



5G in Africa 2026

Market status, trends and outlook



The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry and society thrive. Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

We invite you to find out more at gsma.com

Authors

Kenechi Okeleke, Senior Director
Shroug Ganawa, Senior Analyst

GSMA Intelligence is the definitive source of global mobile operator data, analysis and forecasts, and publisher of authoritative industry reports and research. Our data covers every operator group, network and MVNO in every country worldwide – from Afghanistan to Zimbabwe. It is the most accurate and complete set of industry metrics available, comprising tens of millions of individual data points, updated daily.

GSMA Intelligence is relied on by leading operators, vendors, regulators, financial institutions and third-party industry players, to support strategic decision-making and long-term investment planning. The data is used as an industry reference point and is frequently cited by the media and by the industry itself.

Our team of analysts and experts produce regular thought-leading research reports across a range of industry topics.

gsmaintelligence.com

info@gsmaintelligence.com

Contents

Executive summary	2
01 5G market progress: a global view	4
1.1 Deployment and adoption	4
1.2 5G FWA and other use cases	7
1.3 Spectrum state of play	8
02 The state of 5G in Africa	10
2.1 5G market landscape	10
2.2 Country snapshots	17
03 Emerging 5G use cases	25
3.1 5G FWA in South Africa and Tanzania	26
3.2 Low-band massive MIMO deployment in Nigeria	26
3.3 Private 5G network in Morocco	27
3.4 5G broadcast in Kenya	28
04 Accelerating the impact of 5G in Africa	29
4.1 Governments and policymakers	30
4.2 Mobile operators	33



Executive summary

5G has become an established global technology, with more than 390 networks deployed across nearly 160 countries as of May 2026. Adoption is continuing to scale up rapidly. By the end of 2026, global 5G connections are projected to reach 3.4 billion, accounting for 37% of total mobile connections worldwide.

In Africa, 61 operators across 37 markets had launched commercial 5G services by the end of May 2026, of which 40 had also deployed 5G fixed wireless access (FWA). The past 12 months marked a step change in the region's 5G rollout, driven in part by launches across North Africa. By the end of 2026, there will be just under 100 million 5G connections in Africa. This is projected to exceed 380 million by 2030, accounting for more than 20% of total connections in the region.

In Africa, the consumer segment offers significant potential given the size of the addressable 5G market; currently, 5G accounts for only around 5% of the approximately 1.5 billion mobile connections on the continent, compared to the global average of 33%. However, economic constraints affecting smartphone affordability can slow adoption. The average price of an entry-level 5G smartphone in Africa is still above \$100, an amount that exceeds the monthly minimum wage in many markets, making consumer hardware upgrades unaffordable for the mass market. As a result, there has been a growing focus on 5G FWA and enterprise segments, which increasingly present opportunities to capture value and drive impact.

5G is beginning to make inroads in Africa, though its overall impact remains uneven and limited. With the technology now in its seventh year of deployment, which is beyond the midpoint of the typical 10-year mobile generation cycle, this is a critical juncture for stakeholders to take immediate and coordinated action to accelerate deployment, deepen adoption and maximise the impact of 5G in the region. This is

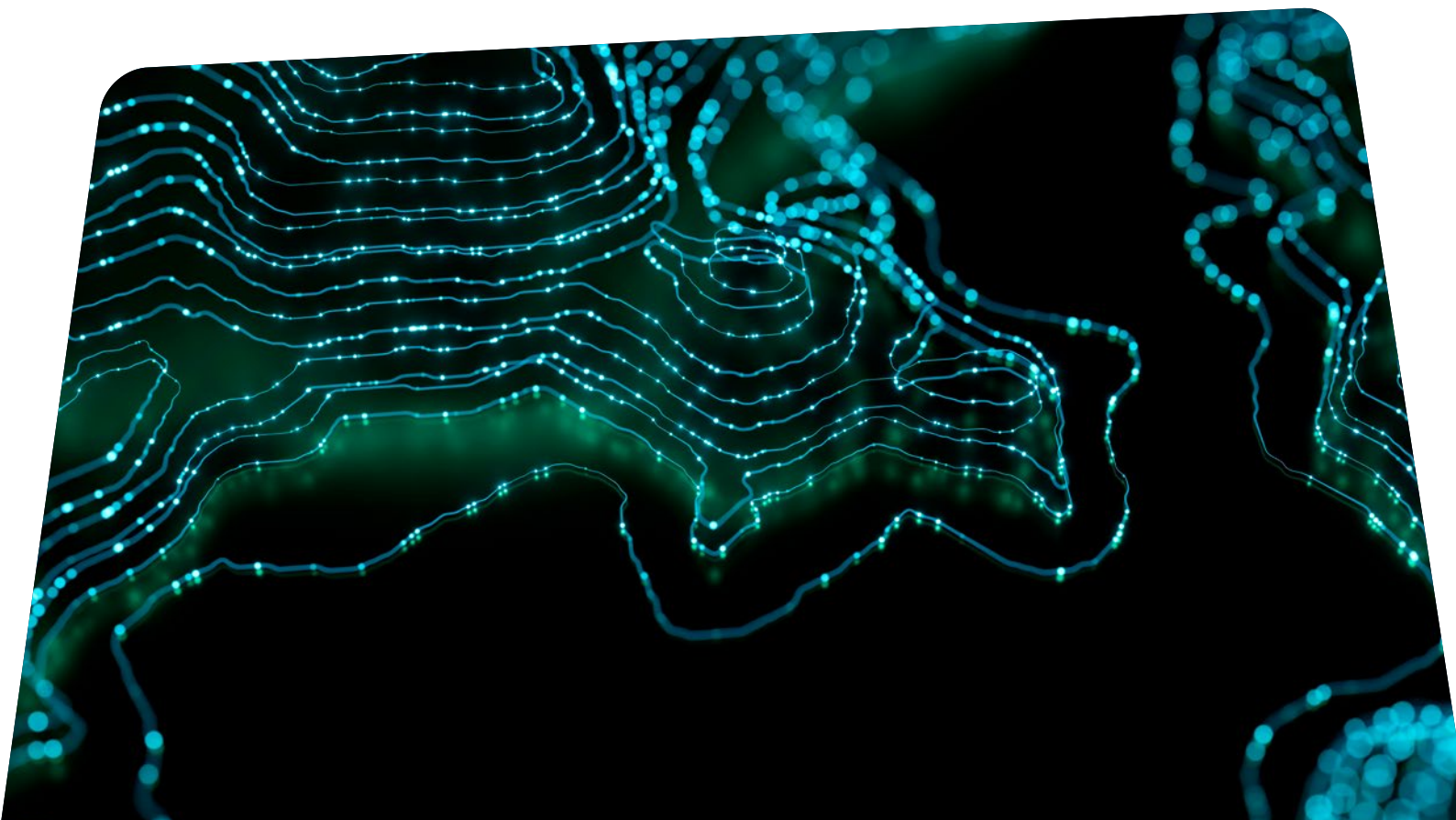
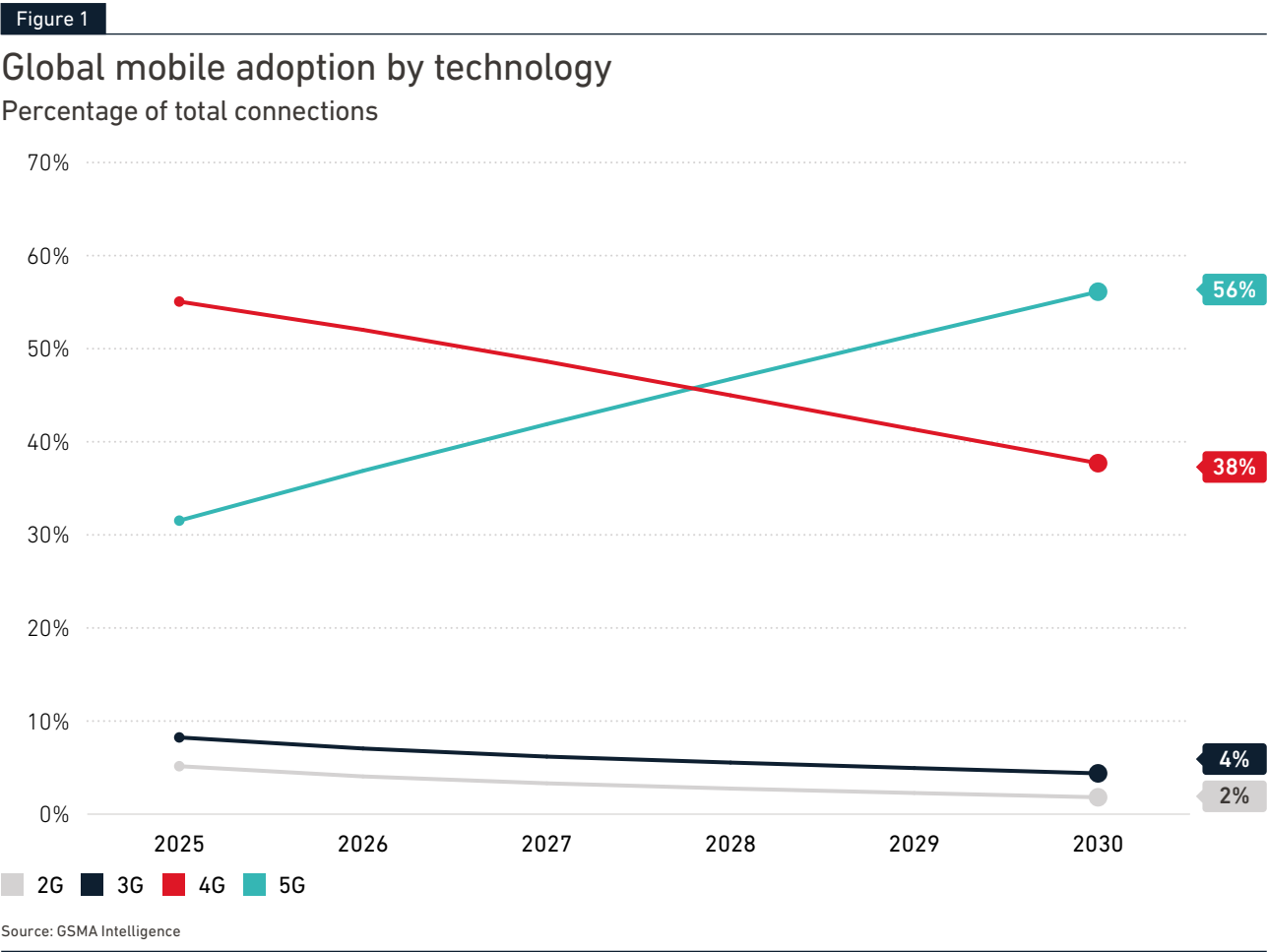
critical not only to realise its benefits for productivity, innovation and inclusion, but also to prevent a widening digital divide with other regions where 5G is already underpinning economy-wide digital transformation. Governments and operators play a central role within Africa's 5G ecosystem, so they are well positioned to execute outcome-oriented actions across policy, infrastructure, affordability, skills and use-case development.

More broadly, success will depend on coordinated action across the ecosystem, including governments, operators and vendors, to scale up 5G across the continent. This includes addressing bottlenecks to spectrum availability and introducing policy incentives to stimulate both consumer and enterprise demand, particularly in markets where operators have already invested heavily in network rollouts. For operators, effective monetisation of 5G is critical to strengthening the business case and supporting further expansion in coverage and capacity. This means maximising the potential of 5G FWA while developing new use cases, particularly within the enterprise segment.

5G market progress: a global view

1.1 Deployment and adoption

Now in its seventh year of commercial availability, 5G has become an established global technology, with more than 390 networks deployed across nearly 160 countries as of May 2026. Adoption is continuing to scale up rapidly. By the end of 2026, global 5G connections are projected to reach 3.4 billion, accounting for 37% of total mobile connections worldwide. On this trajectory, 5G is set to overtake 4G as the dominant mobile technology by 2028 (see Figure 1) – less than a decade after its initial commercial launch. This represents a significantly faster adoption cycle than previous generations: 3G took 19 years to surpass 2G, while 4G took 11 years to overtake 3G.



