,567**SIM penetration:** 60%**MNOs:** Airtel, TNM, Afrimax Malawi, Malcel, Access**Towercos:** Helios Towers**ESCOs:** None

This was the second of the four deals to close and took Helios Towers over 10,000 sites for the first time. The consideration for the towers in the two countries is US\$108mn, which given the ratio of reported EBITDA between the two countries suggests a valuation of US\$66mn or US\$89.8k per tower. Airtel's tenancy ratio is 1.4x.

TNM is currently undergoing a project to rollout over 200 towers across the country. TNM launched 4G services in 2016 with Airtel launching in early 2018. Afrimax Malawi predominantly targets business customers, but was rumoured to be mulling a tower build programme of roughly 200 sites to target more retail customers, depending on acquiring outside financing.

A recent regulatory review is seeking to promote further MNOs to begin operating, and has recommended reducing Mobile Termination Rates from US\$0.04 to US\$0.02 to bring them into line with international norms, and making more spectrum available for the country's currently inactive MNOs.

The Malawi Communications Regulatory Authority (MACRA) has also launched a Universal Service Fund (USF) plan for the period 2022-2027 to subsidise building in rural areas. Nyasa Mobile has also announced an

intention to roll out services by the end of the year, potentially in partnership with Vodafone Group.

Starlink continues to grow its presence across Sub Saharan Africa having switched on operations in Malawi after gaining its license back in October last year. The satellite provider promised to deliver high-speed, low latency broadband services.

Internet penetration sits at just 23% and the government plans to achieve 60% by 2028. Airtel has invested US\$176mn in network infrastructure deploying over 1,100 sites and expanding coverage to over 88% of the country.

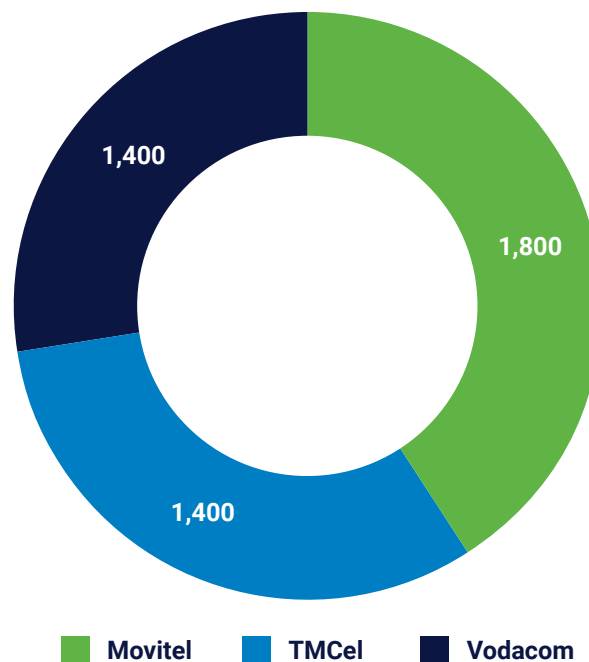
There are three active MNOs in the Malawian market – Airtel, TNM and Afrimax Malawi. Malawi was one of the few markets where Airtel retained its towers after an agreement to sell their towers to Eaton in 2015 was cancelled, but that has now changed. Helios Towers announced it had closed its deal to acquire 735 towers from Airtel in March 2022, including a BTS commitment of 60 more.



Mozambique

		
Towers:	Population:	Subscribers:
4,600	(mn): 32,077.07	(mn): 13,686.23
SIMs per tower: 3,111 SIM penetration: 43%		
MNOs: Vodacom, TMcel, Movitel		
Towercos: None		
ESCOs: None		

Figure 20: Mozambique – estimated tower count



Source: TowerXchange

the lowest rate. Rural coverage is a major focus for the government, who has launched a new initiative in partnership with DBQ Mobile, Movitel, Vanu and Spacecom to support the deployment of low-cost rural infrastructure with satellite backhaul.. Fibre rollout to the tower has resulted in microwave

backhaul dishes being removed from some sites, thus freeing them up for further active equipment. Infrastructure sharing in the country has been limited, with a just an estimated 50 towers being shared between TMcel and Vodacom. Vodacom has launched Mozambique's first commercial 5G network, with the aim of covering 75% of the adult population in Maputo City by 2025.

Back in 2019, state-owned Mcel (prior to its merger with TDM and renaming) reviewed a sale of its ~1,000 towers. There had also been speculation of a potential tower sale at Movitel although a formal process was never announced. Rumour has it that the entrance of Movitel into the market was part of a government plan to expand network infrastructure and then sell the assets. However, no announcements have been made so far.

State-owned MNO TMcel faces the risk of collapse without financial support, and the government is warning that urgent measures must be taken. TMcel is unable to honour any of its commitments including worker salaries and an accumulated US\$400mn in debt. While no towercos have make an appearance, Starlink has launched LEO satellite services after being awarded an operating license back in May 2022. The satellite broadband provider has been expanding across Africa with services in Nigeria and Rwanda with Namibia, Zimbabwe, Eswatini and Angola scheduled for Q4 2023.



Namibia

**Towers:**

900

**Population:**

(mn):

2,530.15

**Subscribers:**

(mn):

2,915.31

SIMs per tower: 3,309**SIM penetration:** 115%**MNOs:** MTC, Telecom Namibia, Paratus**Towercos:** PowerCom, NuRAN**ESCOs:** Confirmed or rumoured RFP

direct RF planning and site location to accommodate new builds that meet the needs of 2-3 tenants. MTC is rumoured to be exploring an exit of their towers in the next 2-3 years, having seen a slow-down of their own network infrastructure rollout, increasingly hosting with PowerCom. PowerCom is also in the initial stages of reviewing a case to take over fibre and datacentre ownership and services from Telecom Namibia, transitioning from a towerco into an end-to-end digital infrastructure provider.

Telecom Namibia has plans to invest US\$14mn in infrastructure over the next 5 years to modernise the network and accelerate digital transformation after a World Bank report highlighting then need for better connectivity in Namibia. Some new sites are also being fiberized for high-speed connectivity. The MNO has pledged to continue sharing infrastructure fairly with rival operators through PowerCom.

The government plans to invest an additional US\$5.9mn to deploy a further 30 sites from PowerCom, with approximately 300 towers over the next 3-5 years needed to meet coverage needs. This comes as part of a government objective to achieve full telecoms access by 2030, backed by an US\$8mn fund.

