

A large, modern data center is shown from a low angle, looking up at rows of server racks. The racks are illuminated with blue and white lights, and a complex network of glowing blue lines and dots connects them, representing data flow. The ceiling features a grid of recessed lights.

# THE AFRICAN DATA CENTER GIGAWATT

How the cloud, the edge and interconnect are transforming African data center market value

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# Introduction: Data centers are a foundational pillar of Africa's age of cloud



- For much of the past decade, data centers were the weak link of Africa's digital infrastructure buildout, a market segment too small and too insular to be meaningful. No longer. As broadband penetration continues to increase, African markets have witnessed an unprecedented wave of data center capacity buildout, driven by the awesome pressure to harness the explosive flows of data traffic sweeping the region, the gravity-like pull of physics and network latency, and the rising but no less powerful demands for national data sovereignty.
- The African market is now in the midst of a seminal phase of construction activity. Around 70 new facilities have been built over the past five years, with 2022 the biggest year of construction to date. Africa's commercial hosting capacity has surged and is now doubling every three years. Global investors are taking notice; Digital Realty and Equinix, the world's largest data center colocations providers have entered the market with acquisitions, perhaps the clearest indication yet of the mainstreaming of African networks into global interconnected platforms.
- Today, African data centers are some of the most highly-valued assets in the region's digital infrastructure fabric. They are one of the most essential pillars of Africa's emerging age of cloud, a phase of prodigious explosion in Internet traffic, cloud adoption, and integration of software into daily life and business operations.
- The rise of the data center market has unleashed a new set of questions around overbuild risk, true demand potential, likely hyperscaler destinations, edge strategies, sustainability in the face of power and water shortages, and overall investor value.
- As is now hallowed Xalam tradition, this report explores all these questions, providing arguably the most in-depth view into the growth, economics and overall potential of Africa's burgeoning data center industry. Our commitment remains unyielding, to deliver to you the best research value for money you will find on this topic, on these markets. Anywhere. We hope this report will live up to that standard.

Malaikum Xalam.



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# Markets and companies covered



This report focuses on Africa at a broad level, with countries covered at varying levels of depth. Countries and players covered are as follows:

## Markets covered with good depth

- South Africa
- Nigeria
- Kenya
- Ghana
- Egypt
- Ethiopia
- Morocco
- Cote-d'Ivoire

## Other key markets explored

- DRC
- Mauritius
- Mozambique
- Senegal
- Tanzania

## Sample companies mentioned

- |                        |                  |                                   |                 |                        |
|------------------------|------------------|-----------------------------------|-----------------|------------------------|
| ■ Acronis              | ■ Dimension Data | ■ LINX                            | ■ Oracle        | ■ Telkom/BCX           |
| ■ Africa Data Centres  | ■ Equinix        | ■ Liquid Intelligent Technologies | ■ Orange        | ■ Tencent              |
| ■ Akamai               | ■ Ethio Telecom  | ■ MainOne                         | ■ OVH           | ■ Teraco               |
| ■ Alibaba              | ■ Google         | ■ Maroc Telecom                   | ■ PAIX          | ■ Vantage Data Centers |
| ■ AMS-IX               | ■ GPX            | ■ Microsoft                       | ■ Paratus       | ■ Vodacom              |
| ■ Asteroid             | ■ Huawei         | ■ MTN                             | ■ Rack Centre   | ■ Wingu                |
| ■ AWS                  | ■ IBM            | ■ Multichoice                     | ■ Raxio         | ■ WIOCC                |
| ■ Canal+               | ■ Inq            | ■ N+One                           | ■ ST Digital    |                        |
| ■ DE-CIX               | ■ Inwi           | ■ NTT Data                        | ■ Stackpath     |                        |
| ■ Digital Parks Africa | ■ IXAfrica       | ■ Onix                            | ■ Symantec      |                        |
| ■ Digital Realty       | ■ KasiCloud      | ■ Open Access Data Centres        | ■ Telecom Egypt |                        |

## Executive Summary

- Executive Summary: The African data center market in 8 indicators
- Executive summary: on the state of the market
- Executive summary: on Africa's data center market outlook
- Executive summary: on burning investor questions, from overbuild risk to edge computing