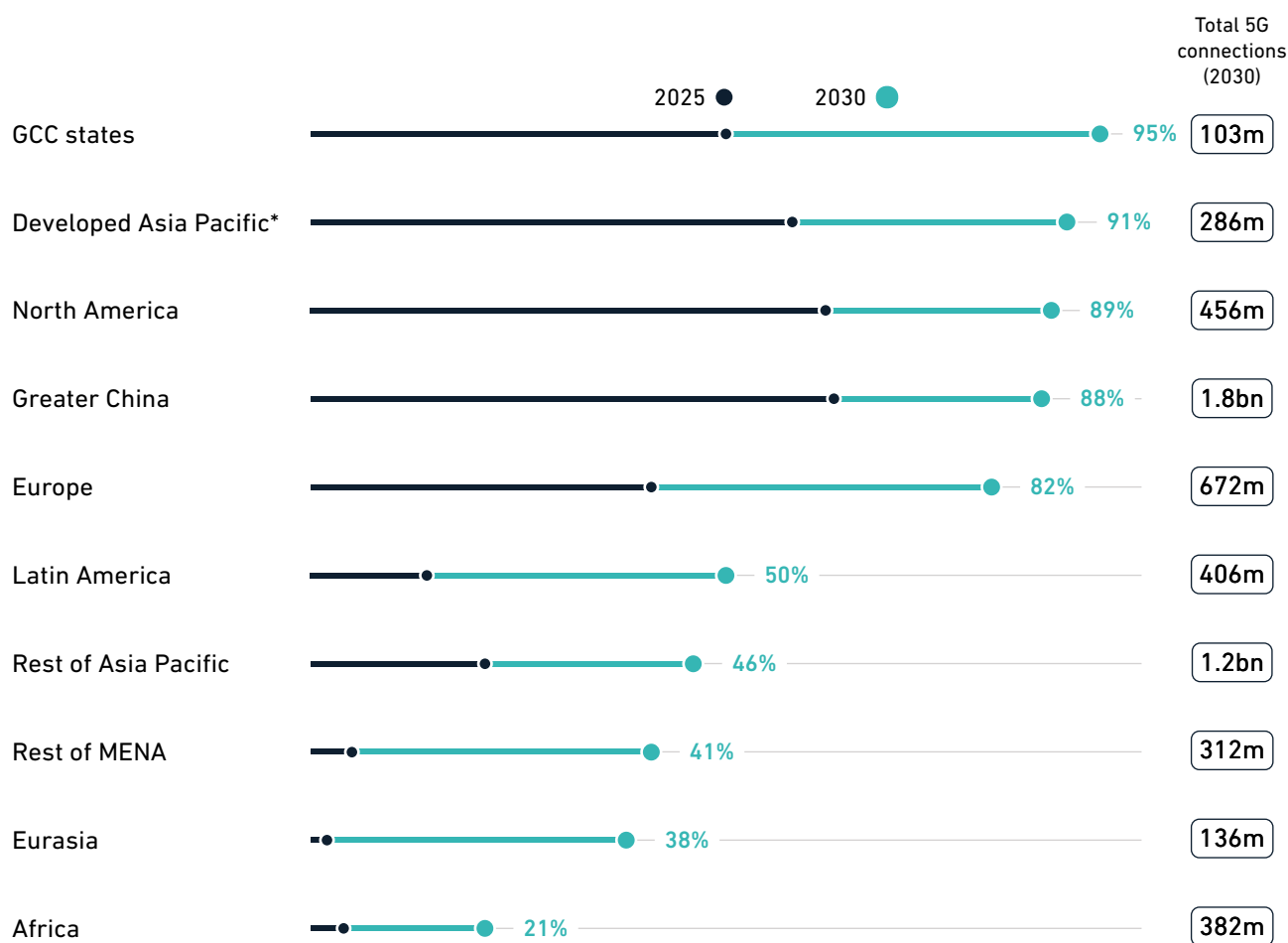
Commercial 5G services launched for the first time in six countries between January 2026 and May 2026, including Mauritania, Libya, Pakistan and Türkiye. This highlights sustained rollout momentum and significant headroom for future 5G connections growth, creating opportunities across the device and wider ecosystem. Around 90 operators across more than 60 markets plan to launch 5G in the coming years.

By 2030, 5G will account for just over a fifth of total mobile connections in Africa, compared with a global average of nearly three in five. At the same time, 5G will represent more than 80% of connections in several advanced countries, including China, developed Asia Pacific markets, the Gulf Cooperation Council (GCC) states and the US.

Figure 2

5G as a share of total connections

Percentage of total connections



* Australia, Japan, New Zealand, Singapore, South Korea
Source: GSMA Intelligence

While most 5G networks have been deployed using non-standalone (NSA) architecture, momentum is shifting towards 5G standalone (SA). As of May 2026, 91 operators globally had launched commercial 5G SA services, with Europe leading in adoption, followed by Asia Pacific. Together, the two regions account for 72% of live SA networks.

In Africa, 5G SA remains at an early stage, with fewer than five operators having launched or announced plans. Structural constraints – including high deployment costs, limited fibre backhaul, spectrum challenges and a nascent device ecosystem – mean 5G SA is a longer-term prospect for the continent.

1.2 5G FWA and other use cases

5G fixed wireless access (FWA) is continuing to grow globally, supported by strong operator deployment and growing customer adoption. Its flexibility enables operators to tailor propositions to diverse market conditions, supporting both coverage-led and competition-led strategies.

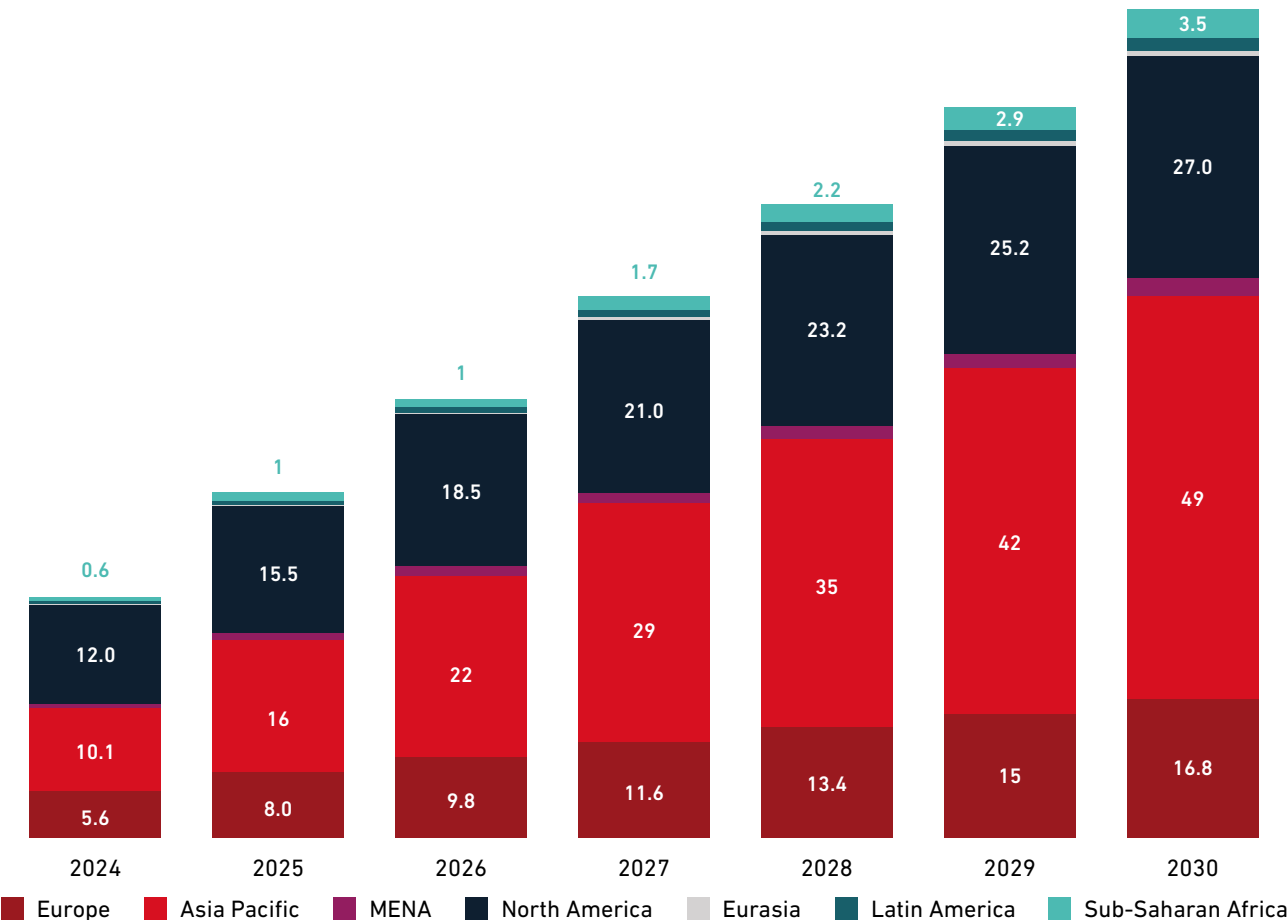
While FWA remains a cost-effective solution for delivering high-speed broadband in areas where fixed infrastructure is uneconomical, its role is expanding. It is increasingly being used for temporary, short-term and back-up connectivity and allowing operators without fixed assets to compete more effectively in established broadband markets.

Technological progress is further reinforcing the case for 5G FWA. The rollout of 5G SA networks and the shift towards 5G-Advanced are enabling gigabit-capable services with lower latency and greater reliability. As a result, the performance gap with fixed broadband is narrowing, making 5G FWA an increasingly credible alternative to cable and FTTP/B.

This momentum has translated into rapid uptake: 5G FWA connections more than doubled, from 15.7 million in 2020 to 42 million in 2025, increasing its average share of total fixed broadband connections by 3.4 percentage points, from 3.7% to 7.1%.¹ By 2030, 5G FWA connections will reach 101 million globally, including 3.5 million connections in Sub-Saharan Africa (see Figure 3).

Figure 3

Global 5G FWA connections forecast, by region
Million

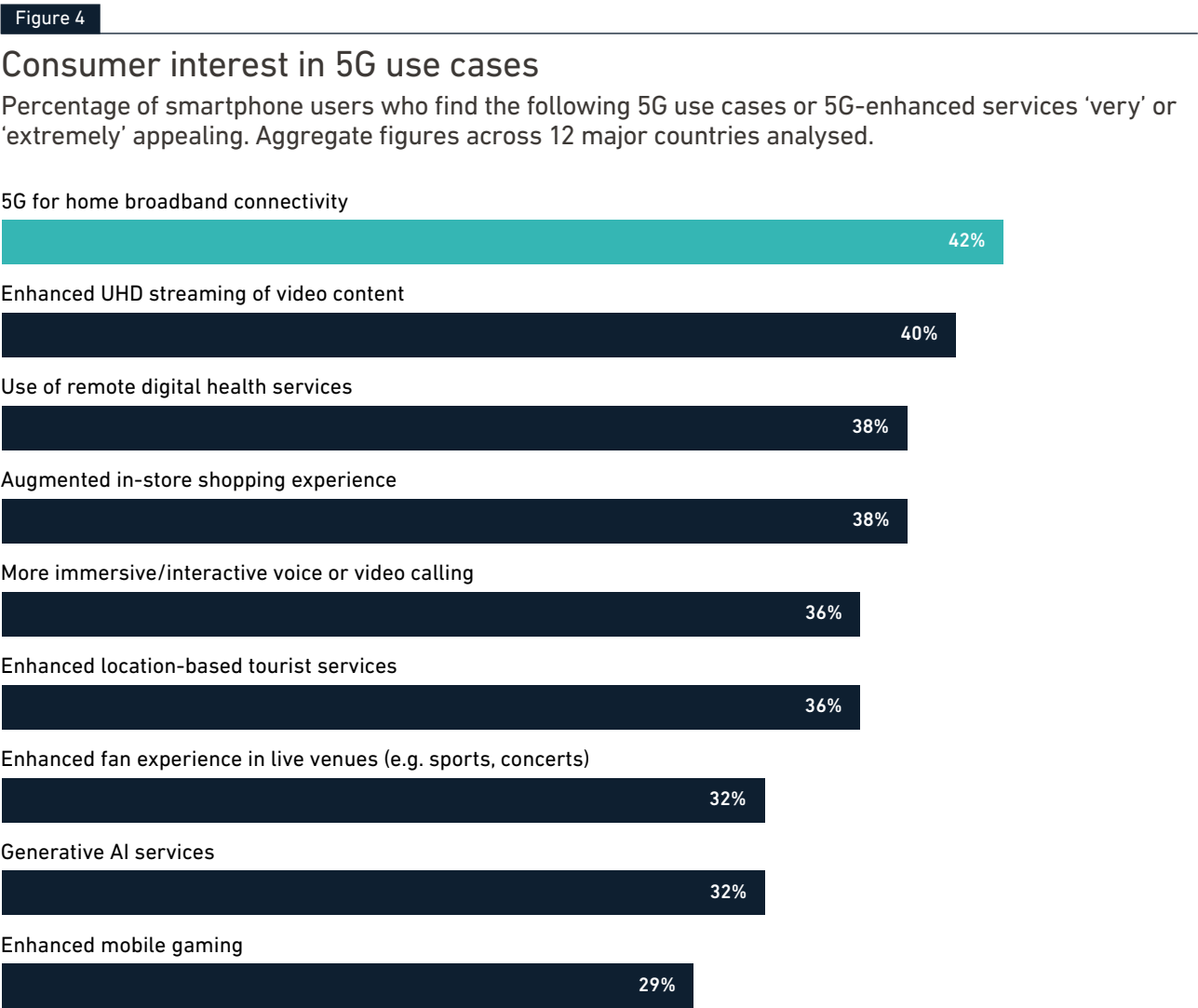


Source: GSMA Intelligence

1 Figures are based on 37 countries featured in the GSMA Intelligence 5G FWA forecasts.

A GSMA Intelligence survey shows that among a range of consumer 5G use cases, 5G FWA attracts the strongest consumer interest, highlighting its long-term monetisation potential for operators (see Figure 4).

Video streaming ranks as a close second, supported by growing demand for multi-play bundles that combine local and international streaming services.

