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DATA GOVERNANCE IN AFRICA

WEST AFRICA DATA CENTER MARKETS

A XALAM MARKET BRIEF

PREPARED FOR HAUS, GIZ AND DIGITAL INVESTMENT FACILITY PARTNERS

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INTRODUCTION

- This report is part of a series of market briefs developed by Xalam Analytics at the behest of Digital Investment Facility (DIF) under the Data Governance in Africa Initiative, on the data center market opportunity in sub-Saharan Africa ("SSA").

- This analysis aims to provide key insights into market demand and supply patterns for data center markets, business landscape, regulatory impact and investment returns. The research aims to provide potential investors and stakeholders with the latest information on the data center market in the SSA region.

- This review is based on our assessment of information and data as available to our research. It is further underpinned by our understanding of the marketplace along with market data and insights collected through continuous research.

- This report is focused on the West African market. It provides an aggregate view of the data center market in the region. Country-level summary insights are available separately from the Digital Investment Facility team. For this iteration of the report, estimates cover four countries principally: Cote, d'Ivoire, Ghana, Nigeria and Senegal. Additional countries may be added in subsequent market updates.

- The numbers and estimates in this report are derived from a mix of sources, including estimates from Xalam Analytics' economic models, data providers, regulator data and other sources as may be indicated.

- This report is prepared with funds from the Data Governance in Africa Initiative, a project financed by the European Union, Germany, Belgium, Estonia, Finland and France under the Digital for Development (D4D) Hub. The contents of this Market Brief are the sole responsibility of Xalam Analytics and do not necessarily reflect the views of the funders.

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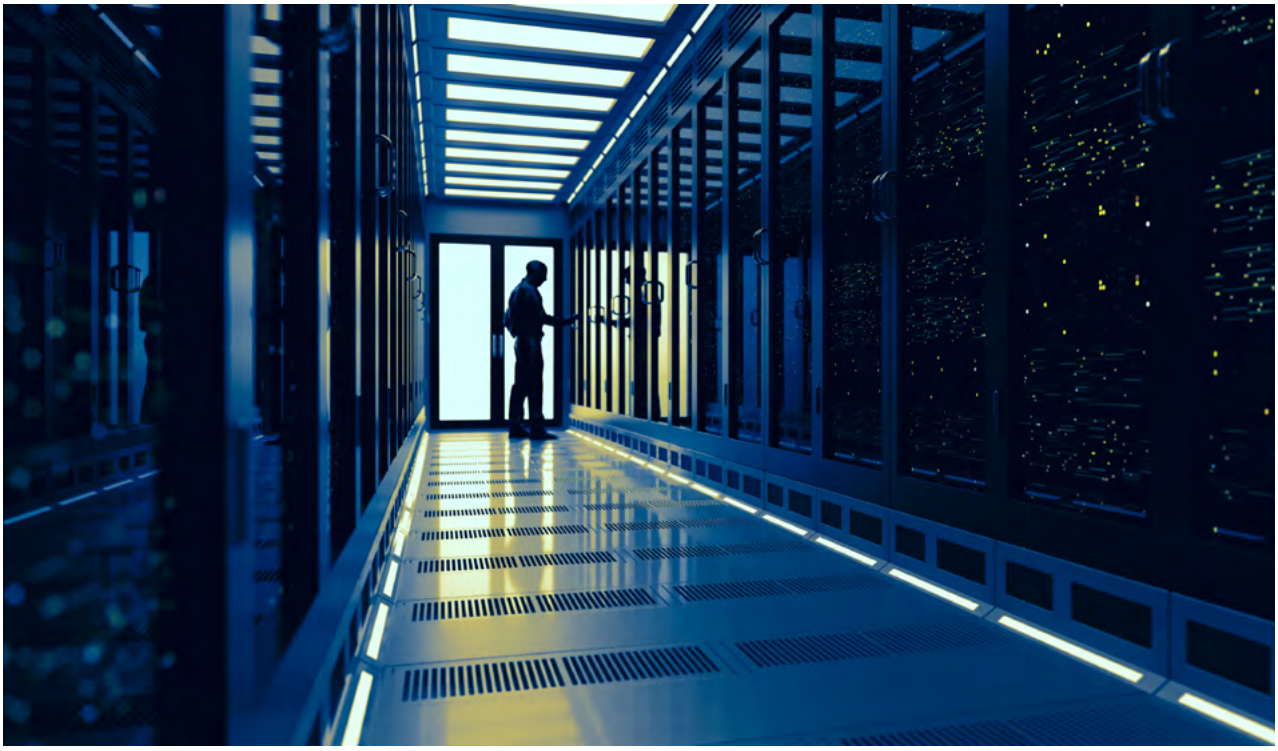
KEY DEFINITIONS

Data center	While there are a variety of definitions for data centers, this market review is focused on commercial facilities, that is, facilities that lease colocation white space and power capacity to third-party customers on open, commercial terms, and in exchange for a fee. Captive facilities (bank data centers, telco switch sites and similar) are excluded from this assessment. Estimates focus on facilities at Tier II standard and above, unless otherwise indicated. Where applicable, these estimates include cloud hyperscaler self-built facilities.
Live critical IT load	Capacity that is active, under lease or readily available for lease.
Full build capacity	Data center facilities are typically built in phases; the full-build capacity is capacity assuming all potential phases of build have been completed and are live.
Capacity in construction	Facilities that have broken ground; ongoing civil works, installation and commissioning phases.
Pipeline	Facilities publicly announced or listed as in development. Some execution phases have been initiated (e.g. land control, energy supply commitments, etc.), but no actual civil works have been undertaken.
Carrier-neutral	Facilities not specifically affiliated to a connectivity or cloud vendor, with capacity available to all third-party customers, on equal commercial terms, without explicit or implicit constraints or favoritism. This market review uses a loose definition for carrier-neutral, referring to facilities that are purely carrier-neutral, recognized by the market or effectively managed as such.

GLOSSARY

AI	Artificial Intelligence
ASN	Autonomous System Number
BB	Broadband
CAGR	Compound Annual Growth Rate
CapEx	Capital Expenditures
CDN	Content Delivery Network
Colo	Colocation
DC	Data Center
DFI	Development Finance Institutions
DIF	Digital Investment Facility
DRC	Democratic Republic of Congo
EU	European Union
FBB	Fixed Broadband
FDI	Foreign Direct Investment
FX	Foreign Exchange
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GW	Gigawatt
ICT	Information, Communications and Technology
IFC	International Finance Corporation
IMF	International Monetary Fund
IPP	Independent Power Producer
IRR	Internal Rate of Return
IT	Information Technology
IXP	Internet Exchange Point
Km	Kilometer
kW	Kilowatt
kWh	Kilowatt hour
LLM	Large Language Models
MNC	Multinational Corporation
MNO	Mobile Network Operator
MRR	Monthly Recurring Revenue
MSP	Managed Service Provider
MW	Megawatts
OEM	Original Equipment Manufacturer
PoP	Point of Presence
PUE	Power Usage Effectiveness
RFS	Ready For Service
SSA	Sub-Saharan Africa
USD	US dollar

1. THE STATE OF THE WEST AFRICAN DATA CENTER MARKET



A FAST-IMPROVING DIGITAL INFRASTRUCTURE, BUT GAPS REMAIN

West Africa is one of Africa's most important markets, a complex population mosaic of nearly 500m spread across 16 countries and anchored by Africa's most populated market, Nigeria. The region is the largest regional Internet market in Sub-Saharan Africa based on broadband connection volumes.

West African Internet markets have witnessed considerable growth over the past few years, buoyed by strong demand for connectivity. The combined number of broadband connections in Nigeria, Cote-d'Ivoire, Ghana and Senegal has been growing at a rate of around 10% a year, reaching around 165m in 2024. Average penetration levels have nearly doubled over the past decade, topping 55% in 2024[1].