## I. State of the market: a surge in data center construction

- Systemic forces are boosting demand for African local hosting capacity
- A spike in data center construction
- African facilities are more focused on commercial colocation
- African facilities are getting larger – to accommodate cloud and hyperscale
- Africa's largest facilities – a marked change over time
- Africa's top 15 facilities: a ranking

## II. State of supply: a boom of African hosting capacity

- It's not early anymore – from dawn to morning, market take-off is now effective
- The potential IT load has crossed the 600MW mark
- Data center capex: nearly \$3bn spent in building African hosting infrastructure
- Four major data center maturity clusters, with South Africa leading the way
- A ranking of Africa's top 10 data center markets
- Africa's main hyperscaler market: South Africa
- The next hyperscaler cluster: Kenya and Nigeria
- The high-potential market cluster: deep underlying potential – but highly constrained
- The small market cluster – rest of SSA, striving to catch up, but on a smaller scale
- Sharp differences – country attractiveness to data center investment
- African colo metros – all about Johannesburg, Cape Town, Cairo, Lagos and Nairobi

## III. The African data center competitive landscape: Pan-African providers, global platforms and the next cycle of M&A

- Who controls Africa's colocation capacity? Carrier-neutrality is a sign of maturity
- The global colo platforms are here
- Africa top 10 providers by size
- African pan-African providers: accelerating expansion outside of South Africa
- At last, the global providers are here
- The country-focused providers: getting stronger at home
- The telcos: strengthening their position – or exploring exits
- Africa key colo providers: summary market presence and gaps

## IV. The African data center demand case: from hyperscalers to the enterprise

- Demand for data center capacity: complex and polymorphous
- Connectivity demand – the glue that binds the data center user ecosystem
- CDNs – still some room to grow
- Content and managed services providers: a mostly unrealized demand potential
- Enterprise demand – colocation as a complementary path to the cloud
- Hyperscalers: still a considerable presence gap in Africa

## V. Looking ahead: Africa's billion-dollar data center revenue outlook

- Summary highlights – accelerated growth to support the age of cloud
- The construction boom will continue
- Sample Africa hyperscale construction projects
- Market outlook – the African colo market has come of age, will double in size
- Looking to 2030 – A gigawatt horizon
- Market outlook: South Africa, Kenya and Nigeria to lead the way
- High-potential cluster and other markets: strong potential, on a smaller scale
- Revenue outlook: cracking the billion-dollar mark
- CapEx outlook: ~\$3bn in data center CapEx over the next five years
- Market outlook: key colocation revenue indicators by cluster

### VI. Exploring some burning investor questions, from overbuild risk to edge and DC valuations

- What is the risk of capacity overbuild in African markets?
- A case for patient capital, as harsh micro realities trail the macro potential
- Making the demand case – key charts
- Africa's emerging case for edge computing
- The workload-driven edge will be more impactful – but mostly needs 5G, IoT
- Charting Africa's progress towards the edge
- Valuing African data centers – well above other African digital infrastructure assets
- Africa's expanding interconnect market: ~4 Tbps of peering traffic
- The evolution of the African IXP market
- On colocation pricing and MRR: competitive pressures vs. inflationary pressures
- On African data center sustainability: an explosion of data center electricity usage
- On African data center sustainability: downward pressure on high PUEs

### VII. Country snapshots

- South Africa
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- Kenya
- Ghana
- Egypt
- Ethiopia
- Morocco
- Cote-d'Ivoire