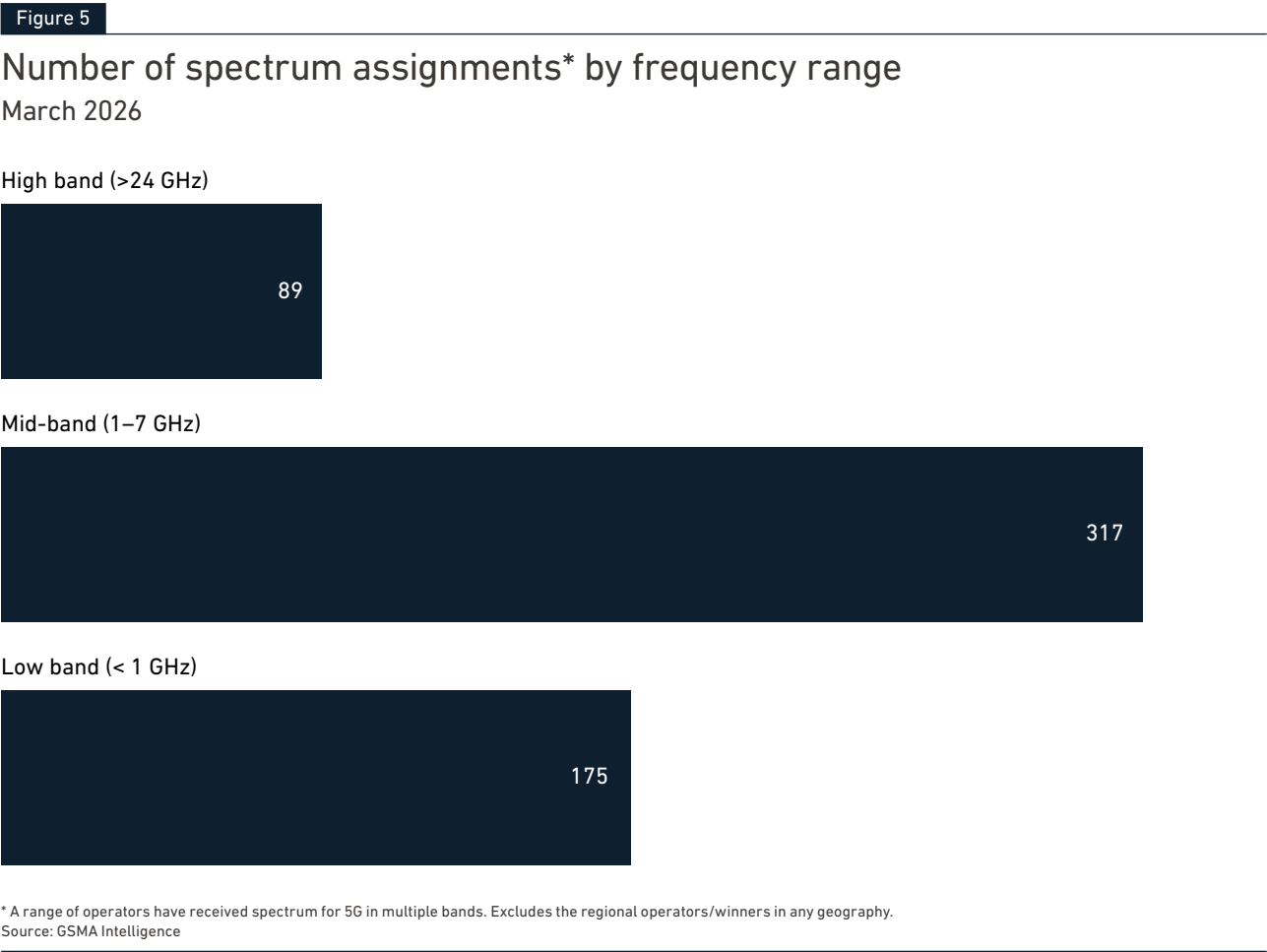


Source: GSMA Intelligence Consumers in Focus Research: Global Consumer Survey August 2025

1.3 Spectrum state of play

As of December 2025, nearly 360 operators in more than 110 countries had been assigned 5G spectrum across the three main frequency ranges. Two bands are particularly important: mid-band (primarily 3.5 GHz), which serves as the workhorse for 5G capacity, and low band (sub-1 GHz), which provides wide-area and indoor coverage. Mid-band spectrum accounts for most assignments to date.

By mid-2025, more than 90% of European countries had completed 5G spectrum assignments, compared with less than 30% of African countries. The pace has accelerated across the world over the past two years, especially in North Africa. Several additional markets are expected to finalise assignments by the end of 2026, which will bring the total to more than 120 countries.



The 5G opportunity in Africa

Africa's 5G opportunity is less about replicating advanced markets and more about adopting deployment models, use cases and policies suited to local realities. With mobile networks central to the region's connectivity landscape, 5G can play an important role in serving both individuals and enterprises. Rapid growth in mobile data use and digital services, driven by large youth populations, is creating strong demand, while sectors such as mining, oil and gas, ports, manufacturing and the public sector offer clear potential for enterprise digitisation, including

emerging private 5G networks. Low fixed-broadband penetration in the region also strengthens the case for 5G FWA as a primary home broadband option where fibre rollout is limited.

Realising this opportunity will depend on timely spectrum assignments across all bands (especially in the mid-band range), affordable 5G devices, broader coverage beyond major cities and the development of the wider ecosystem, including cloud, edge and shared infrastructure.

2

The state of 5G in Africa

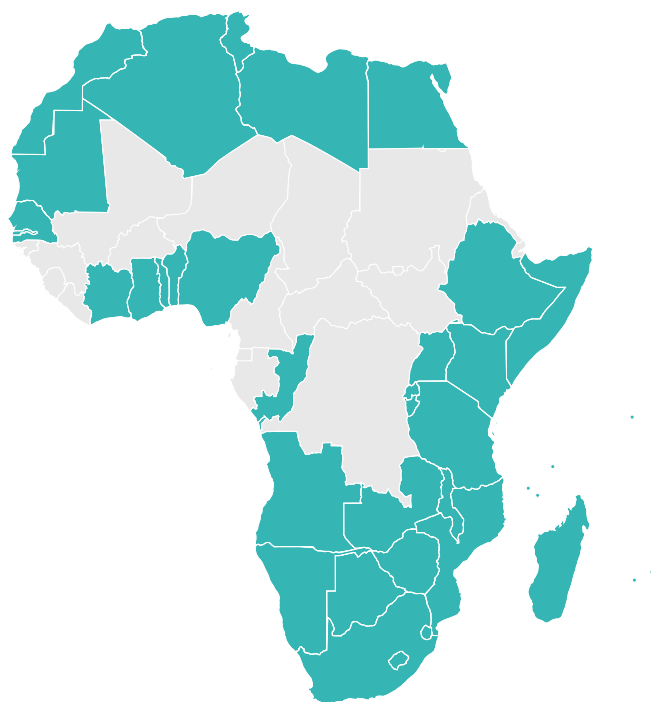
2.1 5G market landscape

As of May 2026, 61 operators across 37 African markets had launched commercial 5G services. This indicates that 5G in Africa has moved beyond the proof-of-concept stage, shifting from isolated trials to commercial deployment. The past 12 months have marked a step change in the region's 5G rollout, driven in part by launches across North Africa. Algeria, Comoros, Egypt, Libya, Mauritania, Morocco and Tunisia all introduced commercial 5G services during this period. This wave of launches is significant for overall adoption prospects. Several of these markets exhibit relatively high 5G readiness, supported by strong 4G coverage, high smartphone penetration and a sustained government focus on digitalisation.

Figure 6

The 5G footprint across Africa

Countries that have launched commercial 5G services as of May 2026



Source: GSMA Intelligence

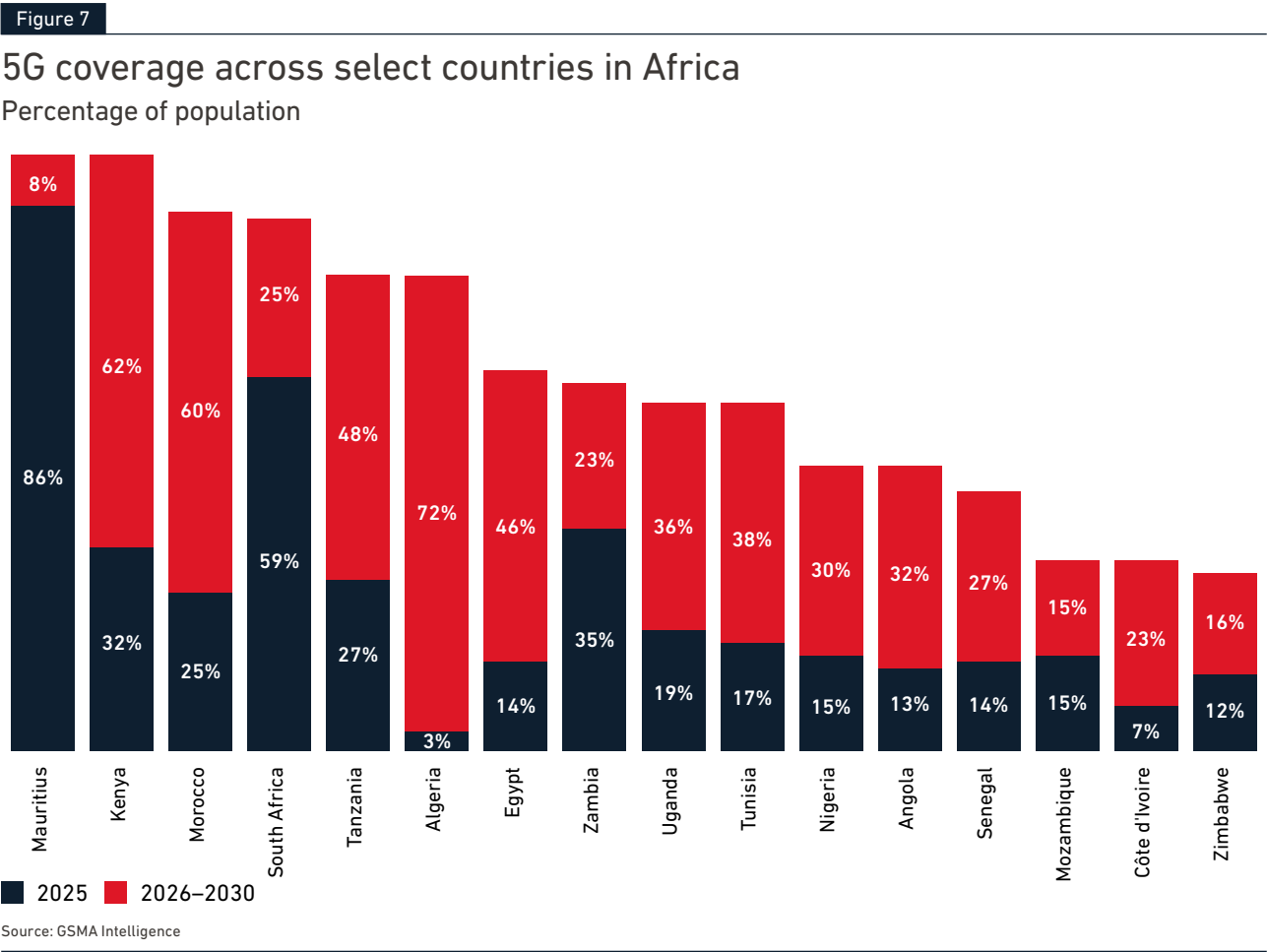
The overall momentum points to growing confidence in 5G and its long-term business case. However, the regional picture conceals the wide variation in individual markets. This matters because policy, investment and deployment strategies are largely shaped at the national level. For example, some markets have relatively mature networks with extensive fibre backhaul, enabling rapid densification, while others rely more on targeted micro-cell deployments and high-capacity microwave backhaul.

This report provides a snapshot of the 5G landscape in 16 selected countries across Africa, offering a more granular view of the factors shaping rollout and adoption and helping to identify where targeted interventions can accelerate progress. The 16 countries are Algeria, Angola, Côte d'Ivoire, Egypt, Kenya, Mauritius, Morocco, Mozambique, Nigeria, Senegal, South Africa, Tanzania, Tunisia, Uganda, Zambia and Zimbabwe.

5G coverage

5G coverage varies considerably across Africa. Among the 16 focus countries, only Mauritius and South Africa had 5G population coverage of more than 50% as of May 2026. In most countries, 5G coverage remains highly concentrated within major urban economic hubs and targeted industrial sectors. Across Africa, mobile operators are prioritising a targeted, use-case-driven approach to 5G deployment rather than pursuing broad, nationwide consumer coverage, reflecting economic constraints, infrastructure gaps and limited purchasing power.

This strategy focuses investment on high-value locations and applications, particularly 5G FWA as a fibre alternative for high-income households, small and medium-sized enterprises (SMEs) and underserved areas, as well as enterprise and industrial hubs such as mining, manufacturing and logistics zones. By concentrating deployments where demand and revenue potential are strongest, operators can maximise the average revenue per user (ARPU), support specific digital transformation use cases and preserve capital by avoiding the high costs associated with widespread network densification.



Beyond major urban centres, further coverage expansion will depend on the economics of deploying networks in lower-density areas. To address this, operators are increasingly leveraging infrastructure-sharing models, including tower and active-network sharing. Recent developments highlight this trend. For example, in Morocco, Maroc Telecom and Inwi

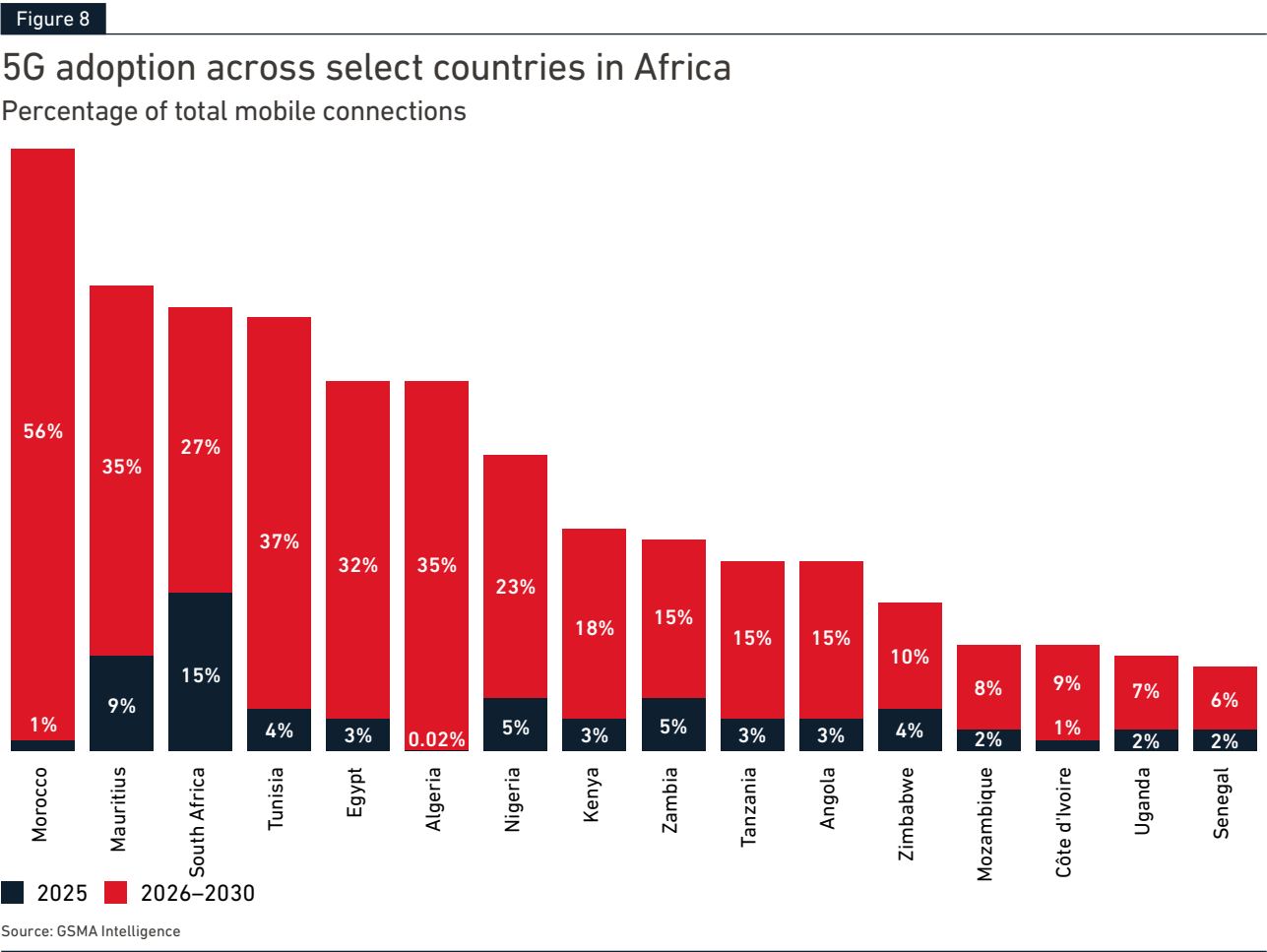
established joint ventures in March 2025 that cover both tower and fibre infrastructure, with plans to deploy 3,000 new towers by 2028 and 6,000 by 2033. Meanwhile, the Telecommunications Regulatory Agency of Côte d'Ivoire (ARTCI) has signalled its intention to encourage active infrastructure sharing as part of the 5G deployment framework in the country.