Namibian communications service providers have been reporting significant interruptions due to limited electricity supply with both MNOs MTC and Telecom Namibia seeing disruption. Power responsibility lies with the MNOs, but PowerCom have been exploring taking responsibility for power in the last 12 months as it takes too long for MNOs to bring power to their sites, negatively impacting revenue realisation. Namibia's grid is generally good and reliable, with most non-rural sites on grid. However, Namibia has been reliant on importing power from South Africa for 50% of its energy and expects to see this decline over time.

MTN Namibia has signed an MoU with NuRAN to deliver 150 rural 2G, 4G or 2G/4G sites using NuRAN's Open RAN technology and unique Build, Own, Operate, Transfer model. NuRAN intend to install 150 new sites within the next two years with a ten year term.

Namibia's telecoms regulator CRAN has completed its first 5G spectrum auction with MNOs MTC and Telecom Namibia as well as ISP Loc8 mobile picking up 10-year licenses in addition to an 80% 4G national coverage target. However, Ucom Mobile's spectrum license has been revoked due to failure to comply with licensing condition, giving the MNO 6 months to migrate it's 1,000 customers to other operators after which it must cease all activities.

The Namibian mobile market has been dominated by two government owned MNOs: MTC and Telecom Namibia, after MTN was pushed out due to competition issues. Paratus, once an MVNO, is now deploying its own active network, hosting equipment predominantly with local towerco PowerCom, and a subsidiary of Telecom Namibia. The towerco is focusing on site upgrades, and has at least 2 tenants on every site, expanding to three with Paratus. PowerCom is also now taking on more



Niger



Towers:
2,851



Population: (mn):
25,252.72



Subscribers: (mn):
14,239.00

SIMs per tower: 7,145

SIM penetration: 56%

MNOs: Airtel, Moov, Zamani Telecom, Sahelcom

Towercos: American Tower

ESCOs: Aktivco

There are four MNOs in Niger; Airtel, Moov, Zamani and Sahelcom. Airtel sold their portfolio of 600 sites to Eaton, with the transaction closing in 2017. Orange exited the market in 2020 with a sale of its opco to local investors Zamani Telecom. Over 50% of the country's towers are off grid, and prior to its sale Orange signed an ESCO contract with Camusat's Aktivco covering around 500 sites.

In early 2020, American Tower announced it had completed a deal to acquire all of Eaton Towers' sites in the country.

Whilst new build in the market has been fairly modest, Airtel's recent turnaround in profitability in the African market, coupled with them obtaining a 4G license means that American Tower is already seeing more build-to-suit activity, American Tower now own 902 sites in the country.

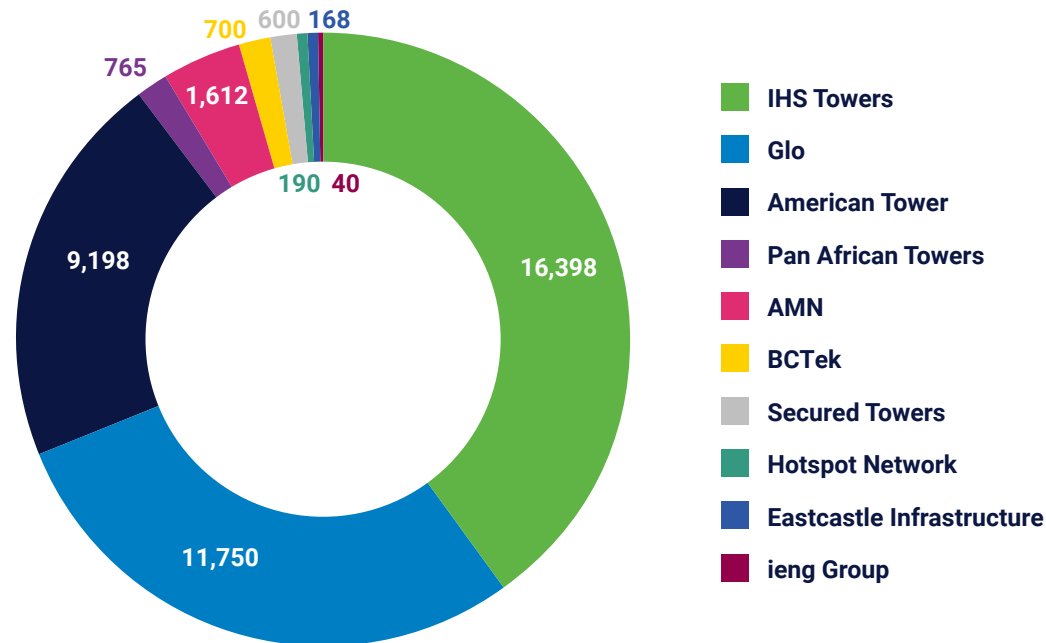
The already announced merger between Zamani and Telecom Niger is continuing under the post-coup government. Aktivco are monitoring the situation but have reported no serious difficulties for their teams on the ground.



Nigeria

		
Towers:	Population:	Subscribers:
41,421	(mn): 213,401.32	(mn): 195,128.27
SIMs per tower: 4,809 SIM penetration: 91%		
MNOs: Airtel, Glo, MTN, 9mobile		
Towercos: IHS Towers, American Tower, AMN, Pan African Towers, Eastcastle Infrastructure, Hotspot Networks, and other smaller Nigerian towercos		
ESCOs: IPT PowerTech, Biswal, Mantrac, NEC XON, Crossboundary, Renewable Watts, Clearblue Technologies, Arnergy, Energy Vision		

Figure 21: Nigeria – estimated tower count



There are three main MNOs active in Nigeria; market-leader MTN with 40% of the mobile market, and Glo and Airtel competing for second place with around 25%. 9mobile has faced significant financial challenges and seen its mobile subscriber base drop to just 3.2mn subscribers, and it's network becoming largely inactive.

Despite strong demographics and a large and fast-growing population, Nigeria has faced major economic headwinds. In 2023, the Naira-US\$ exchange rate plunged 250%, driven by government attempts to unify the exchange rate, control inflation, and reduce subsidy costs. While all seen as positive long-term decisions, the lack of supporting frameworks led to uncertainty

and instability.