The region's digital infrastructure is increasingly transformed. 4G networks now cover 80% of the population in Nigeria, Cote-d'Ivoire, Ghana and Senegal. The number of connections using 4G, 5G or last mile fiber technologies has grown faster, nearly doubling over the past three years to cross the 100 million milestone. A dozen submarine cables now land along West Africa's coastlines, including hyperscaler-led "megacables" such as Equiano and 2Africa, and new telco cables like MT West Africa, which have dramatically improved the region's network resiliency.

Middle mile terrestrial fiber construction has been similarly consequential. Xalam estimates that nearly 100,000 kms of terrestrial fiber have been deployed in West Africa over the past decade, as part of efforts to address one of the most persistent bottlenecks to African digital inclusion. Fiber providers have multiplied cross-border routes, with initiatives ranging from Orange's Djoliba multi-country fiber network to new cross-border links connecting Nigeria and Benin, Ghana and Togo or Senegal and Mali.

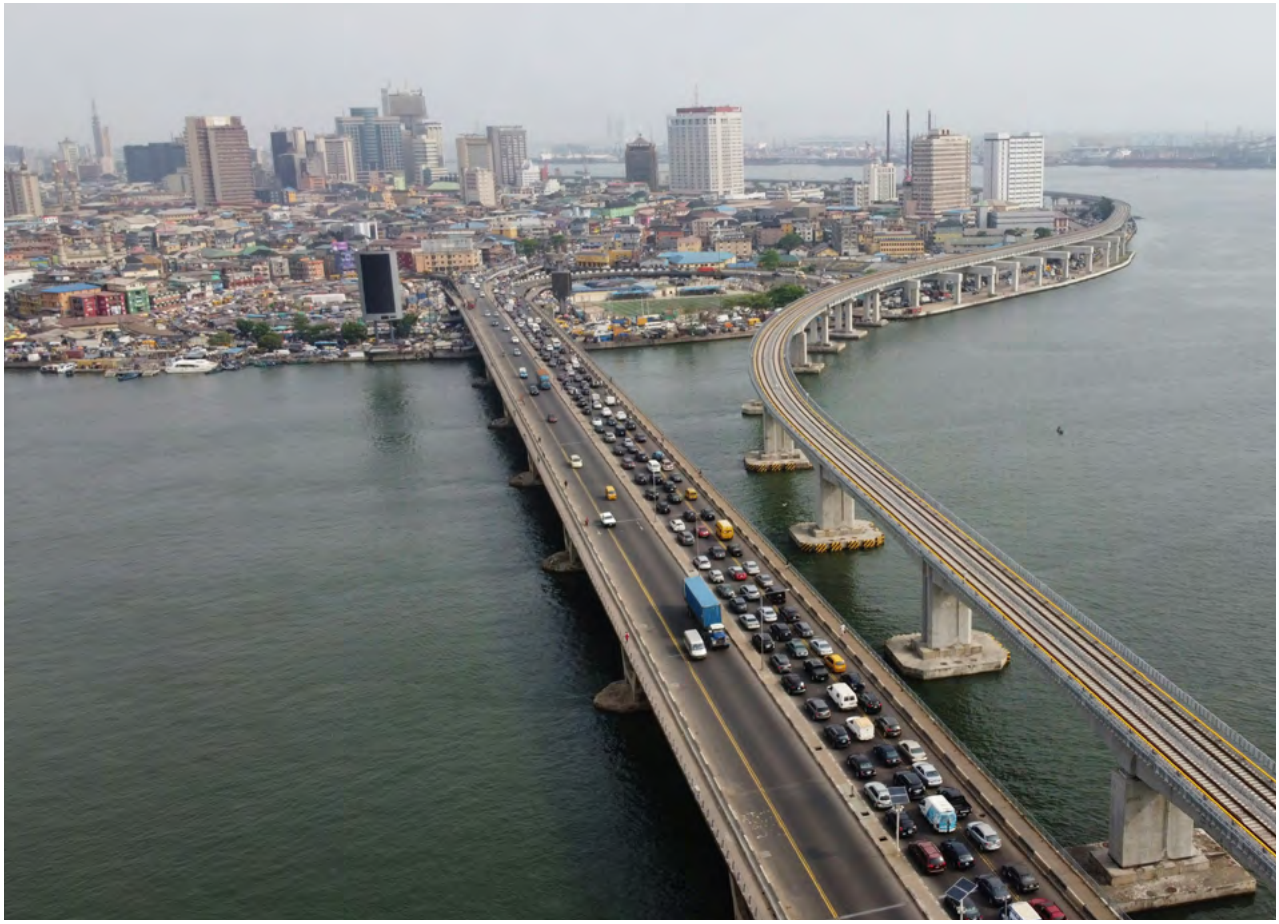
[1] *Unless otherwise indicated, estimates for West Africa include the following four countries: Cote-d'Ivoire, Ghana, Nigeria and Senegal.*

A DATA CENTER INDUSTRY STRIVING TO CATCH UP TO THE SCALE OF THE CONNECTIVITY MARKET

The West African data center ecosystem has yet to truly live up to the scale of the region's Internet market. Around 30 commercial facilities at Tier III standard are active in the region, delivering nearly 30MW of combined live critical load. Relative to population and GDP size, West Africa has less available capacity than its East African and Southern African peer regions.

The West African region offers solid potential for data centers. At the heart of the opportunity is Nigeria, potentially Africa's largest economy and the home of one of Africa's deepest technology ecosystems, with hundreds of ISPs and IT services providers. By virtue of its size, Nigeria is a generally seen as a likely destination for global cloud hyperscaler infrastructure deployments, which would complement hyperscaler cloud region construction in South, East and North Africa. Other West African markets are relatively smaller in scale, with a few shared characteristics: stable economies and institutions, relatively mature broadband markets and above-average Internet penetration levels.

New facility construction has been relatively modest in West Africa; only around 6 Tier III colocation facilities have gone live since 2021 across Nigeria, Cote-d'Ivoire, Ghana and Senegal, bringing in 15MW of capacity. This is the smallest volume of new construction over that period among Africa's main regional clusters outside of Central Africa, and well short of the region's presumptive needs.



NIGERIA

Nigeria is the largest data center market in West Africa, and the fourth largest in Africa based on available critical IT load. Around 10 data center colocation facilities at Tier III standard are operational in the country. The bulk of Nigeria's commercial capacity sits in the Lagos metropolitan area, the country's economic hub. Notable secondary markets include the Federal Capital Abuja and the Northern city of Kano, though facilities in those metros are generally smaller in scale.

Nigeria's available capacity is understood to be well-below market potential. Existing capacity supply represents less than 20% of the country's long term demand, suggesting strong growth potential. Of Africa's top five data center markets, Nigeria has the smallest capacity relative to population, GDP or Internet market size.

New facility construction has been relatively modest over the past three years, held back by challenging macroeconomic conditions, delayed construction and slower than anticipated deployments by global cloud hyperscalers.

The market's outlook looks robust as the economy gradually recovers from a period of slow growth. Around 10 facilities have been in various stages of development and the market's capacity is projected to grow nearly 5x from 2024 levels. In addition, a Nigerian government $2bn BRIDGE initiative to deploy 90,000km of fiber across the country should improve prospects for facility deployments in the country's second tier metropolitan centers.

GHANA

Ghana is one of Africa's most promising data center markets. The country has a set of attributes that have made it an attractive destination for multinationals looking to expand their West Africa presence beyond Nigeria. It is the third largest economy in West Africa, has stable, democratic institutions, steady economic growth and incomes above the African average.

Overall, however, available capacity continues to lag presumptive potential. Five primary Tier III facilities are active in the country, bringing in upwards of 5MW of live capacity. New facility construction has been modest; only one new facility has come to market since 2021, mostly due to provider concern around the true scale of demand. Nonetheless, capacity construction is improving. Upwards of 10MW of new capacity is projected to come to the market by 2030, predominantly from newly-built facilities and some expansion of existing facilities.