5G adoption

By the end of 2026, 5G connections in Africa will reach just under 100 million, equivalent to 6.2% of total mobile connections. This is projected to exceed 380 million by 2030, accounting for just over 20% of total connections in Africa. Over the forecast period, adoption will be driven by continued network expansion and targeted efforts to improve device affordability. These include tax reductions, device-financing initiatives and the removal of import duties. In parallel, ongoing migration from legacy networks will support uptake, with some consumers likely to bypass 4G altogether and transition directly to 5G.

In Kenya, for example, 5G connections grew by 71.7% in the 12 months to December 2025, bringing the total number of connections to 1.74 million.² This growth was largely driven by aggressive network expansion from major operators such as Safaricom and Airtel, alongside the increasing availability of affordable 5G devices. The rapid uptake of 5G is also reshaping the country's mobile data consumption patterns. According to the Communications Authority of Kenya (CA), 5G users are classified as power users, consuming an average of 46.4 GB per month – more than three times the usage of 4G subscribers (14.1 GB) and nearly six times that of 3G users.

² Second Quarter Sector Statistics Report For The Financial Year 2025/2026 (1st October – 31st December 2025), Communications Authority of Kenya



5G FWA

As of mid-2026, around 40 of the 61 5G networks in Africa also offer 5G FWA, underlining its role as an early monetisation pathway for 5G. 5G FWA serves as an important channel for extending broadband connectivity to homes and businesses, particularly given the limited reach of fibre and other fixed-line technologies. There are just under 1 million 5G FWA connections in Africa as of mid-2026, and this figure is expected to grow to over 3.5 million by 2030.

A key driver of 5G FWA growth in Africa is the sharp decline in the price of customer-premises equipment (CPE) in recent years. Historically, CPE devices have typically cost over \$200, limiting mass adoption. However, increased vendor competition has pushed entry-level 5G CPE prices below \$80. Operators have further accelerated uptake by subsidising routers as part of data contracts. These lower device costs,

combined with operator subsidies, have made 5G FWA one of the most accessible broadband options on the continent, supporting strong growth in recent years. This approach mirrors successful FWA markets globally, where affordable hardware has been critical to scaling up adoption.

Although several African operators now offer 5G FWA alongside mobile services, true fixed-mobile convergence (FMC) remains relatively limited. FMC is typically delivered through bundled 'home + mobile' plans. South Africa stands out as the most advanced market in this area, with operators such as Rain, MTN, Vodacom and Telkom actively combining 5G mobile and FWA offerings. Rain, for example, bundles home broadband and mobile services into a single proposition, while others position 5G FWA as a complementary fixed broadband solution alongside mobile connectivity.

5G spectrum

Spectrum is the foundational enabler of 5G, and its availability is the clearest dividing line between Africa and more advanced regions. Low-band spectrum is increasingly important for the coverage layer, particularly in lower-density areas, where propagation and indoor penetration drive site economics. In Africa, much of this spectrum remains assigned to legacy 2G and 3G services, so the growth of low-band 5G depends as much on technology-neutral licensing and refarming as it does on new spectrum awards.

Recent spectrum assignments, particularly in North Africa, highlight a shift towards high-capacity mid-band allocations, administrative allocation methods and aggressive rollouts accelerated by major events such as sporting tournaments. Examples of recent assignments in Africa are outlined below:

- In May 2026, **Kenya** issued a 25-year operating licence to Safaricom, marking a significant regulatory milestone by consolidating operating and spectrum rights into a single framework under the CA's Unified Licensing Framework. The licence represents a shift from the regulator's typical 10-year terms and replaces a temporary two-year permit previously used while negotiations on spectrum, fees and service obligations were finalised.
- In February 2026, **Egypt** allocated 410 MHz of spectrum across operators, including new allocations in the 1.8 and 3.5 GHz bands and the renewal of the 2.6 GHz band. This significantly expanded capacity for 5G.
- In **Algeria**, 5G licences were awarded to Mobilis, Djezzy, and Ooredoo, enabling commercial rollout from late 2025.
- In **Morocco**, 5G licences were awarded to the country's three main operators: Maroc Telecom (120 MHz), Inwi (70 MHz) and Orange Morocco (70 MHz). Under the terms of the licences, operators must cover at least 45% of the population with 5G by the end of 2026, increasing to 85% by 2030.
- In July 2025, **Tanzania** completed a 5G spectrum auction for the 3600–3800 MHz band, assigning four 50 MHz TDD blocks under 15-year licences to three operators, with Viettel (Halotel) securing two blocks and Honora (Yas) and Vodacom securing one each. The spectrum was confirmed as cleared for immediate deployment, with a cap of 140 MHz per operator across the wider 3400–3800 MHz range during the primary assignment stage.
- In **Tunisia**, spectrum was assigned to Tunisie Telecom, Orange Tunisie and Ooredoo Tunisie: 5 MHz in the 700 MHz band and 100 MHz in the 3.5 GHz band per operator, with an option for additional 20 MHz blocks. These assignments enabled the launch of 5G in February 2025.

Table 1

Spectrum state of play in Africa, May 2026

Country	5G spectrum assignments							
Algeria					2600 MHz	3500 MHz		
Angola						3500 MHz		
Botswana						3500 MHz		
Kenya					2600 MHz	3500 MHz		
Mauritius					2600 MHz	3500 MHz		
Morocco	700 MHz					3500 MHz		
Namibia	700 MHz	800 MHz						
Nigeria					2600 MHz	3500 MHz		3700 MHz
Senegal	700 MHz					3500 MHz		
South Africa	700 MHz	800 MHz			2600 MHz	3500 MHz		
Tanzania	700 MHz		850 MHz	2300 MHz	2600 MHz	3500 MHz	3,600–3,800 MHz	
Uganda	700 MHz	800 MHz		2300 MHz	2600 MHz	3500 MHz		
Zambia		800 MHz			2600 MHz	3500 MHz		

Source: GSMA Intelligence

No country in Africa has yet completed a nationwide commercial allocation of high-band (mmWave) spectrum, such as 26 or 28 GHz, for mainstream 5G. Regulators have instead prioritised low- and mid-band frequencies to balance coverage and capacity, particularly for 5G FWA as an alternative to limited fibre infrastructure. However, high-band spectrum remains at the planning or trial stage. Nigeria, for example, is targeting 26 GHz licensing in 2026–2028 for enterprise

and localised use cases, while South Africa excluded mmWave from its 2022 auction and has instead designated portions of the 6 GHz band for licence-exempt and private network use. Overall, regional bodies such as the African Telecommunications Union (ATU) recognise 26 GHz as a future harmonised band, but limited device demand and high deployment costs mean operators continue to prioritise mid-band spectrum for broader, more cost-effective coverage.

5G network performance

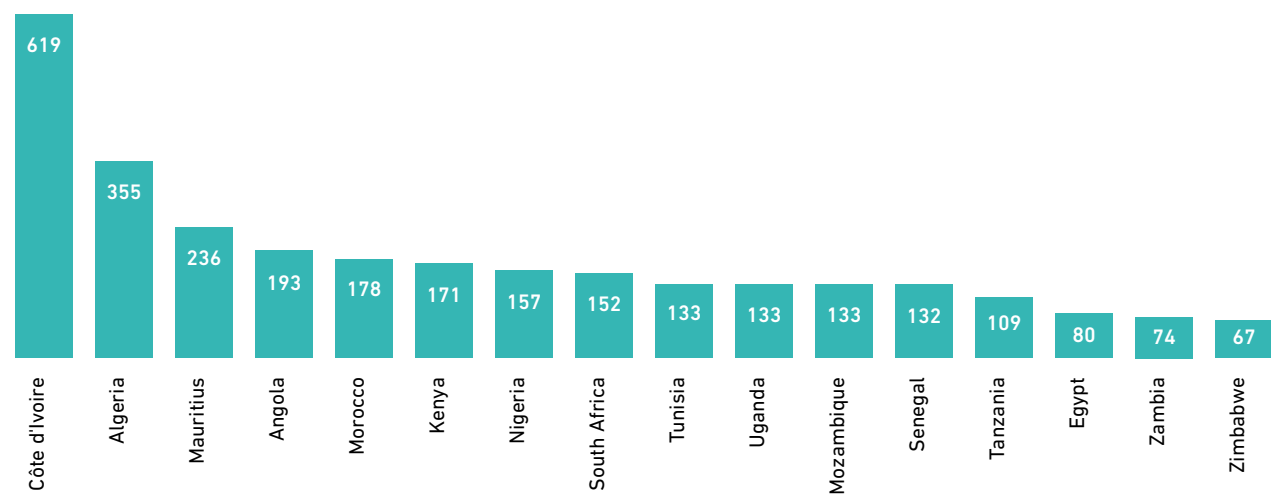
Network quality – measured by download speeds, latency and related performance indicators – varies significantly across Africa, reflecting differences in spectrum holdings, site density and operator investment. Among markets with a substantial 5G testing base, median download speeds in the three months to April 2026 ranged from around 67 Mbps in Zimbabwe to approximately 350 Mbps in Algeria, the fastest of the selected markets (excluding Côte d’Ivoire).³

Most of the 16 focus countries report median download speeds of 100–200 Mbps and median upload speeds typically between 10 and 30 Mbps, while minimum latencies are clustered between 15 and 30 ms. Performance differentials largely reflect underlying network fundamentals. Operators with access to substantial mid-band spectrum and denser site grids

deliver stronger and more consistent 5G performance. For example, Algeria’s Mobilis reported during pre-launch 5G trials that it achieved downlink speeds of up to 1.2 Gbps in February 2025.

Egypt illustrates the impact of constrained spectrum holdings on early 5G performance. Commercial 5G in the country launched in June 2025, primarily using the 2.6 GHz TDD band, where operators held relatively limited allocations (typically 20–40 MHz each) that were also shared with 4G traffic. This initially constrained capacity, resulting in lower average 5G speeds and slower network scaling compared to regional peers. However, spectrum auctions in 2026, under the National Spectrum Strategy 2026–2030, are expected to alleviate these constraints and drive improvements in network performance over time.