However, three key developments spin a positive twist on the future of Nigeria's telecoms sector. The naira appears to have stabilised around 1,500 – 1,600 now, with new US\$ reserves from World Bank loans and the return of oil exports. Critically for the telco sector, the



NIGERIA

government has allowed for a pricing tariff increase, as for nearly 10 years MNOs had their mobile rates capped despite the massive increase in operational costs.

This is allowing operators to go through a phase of rebuilding and recovering their balance sheets, stabilising their financial health. The government, because of permitting pricing increases, is mandating improvements in quality of service, driving new network expansion investment. The government has approved the construction of 7,000 new telecom towers to support this digital transformation, as well as for the deployment of 5G, in a public-private partnership. The towers will be managed by towercos, with the government playing a co-investment role.

The third factor is the licensing of Nigeria's first MVNOs, 46 so far, across five tiers of licensees. The result will be a much more competitive market, focused on the ability of mobile operators to deliver quality on customers. The nature of MVNOs means it is also an opportunity for MNOs to provide wholesale network services.

This is all good news for Africa's largest and oldest telecom tower market. Towers in Nigeria are predominantly owned by independent towercos; only Glo retains ownership of their telecom towers, with no indication of working with towercos.

IHS Towers is the largest towerco in Nigeria, having acquired the portfolios of Etisalat (now 9mobile) and MTN on the mobile side, while also acquiring sites from HTN Towers and Hotspot Network. Beyond its tower portfolio, IHS Towers is also one of Nigeria's largest fibre operators, owning 10,000km of cabling, and is understood to be exploring opportunities in other digital infrastructure services.

Nigeria is also American Towers' largest African market, and the second largest towerco in the country, entering in 2014 as part of their pan-African sale and leaseback with Airtel.

Pan African Towers is Nigeria's largest local towerco, and is currently consolidating its portfolio after receiving new financial backing from Development Partners International and Verod Capital. Ex-Eaton tower team Eastcastle Infrastructure is also active in Nigeria since 2020, although the volatile market led Eastcastle to focus deployment on their other market, the DRC. Nigeria also has a long tail-end of small, local towercos.

While towercos have become mainstream in more urban and developed areas, Nigeria has an enormous underserved rural geography that has proven fertile ground for network-as-a-service. Africa's leading NaaSco AMN has deployed over 1,500 rural sites, with other players such as Hotspot Network, ieng Group, Infratel Africa and iSAT Africa all deploying similar rural

infrastructure services.

Nigeria has also become the world's largest Energy Service Company (ESCO) market owing to the enormous challenge of power management. The overwhelming majority of telecom towers in Nigeria rely on on-site power generation, as sites face either loadshedding or a lack of electrification.

IHS Towers, MTN, Airtel and Pan African Towers and Hotspot Network all work with ESCOs including WATT Renewables, IPT Powertech, Clear Blue Technologies, Solarkiosk, Energy Vision and Biswal. The government's recent liberalising of Independent Power Producers (IPPs) as part of an attempt to improve energy access has helped support confidence and investment in independent energy players.

American Tower, however, remains steadfast in its commitment to provide power-as-a-service. Either way, both towercos and ESCOs are heavily investing in on-site power generation. Solar and battery installations have been deployed on around 70% of all sites, but diesel generators remain the predominant power source. American Tower, IHS Towers and Pan African Towers are all exploring various combinations of alternative fuel and natural gas products, as many urban sites do not have the space for large solar installations.

Accompanying the challenge of energy is vandalism;



NIGERIA

a particularly big problem as diesel and generator equipment is highly prone to theft. IHS Towers has signed a memorandum of understanding with the Nigeria Security and Civil Defence Corps (NSCDC) to tighten protection of critical telecoms infrastructure nationwide. The deal gives the NSCDC a formal mandate to surveil IHS towers and fibre routes, provide rapid incident response, and pursue vandals and cable thieves through prosecution.

After a long, tumultuous relationship between IHS Towers and MTN, their largest customer and

shareholder (owning a 20% stake), last year IHS Towers renewed its lease with MTN on 13,500 towers. New financial terms including a reduction in USD-indexing, while also introducing a new index against diesel costs, helped mitigate both MTN's exposure to exchange rates and IHS Towers' exposure to diesel prices.

American Tower was also able to renew its lease with its biggest customer, Airtel Africa, for 7,100 sites, in November 2024. This was not broken down by market, but it is assumed a significant part of these leases

come from Nigeria.

The MTN-Airtel-IHS three-way lease renewal has also seen some progress. This comes after MTN Group originally declined to renew 2,500 sites with IHS Towers, instead turning to American Tower, which was since revised to split these leases between both towercos: American Tower hosting MTN on 2,100 new sites while IHS retains 1,430. After some stalling of discussions post-announcement, American Tower has seen a healthy number of tenancies from MTN with an expectation of relocating all equipment by H2 2025



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Rwanda

**Towers:**

2,043

**Population:**(mn):
13,461.89**Subscribers:**(mn):
10,902.99**SIMs per tower:** 6,098**SIM penetration:** 81%**MNOs:** Airtel, KTN Rwanda, MTN**Towercos:** IHS Towers, TRES, Vanu**ESCOs:** None

access, with a focus on filling in white spots, densifying urban networks and expanding geographic coverage.

After announcing plans to exit Rwanda alongside Zambia as part of a strategic review, IHS Towers has agreed to sell its 1,465 towers in Rwanda to Paradigm Tower Ventures. The Paradigm team saw success in their joint-venture operation in Tanzania, Minara Towers, with SBA Communications. This transaction is still subject to regulatory approvals, expecting to close in H2 2025.

The Rwandan telecommunications regulator has established a Universal Service Fund to help subsidise rural sites and is also providing free smart phones to generate more data usage. Vanu is active in Rwanda providing network-as-a-service to MTN, although these are mostly macro sites rather than rural towers.

The National Broadband Network Policy was revised in 2022, subsequently leading the government to revoke KTN Rwanda's 4G wholesale monopoly, which is allowing MTN and Airtel to start deploying their own networks. Airtel has now achieved 95% 4G population coverage and MTN over 84%.

Most sites in Rwanda have been fiberised, with KTN

Rwanda doing fibre rollout in rural areas supported by the government. IHS Towers had been looking at acquiring a fibre license, but concerns by MNOs had been raised over competition issues of IHS owning both tower and fibre infrastructure.

