



SOUTHERN 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 Southern 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 five countries principally, and unless otherwise indicated: Angola, Botswana, Namibia, South Africa and Zambia. 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 SOUTHERN AFRICAN DATA CENTER MARKET



AFRICA'S MOST MATURE REGIONAL CONNECTIVITY BLOCK

Nearly 40% of Sub-Saharan Africa's GDP sits in Southern Africa, a region with a population of 200 million spread across a broad swathe of countries along Africa's East, West and Southern coastlines. At the heart of the region is South Africa, Africa's largest and most mature economy, and the region's financial and connectivity hub. Countries in the region are members of the Southern African Development Community (SADC), Africa's largest and most integrated trade block.

With nearly 150 million active broadband connections, Southern Africa is the second largest regional Internet market in Sub-Saharan Africa based on broadband connection volumes, and the largest in annual economic value. The region has some of the more mature Internet markets in Sub-Saharan Africa, with broadband penetration averaging around 80%. The penetration of so-called "meaningful broadband" (including 4G, 5G and last mile fiber) is similarly the highest in Sub-Saharan Africa; on average, 4G and fiber penetration is two to three times higher than in other Sub-Saharan African regions.

Recent broadband growth has been steady in Southern Africa, averaging around 10% over the past three years as markets gained increased maturity in Internet adoption. So-called meaningful broadband connections have expanded at twice that pace as Southern African markets continue

to transition to higher speed connectivity solutions; the number of 4G, 5G and last mile fiber connections has nearly doubled over the past three years, crossing the 100m-connection mark and spurring an explosion in data traffic volumes. The near-entirety of the region's broadband base is expected to consist of higher-speed technologies within the next five years.

Southern Africa's digital infrastructure is increasingly dense. 4G networks now cover 90% of the population. A dozen submarine cables land along Southern African coastlines, including hyperscaler-led "megacables" such as Equiano and 2Africa, and other high capacity cables such as WACS and Angola's SACS. Starlink ground stations are being planned for construction in Botswana, expanding the region's Internet capabilities.

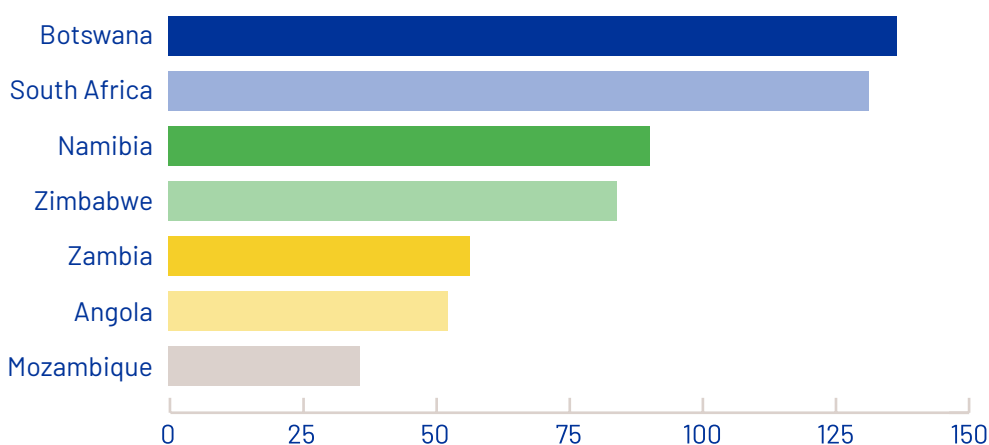
Middle mile terrestrial fiber construction has been similarly consequential. Xalam estimates that nearly 100,000 kms of terrestrial fiber have been deployed in Southern Africa over the past decade, as part of efforts to address one of the most persistent bottlenecks to African digital inclusion. The region's wholesale fiber markets are largely liberalized, giving way to extensive cross-border fiber build which has allowed landlocked countries to interconnect to subsea cables across three different coasts.

AN UNEVEN DIGITAL INFRASTRUCTURE BASE

Overall, however, Southern Africa's digital infrastructure maturity is still relatively uneven. The region is highly diverse, mixing the densely-penetrated South African regional digital hub with smaller but deeply connected markets such as Namibia and Botswana, and growth-stage markets such as Angola, Zambia, Mozambique or Malawi, where broadband penetration levels are still relatively lower. In addition, a handful of the markets in the region are landlocked, creating an additional layer of considerations in building a deep and resilient digital infrastructure base.

SOUTHERN AFRICA – BROADBAND PENETRATION BY COUNTRY – 2024

Broadband connections as % of the population



Source: Xalam Analytics estimates

DATA CENTER MARKETS – A SOUTH AFRICAN HUB, COMPLEMENTED BY STILL-GROWING MARKETS

Southern Africa is home to Africa's largest commercial data center market, South Africa. With ~350MW of live critical IT load, South Africa accounts for around 70% of Africa's entire live capacity.

The South African market stands out in many respects. The country has Africa's largest ICT and cloud markets, a compelling combination of scale, the region's densest and most diverse fiber infrastructure and still-deepening digitalization. It is Africa's preeminent digital hub and the primary destination for global cloud, networks, content and IT providers looking for

a beachhead into African markets. In Johannesburg and Cape Town, South Africa is home to the region's largest Internet exchanges. The South African market continues to grow, with around 10 new facilities projected to come to the market over the next five years.

Outside of South Africa, the Southern African landscape shares key features with other regions. Markets are relatively small in scale, with less than 5MW of live commercial capacity. New facility construction has been relatively modest; fewer than 10 Tier III commercial colocation facilities have gone live since 2021 in Southern Africa (excluding South Africa), bringing in around 10MW of capacity.



SOUTH AFRICA

South Africa is the largest data center market in Africa based on available critical IT load. Around 40 data center colocation facilities at Tier III standard are operational in the country. On a per person basis, South Africa's available supply is 10x larger than other first-tier African markets.