Figure 9
Median 5G download speed across select countries in Africa
Mbps



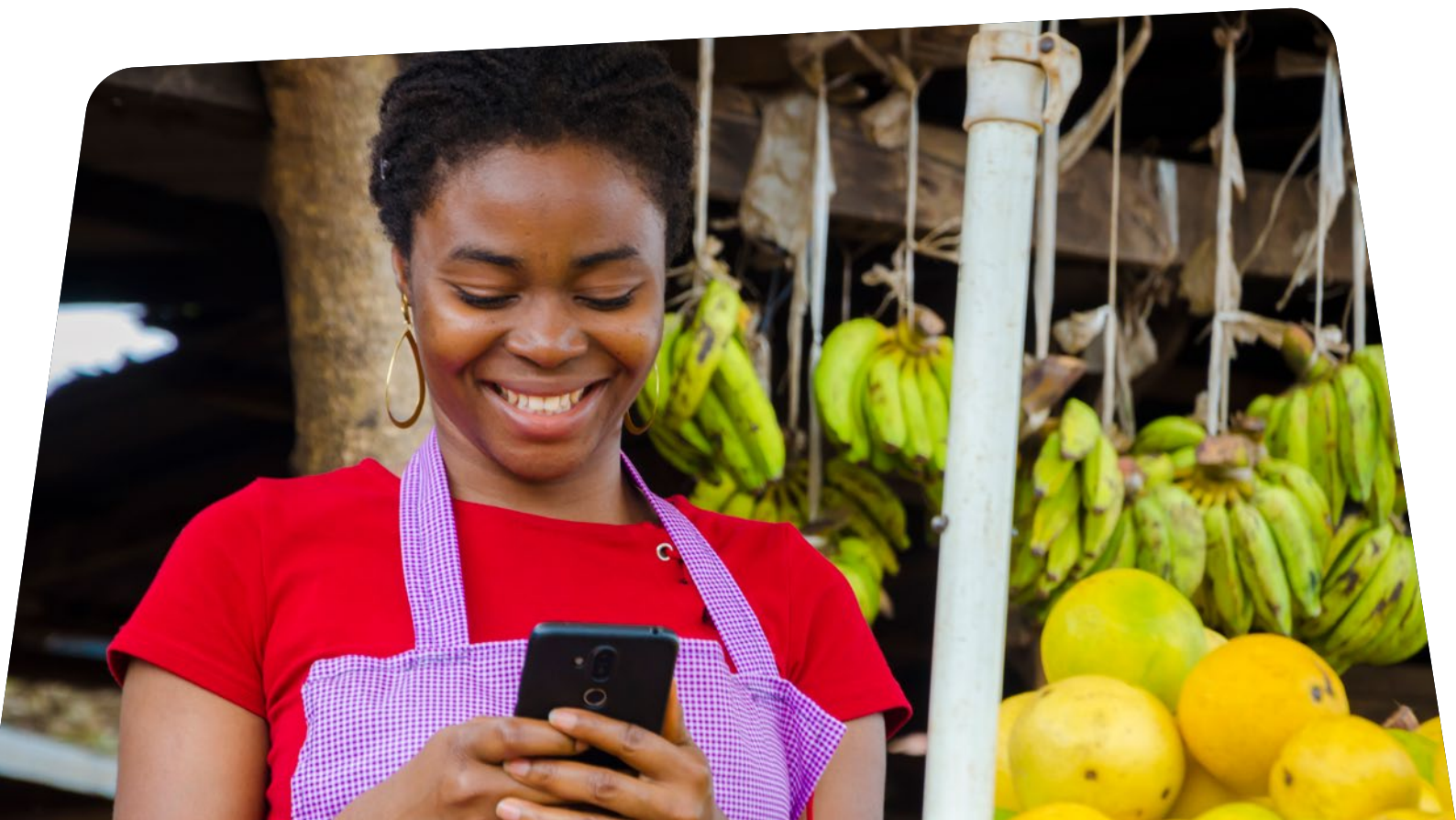
Source: GSMA Intelligence, based on data from Speedtest® by Ookla® (February–April 2026)

3 Côte d’Ivoire’s limited sampling size likely skews its results.

Economic impact

Early deployments show that 5G in Africa is moving beyond a premium mobile service for higher-income users – it is increasingly being positioned as a strategic enabler of broadband expansion, digital infrastructure and economic development. A key driver of this shift is the growth of 5G FWA, which allows operators to deliver high-speed broadband without the high cost of extending fibre. In parallel, industries such as mining, manufacturing and logistics are beginning to adopt private 5G networks to improve efficiency and support digital transformation. For example, applications such as automated drilling, remote monitoring and real-time safety systems are helping to reduce downtime and improve worker safety in the mining sector.

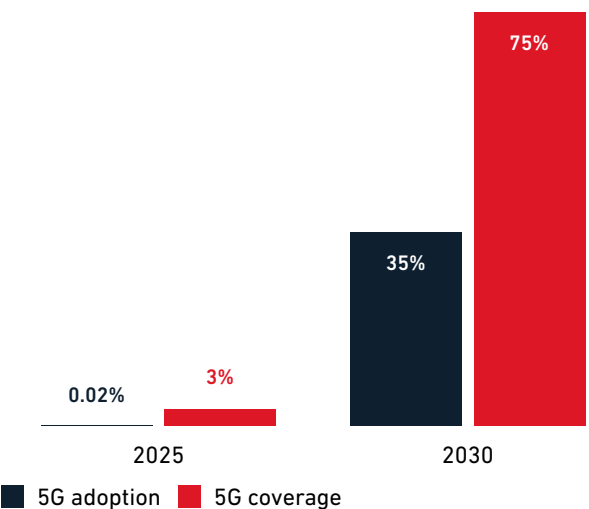
These trends show that the value of 5G extends well beyond faster mobile internet. As coverage expands and the ecosystem matures, 5G is expected to play a growing role in industrial digitalisation, cloud services, IoT and broader digital inclusion across the continent. The business case has therefore broadened beyond mobile data monetisation to include productivity gains, enterprise transformation and wider economic and social value. GSMA Intelligence projects that 5G and its ecosystem could contribute around \$26 billion to Africa's economy by 2030 through higher productivity, innovation and digital service growth.



2.2 Country snapshots

Algeria

5G adoption and coverage



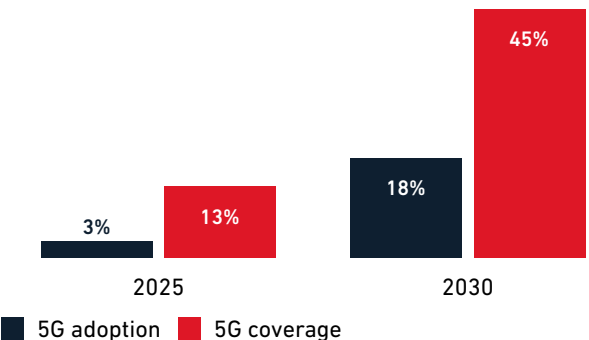
Algeria launched commercial 5G in December 2025, following licence awards in July to Mobilis, Djezzy and Ooredoo. The operators secured mid-band spectrum holdings centred on the 3.5 GHz band, including two 100 MHz blocks and additional assignments of up to 170 MHz in the 3.63–3.8 GHz range, supplemented by initial 2.6 GHz allocations. This has enabled strong early performance, with median download speeds often exceeding 200 Mbps in initial deployments.

5G FWA is not yet available but it is a priority, with nationwide rollout targeted by 2027 to modernise broadband and phase out copper. Other key 5G use cases include smart cities, Industry 4.0, digital healthcare, agriculture and industrial automation.

Looking ahead, operators are required to deliver a phased six-year nationwide rollout, with obligations to reach at least 50% population coverage across all provinces by 2031.

Angola

5G adoption and coverage



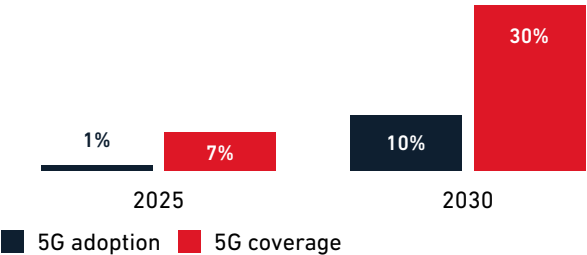
Angola launched commercial 5G in 2022, with Unitel leading deployment through its NetCasa 5G FWA service, initially in Luanda and later expanding to provinces including Malanje, Cabinda and Namibe. The three operators – Unitel, Movitel and Africell – hold mid-band spectrum in the 3.3–3.7 GHz range, supporting both mobile and fixed services, while refarming existing low-band spectrum.

5G FWA is the leading use case, with Unitel offering unlimited plans and speeds of up to 200 Mbps, providing a viable alternative to limited fibre infrastructure. Other use cases include enhanced mobile broadband and enterprise digital transformation, particularly in oil and gas and smart city initiatives.

Operators are focused on expanding 5G coverage nationwide, advancing network capabilities and accelerating FWA deployments to improve broadband access and help close the digital divide.

Côte d'Ivoire

5G adoption and coverage



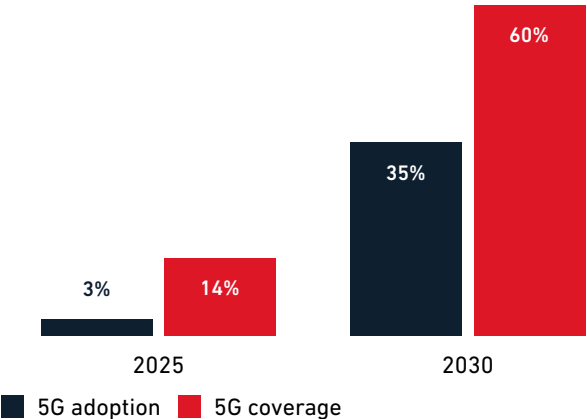
The commercial rollout of 5G in Côte d'Ivoire began in January 2024, being strategically aligned with the Africa Cup of Nations. To enable this, the telecoms regulator prioritised the reallocation of the 3.5 GHz band, requiring operators to refarm existing spectrum and deploy initial 5G NSA networks.

Early trials have focused on using FWA to bridge the last-mile broadband gap in areas lacking fibre infrastructure. Beyond residential connectivity, enterprise digitisation is emerging as the leading use case, supported by initiatives such as the Orange 5G Lab in Abidjan, which provides a testing environment for startups and businesses in collaboration with vendors such as Huawei and Nokia.

Key milestones ahead include the full implementation of a modernised regulatory framework following the June 2024 Electronic Communications Law, as well as ongoing discussions on a shared 5G network model to accelerate rural coverage.

Egypt

5G adoption and coverage



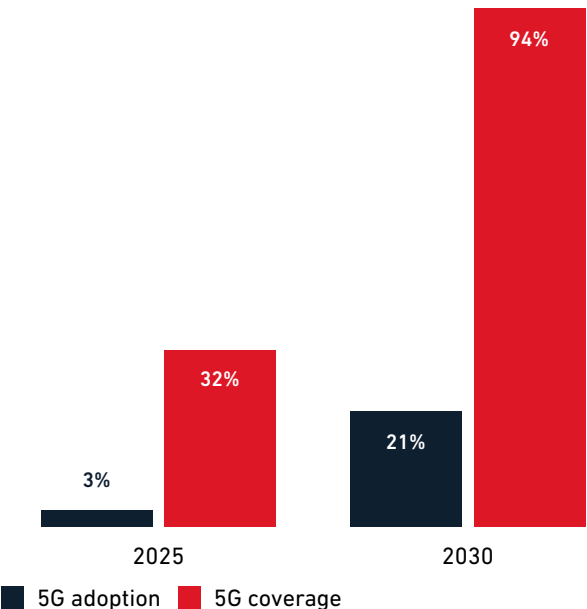
Egypt officially launched commercial 5G services in June 2025. The market's four operators – Vodafone Egypt, Orange Egypt, e& Egypt and Telecom Egypt (WE) – initially deployed networks by refarming existing 2.6 GHz TDD spectrum. However, a landmark \$3.5 billion National Spectrum Strategy, signed in February 2026, doubled their capacity through the introduction of Egypt's first 3.5 GHz mid-band allocations, alongside additional 1800 MHz spectrum.

This expanded spectrum availability is critical to scaling up 5G FWA, which is being rolled out as a fibre alternative to deliver high-speed broadband to underserved suburban, rural and remote communities without extensive cabling.

Beyond consumer broadband, enterprise 5G use cases are gaining traction across key sectors, including industrial automation in manufacturing, IoT-enabled precision irrigation in agriculture and AI-driven, real-time logistics tracking at Suez Canal ports.

📍 Kenya

5G adoption and coverage



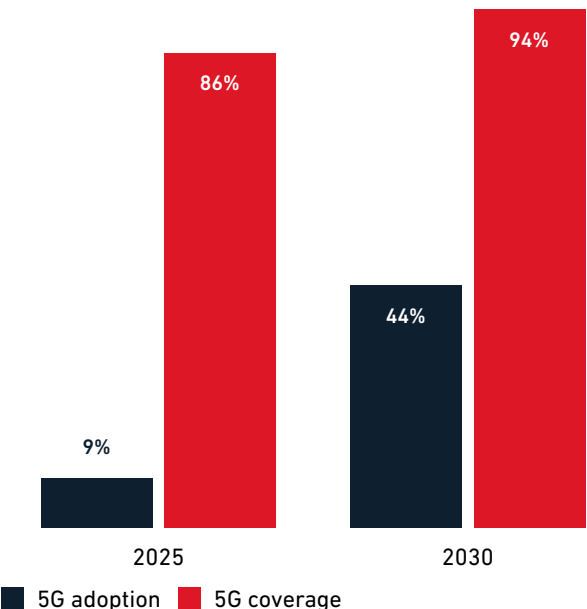
Commercial 5G services in Kenya launched in October 2022, led by Safaricom, with Airtel Kenya following in July 2023. To support deployment, the CA assigned key mid-band spectrum, granting 60 MHz in the 2.6 GHz band to each operator, alongside access to the 3.5 GHz band to enhance capacity.

A primary use case is 5G FWA, which both operators actively market as a high-speed, last-mile alternative to fibre for homes and businesses. Beyond consumer broadband, operators are also targeting enterprise demand, offering dedicated, low-latency connectivity to support business applications.

Safaricom roughly doubled its 5G site count to around 1,700 in 2025, increasing population coverage to over 30% and reinforcing 5G as the cornerstone of its broadband and enterprise strategy. Kenya's technology-neutral spectrum policy allows operators to refarm existing spectrum for 5G as demand increases.

📍 Mauritius

5G adoption and coverage



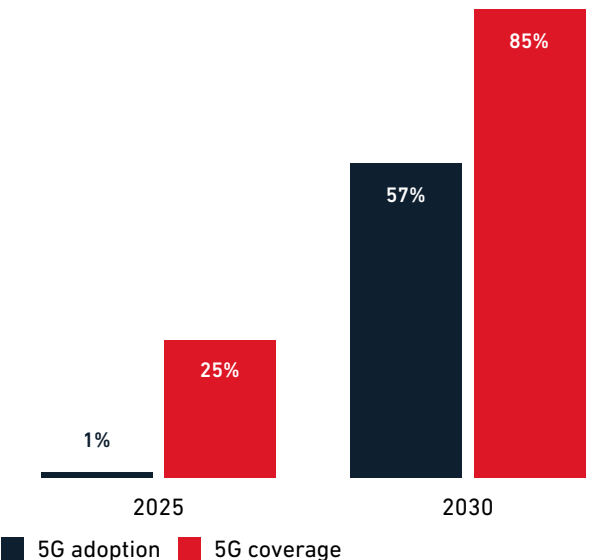
Mauritius entered the 5G era in July 2021, when the state-owned incumbent, Mauritius Telecom (operating under the My.t brand), launched Africa's first 5G experience zones. To accelerate infrastructure deployment, the Information and Communication Technologies Authority bypassed traditional spectrum auctions and directly allocated 100 MHz of contiguous spectrum to each of the island's three mobile operators – My.t, Emtel and Chili (MTML) – across the 2.6 GHz and 3.5 GHz bands.