Rwanda has a local towerco, TRES Infrastructure, which recently had a majority stake acquired by African private equity firm Admaius Capital Partners. The new investment will help TRES grow their infrastructure portfolio and allow the towerco to take on larger new build projects. TRES now operate 178 sites, mostly macro towers but a small portfolio of DAS and IBS as well.

Rwanda is a leading African country when it comes to inbuilding solutions (IBS), as the government has pushed new guidelines which force building developers to have indoor coverage and the regulator has been championing this project. However, towercos have reported that building owners are not convinced of the benefits of IBS, and rarely want to pay for the service. Most sites in the Rwanda on-grid which is largely stable and the government is active in expanding the country's energy network. IHS reportedly wanted to bring in an ESCO but due to the small scale of the market and good grid no ESCO has been convinced.

There are three MNOs in the Rwandan market, with Airtel's 38% market share aggressively competing against MTN's 62% and KTN Rwanda remaining mostly on the wholesale side. While a small tower market, organic growth has been relatively high with IHS Towers doubling their portfolio from 714 acquired sites from MTN in 2013 through organic growth, increasing stock at around 10% year on year. Rwanda has 96% 4G population coverage but only 47% mobile internet

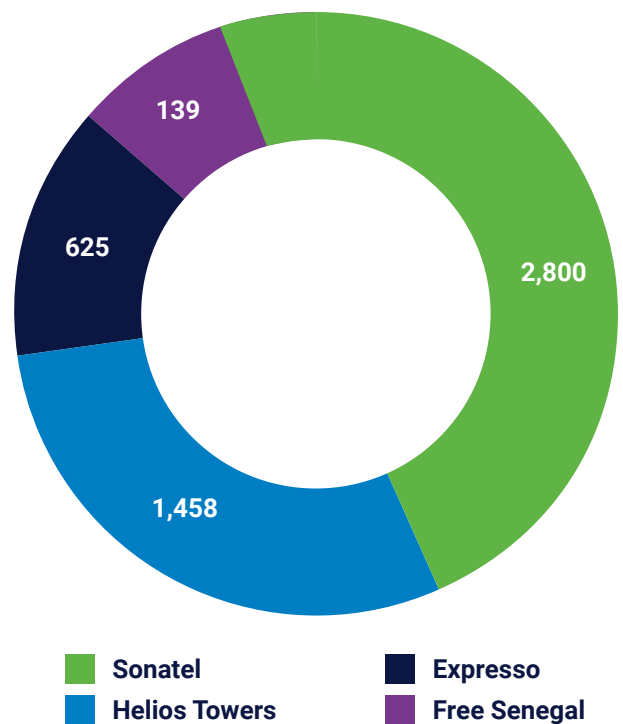
Senegal

		
Towers:	Population:	Subscribers:
5,022	(mn): 16,876.72	(mn): 19,859.98
SIMs per tower: 5,000 SIM penetration: 118%		
MNOs: Sonatel, Expresso, Free		
Towercos: Helios Towers		
ESCOs: Aktivco		

Senegal has three MNOs; market leading Sonatel (part of Orange) with 56.23% of the country's mobile market share, Free with 24.47% and Expresso with 17.02%.

The country is experiencing a boom in investment, driven by its new digital strategy 'New Deal Technologique', a \$1.7bn plan to establish itself as a regional digital hub by 2034. This includes 12 programs and 50 projects such

Figure 22: Senegal – estimated tower count



Source: TowerXchange

as strengthening its regulatory framework, establishing critical national infrastructure frameworks, and achieving 95% connectivity. Free is investing US\$217mn in network upgrades, Sonatel has raised \$87mn from the World

Bank and Proparco, and the government has committed US\$100mn for rural connectivity projects.. Helios Towers is the only towerco in the market, but has set its short-term focus on operational efficiency, expanding co-locations and build-to-suit. However, AXIAN Telecom has increased its stake in Free to a majority 80% as part of a pan-African expansion. This opens the question of whether AXIAN may carve out Free's tower assets to its towerco subsidiary TowerCo of Africa.

Free acquired its 5G operating license in January, paying US\$22.4mn. Sonatel had previously been the only MNO with a 5G license, acquired in July 2023 for US\$34.5mn, with Free's offer being rejected by the ARTP for non-compliance, and a commercial launch is expected in May. Sonatel is has now expanded its 5G license to include mobile internet services as well.

Due to heavy reliance on oil and gas for power generation, Senegal's grid energy is some of the most expensive in Africa. While grid availability is good, Helios Towers has been exploring on-site energy solution to reduce grid consumption, and ESCO Aktivco has signed with Sonatel taking over power for 2,800 sites.



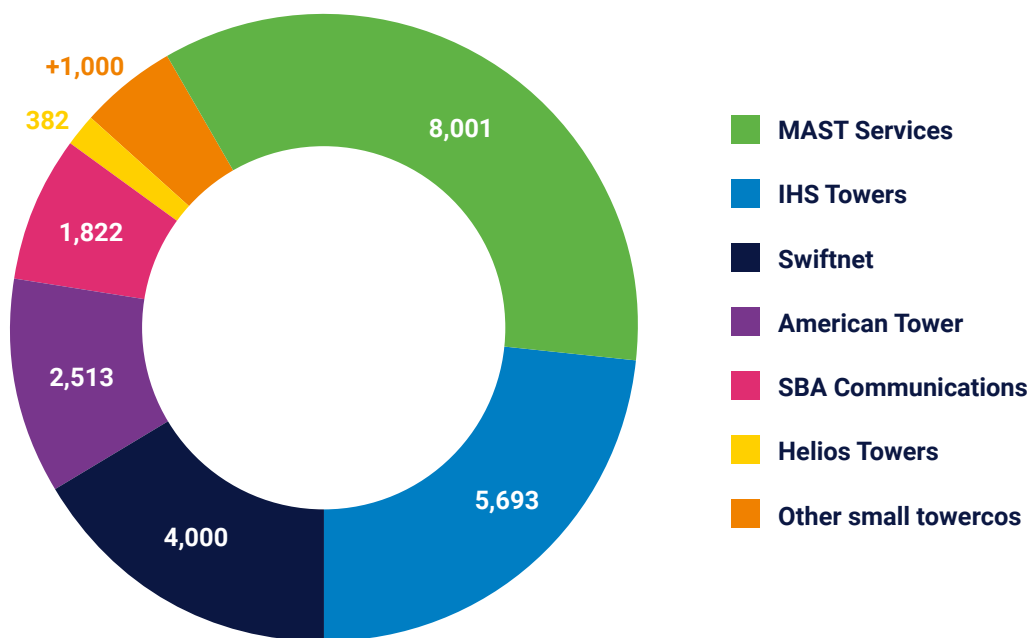
South Africa

**Towers:**

21,451

**Population:**(mn):
59,392.25**Subscribers:**(mn):
100,328.01**SIMs per tower:** 3,999**SIM penetration:** 169%**MNOs:** MTN, Vodacom, Telkom, Rain**Towercos:** IHS Towers, American Tower, SBA South Africa, Helios Towers, Swiftnet, Insite Towers, Thabure Towerco and other middle market towercos**ESCOs:** EnergyOn, IHS Towers, Abbott Technologies