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- Facility construction by year – a recent surge
- Facility construction by market – 2020-2022F\*
- Number of commercial colocation facilities by country – 2022\*
- Distribution of commercial colocation facilities in Africa – 2022\*
- New facility construction by provider type
- Facilities by type of provider - 2022
- Evolution of African facility size – live IT load
- Africa's largest facility – A marked change from 2017
- Distribution of Africa's facilities – by end-state IT load size - 2022
- Top 15 facilities – based on end-state potential IT load\*
- Evolution of Africa available/live IT load – 2011-22F
- Africa vs. the FLAP markets – available colocation supply – 2021E
- Evolution of Africa total campus IT load – 2011-22F
- Evolution of Africa commercial colocation CapEx – 2011-22E
- Data center live IT load by country – MW (2022E)
- Data center market maturity cluster – contribution to total IT load (2022E)\*
- Data center live IT load by country – MW (2022E)
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- Distribution of colocation capacity by market type and provider type – 2022F
- Evolution of colocation capacity by market type and provider type – 2017-22F
- Africa largest data center providers – based on combined IT load – 2022F
- Waves of demand for data center colocation capacity
- African IXP ecosystem – sample view by user segment
- CDN and content edge PoPs in Africa – Identified PoPs – June 2022
- Mapping of outsourcing options available to African enterprises
- Hyperscaler cloud infrastructure in Africa – a mapping
- Hyperscaler cloud infrastructure in Africa – Table view
- Africa New facility construction – by market cluster – 2021-26F\*
- Sample hyperscale facility construction projects – 2022-24
- Evolution of Africa available/live IT load – 2021-26F
- Evolution of Africa live and potential commercial colocation IT load – 2020-30F
- Evolution of Africa available/live IT load – 2020-26F
- Contribution to commercial IT load growth – 2021-26F
- Median size of new construction – in MW - by market cluster - 2021-26F
- Africa annual revenue from commercial colocation services – 2021-26F
- Africa cumulative CapEx on data center infrastructure – 2022-26F
- Colocation live IT load per million broadband connections – 2022\*
- Median capacity utilization in key market clusters – based on rack utilization – 2021E
- Africa capacity demand vs. supply growth\*\*
- Sample bottom-up demand analysis – the Nigeria case
- Sample Africa data center M&A transactions – 2019-22
- Sample Africa digital infrastructure valuation multiples – EV/EBITDA - 2022E
- Evolution of Africa IXP traffic – 2018-22F
- Sample global IXP entry in Africa – 2021-22
- ASN membership in African IXPs - 2022
- Average monthly revenue per rack (MRR) – Africa vs. sample regions
- Evolution of African median MRR
- Africa commercial colocation data center electricity usage – 2017-26F
- Power Usage Efficiency in sample African facilities – 2022E
- Renewables share of power generation mix in sample markets – 2021E

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- South Africa - Supply share by provider type – based on live IT load - 2022F
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- Cote-d'Ivoire - Supply share by provider type – based on racks - 2022F
- Cote-d'Ivoire - Supply outlook – 2021-26F

# Sample pages



At last, the global providers are here

**NTT DATA**

**GPX**

**VANTAGE Data Centers**

**EQUINIX**

**DIGITAL REALTY**

**Country Presence (Live and in construction)**

Digital Realty	South Africa, Kenya, Nigeria, Mozambique
NTT Data	South Africa
Equinix	Nigeria, Ghana, Côte d'Ivoire
Vantage Data Centers	South Africa

\*Primary, self-owned and dedicated facilities only; numbers are Sources: The companies, Xalam Analytics estimates

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- Global-scale providers; Africa fits within a broader, more global picture
- Other than Vantage, have typically entered the African market through acquisitions
- Money is (almost) no object if the conditions are ripe; capital is a considerable competitive advantage
- Have multi-country presence – but a focus on Tier 1 hyperscaler countries; South Africa, Nigeria, Kenya
- Global providers control ~60% of the SA market, but only ~10% of non-SA capacity
- Africa's largest colocation provider is now American
- They are scale providers – typically focused on large-scale facilities ~10MW+

**Africa facility Map – Number of facilities by country**

Number of commercial colocation facilities by country – 2022\*      Distribution of commercial colocation facilities in Africa – 2022\*

Facility Size Category	Number of Facilities
1-4 DCs	13
5-9 DCs	10
10-15 DCs	3
16-20 DCs	1
>25 DCs	1

\*Commercial colocation facilities, Tier III standard and above, including facilities in construction and expected to go live in 2022. Source: Xalam Analytics estimates

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**XALAM ANALYTICS**

All the top 30 economies in Africa have at least one commercial colocation facility of Tier III standard or above.

**African facilities are more focused on commercial colocation**

New facility construction by provider type      Facilities by type of provider - 2022

Type	Percentage
Telco	37%
Carrier-Neutral	33%
IT/Cloud/MSPs	22%
InfraCo	2%
Government	6%

\*Commercial colocation facilities, Tier III standard and above, including facilities in construction and expected to go live in 2022. Source: Xalam Analytics estimates

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## Packages & Pricing

## Summary package



- Full report in PDF
- 106 pages, including ~75 Charts and Visuals
- 40 charts with underlying data in Excel
- Enterprise license

Price: \$2500



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