Commercial 5G FWA is now widely available, with operators targeting the residential broadband market, such as Emtel's Airbox 5G service, launched in 2023. Beyond home broadband, 5G use cases have focused on high-density commercial areas such as Ebene Cybercity and Bagatelle Mall, as well as academic and research initiatives at the University of Mauritius.

Mauritius is approaching nationwide 5G coverage, with population coverage reaching 86% in 2025. The island's compact geography and supportive regulatory environment helped boost coverage early on, shifting the focus towards stimulating demand and driving usage.

 Morocco

5G adoption and coverage



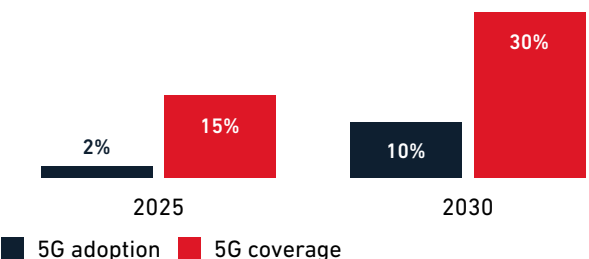
Morocco launched 5G in November 2025, when the National Telecommunications Regulatory Agency awarded 20-year licences to the country’s three main operators. Maroc Telecom secured a 120 MHz block, while Orange Maroc and Inwi each acquired 70 MHz, drawing on reallocated 700 MHz and 3.4–3.8 GHz bands.

5G FWA was available from launch to address home broadband demand, such as Inwi’s commercial rollout of its 5G i-Box plug-and-play Wi-Fi solution. Beyond consumer connectivity, early 5G use cases are focused on Industry 4.0 applications, including a private 5G factory network deployed by Inwi and China Mobile.

Key milestones for Morocco’s 5G roadmap include reaching 45% population coverage by the end of 2026 and 85% by 2030, in support of the infrastructure demands associated with co-hosting the 2030 FIFA World Cup.

 Mozambique

5G adoption and coverage



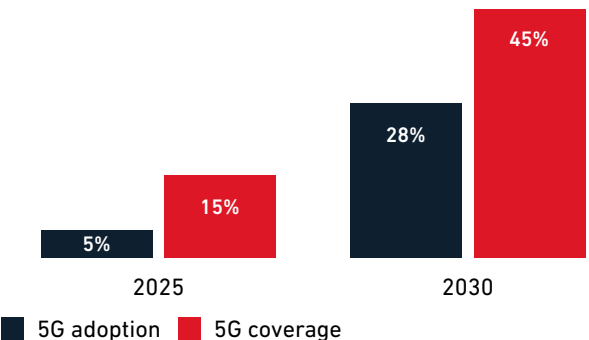
Vodacom Mozambique launched the country’s first 5G network in May 2023 using the 3.5 GHz band. To support rapid deployment, the National Communications Institute of Mozambique opted for an administrative assignment of spectrum rather than a traditional auction. Vodacom’s 5G deployment remains concentrated in Maputo and other cities, with a focus on IoT and smart applications. It is also supporting its M-Pesa-led digital services ecosystem, rather than positioning 5G primarily as a mass-market speed upgrade.

In April 2026, the country’s three main operators – Vodacom, Tmcel and Movitel – submitted bids to secure core 5G spectrum across the 700 MHz, 2.6 GHz and 3.5 GHz bands. This spectrum availability underpins the rollout of 5G FWA, which is positioned as a key high-speed broadband alternative in areas lacking fibre infrastructure.

Policy priorities are centred on strict coverage obligations, requiring licensed operators to progressively extend 5G infrastructure to all provincial capitals while also achieving nationwide 4G coverage to help bridge the digital divide.

 Nigeria

5G adoption and coverage



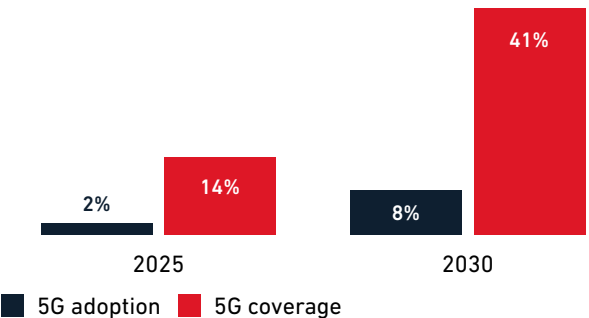
Commercial 5G deployment in Nigeria began in September 2022, led by MTN Nigeria, followed by Mafab Communications in January 2023 and Airtel Nigeria in June 2023. To support these rollouts, the Nigerian Communications Commission (NCC) auctioned spectrum in the 3.5 GHz band across two rounds, awarding 100 MHz each to MTN, Mafab and Airtel. Operators have subsequently supplemented capacity with additional spectrum in the 2.6 GHz band.

Given the high cost and rollout challenges associated with fibre infrastructure, 5G FWA has emerged as the leading use case, particularly in major urban centres such as Lagos and Abuja, where it serves as a high-speed alternative for homes and small businesses. Other emerging applications include enhanced support for fintech services through improved network reliability and industrial IoT use cases.

Nigeria’s 5G priorities include expanding coverage beyond high-value urban areas to meet national broadband targets while also addressing the relatively high cost of 5G-enabled devices to accelerate mass-market adoption.

 Senegal

5G adoption and coverage



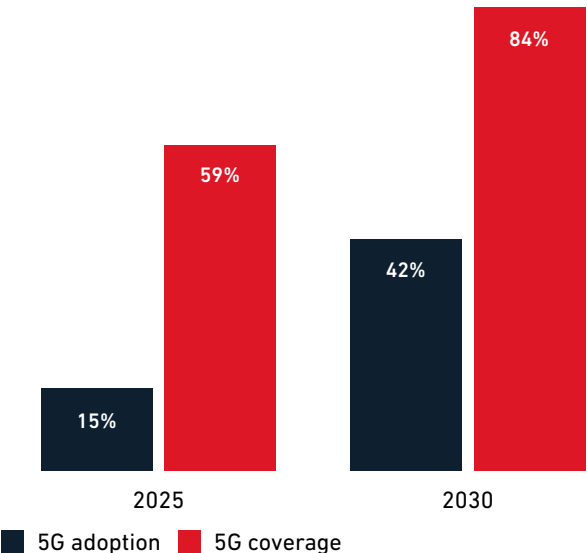
Commercial 5G services in Senegal launched in March 2024, led by market incumbent Sonatel (Orange), with Saga Africa Holdings (Free) following shortly after. The Telecommunications and Posts Regulatory Authority (ARTP) assigned Free a 90 MHz block in the 3.5 GHz band, while Sonatel secured spectrum in the same band alongside a 10 MHz allocation in the 700 MHz band to enhance coverage.

5G FWA formed the core commercial offering at launch, with both operators deploying FWA to deliver fibre-like, high-speed broadband to residential and business users. Beyond basic connectivity, early use cases have included immersive e-sports, real-time health monitoring, smart-vehicle trials (in partnership with Ericsson) and drone-based agricultural applications developed at the Orange 5G Lab to support near-real-time crop analysis and automated irrigation.

Mobile operator Espresso Senegal is expected to enter the 5G market, following initial regulatory compliance challenges, while Orange and AWS plan to introduce AWS Wavelength edge capacity in the market, signalling a shift towards enterprise use cases alongside consumer connectivity.

South Africa

5G adoption and coverage



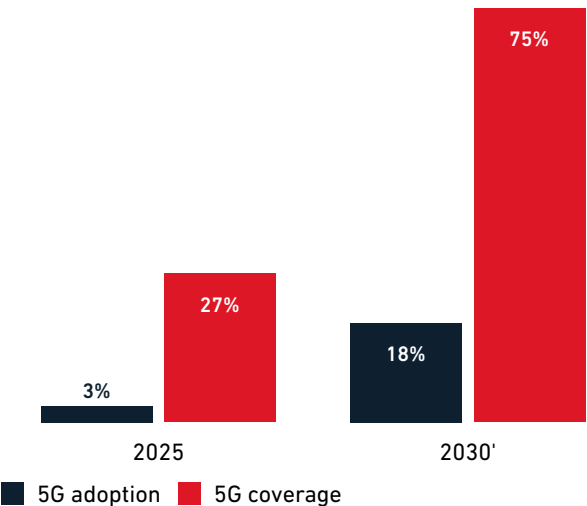
Commercial 5G in South Africa began in 2019, when Rain launched a data-only network. Vodacom and MTN followed in 2020 with temporary spectrum allocated during the Covid-19 pandemic. The Independent Communications Authority of South Africa's spectrum auction in 2022 resulted in the assignment of low- and mid-band frequencies: Rain and Vodacom secured spectrum in the 700 MHz band; MTN and Telkom acquired 800 MHz; and all major operators obtained allocations in the 2.6 and 3.5 GHz bands.

5G FWA has emerged as the dominant use case, serving as a primary broadband alternative to fibre for households and businesses. Beyond FWA, MTN has completed a 5G core modernisation with Ericsson, paving the way for 5G SA deployment, and trialled 5G-Advanced integrated sensing and communication with ZTE for harbour monitoring. These developments build on its existing private 5G network for mining, deployed in partnership with Huawei, underscoring the growing maturity of industrial 5G use cases in the market.

The planned sunset of legacy 2G and 3G networks by 2027, alongside operator targets to extend population coverage beyond 70% and transition to SA networks by 2029, will define the future 5G landscape.

Tanzania

5G adoption and coverage



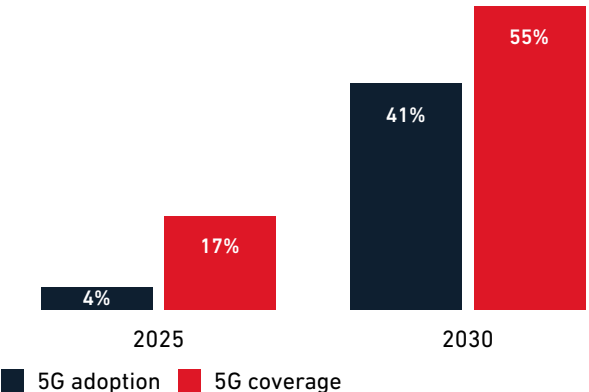
Tanzania entered the 5G era in September 2022, when Vodacom Tanzania launched the country's first commercial network, followed by Tigo and Airtel in 2023. Rollouts have been supported by multi-band spectrum allocations from the Tanzania Communications Regulatory Authority. In a 2022 auction, Vodacom secured spectrum in the 700, 2300 and 2600 MHz bands and Airtel acquired 2600 and 3500 MHz. Meanwhile, Tigo and Halotel strengthened their holdings in the 3500 and 2600 MHz bands, respectively.

This was further expanded in July 2025 through a C-band auction, where Halotel, Yas (Honora) and Vodacom secured additional mid-band spectrum in the 3600–3800 MHz range.

5G FWA is now widely available in major urban centres such as Dar es Salaam and Zanzibar, where it is positioned as a cost-effective alternative to fibre for homes and businesses via dedicated 5G routers.

 Tunisia

5G adoption and coverage



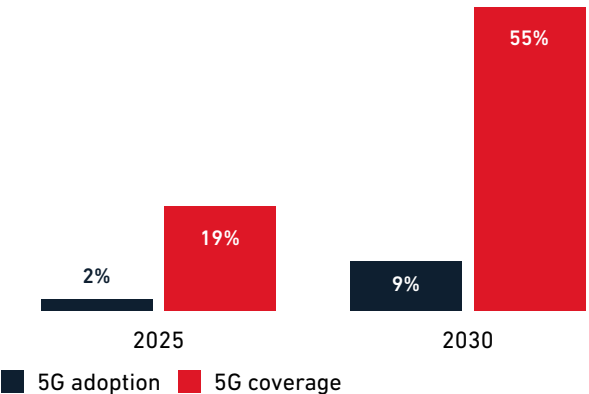
Tunisia launched 5G in February 2025, when the country’s three main operators – Tunisie Telecom, Ooredoo Tunisia and Orange Tunisia – simultaneously launched commercial services. Each operator was awarded a 15-year licence, comprising 5 MHz of paired spectrum in the 700 MHz band for coverage and 100 MHz of TDD spectrum in the 3.5 GHz band for capacity.

5G FWA was available from launch, with offerings such as Ooredoo’s ‘Fixe Jdid 5G’ and Orange’s Wi-Fi 6-based FWA routers targeting high-speed home and office connectivity. Enterprise and Industry 4.0 use cases are also emerging, supported by initiatives such as the Orange 5G Lab in Tunis, which is testing applications across various sectors.

A key milestone ahead is the potential allocation of additional spectrum, with up to three further 20 MHz blocks available upon operator request.

 Uganda

5G adoption and coverage



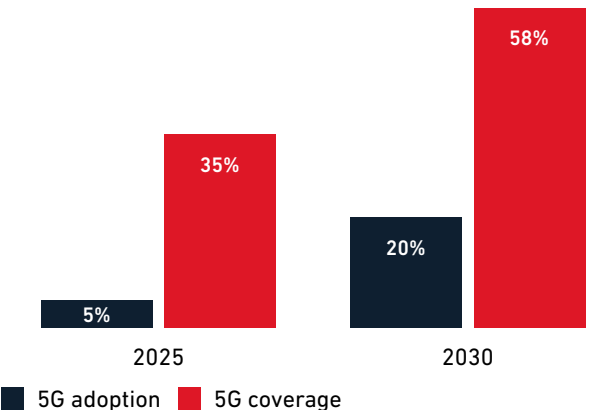
MTN launched commercial 5G services in Uganda in July 2023, closely followed by Airtel Uganda. The rollout followed a competitive spectrum auction led by the Uganda Communications Commission, which awarded MTN spectrum in the 700 MHz, 2.3 GHz, 2.6 GHz and E-band ranges, while Airtel secured 800 MHz, 3.5 GHz and E-band spectrum.