Figure 23: South Africa – estimated tower count



Source: TowerXchange

There are five MNOs in the South African market: traditional operators MTN, Vodacom and Telkom, as well as MVNO providers Rain and Cell C (who have shut down their network and switched to a roaming agreement with MTN). All mobile operators have now

relinquished their towers, either in sale leasebacks with independent towercos or through carve-outs.

MAST Services, the latest towerco to join the market, was carved out of Vodacom South Africa in 2023. The

original deal included 9,500 sites, but after meticulous portfolio assessments and decommissioning, TowerXchange understands that the number sits at just above 8,000.



SOUTH AFRICA

Having run 28 RFPs over the past 3 years, the towerco has now established its operations and structure, seen largely as a success story within the wider Vodacom group. Despite a gradual distancing of MAST from Vodacom to put in place a more neutral structure, Vodacom still retains heavy involvement that limits MAST's ability to win leases with other mobile operators."

Actis and Royal Bafokeng Holdings have now completed their acquisition of Swiftnet, the carve-out towerco of Telkom, valued at US\$370mn. Swiftnet continues to serve Telkom as a key anchor tenant and has started bidding for leases from other operators. When the deal was announced, Actis recorded Swiftnet as a towerco of 4,100 towers, significantly lower than previous recordings of around 6,000. However, Swiftnet is expected to play a major role in expanding rural coverage and 5G upgrades, as well as launching a power-as-a-service platform across its entire network in future.

This makes South Africa a very crowded towerco market. IHS joined in 2022 after acquiring MTNs 5,709 towers, SBA Communications in 2021 after acquiring Atlas Towers' South Africa portfolio, and Helios Towers in 2019 in a joint-venture with local fibreco Vumatel. American Tower has been in the country for over a decade. In addition to the big regional towercos, there are over 30 small players, making the build-to-suit market extremely competitive. It is estimated that

there are a total of 38 towercos active in South Africa.

In 2023, national grid ESKOM saw rapid deterioration of its ability to service power demand, leading to 10-12 hour loadshedding. The result was a huge hit to network uptime, leading operators to switch their investment from expansion to power and resiliency.

Since then, South Africa's grid has been stabilised driven by liberalization of the energy grid and construction of new power plants. This has led to deviations in energy strategy: American Tower, MAST Service and Swiftnet are all reportedly continuing with power-as-a-service, while IHS Towers and SBA Communications are not. All towercos, however, are seeing renewed focus on theft and vandalism to protect power equipment that have already been installed over the loadshedding period.

Despite the assumption that grid recovery would lead to a boom in new tower deployments, following a gap in network expansion over the loadshedding period, that has not happened. MNOs remain conservative in their infrastructure spend, which raises questions around how South Africa will sustain as many as 38 towercos. It's expected that the market will see consolidation as a result. TowerXchange is aware of several undisclosed acquisitions of small towercos, but no major deals have been announced.

South African open-access infrastructure provider

Frogfoot network has acquired the 11,000km fibre assets of American Tower, amidst a series of consolidation plays in South Africa's competitive fibre sector. This follows a trend of major international towercos taking a more conservative approach, focusing on their core tower business."



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Tanzania

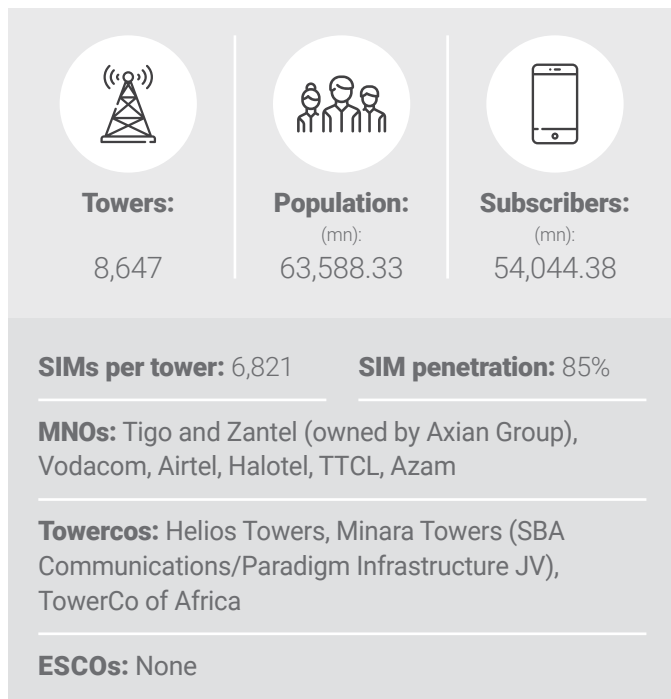
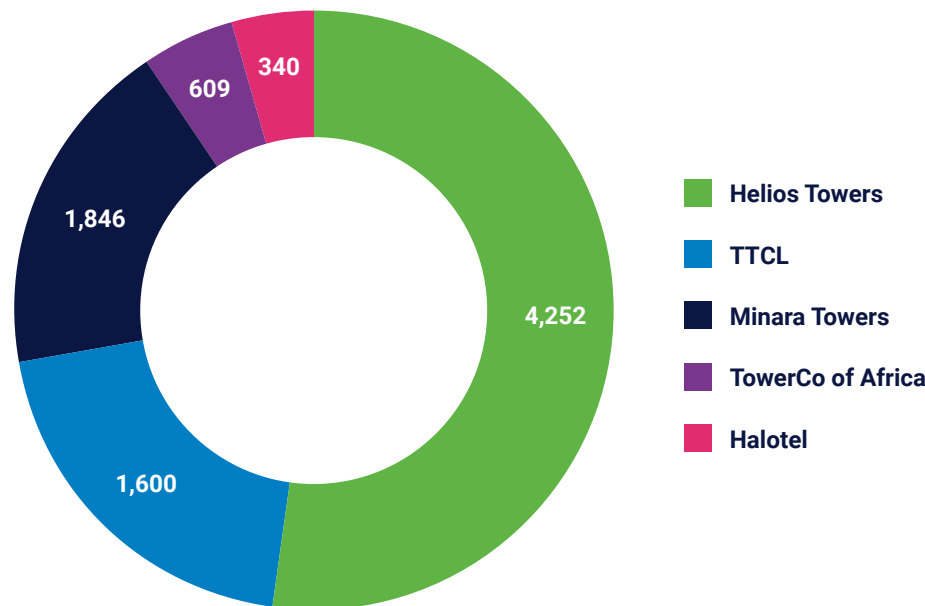