South Africa is the primary African destination for global cloud Hyperscalers. Around 6 public cloud regions are active in the country, one of the most diverse base of hyperscaler deployment in emerging markets. The market continues to grow; South African market supply has quadrupled in five years, driven by strong hyperscaler demand and increased enterprise cloud adoption. The outlook looks similarly strong, with providers aiming to expand capacity to serve anticipated demand to support AI workloads.

ANGOLA

Angola offers a compelling opportunity for commercial data centers. The country has the fifth largest economy in sub-Saharan Africa and has long been one of Africa's largest oil producer. A series of reforms are slowly transforming the Angolan economy, as the government moves to privatize a wide range of state enterprises and open the upstream oil sector to private capital.

Angola's data center market is still in early stages of growth. Recent capacity growth was relatively subdued as the country faced an economic slowdown, with only one major facility coming to market over the past three years.

The market's outlook is highly promising, as government reforms continue to take root. Market activity has been intensifying, with at least one new carrier-neutral provider, Raxio, set to come to market in 2025 and other providers expanding their facilities. Angola is projected to be one of the fastest-growing data center market in Southern Africa over the next five years, with overall capacity at least tripling from 2024 levels.



BOTSWANA

Botswana is one of Africa's smallest telecoms and data center markets. While the market has around 6 identified commercial colocation facilities, most are small, with less than 1MW of live capacity. Facility build has picked up recently, with providers such as Orange and Botswana Innovation Hub bringing new capacity to market. While it remains hampered by its landlocked status, Botswana has been taking steps to bulk up its digital infrastructure, including attracting one of the few Starlink ground stations to be built in Sub-Saharan Africa.

New data center capacity is build is set to stay relatively modest, however, largely due to scale and the proximity of the larger South Africa hub.

NAMIBIA

Like Botswana, Namibia is one of the smallest telecoms and data center markets in Africa. The country has seen a recent uptick in capacity following the deployment of the Equiano submarine cable and an attendant 1MW carrier-neutral facility in Windhoek, the capital-city. Namibia remains a promising market for data centers. The country's stability, strategic position, access to subsea cables and extensive power infrastructure initiatives make it a candidate for more data center deployments, notably as a complementary location to South Africa.

ZAMBIA

Zambia is a promising market for data center facilities. Despite its landlocked position, the country has one of Africa's most dynamic wholesale fibre markets, including such key infrastructure providers as Paratus and Liquid Intelligent Technologies. The data center market is still relatively small, with less than 3MW of aggregate commercial capacity. Most facilities are smaller than 500 kW of live load.

As the Internet market continues to expand, more facilities are expected to come to market; at least two facilities are in various stages of development, and the country's capacity is projected to at least double over the next five years.

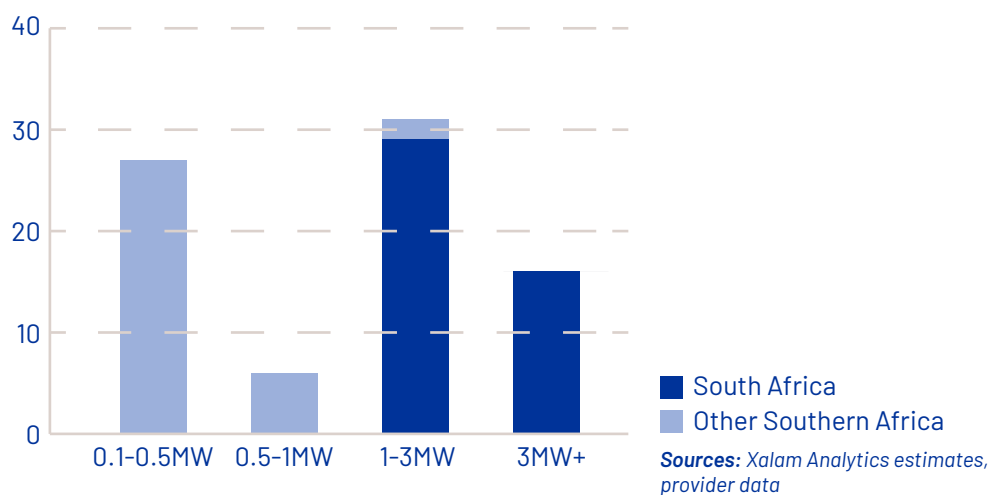
SOUTHERN AFRICA – COMMERCIAL DATA CENTER FACILITIES – 2024



Each circle represents a commercial DC facility; circle size reflects facility size in MW.

Sources: Xalam Analytics estimates; Company data.

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





2.

SOUTHERN AFRICA DATA CENTER CAPACITY REQUIREMENTS

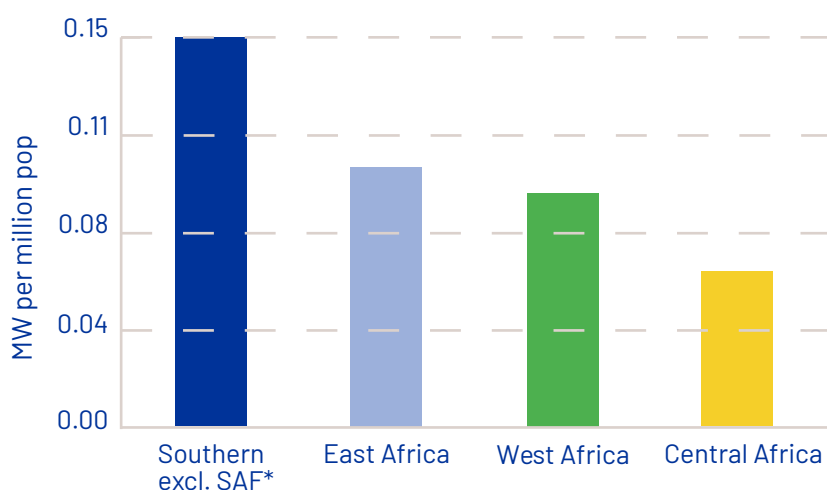


With the region's Internet traffic volumes set to double over the next five years and economic digitization efforts intensifying, scaling up Southern Africa's hosting capabilities has become paramount.