COTE-D'IVOIRE

Cote-d'Ivoire offers a compelling opportunity to data center services providers. The country boasts strong macro-economic fundamentals, as one of the fastest-growing economies in Sub-Saharan Africa over the past few years, with real GDP growth averaging 7%. Cote-d'Ivoire is an economic hub in francophone Africa, the primary base for multinational corporations targeting francophone West Africa. The country's ICT services sector is one of the largest in West Africa, worth around $1.8bn to $2bn annually. Internet adoption levels are relatively high, with broadband penetration hovering around 80%, well above the African average.

The data center market is still small against such a strong backdrop. With about 5MW of commercial capacity, Cote d'Ivoire is a mid-tier data center market. Growth was long modest; while a variety of projects have been mooted, there has been only one new built-for-purpose Tier III commercial facility built in five years.

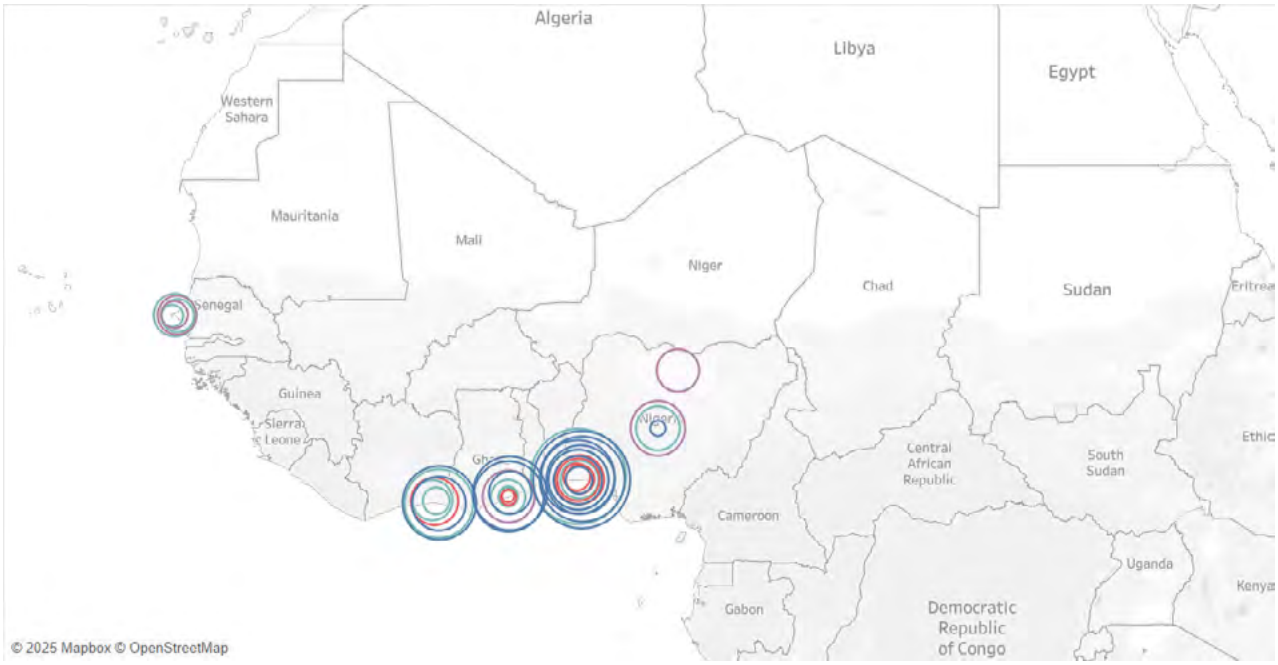
The launch of Raxio in 2024 has expanded the base of supply available from carrier-neutral facilities. Slightly more than half of available supply now comes from carrier-neutral facilities, a major inflexion point in the maturity of this market.

SENEGAL

Senegal is the smallest of West Africa's top data center markets – but arguably one of the most promising. The country has a mature Internet services market, with penetration in the 90%-100% range, and extensive fiber infrastructure. Senegal has long been a standout market in Africa, with democratic institutions, steady economic growth and incomes above-average incomes.

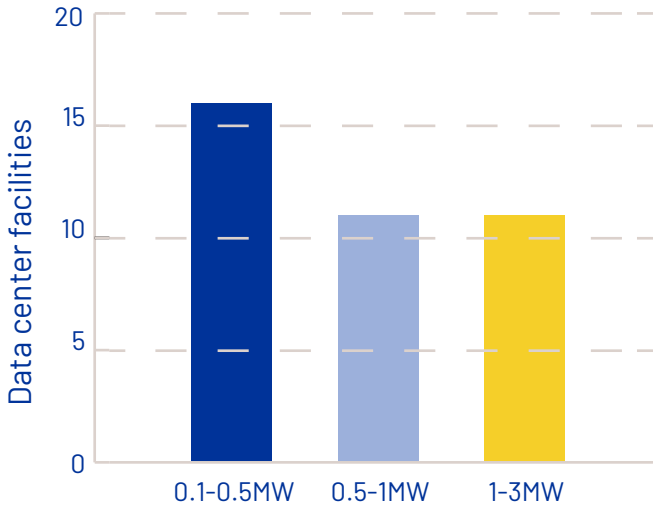
Commercial data center capacity was only around 2MW in 2024, a small scale that belies the market's long term potential. New facility construction has been limited, partly due to concerns around demand scale and partly tied to the strong presence if traditional telcos in the data center segment. This is changing gradually, with new carrier-neutral facilities expected to come to market over the next 2-3 years, notably from PAIX and Onix, with some upside from additional providers.

WEST AFRICA – COMMERCIAL DATA CENTER FACILITIES – 2024



Each circle represents a commercial DC facility; circle size reflects facility size in MW.
Sources: *Xalam Analytics estimates; Company data.*

WEST AFRICA – DISTRIBUTION OF DATA CENTER FACILITIES BY SIZE – 2024



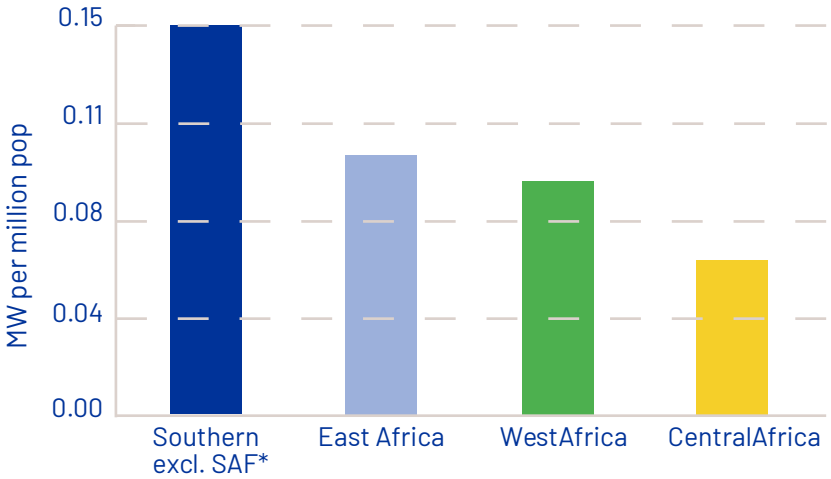
Sources: *Xalam Analytics estimates, provider data*

2. WEST AFRICA DATA CENTER CAPACITY REQUIREMENTS

With the region's Internet traffic volumes set to double over the next five years and economic digitization efforts intensifying, scaling up West Africa's hosting capabilities has become paramount.

The scale of the region's demand for hosting is considerable. To hit a capacity-to-population ratio at the level of a moderately mature market such as Morocco, for example, West Africa would need to add around 150MW to 200MW of new capacity over the next few years, or 30+ large-scale data center facilities.