Figure 24: Tanzania – estimated tower count



Source: TowerXchange

Tanzania has become one of Africa's most active telecom markets. AXIAN's acquisition of Tigo in 2022 triggered an arms race for coverage and customers between what is now YAS Tanzania (AXIAN) (28.7% mobile market share), Airtel (22.9% mobile market share) and Vodacom (31.7% mobile market share). The closeness in market share, combined with the willingness of each blue-chip player to commit capital to network expansion, is making Tanzania

one of Africa's most active build-to-suit markets. Local mobile operators Halotel and TTCL are also active but have a much smaller market presence.

There are also three towercos in Tanzania. Following AXIAN's entry, their towerco subsidiary TowerCo of Africa also entered the market to support new infrastructure buildout. AXIAN Telecom has recently received US\$60mn

in financing from the European Investment Bank (EIB) to expand their 4G network, with TowerCo of Africa securing US\$30mn from British International Investment to fund their network rollout.

US-based international towerco SBA Communications acquired Airtel Tanzania's towers in 2022, in a joint-venture with Paradigm Infrastructures, called Minara



TANZANIA

Towers. After 3 years of operational set-up by Paradigm (now called Paradigm Tower Ventures), the team is planning on exiting the JV (with an assuming sale of Paradigm's stake to SBA Communications) as Paradigm has acquired IHS Towers' operations in Rwanda.

Tanzania is also pan-African towerco Helios Towers' largest market, having acquired a portfolio of Vodacom's towers back in 2013.

All three towercos are primarily focused on operational efficiency and energy management, providing power-as-a-service and investing in a host of energy solutions such as batteries, solar panels and software solutions. However, with a new hydro powerplant coming online,

Tanzania's grid availability has stabilised, having positive impacts on towerco network performance.

The result of the increase in towerco activity over the past 4 years has been noticeable. Internet users have jumped from 29.8mn to 49.3mn from 2021 in part due to the upgrading of 2G towers to enhance coverage and capacity, driving the growth of mobile and internet services. Another driver of growth comes from the recent entry of Paratus Group under Paratus Tanzania, a joint venture with local managed service provider Green Telecom to provide infrastructure support for network expansion.

Towercos have also become instrumental to the countries

digital access plans. The government's Digital Tanzania project, in partnership with mobile operators and the World Bank, aims to achieve 80% broadcast penetration by 2025. A total of US\$112mn is being deployed across all players, with the regulator UCSAF completing the construction of 758 towers themselves. All three MNOs have been in a RAN sharing agreement since 2016, although this has so far been limited to ultra rural locations.

With Vodacom, Airtel and YAS all securing additional spectrum last year, Vodacom has launched the country's first 5G network, with Airtel following in main urban areas. YAS also now has a 5G network active, boasting the fastest connectivity in the market."



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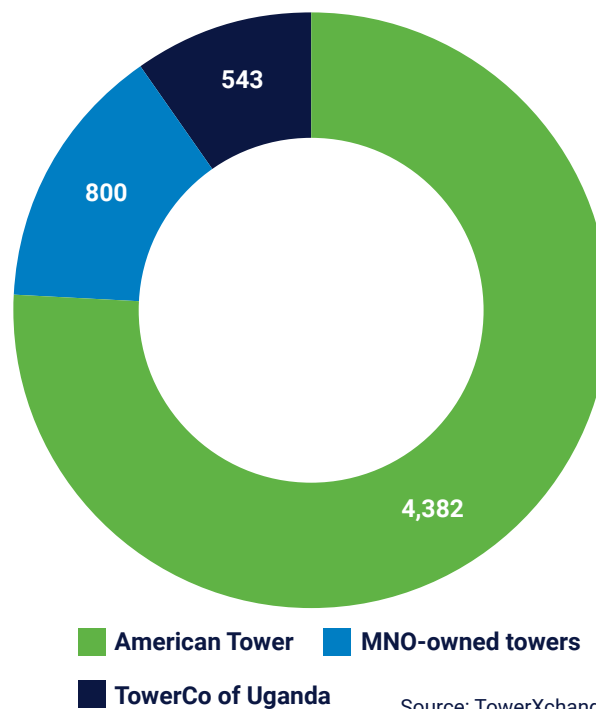
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Uganda

**Towers:**

5,725

**Population:**(mn):
45,853.78**Subscribers:**(mn):
30,127.70**SIMs per tower:** 5,859**SIM penetration:** 66%**MNOs:** MTN, Airtel, UTCL, Smile Communications**Towercos:** American Tower, TowerCo of Uganda**ESCOs:** None**Figure 25:** Uganda – estimated tower count

American Tower is the dominant towerco in Uganda, having acquired their footprint in the market from their acquisition of Eaton Towers, who in turn had acquired the towers of Orange, Warid and Airtel, since adding MTN's sites to their portfolio. ATC Uganda has been focused on building out Kampala's

smart city network, working with the city municipality to install SMART pole street furniture to power lighting and CCT security as well as some DAS and inbuilding as well. ATC, MTN, Airtel and the communications regulator have launched an anti-vandalism campaign to protect telecom infrastructure. MNOs reported over 820 incidents of cable theft, 283 cases of fuel theft, 90 cases of battery theft, and multiple network disruptions. President Museveni has pledged support to designate telecom towers as Critical National Infrastructure. Local towerco Ubuntu Towers was acquired by AXIAN's towerco arm TowerCo of Africa in 2021, breaking ATC Uganda's monopoly, and secured US\$40mn financing from the European Investment Bank to deploy an extra 506 towers over the next two years.