The scale of the region's demand for hosting is considerable, notably for South Africa, the region's data center hub. As the adoption of AI and machine learning

application picks up, the South African market is set to benefit from increased demand from cloud and clusters of AI graphics processing units (GPU), with capacity requirements at least doubling over the next decade. Data center capacity demand is similarly set to grow in other Southern African markets as Internet markets continue to mature, albeit at a smaller scale.

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



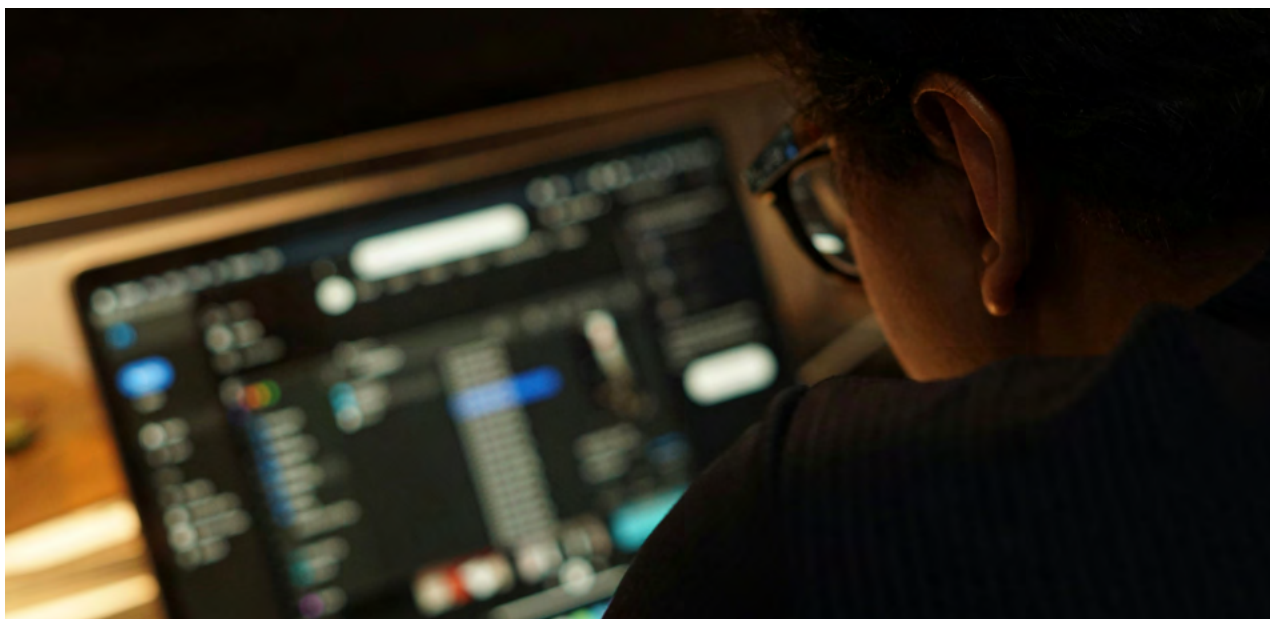
New facilities would support Southern Africa's increasingly complex and fast-densifying content and connectivity ecosystem. As traffic volumes continue to surge, more providers are building points of presence (PoPs) across the region to reduce latency, lower transit costs and interconnect with peers.

Beyond the larger, upper 5MW, "hyperscaler" facilities in large metros to support and enable hyperscaler cloud and AI deployments, Southern 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.

SOUTHERN AFRICA DATA CENTER PIPELINE AND OUTLOOK



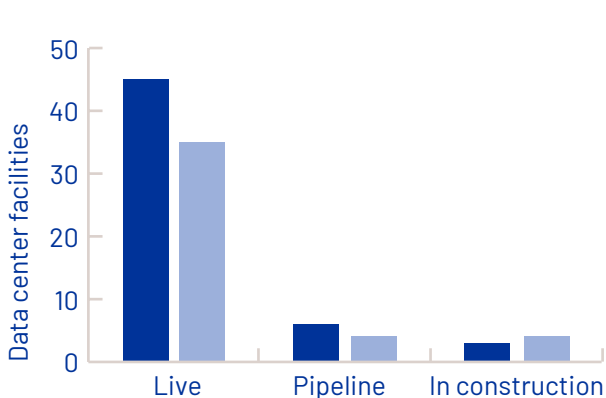


Southern Africa's construction pipeline is one of the most robust in Sub-Saharan Africa. Capacity build is predominantly driven by South Africa, the region's largest market, where providers are building up to power enterprise migration to the cloud, support hyperscaler cloud expansion and enable increased demand for AI inference workloads. Around 10 facilities are in various stages of development and projected to bring 200MW to 300MW of fresh capacity to the country by 2030.

Other markets in the region are similarly looking to expand data center capacity, ostensibly to enable cloud services adoption and the development of local Internet exchanges. Most markets are set to see 1-2 new facilities by 2030, with some new facilities being deployed as part of landing points for new submarine cables such as 2Africa or PEACE.

Nearly 10 facilities are either in construction or in the long term pipeline in Southern Africa (excluding South Africa), with a potential 10-15MW of new capacity coming to market over the next five years.