To mitigate the high cost and logistical challenges of expanding fibre backhaul, both operators have prioritised 5G FWA to deliver high-speed, reliable connectivity to homes and businesses across urban areas. Beyond residential broadband, enterprise use cases are beginning to emerge, including a private 5G network deployed by MTN in partnership with Huawei at the Hima Cement factory, enabling automated, real-time edge computing to improve operational efficiency.

Key priorities include advancing the Digital Uganda Vision and implementing the national 5G adoption strategy developed with the International Telecommunication Union (ITU), with a focus on transitioning major urban base stations to 5G.

 Zambia

5G adoption and coverage



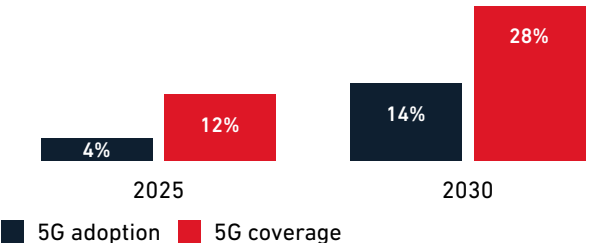
Zambia’s commercial 5G rollout began with the launch by MTN Zambia in November 2022, followed by Airtel Zambia in July 2023. The Zambia Information and Communications Technology Authority supported the rollout of 5G by revising its spectrum roadmap, allocating key low-, mid- and high-band frequencies, including the 700 MHz, 800 MHz, 2.6 GHz, 26 GHz and C-band ranges.

Both operators have leveraged this spectrum to expand 5G FWA, offering 5G-enabled home and office routers through retail channels to address the country’s low fixed-broadband penetration. MTN Zambia also deployed its 5G Penta Band Indoor Solution to enhance connectivity in multi-storey offices, shopping centres and hospitals.

Going forward, the focus is on scaling up infrastructure. This includes an active 152-tower rollout to extend coverage, alongside the government’s push to phase out legacy networks and reform spectrum to support wider 4G and 5G availability.

 Zimbabwe

5G adoption and coverage



Econet Wireless launched Zimbabwe’s first 5G network in February 2022, followed by NetOne in October 2024. The Postal and Telecommunications Regulatory Authority of Zimbabwe enabled these rollouts by allocating test and commercial spectrum, primarily in the 3.4–3.6 GHz mid-band range.

5G services are largely centred on FWA, providing high-speed, fibre-like connectivity for homes and businesses, helping to address the country’s connectivity gap. Econet’s Smart4Home FWA targets high-usage households. The FWA service is positioned as a primary, non-fibre alternative for data-heavy applications, offering robust packages suitable for modern smart-home features and media streaming.

Key priorities include releasing additional mid-band spectrum through the clearance of legacy systems, expanding national base-station coverage and advancing next-generation capabilities, including NetOne’s partnership to explore satellite-based direct-to-device 5G connectivity.

3

Emerging 5G use cases

The 5G business case relies heavily on the application of the technology across a range of use cases, alongside adoption by both consumers and enterprises. This is essential to sustain continued investment in network infrastructure and drive the technology's broader societal impact.

In Africa, the consumer segment offers significant potential given the size of the addressable 5G market; currently, 5G accounts for only around 5% of the approximately 1.5 billion mobile connections on the continent, compared to the global average of 33%. However, economic constraints affecting smartphone affordability have slowed adoption. The average price of an entry-level 5G smartphone in Africa is still above \$100, an amount that exceeds the monthly minimum wage in many markets, making consumer hardware upgrades unaffordable for the mass market.

As a result, there has been a growing focus on 5G FWA and the enterprise segment, which increasingly present opportunities to capture value and drive impact. In the context of Africa's limited fibre

infrastructure, 5G FWA offers a cheaper, faster route to market for telecoms operators looking to serve homes and businesses with high-speed broadband services. As of May 2026, there were 40 live 5G FWA networks on the continent, equivalent to 66% of total commercial 5G networks, which is higher than the global average of 56%. Meanwhile, a push for increased global competitiveness and efficiency gains through automation is drawing attention to industrial 5G applications across African industries, particularly in extractive sectors.

This section highlights four examples of 5G use cases from across the continent that have the potential to reshape the 5G business case and grant operators a significant opportunity to monetise their networks.

3.1 5G FWA in South Africa and Tanzania

Despite the growth in the consumer segment – and South Africa’s relatively developed fixed-line infrastructure – 5G FWA remains a key focus area for service providers. For example, Rain, which launched the country’s first commercial 5G FWA service in 2019, has prioritised uncapped 5G home broadband, flexible month-to-month plans and converged FWA–mobile offerings for households and small businesses.

MTN has similarly focused on integrated home and mobile solutions, with 5G FWA included in its ‘Home’ converged portfolio (FWA and fibre). This strategy has delivered results, with MTN reporting a 29.6% year-on-year increase in FWA subscribers, taking its total home connections to 344,000 in H1 2025. MTN has also reported monthly ARPU of \$24–32 from FWA services,

with FWA users consuming substantially more data than mobile broadband subscribers on average.⁴ This underlines the potential for 5G FWA to support revenue growth while helping to address connectivity gaps for both residential and business users.

In Tanzania, the 5G FWA market is primarily driven by Vodacom, Airtel and Tigo. Vodacom positions 5G FWA as a premium fixed-broadband alternative in areas lacking fibre, offering packages with speeds of up to 350–400 Mbps under optimal conditions, largely targeting enterprise users. Airtel, by contrast, focuses on the mass-market residential segment, promoting its ‘5G Smart Box’ home routers with tiered plans delivering speeds of 10–100 Mbps.

3.2 Low-band massive MIMO deployment in Nigeria

A 2025 NCC report⁵ found that a significant share of 5G-capable devices were unable to access 5G networks (70.9% in Lagos and 65.6% in Abuja), indicating that device adoption is outpacing network coverage. Consequently, there has been a strong focus on expanding 5G coverage in Nigeria, particularly in urban areas, to meet growing demand for enhanced connectivity.

In April 2026, MTN Nigeria and Huawei deployed the world’s first low-band massive multiple-input multiple-output (MIMO) site in Abuja, enabling wider 5G coverage and improved indoor penetration. This approach allows a single site to cover larger, densely populated areas, offering a more cost-effective alternative to high-density cell deployments, particularly for delivering high-speed connectivity in commercial zones.

The deployment is primarily aimed at improving connectivity reliability for millions of micro, small and medium-sized enterprises (MSMEs) that rely on digital banking and mobile point-of-sale (POS) terminals in densely populated areas. Low-band spectrum, with its longer wavelength, enables signals to better penetrate buildings and navigate physical obstacles, allowing handheld POS devices to maintain stable connectivity – even in indoor market environments. Nigeria has approximately 8.4 million registered mobile POS terminals, of which around 5.9 million are actively deployed.⁶

The deployment also highlights how operators can maximise the value of existing network assets ahead of a full 5G SA rollout. By strengthening capacity and user experience on low-band spectrum, operators are better positioned to accommodate rising data demand, support the expansion of digital services and enable a smoother transition to next-generation network architectures.

4 “5G Rollout in Africa: Key Trends Shaping Connectivity in 2025”, Tech In Africa, January 2026

5 Nigeria Network Performance & 5G Opportunity Analysis, NCC, 2025

6 “POS growth slows as Nigeria’s payments market enters new phase”, BusinessDay, February 2026

3.3 Private 5G network in Morocco

Data from the GSA shows that, as of early 2025, around 32 companies in Africa were procuring private-network equipment, accounting for approximately 21% of the global total. Activity is largely concentrated in South Africa, Nigeria and Angola, with deployments also beginning to emerge in Ghana.⁷ For example, MTN, in partnership with Huawei and China Telecom, has deployed a 5G-enabled private network for a manganese mine in South Africa, supporting worker monitoring, vehicle tracking and autonomous trucks.⁸

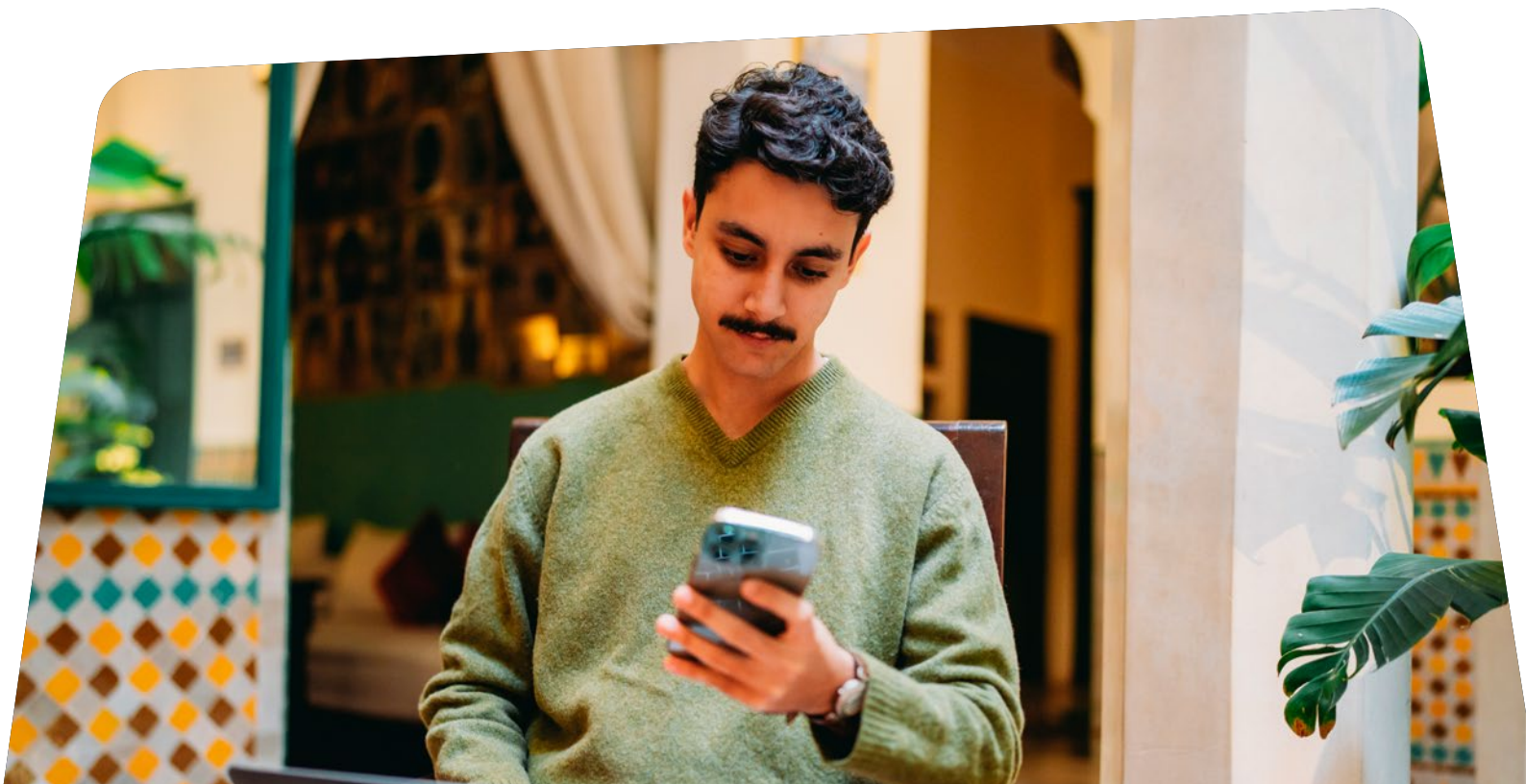
In Morocco, 5G forms part of the Digital Morocco 2030 strategy, which aims to accelerate industrial transformation and move the country beyond basic manufacturing towards high-value, technology-driven production. 5G is a key enabler of this transition, supporting smart manufacturing and delivering the fast, reliable connectivity required for Industry 4.0. Innovation hubs such as Technopark Casablanca, Maroc Numeric Cluster and Nokia's Innovation Center in Salé are already supporting IoT pilots, robotics startups and 5G testbeds for industrial use cases.

In April 2026, Inwi announced the deployment of Morocco's first private industrial 5G network at a 52-hectare factory in the Nador West Med industrial hub, in partnership with China Mobile International and Huawei. The project focuses on Industry 4.0 applications, including automation, real-time monitoring, IoT, remote sensing and high-reliability industrial operations. Although still in its early phase, the project is positioned to be a potential benchmark for smart factories in Africa. It is expected to support the wider adoption of advanced IoT and industrial control systems while serving as a replicable model for sectors such as mining, automotive, logistics and renewable energy. It also aims to boost productivity and strengthen Morocco's integration into global value chains.

In parallel, Inwi is leveraging its partnership with Huawei to develop private 5G solutions for enterprise customers across multiple sectors. These partnerships extend beyond connectivity to include training programmes for businesses, with plans to scale up engagement through regional chambers of commerce. This reflects a broader operator strategy to position 5G as an enabler of regional economic development in collaboration with public and private stakeholders.

⁷ "GSA: A snapshot of Africa's telecoms landscape", Developing Telecoms, October 2024

⁸ "MTN, Huawei to deploy 5G private network for African mine", RCR Wireless, January 2025



3.4 5G broadcast in Kenya

By the end of December 2025, Kenya had 1.74 million 5G connections, an increase of 730,000 from the previous year. However, 4G connections in Kenya increased by nearly 10 million during the same period.⁹ This dynamic strengthens the case for prioritising industrial 5G opportunities. One area that is already gaining traction is broadcasting, where 5G-enabled remote production and live workflows are becoming increasingly relevant across events of all sizes.

In 2025, China Global Television Network (CGTN) used 5G networks to deliver real-time coverage of the Great Migration from the Maasai Mara to a global YouTube audience. The deployment leveraged 5G's ultra-reliable, low-latency capabilities to transmit high-resolution 4K video from remote locations – something that is often constrained on 4G or satellite networks due to bandwidth limitations and latency. CGTN and the Kenyan government estimate that their broadcast could reach more than 25 million viewers in China alone, in addition to the wider global audience.