RELATIVE DEPTH OF DATA CENTER MARKET – MW CAPACITY PER MILLION POPULATION IN KEY AFRICA REGIONS [1]



[1] *Southern Africa excluding South Africa (off-scale)*

Source: *Xalam Analytics estimates*

The new facilities would support an increasingly complex and fast-densifying content and connectivity ecosystem. As traffic volumes continue to surge, more providers are building points of presence (PoPs) across the region to reduce latency, lower transit costs and interconnect with peers.

Additional data center capacity would similarly be needed to support West African demand for cloud services. The region's cloud adoption has accelerated sharply over the past three years, most notably in the Nigerian market, driven by intense digital transformation in the financial services sector, a dynamic, cloud-native startup market and the proliferation of private and public cloud offers.

Potential demand from global cloud Hyperscalers is expected to boost requirements for data center facilities. As of early 2025, West Africa was the only region without established or announced public cloud region by one of the world's top five cloud services providers. Until the launch of Huawei Cloud in Nigeria in late 2024, there were no cloud region in West Africa by the world's top 10 cloud providers.

Beyond the larger, upper 5MW, "hyperscaler" facilities in large metros to support and enable hyperscaler cloud deployments, West Africa will also need smaller, edge-facilities to serve more localized needs, offer latency-sensitive applications, support smaller-scale enterprise IT deployment and extend service reach beyond capital cities and into Tier 2 metro centers.

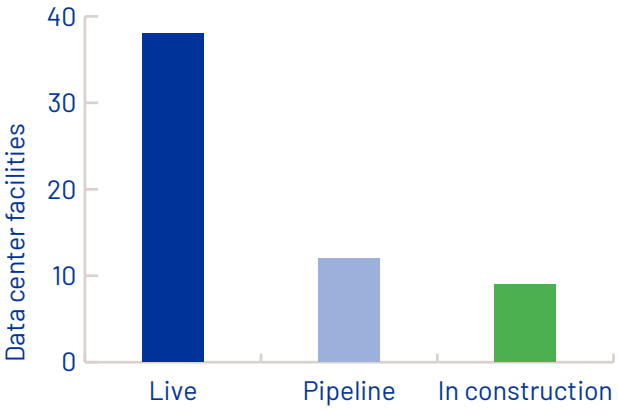
3. WEST AFRICA DATA CENTER PIPELINE AND OUTLOOK

The West African data center market is now racing to catch-up to regional and global peers, with providers accelerating facility construction to meet projected demand for hosting capacity. The construction pipeline is relatively robust. Around 10 commercial data center facilities (at Tier III standard or above) were in construction in the region as of early 2025 and set to come to market by the end of 2026. Another dozen facilities were in various stages of the development pipeline and slated to come to market by 2030.

Overall, around 120MW of fresh data center critical IT load is projected to hit West African markets by 2030, nearly quintupling the region's critical load inventory. Nearly 80% of this new construction will take place in Nigeria, buoyed by a broadly anticipated wave of cloud hyperscaler infrastructure deployment.

Facility construction is picking up outside of Nigeria too, often dovetailing the arrival of large submarine cables such as Equiano and 2Africa. Other markets in the region are expected to add another 25-30MW of data center supply to support digital economy growth. Ghana is witnessing notable expansions, with multiple facilities in construction; likewise, both Cote d'Ivoire and Senegal will see at least two carrier-neutral facilities coming to market over the same period.

WEST AFRICA – DATA CENTER FACILITY PIPELINE - 2024 [1]

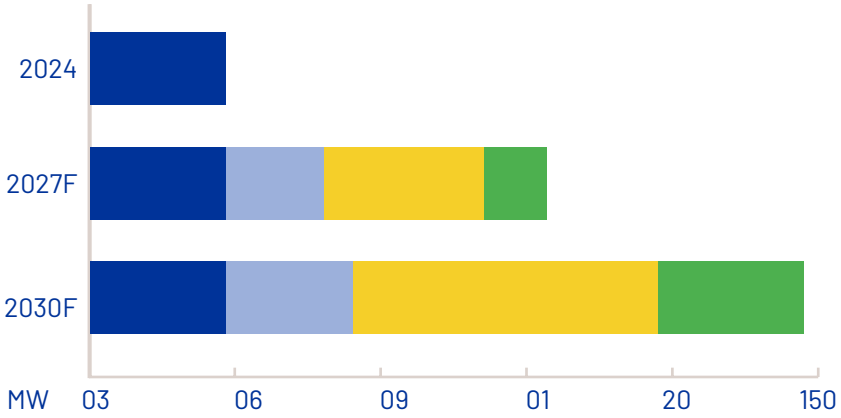


[1] *Live: capacity is active, under lease or readily available for lease; In construction: facility has broken ground; ongoing civil works, installation and commissioning phases; Pipeline: facilities explicitly announced or listed as in development; some execution phases have been initiated (e.g. land control, energy supply commitments, etc.), but no actual civil works have been undertaken.*

Sources: *Xalam Analytics estimates, provider data*

WEST AFRICA – AGGREGATE DATA CENTER BUILD PIPELINE [1]

In MW



Sources: *Xalam Analytics estimates, provider data*

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Sources: *Xalam Analytics estimates, provider data*

EAST AFRICA DATA CENTER CONSTRUCTION PIPELINE – SAMPLE KEY PROJECTS

Provider	Facility	Metro	Status	Ready for Service	Capacity - MW
Equinix	LG-2	Lagos	Expansion	2025/26	+2MW
Airtel NXTRA	LAG-1	Lagos	In Construction	2025	34MW
Rack Centre	LGS2	Lagos	In Construction	2025	12MW
Kasi Cloud	LOS 1	Lagos	In Construction	2025	23MW
Equinix	LG3	Lagos	In Construction	2025	4MW
Africa Data Centres	LOS 2	Lagos	Pipeline	2027/28	25MW
MTN	Lagos 2	Lagos	Pipeline	2026	15MW
ANSUT/NDC (Government)	TBD	Abidjan	In Construction	2025	1MW
ST Digital	TBD	Abidjan	In Construction	2025	1MW
Africa Data Centres	ACC-1	Accra	In Construction	2025/26	25MW
Digital Realty	ACC-1	Accra	In Construction	2025/26	NA
Onix DC – Almadies	Dakar	Dakar	In Construction	2025	2MW
PAIX	Dakar	Dakar	In Construction	2026	2.5MW+

[1] *Live: capacity is active, under lease or readily available for lease; In construction: facility has broken ground; ongoing civil works, installation and commissioning phases; Pipeline: facilities explicitly announced or listed as in development; some execution phases have been initiated (e.g. land control, energy supply commitments, etc.), but no actual civil works have been undertaken.*

Sources: *Xalam Analytics estimates, provider data*

4. WEST AFRICA COUNTRY ATTRACTIVENESS TO DATA CENTER BUILD

The cost of and nature of power infrastructure, the cost of fiber bandwidth and the broad data privacy framework are essential components of a market's attractiveness for data center operation. Historically, data center operators have found the West African operating environment to be relatively challenging. Power prices are higher on average and capacity scarcer than in other African regions. Until recently, broadband penetration was relatively low across the region. Fiber diversity was constrained in a number of key markets and fiber bandwidth prices were typically at the upper-end of the African range.

This environment is improving, as more countries aim to become regional digital hubs and take steps to make their markets more attractive to fiber and data center build.

REGULATION FOSTERING LOCAL DATA HOSTING

Most West African governments have enacted data protection regulations governing the hosting and management of user data. In general, the regulatory emphasis is on keeping personal user data and other data classified as sensitive hosted within a country's borders. Cross-border transfers of data are otherwise generally allowed, subject to specific sector regulations or authorization by an established data regulator.