Southern Africa – Data center facility pipeline – 2024¹



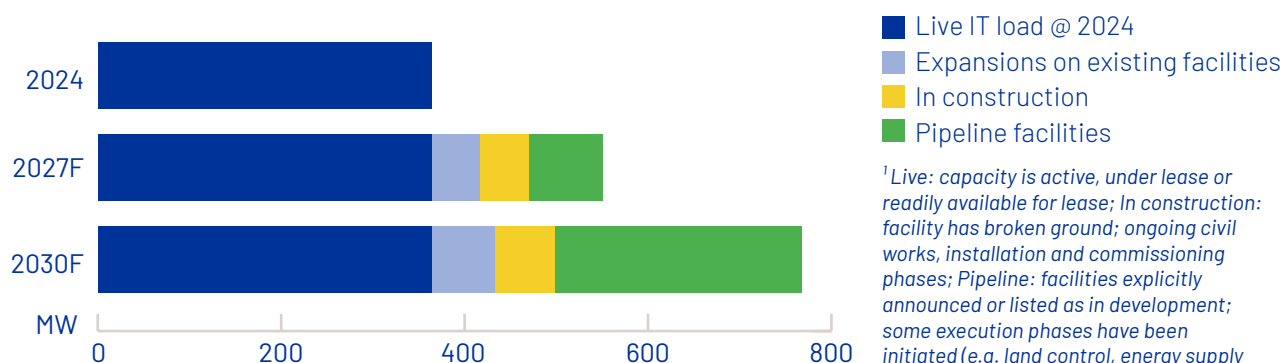
■ South Africa
■ Other Southern Africa

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

SOUTHERN AFRICA – AGGREGATE DATA CENTER BUILD PIPELINE ¹

In MW



Sources: Xalam Analytics estimates, provider data

EAST AFRICA DATA CENTER CONSTRUCTION PIPELINE – SAMPLE KEY PROJECTS

Provider	Facility	Metro	Status	Ready for Service	Capacity - MW
Africa Data Centres	CPT 2	Cape Town	Expansion	2026-27	+5MW
Equinix	JNB 1	Johannesburg	Expansion	2026-30	+10MW
Vantage	JNB2	Johannesburg	In Construction	2025-26	20 MW
Teraco	CT3	Cape Town	Pipeline	~2027+	60MW
Teraco	JB6	Johannesburg	Pipeline	~2027-29	60MW
Vantage	JNB1 – Phase II and Phase III	Johannesburg	Pipeline	2027-29	32 MW
Paratus/ITA	ITA3	Luanda	Pipeline	2026	10MW
Raxio	Raxio 1	Luanda	In Construction	2025	7MW
Vodacom	DC2	Maputo	In Construction	2026	2 MW

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.

SOUTHERN 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. Southern Africa has offered some of the region's most favorable environments for data center infrastructure development, including mature digital service penetration, extensive terrestrial and subsea cable infrastructure, ambitious digital policies and increasingly flexible electricity regimes.

REGULATION FOSTERING LOCAL DATA HOSTING

Most Southern African governments, with the notable exception of Namibia 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 provided entities abroad comply with internationally recognized data protection standards (like EU Data Protection Regulation) and the user provides consent for the transfer.

INCREASINGLY LIBERALIZED FIBER MARKETS

Southern African wholesale fiber markets are increasingly liberalized. South Africa is arguably the most competitive fiber market in Africa, with a host of wholesale networks

of varied scale connecting to a dozen submarine cables through a broad array of terrestrial routes. Driven by competitive pressures, the country offers some of the lowest wholesale fiber prices in Africa, a key feature of its attraction for data center and cloud services providers.

The picture in other Southern African markets is more mixed. Some, such as Zambia and Botswana have increasingly competitive fiber markets, with multiple networks offering a diversity of terrestrial fiber routes connecting customers to cable landing points on the East, West and Southern African coastlines. Several new projects have emerged in recent years to improve fiber connectivity between markets. Liquid Dataport, for example, announced in 2023 a new fiber network connecting Zambia and Angola. Paratus, another regional fiber provider, has been weaving an extensive cross-border network connecting Zambia, Namibia, Botswana and other markets.

Overall, however, the cost of Internet transport capacity has been persistently high in many markets and remains a consistent barrier to faster enterprise adoption of data center and cloud services in the region.

AN INCREASING ABUNDANCE OF GREEN ENERGY AND A MORE FLEXIBLE POWER ENVIRONMENT

As most data center facilities source their power primarily from the public grid, the structure of a country's electricity sector is another key enabling factor for data center operation. Southern African power regulation regimes are becoming increasingly flexible, as governments seek to foster investment in renewable sources of energy, remove bottlenecks on service delivery and attract capital to the power sector. In South Africa, for example, data center providers can sign power purchasing

agreements directly with independent producers of power (IPPs) and are allowed to generate their own power within a certain capacity threshold. Similarly, Zambia has adopted an open access regime that makes it possible to contract IPPs for power service delivery above 1MW. On the whole, such initiatives are having a stimulating effect on data center construction build.

Further, price points are generally lower in Southern Africa than they are in other regions; most Southern African markets have a price per kWh below \$0.10, with prices highest in South Africa and Botswana. In addition, the region is witnessing an intensified focus on favoring clean sources of power. While South Africa and Botswana depend heavily on carbon for their power needs, Namibia, Zambia and Angola are more dependent on renewable energy sources such as hydro, wind and solar power.



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

	South Africa	Angola	Botswana	Namibia	Zambia
ICT and Privacy Regulations					
Local data hosting requirements	Yes	Yes	Yes	Yes	Yes
Internet market liberalization	Full liberalization	Full liberalization	Partial liberalization	Partial liberalization	Full liberalization
Power Sector					
Provider ability to source from IPPs* through PPAs	Yes	Yes	No	No	Yes
Renewable share of the energy generation mix	10%	73%	30%	90%+	88%
Cost of power [\$/KWh]	\$0.14	\$0.02	\$0.07	\$0.06	\$0.03-04
Fiber Infrastructure					
# of submarine cables	10	3	0	2	0
Terrestrial fiber provider diversity	High	Medium	Medium	Low	High

*Independent Producers of power

Sources: Xalam Analytics research; regulator and utility data.