Around 27% of sites are off-grid, with both ATC Uganda and TowerCo of Africa providing power solutions, the latter looking to run all sites with solar and battery backup and working with Polarium to deploy lithium-ion batteries. While grid coverage is good, the cost of energy is very high and operational costs have pushed some MNOs out of the market.

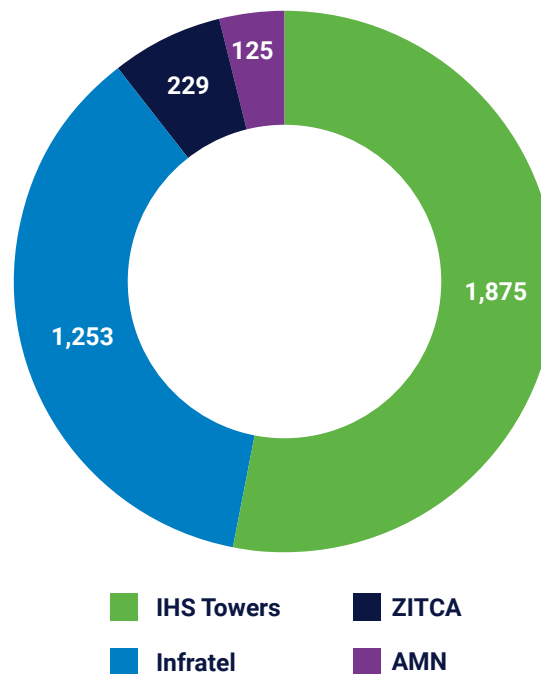
Uganda's telecom regulator UCC has mandated MNOs to achieve 90% national geographic coverage within 5 years of being licensed, and the ICT Ministry is carrying out a study to explore a World Bank-funded project for rural coverage, targeting refugee-hosting areas.



Zambia

Towers: 3,485	Population: (mn): 18,384,000	Subscribers: (mn): 19,104,000
SIMs per tower: 5,655 SIM penetration: 104%		
MNOs: ZAMTEL, Airtel, MTN, Beeline Telecom		
Towercos: IHS Towers, Africa Mobile Networks, Infratel, Vanu		
ESCOs: None		

Figure 26: Zambia – estimated tower count



Source: TowerXchange

There are three MNOs in the Zambian market; MTN, Airtel and start-up Beeline. IHS Towers acquired to portfolios of both MTN and Airtel, and own the majority of Zambia's towers. Airtel is investing US\$14mn over 2025 to deploy 152 new sites for coverage and quality, following a US\$143,000 fine from regulator ZICTA due to network disruption. Local infraco Infratel operates ZAMTEL's towers, with some rural sites owned by the

regulator ZICTA. Rural specialist AMN is also active in the market doing network-as-a-service for MTN.

Infratel also operates three data centres and a national fibre backbone infrastructure portfolio. MTN has also signed network-as-a-service agreements with Vanu,

who is entering the market to provide rural builds. Infratel had been commissioned by the MNOs to build macro towers in rural areas but this was unprofitable, so the Universal Service Fund has taken over these sites with Infratel providing managed services.

In 2024, adverse weather conditions led to droughts that, due to Zambia's reliance on hydropower, caused massive loadshedding. While the grid has since stabilised, seeing a new coal power plant and solar farms coming online, loadshedding remains and towercos are implementing new energy strategies to mitigate future threats. Infratel is upgrading its lead-acid batteries with lithium-ion and installing on-site power on 400 core urban sites.

IHS Towers' strategic review to raise capital and alleviate outstanding debt included a planned sale of its Rwanda and Zambia tower portfolios. TowerXchange is aware of Infratel preparing to submit a formal inquiry to IHS Towers for the acquisition of their Zambia portfolio.

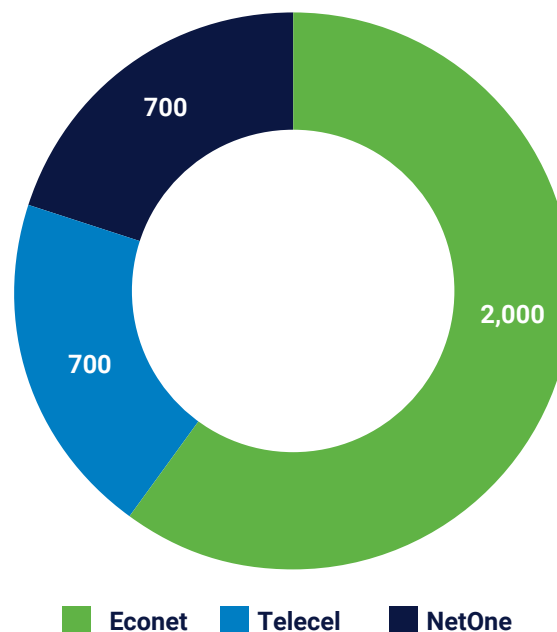
Zambia makes up a small proportion of the firm's total footprint across Africa, the Middle East and LATAM. Selling these assets would allow IHS Towers to focus on its core Nigerian market which is facing significant challenges due to the volatile macroeconomic environment.



Zimbabwe

		
Towers:	Population:	Subscribers:
3,400	(mn): 15,993.52	(mn): 14,257.59
SIMs per tower: 4,320 SIM penetration: 89%		
MNOs: Econet, Telecel, NetOne		
Towercos: None		
ESCOs: Distributed Power Africa		

Figure 27: Zimbabwe – estimated tower count



Source: TowerXchange

on hold. Econet is currently upgrading 500 base stations and deploying equipment at 300 additional sites to expand coverage and enhance network performance, as well as rolling out a small number of 5G sites. POTRAZ had struggled to encourage infrastructure sharing due to pushback from Econet, who saw it benefiting Telecel and

NetOne far more than themselves. However, a deal was made to share around 270 towers through commercial swap arrangements,

Telecel has been struggling to stay afloat amidst an ongoing economic crisis where annual inflation reached 132% and the Zimbabwean Dollar dropping 70% against the dollar. Increased bandwidth costs and an inability to recuperate losses by increasing prices has left the MNO unable to pay suppliers or invest in network expansion, made worse by an increase in network vandalism and copper theft. Reports indicate that Telecel will have to go into liquidation unless the government takes immediate action. At the end of last year Telecel's liabilities outweighed its assets by 16:1.