As in other regions, sector-specific hosting regulations are commonplace in industries regarded as strategic, such as the financial services sector, or public sector data. In Nigeria, for example, the Central Bank of Nigeria requires banks to host key data in a local facility at Tier III standard or above.

INCREASINGLY LIBERALIZED FIBER MARKETS

Fiber sector regulation has been relatively uneven in West Africa. The Nigerian and Ghanaian wholesale fiber markets are liberalized, intensely competitive and served by multiple providers and a diversity of cable systems. Both markets have telecoms and content ecosystems that are among the deepest in Africa.

By contrast, Cote-d'Ivoire and Senegal have been historically constrained, with fiber infrastructure controlled by a small number of providers, keeping bandwidth prices relatively high. This is changing, however, as governments continue to open the market to alternative providers of fiber capacity. Over time, most markets are expected to have relatively open fiber connectivity regimes.

A CONSTRAINED POWER ENVIRONMENT

As most data center facilities source their power primarily from the public grid, the structure of a country's power sector is another key enabling factor for data center operation.

Most West African markets face a variety of power constraints. Electricity is generally available from a single utility source; available capacity has been only marginally sufficient to support demand, leading to intermittent blackouts. Price points are relatively high; most West African markets have a price per kWh above $0.12, well-above the African median. Further, the region's power is generally carbon-heavy; less than a third of the region's electricity is generated from renewable sources of power.

DATA CENTER OPERATING ENVIRONMENT IN KEY WEST AFRICAN MARKET – SAMPLE KEY CHARACTERISTICS

	Nigeria	Ghana	Cote-d'Ivoire	Senegal
ICT and Privacy Regulations				
Local data hosting requirements	Yes	Yes	Yes	Yes
Internet market liberalization	Full liberalization	Full liberalization	Partial liberalization	Partial liberalization
Power Sector				
Provider ability to source from IPPs* through PPAs	Yes	No	No	No
Renewable share of the energy generation mix	15%	35%	30%	30%
Cost of power [$/KWh]	$0.15	$0.12	$0.18	$0.22
Fiber Infrastructure				
# of submarine cables	9	6	5	5
Terrestrial fiber provider diversity	High	High	Medium	Medium

**Independent Producers of power*
Sources: *Xalam Analytics research; regulator and utility data.*

DATA PRIVACY REGULATORY ENVIRONMENT IN SAMPLE WEST AFRICAN MARKETS

Country	State of data privacy regulations
Nigeria	• A Nigeria Data Protection Regulation (NDPR) was issued in 2019 • Strict local hosting requirements in some key segments – e.g. financial services, oil and gas, ICT firms cannot host "sovereign" data outside of Nigeria without the approval of the National Information Technology Agency (NITDA). • Central Bank requires local banks to keep data in local Tier-3 facility • NITDA New data classification framework requires providers to host specific types of data in country. • Nigeria Data Protection Act (NDPA) 2023. The act outlines strict data handling and security requirements, making adherence to local laws crucial for continued business operations.
Ghana	• The Data Protection Act (DPA) was passed in May 2012 and went into effect in October of that same year, making Ghana one of the first countries in Africa to pass data protection legislation. • The DPA established the Data Protection Commission and sets guidelines for data collection, processing, and storage while ensuring individuals' privacy rights are upheld. • Cyber Security Policy and Strategy (2014): Aimed at addressing growing cybersecurity threats, this strategy provides a foundation for cybersecurity management in Ghana. It emphasizes the importance of securing information systems, promoting cybersecurity awareness, and building capacity to address cybercrime.
Cote d'Ivoire	• A data Protection Law was enacted in 2013. Under the law, personal data cannot be stored overseas without the authorization of regulatory body ARTC. • Foreign cloud platforms generally allowed, so long as the data is stored in a market with data protection laws at least as stringent as the Cote d'Ivoire's.
Senegal	• Senegal was one of the first African markets to enact a data Protection Law (2008); • Regulations require public sector data to be hosted in Senegal • Senegal's Technology New Deal puts emphasis on hosting data locally

Source: *Xalam Analytics research*

ASSESSING AFRICAN DATA CENTER INVESTMENT RISK

Risks of investing in African data centers and IXPs are varied in nature, including regulatory, economic, commercial and infrastructure.

Political and regulatory risks pertain to the potential absence of stability and visibility in a country's institutions and regulatory frameworks. Risks include frequent, sudden or unpredictable change in government institutions or sector regulations. Institutional or regulatory instability has a direct impact on business operations, through taxation, capital repatriation, corruption risk and other factors that impact the ease of doing business. Regulatory risk also includes changes in the broader data center operating environment, including licensing, environmental regulations and technical standards.

Macro-economic risk includes risks of slow economic growth, inflation and foreign exchange risk. Some markets are highly inflationary environments; in 2024, Around a quarter of African markets had an average annual inflation rate above 10%. Similarly, some markets experience high currency volatility. In 2024, 10 markets saw their currency depreciate by more than 10% against the US dollar. High inflation and currency depreciation have a direct impact on demand potential, headline revenue and investor returns.

Infrastructure risk primarily refers to the ready availability of the enabling infrastructure for data center service provision, specifically power and fiber. The ability to provision ample power capacity at a high rate of reliability and at a manageable price point is a critical consideration for a data center venture. The infrastructure risk also relates to sustainability and the ready availability of renewable sources of energy, a critical consideration for investors and some large customers.

Commercial risk includes factors related to competition intensity, pricing and other drivers of operating demand. A critical commercial risk for data center assets in the African context is the scale and velocity of demand; lower-than-anticipated demand can lead to oversupply, with a direct impact of the scale and timing of investor returns.

Demand potential is a function of the maturity of enterprise cloud usage as well as the country's attractiveness to international networks, content, and Internet infrastructure providers. A market's ability to attract cloud hyperscalers is another essential component of assessing demand potential.

DATA CENTER LOCATIONS, REGULATORY CHALLENGES AND SUSTAINABILITY CONCERNS

Finding the most attractive locations for building data centers and IXPs

Site location criteria are a function of the nature and focus of the data center facility. In general, the following attributes are prioritized in site selection:

- Ready access to a stable, affordable and ideally renewable source of power, in adequate quantities, should a power capacity ramp-up be needed.
- Ready access to diverse connectivity, and the ability to connect to a multiplicity of fiber networks for redundancy and resiliency.
- Easy access to target ecosystems for interconnect and minimizing latency; this includes access to an exchange, as well as the ability to connect to a cloud, network, financial services or other type of ecosystem.
- The location would ideally have natural cooling capabilities or be located in a cooler weather environment.
- Away from a flood zone, or above sea level.

Key regulatory challenges and compliance requirements for operating data centers and IXPs in Africa

The nature of regulatory challenges varies by market. Key recurring challenges include the following:

- Duration and complexity of permitting.
- Challenges pertaining to building a facility in an urban, inhabited area.
- Land zoning and property ownership rights issues.
- The nature of environmental and building codes.
- The extensive use of power in a power-scarcity environment.
- Challenges and elevated cost of importing facility equipment.
- Lack of clarity of data privacy and hosting laws, or absence thereof.
- Industry-specific compliance requirements, e.g. for the public sector, the financial services sector, oil and gas, etc.

Addressing sustainability and energy concerns

Provider strategies vary with operating context; sample approaches observed include:

- Signing PPAs with independent producers of power (ideally using renewable energy) to guarantee an energy source.
- Building facility as close to the point of generation or to a major distribution node as possible.
- Generating own source of renewable energy, on-site or within proximity.
- Significant investment in new cooling strategies to minimize power usage – drive for low power usage effectiveness (PUE).

5. KEY DATA CENTER INDUSTRY PLAYERS

The African data center provider landscape is highly diverse. A broad mix of providers manage data center facilities, including traditional telecommunications operators and ISPs, fiber services providers, IT services companies, carrier-neutral providers and governments.