DATA PRIVACY REGULATORY ENVIRONMENT IN SAMPLE SOUTHERN AFRICAN MARKETS

Country	State of data privacy regulations
Angola	- Angola enacted the Data Privacy law in 2011 (22/11). - The rules established in the Data Privacy Legislation are enforced by Angola's Data Protection Agency. - In 2017 Angola's government passed the Protection of Information Systems and Networks Law (7/17) which seeks to safeguard data through enhancing cybersecurity.
Botswana	- Botswana's National Assembly passed the Data Protection Act 2024 in October 2024, replacing the previous legislation enacted in 2018. The new law broadens the authority of the Information and Data Protection Commission and includes rules for processing of personal data both by processors located in and outside of Botswana. - The new law allows for the transfer of data to 45 countries; among them South Africa and Kenya.
Namibia	Namibia does not currently have a data privacy law in place. A draft bill is still in the early stages of development, undergoing consultations with impacted parties. The draft calls for the establishment of an oversight body, called the Data Supervisory Authority.
South Africa	- The Protection of Personal Information Act (POPIA) came into effect in 2020 with companies required to comply with its provisions by 2021. - Data can only be transferred abroad if the country to which it is being transferred complies with EU General Data Protection Regulation, if the user complies with the transfer and the receiving party provides written notice of the measures it is taking to protect the data.
Zambia	- The government passed the Data Protection Act in 2021 establishing rules for the collection, use, storage and transfer of personal data. - The Act also established the Office of the Data Protection Commissioner to enforce compliance with the new rules.

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

05. 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.

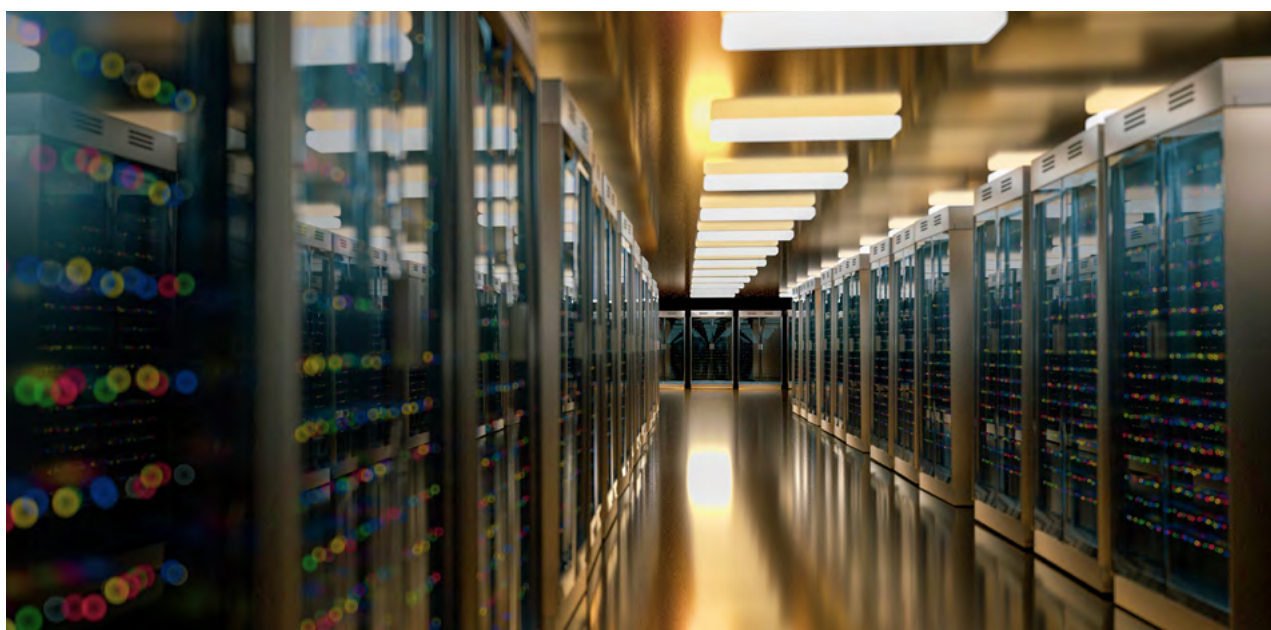
Carrier-neutral facilities are managed by specialist companies not tied to a particular service provider; they provide the user with a broad diversity of options when selecting a connectivity, cloud or other service. Carrier-neutral facilities accounted for around 80% of sub-Saharan Africa's available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

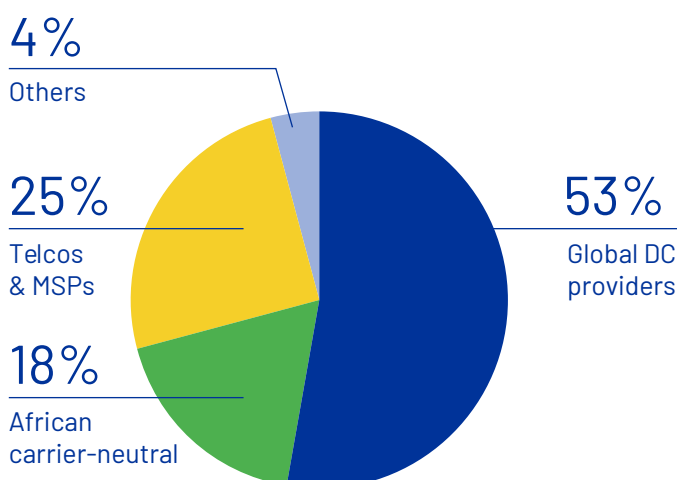
Telcos and IT managed providers are the second largest managers of African data center capacity, with around 25% of the region's capacity. While their share has declined considerably from 2021 levels, it remains strong in key regions and markets, notably in West Africa.