5G Broadcast (one-to-many multicast capability) remains nascent globally and has yet to be widely commercialised in Kenya, with the CGTN Great Migration broadcast standing out as the most prominent example of 5G-enabled live transmission in Africa. Other use cases – including sports, concerts and political events – are frequently highlighted as potential applications, though large-scale deployments have not yet been widely demonstrated.

Overall, Kenya illustrates early but tangible progress in the use of 5G for live broadcasting in Africa, particularly in remote production and news gathering. Wider adoption will likely depend on the maturation of 5G SA networks and a stronger ecosystem of broadcasters equipped to leverage the technology.

9 Second Quarter Sector Statistics Report For The Financial Year 2025/2026 (1st October – 31st December 2025), Communications Authority of Kenya



4

Accelerating the impact of 5G in Africa

While 5G is beginning to make inroads in Africa, its overall impact remains uneven and limited. With the technology now in its seventh year of deployment – beyond the midpoint of the typical 10-year mobile generation cycle – this is a critical juncture for stakeholders to take immediate and coordinated action to accelerate deployment, deepen adoption and maximise the impact of 5G in the region.

This is vital not only to realise its benefits for productivity, innovation and inclusion, but also to prevent a widening digital divide with other regions where 5G is already underpinning economy-wide digital transformation.

Governments and operators play a central role within Africa's 5G ecosystem, so they are well positioned to execute outcome-oriented actions across policy, infrastructure, affordability, skills and use-case development. Addressing these areas is essential to overcome persistent bottlenecks in deployment and adoption.

4.1 Governments and policymakers

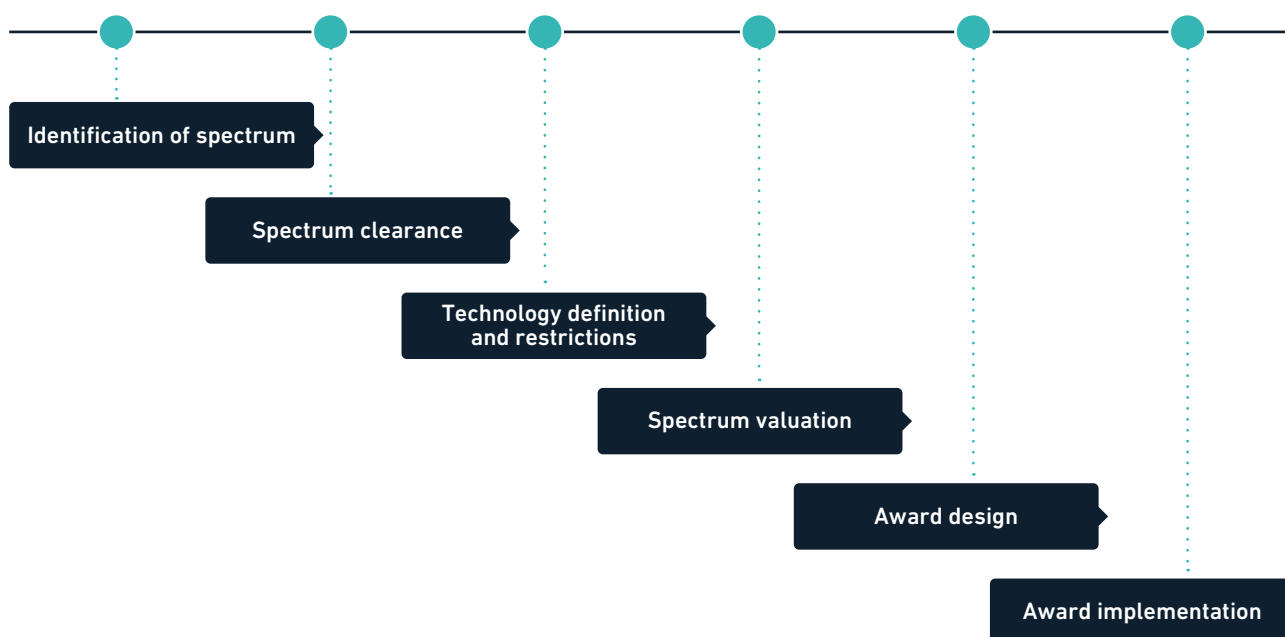
Spectrum for 5G

Across Africa, only 16 countries have completed their 5G spectrum allocations or assignments. This equates to less than 30% of nations on the continent, in contrast to regions such as Europe, where over 90% of countries have assigned 5G spectrum. Consequently, many operators have circumvented traditional spectrum auctions by employing temporary testing licences or technology-neutral policies that permit the repurposing of existing 2G, 3G or 4G bands for 5G. Addressing the spectrum challenge in Africa requires policymakers to:

- release mid-band spectrum, including the 3.5 GHz and low-band ranges, with at least 80–100 MHz of contiguous spectrum per operator
- ensure the availability of low-band ranges, as existing 5G deployments show that countries using the 600 and 700 MHz bands are able to offer consumers 5G services that are more widely available and of better quality than those only using mid-band and mmWave bands
- use the L-band (1427–1518 MHz) as a supplemental downlink, given its strong balance between coverage and capacity, as pairing this band with low-band spectrum can enable operators in Africa to significantly enhance download capacity to meet growing data demand
- set reserve prices below estimated market value for upcoming auctions of new spectrum bands, which allows proper price discovery and reduces the risk of unsold spectrum
- ensure licence renewal processes promote investment and maintain service continuity by being predictable and avoid introducing new terms that could undermine return on investment
- provide a clear spectrum roadmap that addresses not only current usage but also longer-term requirements to enable operators to plan network investments and long-term secure financing.

Figure 10

A roadmap for 5G spectrum



Source: GSMA Intelligence

Ghana charts a new path for 5G

In July 2026, Ghana's government opened the bidding and award process for 5G licences to increase competition in the telecoms sector. MTN and Telecel – the country's two largest operators – have indicated interest in participating in the process. Ghana's National Communications Authority also amended Next Gen Infracore Limited's (NGIC) wholesale 5G licence, ending the company's exclusive rights to operate the country's wholesale 5G infrastructure.

These developments mark a pragmatic shift away from the single wholesale network (SWN) model introduced in August 2023, which was followed in 2024 by an exclusive 10-year licence granted to NGIC to deploy a unified national 4G and 5G network. Although a soft launch took place in November 2024, NGIC only commenced full commercial operations of its shared network in March 2026, with limited coverage in some major cities. As a result, Ghana has fallen behind many regional peers in 5G deployment and adoption.

Globally, SWN models have failed to meet expectations. Malaysia is a notable example, where the initial 5G SWN approach was subsequently revised, leading to a transition towards a dual-network model. By removing the 10-year exclusive wholesale mandate, Ghana is moving away from a strict SWN approach towards a more hybrid market structure. This includes direct spectrum auctions for individual operators, alongside the flexibility to deploy proprietary 5G networks or lease capacity from NGIC. The shift aligns with broader global trends, whereby 5G investment and innovation have largely been driven by competition at the infrastructure level.

Restoring direct spectrum auctions reintroduces competitive market dynamics, enabling operators to invest in their own networks and expand physical infrastructure. Ownership of spectrum and network assets allows operators to control service quality, differentiate offerings and maximise long-term asset value. The policy shift reflects a willingness to recalibrate when initial approaches underperform. If effectively implemented, this should help accelerate 5G momentum in Ghana. However, the government's target of achieving 70% coverage by 2027 remains ambitious.



Upper 6 GHz readiness

As governments seek to accelerate the development of communications infrastructure, 6 GHz mobile spectrum can form an important part of sustainable connectivity. Full-power use of the upper 6 GHz band (6.425–7.125 GHz) for wide-area, macro-cell mobile networks can help enable digital growth across the world. The World Radiocommunication Conference 2023 (WRC-23) harmonised the upper 6 GHz band for mobile services and it has subsequently been included in national spectrum roadmaps.

A large number of countries, which collectively account for more than 80% of the world's population, now support mobile use of upper 6 GHz, providing the scale and certainty needed for a

strong global ecosystem. The first upper 6 GHz assignment processes have been finalised, and further awards are expected in the coming years in Europe, the Middle East and Africa (EMEA), Asia Pacific and the Americas. The timing of awards will be dependent on individual market demand. Trials of equipment have been carried out since 2022, reaching peak data speeds of 12 Gbps.

Upper 6 GHz capacity will support increasing customer demand and traffic growth as existing applications develop and new use cases are deployed at scale. It can be used for the future evolution of mobile through 5G-Advanced and the launch of 6G, providing the 200–400 MHz channel bandwidths that will be required in the 6G era.



Demand for 5G

The business case for 5G in Africa remains constrained by weak demand from both the consumer and enterprise segments. This reflects persistent affordability barriers for smartphones, CPEs and other 5G-enabled devices, alongside limited awareness of 5G capabilities and relevant use cases among enterprises. In this context, governments have a critical role to play in stimulating demand for 5G services. Key policy levers include the following:

- Improving access to smartphones and other 5G-enabled devices is essential to expanding the addressable market. Reducing taxes and import duties is particularly important, as these account for a significant share of total device costs – reaching up to 50% in some African markets.¹⁰
- Governments can catalyse adoption through targeted public procurement and incentive schemes. Integrating 5G into national priorities, such as smart agriculture, telemedicine, mining and e-education, and supporting adoption through funding programmes or tax incentives can help anchor early demand.
- Lowering the cost of infrastructure rollout can indirectly support demand by enabling more affordable end-user pricing. For example, Ghana's proposed 'dig once' policy – mandating the installation of fibre-optic conduits alongside road construction – could significantly reduce the cost of 5G backhaul deployment.
- Public-private partnerships and regulatory sandboxes can support the development of localised use cases. Establishing innovation hubs or industrial zones with subsidised or free access to 5G infrastructure would allow startups, universities and enterprises to test and scale up applications in relevant local contexts.

4.2 Mobile operators

5G monetisation

Mobile operators in Africa have, to date, focused primarily on 5G network deployment. However, given the challenging business case – driven by high rollout costs and constrained uptake across both the consumer and enterprise segments – there is an increasing need to prioritise monetisation.

Operators will need to accelerate the development and adoption of innovative revenue models to capture greater value from 5G capabilities. While a recent GSMA Intelligence report¹¹ outlines a range of emerging monetisation approaches, several opportunities are particularly relevant in the African context:

- **FWA** offers a near-term monetisation opportunity in markets with limited fibre. Operators can differentiate through tiered packages based on speed and data allowances, alongside targeted propositions, such as gaming-focused plans with enhanced quality of service, to drive ARPU growth.
- **Private 5G** offers a clear monetisation pathway, with operators providing RAN and core components via managed services or in partnership with vendors and enterprises. Key verticals include ports, airports, mining, manufacturing, public safety and media.
- **Bundling connectivity with digital services** can support revenue growth and differentiation. Packages can be tailored to specific segments, (e.g. gaming or sports), with higher tariffs for bundled offers. Content services can also be monetised through add-ons, reflecting stronger demand for bundling among younger user groups.

¹⁰ [Accelerating Smartphone Adoption in Africa](#), GSMA Intelligence, 2026

¹¹ [Monetising 5G: what works, what doesn't and the implications](#), GSMA Intelligence, 2026

Energy-efficient networks

High energy costs remain a key constraint on network economics in Africa, driven by unreliable grid power and reliance on diesel generators. Improving energy efficiency can significantly reduce opex, particularly in rural and suburban areas, where operating costs can be up to 40% higher than in urban areas.

The adoption of renewable energy solutions (e.g. solar-powered sites) and energy-efficient network technologies (e.g. intelligent power management and multi-band radios) can lower fuel and maintenance costs. These savings can be reinvested into network expansion and more competitive pricing, supporting broader 5G adoption.

Recent deployments highlight this trend. For example, Airtel Niger reduced per-site power consumption by over 60% through multi-band radio deployment,¹² while Vodafone Egypt's consolidation of multiple generations into single units has lowered overall energy use.¹³ Similarly, operators are integrating sustainable infrastructure, including solar-powered data centres, to manage growing data demand. Beyond sustainability, energy efficiency is emerging as a core commercial lever to improve the viability of 5G in cost-constrained markets.

Scaling up 5G FWA

Accelerating 5G FWA adoption in Africa will require vendors to accelerate the production of affordable, high-performance CPE. Enhancements such as energy efficiency, high-gain antennas, battery back-up for unreliable power conditions and capabilities such as RedCap will improve performance and cost efficiency, strengthening FWA's competitiveness against fibre.

To support uptake, CPE vendors can also collaborate with operators, for example through bundled offerings, CPE subsidies and standards alignment. More broadly, success will depend on coordinated action across the ecosystem, including operators, vendors and governments.

Africa's 5G outlook

Africa remains one of the biggest untapped 5G growth opportunities globally. Although adoption is still low, the foundations for faster progress are strengthening. Population growth, rising smartphone uptake, broader network coverage and growing demand for data-intensive consumer and enterprise services could drive the number of 5G connections on the continent to nearly 400 million by 2030.

The business case is also becoming more compelling, with more mature monetisation models. At the network level, wider access to mid-band spectrum is improving coverage and capacity economics, while falling network costs, energy-efficient equipment, battery storage and renewable power are helping operators manage opex

more effectively. Meanwhile, infrastructure sharing and private networks are reducing capital intensity and enabling more targeted deployment.

The priority now for stakeholders is to convert this momentum into action through targeted rollout, stronger demand stimulation and policies that maximise economic impact. 5G FWA will be central to Africa's 5G growth trajectory, offering a practical and cost-effective alternative to fibre. It is well placed to help operators in Africa monetise 5G more quickly while expanding reliable broadband access to underserved households and SMEs. This will supporting digital inclusion, new revenue growth and the delivery of broader social and economic benefits.

¹² "Airtel Africa and Ericsson build a more efficient network in Niger", Ericsson, December 2022

¹³ Vodafone Egypt: Environmental, Social and Governance Snapshot For the year ended 31 March 2025, Vodacom, 2025

gsmaintelligence.com

GSMA
Intelligence

gsmaintelligence.com