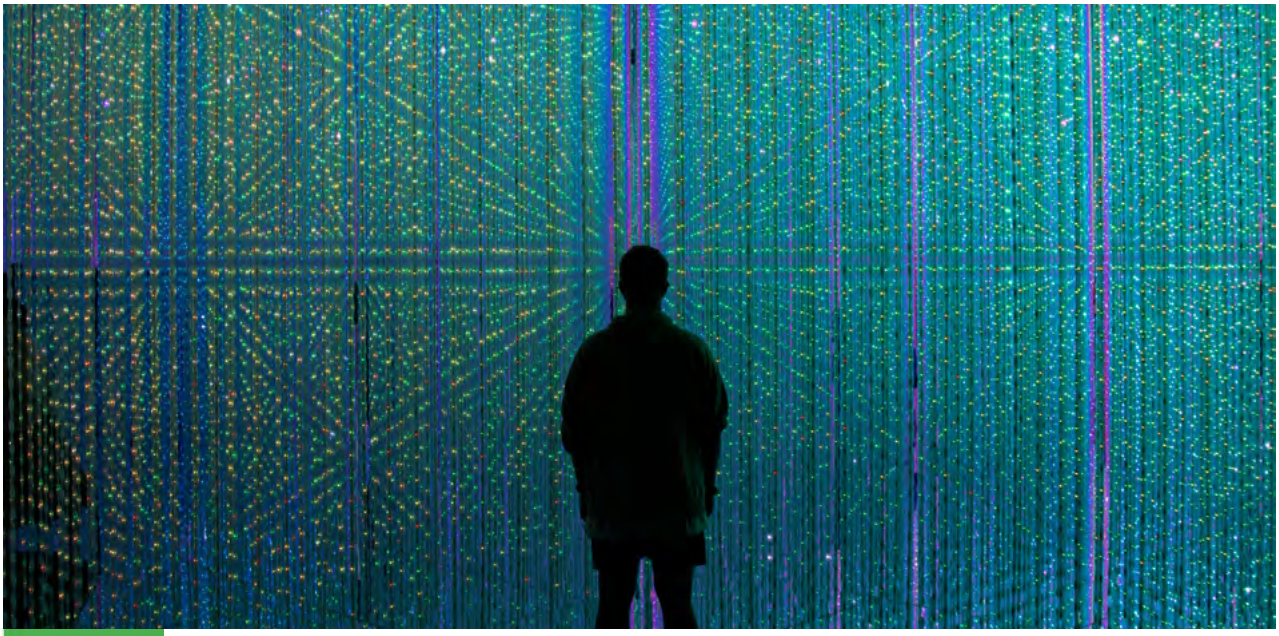
Carrier-neutral facilities are managed by specialist companies not tied to a particular service provider; they provide the user with a broad diversity of options when selecting a connectivity, cloud or other service. Carrier-neutral facilities accounted for around 80% of sub-Saharan Africa's available data center capacity in 2024, up from around 60% in 2021.

Similarly, global data center providers have become key players in the African market, primarily through M&A expansion. At the end of 2024, global providers controlled around 55% of Africa's capacity. Global players are generally focused on Africa's top five markets, with relatively limited presence in others. Key global providers in Africa include Digital Realty, Equinix and Vantage Data Centers. Other global players looking to enter the market include the Emirates' Khazna Data Centers, an affiliate of the G42 group.

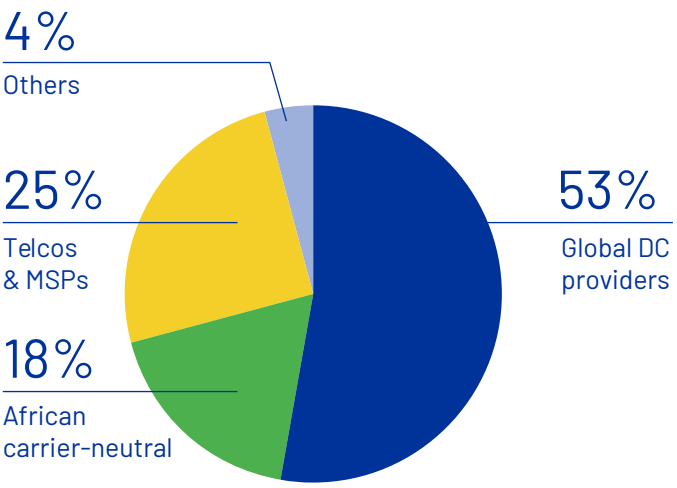
Telcos and IT managed providers are the second largest managers of African data center capacity, with around 25% of the region's capacity. While their share has declined considerably from 2021 levels, it remains strong in key regions and markets, notably in West Africa.

Africa-focused carrier-neutral providers are the third largest cohort, including providers such as Africa Data Centres, PAIX, Raxio or Wingu. They control around 18% of sub-Saharan Africa's capacity. While generally smaller in scale than global providers, pan-African providers are present in more markets. They have been critical in expanding the reach of commercial data centers to Tier 2 and Tier 3 markets, where they control around 30% of available capacity.

Further, government-owned facilities are increasingly active. While the account for less than 2% of aggregate African capacity, their impact is perceptible in select markets where they have made up for slower private facility construction. In markets such as Uganda, Cameroon or Senegal, state-controlled facilities have accounted for more than 20% of available sector capacity.



SUB-SAHARAN AFRICA DATA CENTER LIVE CAPACITY BY PROVIDER TYPE*



** Carrier-neutral facilities are not tied to a particular service provider; they provide the user with a broad diversity of options when selecting a connectivity, cloud or other service.*

Source: *Xalam Analytics estimates*

KEY AFRICA DATA CENTER INDUSTRY PLAYERS

Pan-African providers	Global platforms	Country-focused specialists
Data center specialists – generate scale through multi-country presence	Global players – most have entered the African market through M&A	Data center specialists focused on 1-2 countries – typically Tier 1/ Tier 2 markets
Telcos/MNOs/MSPs	**Government providers**	**Future competition**
Primarily focused on connectivity and IT services; see colocation as adjacent opportunity.	State IT or investment agencies – primarily building to support public sector hosting	More specialist colo providers to launch over the next 2 years – focus on Tier 2 markets

NIGERIA – A HIGHLY COMPETITIVE MARKET

The Nigerian supply base is highly diverse, mixing carrier-neutral providers, fiber infrastructure providers, IT companies and mobile network operators. The number of specialist providers has increased considerably over the past three years; nearly 60%+ of Nigeria's live capacity was hosted in carrier-neutral facilities at the end of 2024.

The Nigeria market features a mix of global data center operator presence (Equinix and Digital Realty), pan-African data center providers (Africa Data Centres and OADC) and local, indigenous players such as Rack Centre. Most carrier-neutral providers target a mix of wholesale and retail customers and are positioned to support hyperscaler deployment in the country. By contrast, mobile network operator facilities are generally more targeted towards Nigeria's enterprise demand.

The market is set to become more competitive, with the entry of specialist providers such as Kasi Cloud, which are positioned to serve Hyperscalers, as well as more facility deployments by the country's top two telcos, MTN and Airtel.

GHANA – PREDOMINANTLY CARRIER-NEUTRAL

Ghana was a pioneer in attracting carrier-neutral providers, through early investments by PAIX and Onix, and later market entry by MainOne, a unit of Equinix. Today, carrier-neutral providers control around 70% of Ghana's capacity, a sign of the growing maturity of this market.

While the share of telco-managed facilities has declined over time, MTN Ghana and Airtel Tigo retain data center colocation facilities in the country. Government presence has also been notable, through a facility managed by the National Information Technology Agency (NITA), Ghana's state IT agency.

New providers are coming into the market. Both Africa Data Centres and Digital Realty have been building facilities in Ghana and are set to add to the country's rapidly growing data center capacity inventory.