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 they 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

ANGOLA – CAPACITY SHIFTING TO CARRIER-NEUTRAL PROVIDERS

Angola's strategic location on Africa's West coast as well as Luanda's status as a nexus for internet traffic into and out of the African continent is attracting investment in data center opportunities. The market is largely comprised of telco and carrier-neutral providers. MStelcom manages three data center facilities, mobile operator Unitel manages two smaller facilities while Angola Cables manages a roughly 400-rack facility (AngoNAP). The first carrier-neutral facility opened in 2017 when Paratus opened its first facility, followed by the inauguration of a second facility (DC2) in 2019.

The Angolan market is set to become more competitive, with the 2025 arrival of Raxio Angola which is planning a 7MW facility (AO1) located in Cacucaco on the outskirts of Luanda.

BOTSWANA – A SMALL, TELCO DOMINATED MARKET

Gaborone is home to several telco-owned data centers including facilities managed by BTC (Sentlgaha), MTN, Orange and Botswana Fiber Networks (Digital Delta Data Center – DDDC). Orange opened a new \$5.2 million Tier III facility in the Botswana Digital

Innovation Hub, Science and Technology Park in 2023. The largest facility in Botswana is Digital Delta Data Center, a 1,000 square meter, Tier III facility that plans to have 400 racks available for colocation once it reaches full capacity.

NAMIBIA – FIRST CARRIER-NEUTRAL FACILITY IN 2022

There are only two data centers in and around Windhoek. The largest and most recent of these is a Tier-III built-for-purpose facility inaugurated by Paratus Group (Armada Data Center) in 2022. Armada is a \$7.5m facility that is the landing point for the Equiano submarine cable in Namibia. Telco Telecom Namibia maintains a smaller facility in Windhoek called Infinitum.

SOUTH AFRICA – A LARGE, HIGHLY COMPETITIVE HYPERSCALE MARKET

Providers in the South African market come in various forms and shapes. In terms of scale, the market is dominated by data center specialists and fiber infracos like Teraco (Digital Realty), Africa Data Centres, Vantage, Open Access, Xneelo, BCX and NTT Global Data Centers.

More than most, the South Africa data center market has become a specialist business.

05. KEY DATA CENTER INDUSTRY PLAYERS

~70% of the capacity is carrier-neutral, a proportion that continues to increase. South Africa is also the African market with the deepest presence of global colo providers – notably Digital Realty, Vantage and Equinix.

South Africa is a market with two distinct ends. At the top-end, a high-volume, wholesale and hyperscaler primarily serving cloud providers, managed service providers, content players and upper-corporate customers. At the retail end, a low unit-volume, but wider scope market, primarily serving the “retail” enterprise segment.

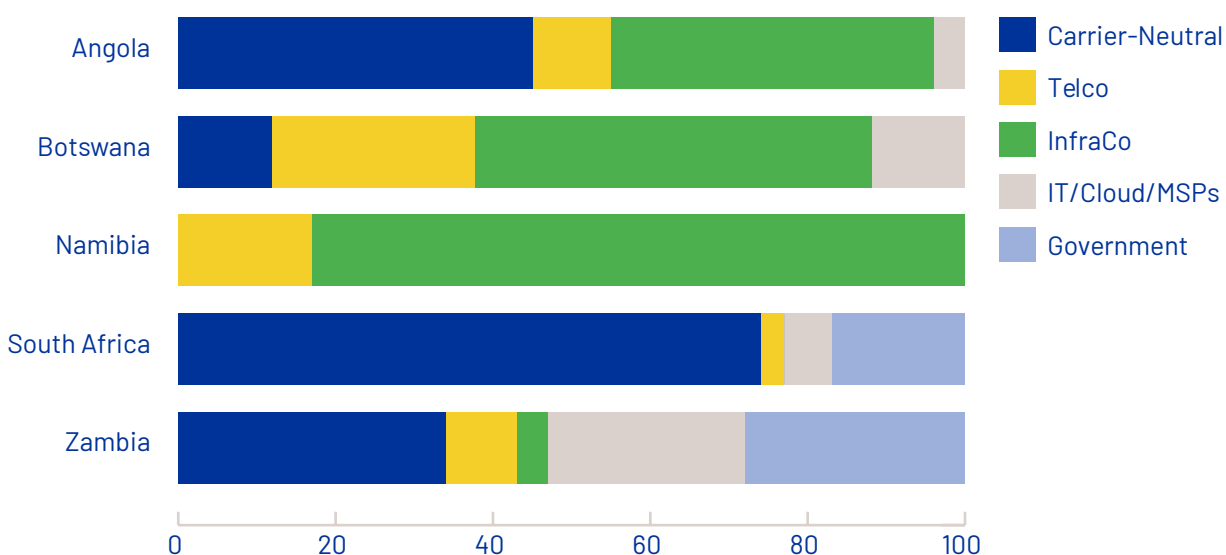
Several new facilities are expected to come online over the next few years, including a Microsoft facility in Centurion and a 40MW Teraco facility in Johannesburg (JB7) in 2026.

ZAMBIA – AN EMERGING DIVERSITY OF PROVIDERS

The Zambian supply base is highly diverse, mixing carrier-neutral providers, telco, InfraCo and IT company providers. Mobile operator MTN maintains a facility in Lusaka, InfraCo Infratel manages a facility in Kitwe which is home to the Lusaka Internet exchange and IT provider NetOne manages an older, Tier III facility (NOC-1) in Lusaka. In 2021, Paratus inaugurated a \$5.75m Tier III, 1MW facility in the Lusaka market.