Grid availability in Zimbabwe is high at around 95%. Econet reports just 46 of its towers are off grid and has plans to invest in 500 solar-powered base stations over the next 2 years in order to achieve its carbon-neutral goal by 2030. Econet's in-house ESCO, Distributed Power Africa manages power across all 2,000 Econet sites in Zimbabwe, and is exploring how to solarize sites to reduce grid consumption. Powertel is planning to invest over US\$50mn to improve connectivity in rural areas of the country including improvements to ZESA's electricity supply network and expansion of the energy grid.

There are currently no towercos in Zimbabwe, with the three market MNOs Econet, Telecel and NetOne owning all telecom towers in the country between them, with the government having a stake in the latter two. An MVNO license was awarded to Dolphin Telecoms after previous attempts by the regulatory authority POTRAZ failed.

Econet holds the largest portion of Zimbabwe's towers, and had at one point been exploring a carve out into a separate business unit Ecotowers, but this has been put

**Figure 28:** Africa's biggest tower transactions to date

Year	Country	Seller	Buyer	Tower count	Deal value (US\$)	Cost per tower (US\$)	Deal structure
2025	Rwanda	IHS Towers	Paradigm Tower Ventures	1,465	274,500,000	187,372	Company acquisition
2024	South Africa	Telkom	Actis	~4,000	355,000,000	~88,750'	Company acquisition
2023	South Africa	Vodacom	MAST Services	8,827	N/A	N/A	Carve-out
2022	Tanzania	Airtel	Minara Towers (SBA Communications/ Paradigm Infrastructure)	1400	175,000,000	125,000	SLB
2022	Malawi	Airtel	Helios Towers	723	55,000,000	76,071	SLB
2021	Madagascar	Airtel	Helios Towers	490	52,000,000	106,122	SLB
2021	South Africa	MTN	IHS Towers	5,709 (plus ~7,000 PaaS sites)	413,300,000	Incalculable	SLB
2020	Uganda	Ubuntu Towers	TowerCo of Africa	Not disclosed	Not disclosed	Not disclosed	Company acquisition
2020	Senegal	Free Senegal	Helios Towers	1,220	210,000,000	172,000	SLB
2020	Burkina Faso, Ghana, Kenya, Niger, Uganda	Eaton Towers	American Tower	5,700	1,850,000,000	324,561	Company acquisition
2019	South Africa**	Atlas Towers SA	SBA Communications	~900	140,000,000	155,556	Portfolio Acquisition
2018	Kenya	Telkom Kenya	American Tower	715			SLB
2016	Tanzania	Zantel	HTA	185	6,700,000	36,216	SLB
2016	South Africa	Eaton Towers	American Tower	300			Portfolio Acquisition

**Figure 28:** Africa's biggest tower transactions to date

Year	Country	Seller	Buyer	Tower count	Deal value (US\$)	Cost per tower (US\$)	Deal structure
2016	DRC	Airtel	HTA	967	165,000,000	170,631	SLB
2016	Nigeria	Hotspot Network	IHS	85			Portfolio Acquisition
2016	Nigeria	HTN Towers	IHS	1,211			Company Acquisition
2015	Nigeria	Etisalat	IHS	555			SLB
2014	Rwanda	Airtel	IHS	164			SLB
2014	Zambia	Airtel	IHS	949	150,000,000	158,061	SLB
2014	Nigeria***	Airtel	American Tower	4,717	1,060,000,000	224,719	SLB
2014	Niger	Airtel	Eaton	600			SLB
2014	Ghana, Burkina Faso, Kenya & Uganda	Airtel	Eaton	2,681	540,000,000	201,417	SLB
2014	Nigeria	MTN	IHS	8,850	984,000,000	226,911	Joint venture (IHS 49%, MTN 51%)
2014	Nigeria	Etisalat	IHS	2,136	485,000,000	227,060	SLB
2014	Congo B	Airtel	HTA	393	50,000,000	127,226	SLB
2014	Rwanda	MTN	IHS	550	48,000,000	87,273	SLB
2014	Zambia	MTN	IHS	748	57,000,000	76,203	SLB
2013	Tanzania***	Vodacom	HTA	1,149	75,000,000	65,274	SLB with direct investment in HTT
2013	Kenya	Telkom Kenya	Eaton	1,000			MLL (Contract cancelled, towers since acquired)

Figure 28: Africa's biggest tower transactions to date

Year	Country	Seller	Buyer	Tower count	Deal value (US\$)	Cost per tower (US\$)	Deal structure
2013	Cameroon & Cote d'Ivoire	Orange	IHS	2,000			MLL
2012	Cote d'Ivoire	MTN	IHS	911	141,000,000	154,775	SLB
2012	Cameroon	MTN	IHS	820	143,000,000	174,390	SLB
2012	Uganda	Warid	Eaton	400			SLB
2012	Uganda	Orange	Eaton	300			SLB
2011	Uganda***	MTN	American Tower	962	89,250,000	181,912	Joint venture (AMT 51%, MTN 49%)
2010	Tanzania***	Millicom/Tigo	HTA	1,200	81,000,000	112,500	Joint venture (HTA 60%, Millicom 40%)+
2010	DRC***	Millicom/Tigo	HTA	521	41,500,000	132,758	Joint venture (HTA 60%, Millicom 40%)+
2010	Ghana***	MTN	American Tower	1,856	218,500,000	230,835	Joint venture (AMT 51%, MTN 49%)
2010	South Africa***	Cell C	American Tower	1,400	200,000,000	142,857	SLB with BTS
2010	Nigeria	Starcomms	SWAP	407	81,000,000	199,017	SLB
2010	Ghana	Vodafone	Eaton	750			MLL
2010	Nigeria	Visafone	IHS	800	67,000,000	83,750	SLB
2010	Nigeria	Multilinks	HTN	400			MLL
2010	Ghana	Millicom/Tigo	HTA	831	54,000,000	108,303	Joint venture (HTA 60%, Millicom 40%)+
2010	Ghana	Millicom/Tigo	HTA	750	54,000,000	120,000	Joint venture (HTA 60%, Millicom 40%)+

** Deal structure not disclosed, but involved exercising options to increase ownership from a pre-existing stake to 94%

*** All private opco level JV ownership stakes since transferred to group level ownership in public companies

+ Millicom has sold its entire stake in Helios Towers as part of moves to expend its presence in Africa