COTE-D'IVOIRE – INCREASINGLY CARRIER-NEUTRAL

Cote-d'Ivoire has long been a telco-dominated data center market. Until late 2023, telco-managed facilities accounted for around 60% of the country's available capacity. The market has since been evolving, first with the launch of a MainOne facility in 2023, and further with the deployment of a new Raxio facility in the country in 2024. At the end of 2024, carrier-neutral facilities accounted for around half of the market, a sign of growing maturity.

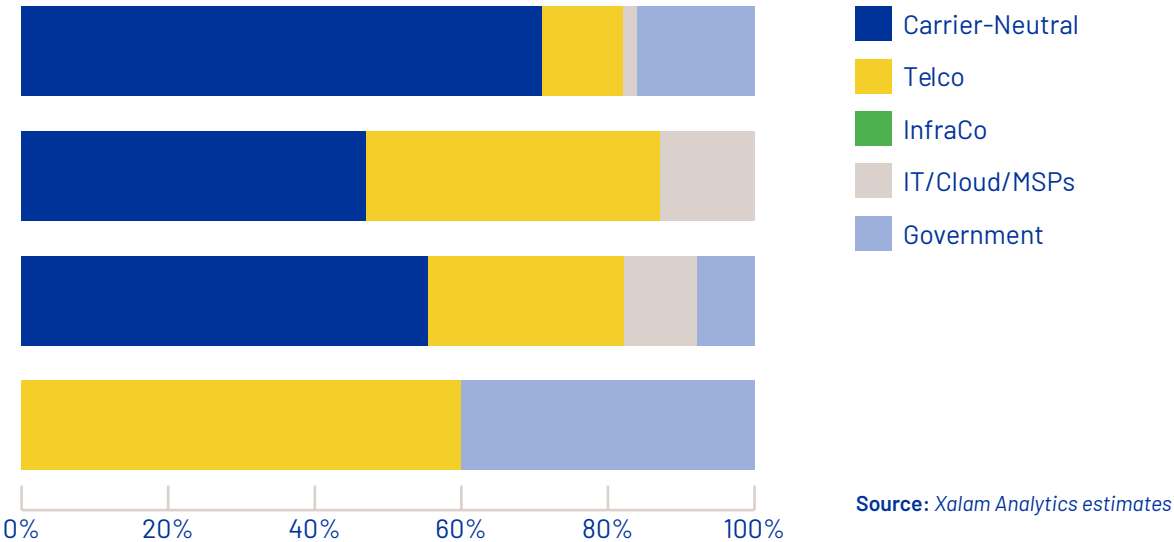
The market is expected to become more competitive. More carrier-neutral providers have been exploring an entry into the Cote-d'Ivoire market, attracted by the country's stability and fast economic growth.

SENEGAL – STRONG TELCO AND GOVERNMENT PRESENCE

Senegal has long been a historically telco-dominated data center colocation market. Mobile network operator facilities accounted for around 60% of overall capacity in 2024, predominantly through Orange Senegal. The presence of state-managed facilities is similarly notable; through state IT agency Senegal Numerique's facility in Diamniadio, the government has been the second largest provider of data center capacity in the country.

Market dynamics are gradually evolving. At least two carrier-neutral facilities by PAIX and Onix are expected to launch over the next two years, doubling the country's overall capacity base and transforming the market's competitive dynamics.

MARKET STRUCTURE – PROVIDER SHARE OF LIVE CAPACITY IN WEST AFRICAN MARKETS



Source: *Xalam Analytics estimates*

EU COMPANY PRESENCE IN THE AFRICAN DATA CENTER VALUE CHAIN

EU companies in the African DC Value chain

DC Construction & Infrastructure				Management & Operations			Hosting & Applications	
Design, Engineering & Construction	Land Acquisition, Project Management	Construction & Civil Engineering	Power & Cooling	Operation & Management	Network	IXPs	Hosting	Cloud & Applications
HJL RKD Royal Haskoning Mercury Engineering	ARUP	AFRY Bluesun DC	Schneider Siemens Stulz Globeleq ABB	Orange PAIX Raxio	Orange Vodafone Nokia TI Sparkle AFR-IX	AMS-IX	Orange Vodafone OVH	

Source: *Xalam Analytics research.*

EU companies have had a long-standing presence in key segments of the African data center value chain. Their presence is notable in the network segment. Through Orange and TI Sparkle in particular, EU companies provide key connections between data center facilities in Africa and PoPs around the world. In addition, Orange and Vodafone affiliates are key providers of terrestrial links in a number of African markets.

Likewise, EU companies are key providers in the essential power and cooling equipment markets, with Schneider as one of the market leaders. On the operations front, Netherlands-based PAIX and Raxio have been two of the fastest-growing independent data center providers in Africa.

By contrast, EU company influence in the hosting and cloud segments is relatively limited. While Orange is a key provider in its markets, players such as OVH have a small customer base relative to the competition. Nonetheless, OVH has been building an infrastructure presence in Morocco and may gradually expand its edge cloud infrastructure into sub-Saharan Africa. Likewise, EU companies have a relatively moderate presence in the construction and development space, though EU-based affiliates of global firms are fully active in the region.

6. CAPITAL REQUIREMENTS AND GOVERNMENT INITIATIVES

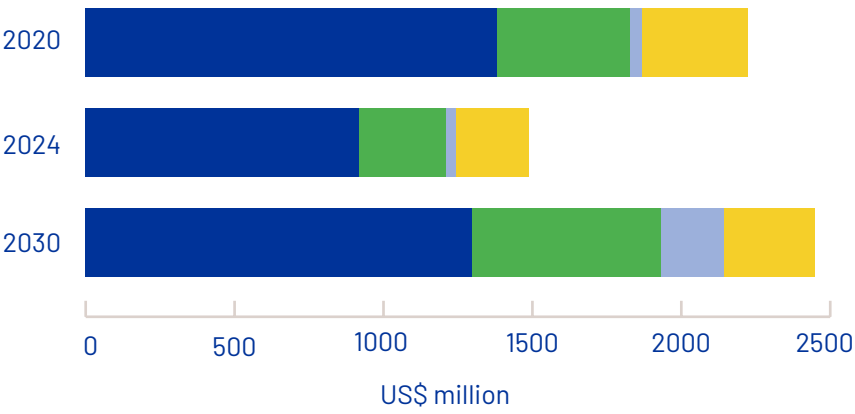
WEST AFRICA NEEDS MORE CAPITAL TO EXPAND ITS DIGITAL INFRASTRUCTURE

Capital spending on digital infrastructure in West Africa has been challenged by difficult macro conditions in some of the region's key markets. Xalam estimates that digital infrastructure capex reached an estimated $1.5bn in 2024, a ~30% annual decline as network providers slashed spend in response to foreign exchange fluctuations.

Infrastructure spend has been predominantly driven by 4G network expansions, terrestrial fiber and subsea cable rollouts. About 60% of the region's infrastructure investments went to mobile networks to support 4G and 5G network coverage and capacity expansion. Over the past five years, mobile operators have nearly doubled 4G population coverage across the region's top four markets.

Fiber deployments have been the second biggest area of investment, with nearly 20% of capex going to terrestrial and subsea network build as providers increased Internet capacity and expanded route diversity. Investment in data centers has been relatively small in comparison, accounting for less than 3% of total capex over the past four years, and creating a potential gap in compute hosting capacity. More capital investment will be needed to strengthen and expand the region's infrastructure. Estimates by Xalam suggest that the region's providers will need to spend cumulative capex around $10bn-$15bn over the 2025-2030 period, with fiber, data centers and cloud attracting nearly half of those requirements. The infrastructure challenge is especially acute in Nigeria, where the government has announced plans to spend $2bn to deploy 90,000 kms of fiber transmission.