The presence of government-managed facilities is also notable. Zambia’s government reached a “three data centers in two cities” agreement with Huawei for the construction of a Tier III, 72-rack facility in Lusaka in 2016 along with two back-up data centers hosted in state-provider Zamtel facilities in Roma and Kitwe.

MARKET STRUCTURE – PROVIDER SHARE OF LIVE CAPACITY IN SOUTHERN 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



SOUTHERN AFRICA NEEDS MORE CAPITAL TO EXPAND ITS DIGITAL INFRASTRUCTURE

The Southern Africa region attracts the largest volumes of spending on digital infrastructure in Sub-Saharan Africa, a position largely tied to the large volumes of investments flowing into South Africa, the region's largest market. Xalam estimates that Southern Africa digital infrastructure capex reached around \$3.5bn in 2024, a ~20% increase over the previous year, with South Africa accounting for around 85% of total investments.

Southern Africa infrastructure spend has been predominantly driven by 4G network expansions, terrestrial fibre and subsea cable rollouts. Around half of the region's infrastructure investments went to mobile networks to support 4G and 5G network coverage and capacity expansion. Nearly 90% of the region's population is now covered by 4G networks; 5G deployments have been slower but are gradually expanding.

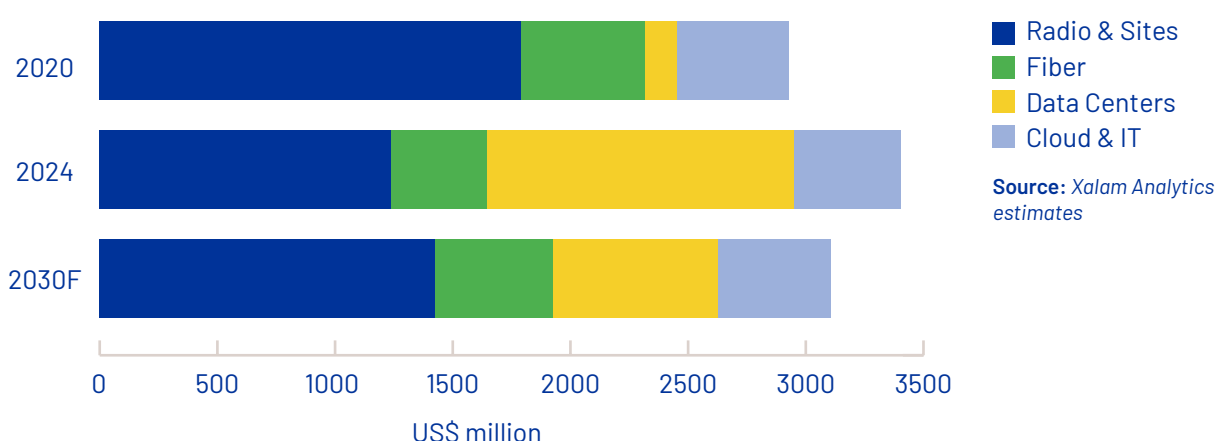
Fiber deployments have been the second biggest area of investment, with nearly 20%

of capex going to terrestrial and subsea network build as providers increased Internet capacity and expanded route diversity.

Data centers and cloud have been the fastest-growing areas of digital infrastructure investment in Southern Africa. Investment in cloud and data center infrastructure surged over the past three years, overtaking fiber investments and topping the \$1.5bn mark on the back of extensive facility construction in the South African market. These investments have provided the region with the largest repository of compute and storage capacity in Africa.

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 \$15bn-\$20bn over the 2025-2030 period, with fiber, data centers and cloud attracting slightly more than half of those investments.

SOUTHERN AFRICA DIGITAL INFRASTRUCTURE CAPEX EVOLUTION - US\$ MILLION





CLOUD AND DATA CENTER CAPITAL REQUIREMENTS

The capital requirements for expanding data center infrastructure are especially notable. An analysis by Xalam Analytics suggests that Southern African data center providers have deployed cumulative investments worth around \$2.2bn over the past five years in data center construction projects. To support the projected construction pipeline in Southern Africa, including new capacity to support AI workloads, Xalam estimates that the industry would need at least another \$5.0bn in data center and cloud capex by the end of the decade, most of which in South Africa.

GOVERNMENT INITIATIVES IN FOSTERING INVESTMENT IN DIGITAL INFRASTRUCTURE

Governments in Southern Africa have outlined long-term strategic visions designed to harness digital technologies to accelerate economic development and diversification. 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. Key Southern Africa government ICT initiatives are outlined below.

ANGOLA

- In December 2024, the government of Angola passed the new White paper on Information and Communications Technologies 2023-2027 (LBTIC 2023-2027). The new legislation hopes to establish Angola as a co-leader in ICT within the Southern Africa Development Community (SADC). The main pillars of LMTIC include providing faster, more affordable connectivity to individuals and businesses, improving ICT skills, promoting a favorable investment climate to support growth of ICT businesses and promoting digital literacy and inclusion.
- The Angola Digital Acceleration Project, part of the \$2.5bn Inclusive Digitalization in Eastern and Southern Africa (IDEA) project being financed by the International Development Association (IDA) and International Bank for Reconstruction and Development (IBRD), plans to improve broadband connectivity and digital inclusion in Angola. The Angola Digital Acceleration Project also calls for the construction of Public Digital Infrastructure using part of the \$300m budget assigned to Angola.
- Angola's government received a \$248m loan from China Eximbank to build a national broadband network to improve access, increase network speeds and reliability. Angola's government reached an agreement with China's Sinohydro Corporation in 2022 to build the network.
- In 2023, Angola's National Institute for the Promotion of Information Society (INFOSI) announced an \$89m project to build a national cloud infrastructure. The project calls for the construction of two government-owned data centers with a combined ~200 racks that will be used to

support new government services and applications as well as the hosting of government and consumer data.

- Angola's data protection law (22/11) passed in 2011 provides the framework for organizations in and outside of Angola working with the personal data of individuals in Angola. The rules established in the law are enforced by Angola's Data Protection Agency. The Protection of Information Systems and Networks Law (7/17) focuses on data protection and cybersecurity.

BOTSWANA

- Botswana seeks to achieve high-income status by 2036. Transforming its economy into a knowledge-based economy is part of the government's strategy for achieving that goal.
- In July 2020, the government enacted the Botswana Digital Transformation Strategy, also known as SmartBots. Key pillars of the Strategy include enhancing connectivity, building a knowledge workforce and improving digital skills, digitalizing public services through the introduction of e-government initiatives and promoting entrepreneurship through the development of an ecosystem that supports startups and other innovators.
- One of the first SmartBot initiatives was the Digital Villages project aimed at expanding connectivity to rural areas. The project, financed by the Universal Access and Services Fund (UASF), establishes hotspots at public locations throughout the country offering free Internet access. During the first phase of the project, Digital Villages established 1,138 new hotspots across 144 villages covering an estimated 1.6m people.

- Botswana introduced the National Broadband Strategy in 2018 which aims to ensure an enabling environment so that every citizen, business and community has affordable access to high-speed Internet.
- There are currently no regulations around the use of cryptocurrencies and blockchain in Botswana. The Central Bank, however, is urging the government to establish clearer regulations around crypto currencies, blockchain and virtual assets.
- The National Assembly passed the Data Protection Act 2024 which went into effect in January 2025. This Act replaces the previous legislation on data protection passed in 2018.

specificity around the rules governing market players.

- Government-owned Telecom Namibia completed eight fiber optic projects in fiscal 2023/24. The N\$35.5m initiative added 233km of fiber optic cable to replace ageing copper infrastructure and expand coverage to rural communities. Telecom Namibia plans to invest an additional N\$27m in 2024/25 to further extend fiber coverage and improve network connection speeds.
- In 2025, Namibia's government announced its ICT Transforming Education project funded by the UNESCO Korean Funds in Trust (K-FIT). The goal is to strengthen the digital skills of both teachers and students.

NAMIBIA

- Namibia's Vision 2030 plan established ICT as one of the crucial engines for economic growth in the country.
- Namibia's National Broadband Strategy 2018-2022 is the country's fifth national broadband strategy and sets several ambitious targets including providing 2Mbps connectivity to 95% of the population by 2024.
- In 2022, Namibia passed the Access to Information Act which supports the digitalization of many government services to help citizens gain access to information.
- In 2023, Namibia's government passed the Virtual Assets Act aimed at regulating cryptocurrencies and virtual assets. The Virtual Assets Act establishes a regulatory body to oversee the sector and issue licenses but provides little

SOUTH AFRICA

- South Africa's National Development Plan lays out the framework for boosting GDP growth to 5.4% on average and reducing unemployment rate to 6% by 2030. Digitalization plays a big role in these efforts.
- SA Connect, South Africa's National Broadband Policy established in 2013, set a goal of achieving 100% broadband penetration with a minimum connection speed of 10Mbps by 2020, increasing to a minimum connection speed of 20Mbps by 2030.
- The Protection of Personal Information Act (POPIA) came into effect in 2020 with companies required to comply with its provisions by 2021. Data can only be transferred abroad if the country to which it is being transferred complies with EU General Data Protection Regulation, if the user complies with the

transfer and the receiving party provides written notice of the measures it is taking to protect the data.

- South Africa continues to build upon its strategy of being Africa's main hub for data centers and cloud computing. In 2024, the government passed the National Policy on Data and Cloud to leverage data and cloud services to drive economic growth and innovation. In late 2024, the government released a National AI Policy Framework, a blueprint for harnessing AI for economic development.
- the National Digital Skills and Future Skills Strategy in 2020. This Strategy identifies the digital skills gap in South Africa's workforce and proposes strategies to build capacity in the local workforce and create incentives for skilled foreign workers to relocate to South Africa.

ZAMBIA

- The National Digital Transformation Strategy 2023-2027 is Zambia's five-year plan to drive economic development through digital transformation. The strategy has five main areas of focus including digital infrastructure, digital platforms, digital services, digital literacy and skills, and digital innovation and entrepreneurship.
- The government of Zambia launched SMART Zambia in 2015 with the goal of digitalizing government services. To that end, the government introduced the SMART Zambia Electronic Government Master Plan 2018-2030 which established the legal and regulatory framework to undertake this transformation.
- In 2024, Zambia's government announced a public-private partnership that would result in the construction of 520 new towers. The government will be responsible for 340 of the towers, while the private sector will be responsible for the construction of 180 towers. This is part of an effort to achieve 96% Internet coverage across Zambia by early 2026.
- The government passed the Data Protection Act in 2021 establishing rules for the collection, use, storage and transfer of personal data. The Act also established the Office of the Data Protection Commissioner to enforce compliance with the new rules.
- The government of Zambia signed a deal with Huawei to build three data centers in the country, including one main facility and two back-up facilities hosted at Zantel locations.
- In December 2024, the government of Zambia introduced ZamFree WiFi, a collection of free WiFi hotspots installed in various parts of the country to promote digital inclusion and enable citizens to access the Internet for free.
- Cryptocurrencies are not considered legal tender in Zambia. Nevertheless, the Bank of Zambia is looking at developing a framework for the regulation of cryptocurrencies, blockchain and virtual assets in its forthcoming Strategic Plan.

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.



DATA GOVERNANCE IN AFRICA



REPUBLIC OF ESTONIA
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