WEST AFRICA DIGITAL INFRASTRUCTURE CAPEX EVOLUTION – US$ MILLION



Source: *Xalam Analytics estimates*

CLOUD AND DATA CENTER CAPITAL REQUIREMENTS

The capital requirements for expanding data center infrastructure are especially notable. An analysis by Xalam Analytics suggests that West African data center providers have deployed cumulative investments worth nearly $200m over the past five years in data center construction projects. To support the projected construction and anticipated deployment pipeline in West Africa, Xalam estimates that the industry would need at least another $1.0bn in data center capex by the end of the decade (and around $2.5bn including cloud and IT solutions).

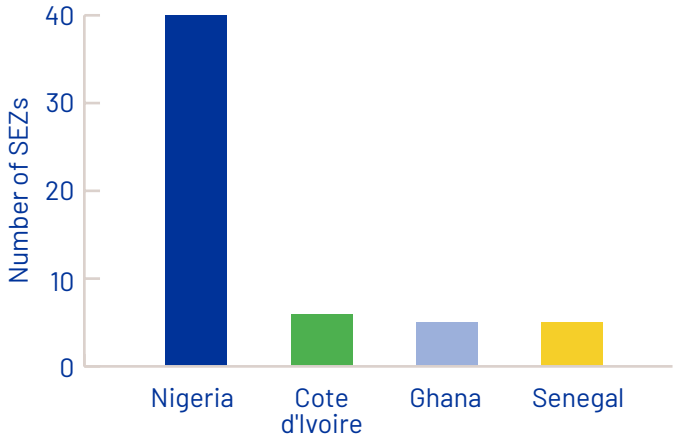
GOVERNMENT INITIATIVES IN FOSTERING INVESTMENT IN DIGITAL INFRASTRUCTURE

Most governments in West Africa have outlined long-term strategic visions anchored by sturdy, dynamic and inclusive digital economies. Most have been implementing strategic plans to execute on those visions, through the development of digital government initiatives, the enactment of market-friendly regulations, and marshalling investment in digital infrastructure through public-private partnerships.

Another notable feature of government support for the sector has been the development of special economic zones, with a broad range of tax and other incentives to foster technology deployment, employment and skill-building. As of late 2024, West Africa counted around 60 such special economic zones, many of which have become central locations for data center facility construction.

West African governments are taking proactive steps in integrating digital technologies into their long-term economic development vision.

NUMBER OF SPECIAL ECONOMIC ZONES IN WEST AFRICA – 2024



Sources: *Country Investment Authorities*

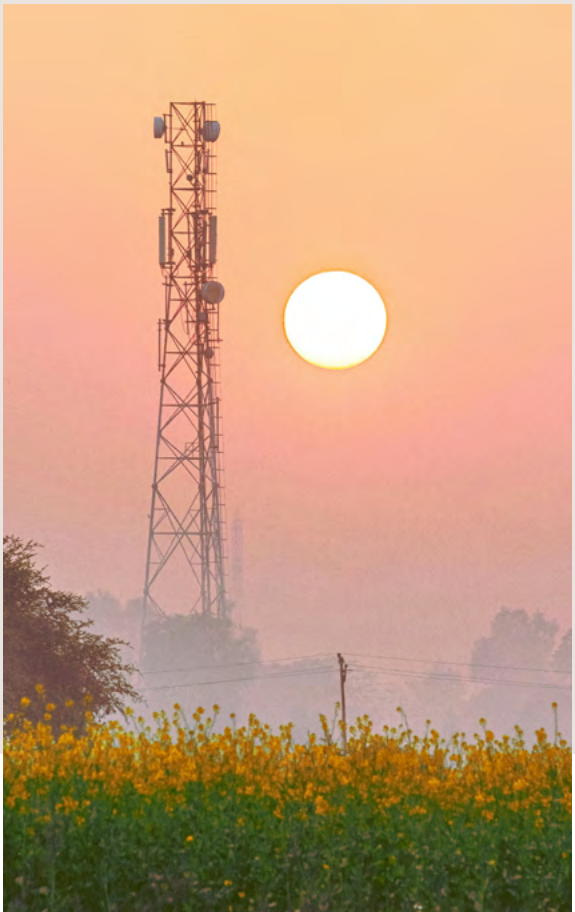
SAMPLE GOVERNMENT INITIATIVES IN DIGITAL INFRASTRUCTURE IN WEST AFRICA

NIGERIA

- Nigeria Digital Economy Policy and Strategy is a key pillar of the country's efforts to diversify its economy, boost the contribution of the digital economy to GDP.
- A vision for Nigeria to be in the upper quartile of countries on AI, IoT, additive manufacturing.
- State agency NITDA Strategic Roadmap and Action Plan 2024-2027, including fostering digital literacy, building skills and building a vibrant technology ecosystem.
- Cloud computing policy outlined, with a cloud-first policy thrust in the public sector.
- Launch of the 3 million Technical Talent (3MTT) program, with the ambitious goal of training three million technical talents by the year 2027.
- Announced a $2bn initiative to deploy 90,000km of fiber across the country; aims to improve internet connectivity, raise broadband penetration to over 70%, and significantly reduce access costs by more than 60%.
- Launched Project 774 Local government Connectivity Initiative to provide local governments with reliable Internet access.
- NITDA data classification framework requires providers to host specific types of data in-country; aiming to compel cloud Hyperscalers to establish operations in Nigeria.

GHANA

- Government digital economy policy aims to leverage digital technologies to foster economic growth, improve public services, and ensure equitable access to digital resources.
- Aims to establish Ghana as a regional digital hub "where digital entrepreneurs can thrive in a secure, hyperconnected, and inclusive ecosystem, creating sustainable jobs and supported by efficient, user-friendly government digital services".
- Expansion of Ghana GovNet, a high-speed eGovernment network connecting 951 public institutions
- Development of National Digital Address System.
- Development of Ghana.gov portal, which centralizes access to essential government services.



COTE-D'IVOIRE

- The government has outlined a national digital strategy; the government's vision is for Cote-d'Ivoire to become West Africa's digital hub; key pillars include achieving full national digital coverage, digitization of administrative processes, and investment in training and skills.
- Development of a national AI strategy and establishment of a roadmap for data value creation.
- New startup law enacted in 2023 to foster the development of a startup ecosystem.
- Deployment of 5,000km of optical fiber transmission network.
- Construction of a new National Data Center.

SENEGAL

- The government has outlined a Technology New Deal, part of Senegal's 2050 national Transformation Agenda; aims to become an African digital leader by 2034, with digital economy contributing around 15% of GDP.
- Key pillars of technology deal include digital infrastructure, skills development, innovation, public sector digitization and digital security.
- Estimated budget for the digital new deal is around $2bn

7. CONCLUDING REMARKS

African countries face a broad, multi-formed spectrum of challenges in their efforts to leverage digital technologies to diversify their economies and accelerate economic development. The scale of investment is gigantic – upwards of a cumulative $50bn over the next decade in making the region cloud and AI-ready, with the deployment of hundreds of kilometers of fiber links, the densification of 4G, 5G and last mile fiber networks and the doubling of the region's data center capacity to more than 1GW.

Daunting as these requirements may seem, so critical is the imperative that more African countries are initiating the arduous journey through digital transformation. Others will follow, providing a continent-scale testbed for how emerging economies can leverage digital tools to accelerate economic growth.

Government execution will remain critical, from fast-tracking infrastructure development to unshackling connectivity markets, building clean energy foundations, relaxing access to grid and off-grid power and setting a clear regulatory path for data hosting, management and transfer. Similarly, investors will have to adapt, by assessing African opportunities on their own, intrinsic merits, being creative with financing models, and overall taking a patient view in an environment where long term returns seem as compelling as the short term is uncertain.

There is much at stake, including Africa's place in a global future underpinned by compute and clean energy. In a world where widening geopolitical fractures and global trade headwinds are increasingly spilling into efforts to deploy new technologies, this is also, arguably, Africa's most compelling investment opportunity of the next decade, outside of the extractive sector.

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