THE AFRICAN DATA CENTER BOOM

CLOUD, HYPERSCALE, AND THE TRANSFORMATION OF AFRICAN COLOCATION MARKETS

Report summary &
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NOVEMBER 2018 EDITION

Xalam Analytics

Report Summary: The African Data Center Boom

- **At long last, the African data center boom is here.** After years of strong promise, but relatively slow expansion outside of South Africa, the African data center market has entered a phase of accelerated growth. The year 2018 marks an inflection point. More multi-tenant data center facilities will be built across Africa over the next two years than were established over the past three combined. Data center colocation space, power, and revenue are all set to double over the next five years. More enterprises are adopting colocation services. Global CDN players are bulking up their African edge node presence. And crucially, the hyperscale cloud is here, transforming colocation demand patterns and volumes, altering the colo market's traditional competitive structure, business models, and the very nature of Africa's data center facilities.

- **The African Data Center Boom is our most comprehensive research to date on the African data center colocation market**, leveraging months of research and interviews, extensive data collection and new analytical tools for data center analysis and geo-mapping. The report provides an unprecedented view into the dynamics underpinning the African Multi-tenant Data Center colocation market – all with the Xalam team's uncompromising focus on finding investor value – wherever it may be. Among key findings, the report outlines:

- Why the foundations for African colocation market growth are increasingly solid.
- Why some markets are driven by carrier-neutral players, while others are telco-dominated;
- The future of African colocation supply;
- The nature of African enterprise demand for colocation;
- The impact of hyperscale providers on African demand for data center colocation;
- Why we say that MTDC colocation is one of the hottest growth segments in the African ICT market;
- Why we broadly categorize the African data center colocation opportunity as follows: one sure thing (South Africa), four "next best" markets, three potentially strong, but stunted markets and five hidden gems (Angola, DRC, Uganda, Zimbabwe and Djibouti).

- **A reference report for all players and investors in the African colocation and cloud markets.**

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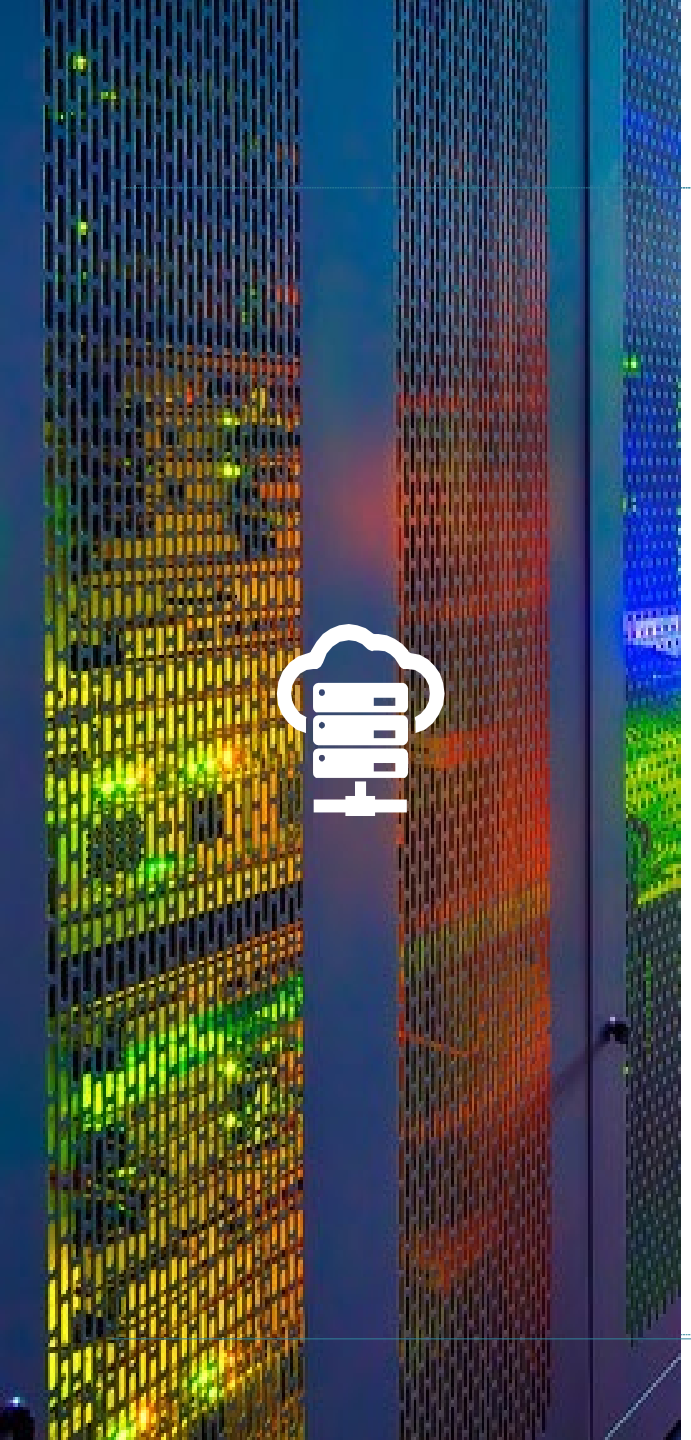

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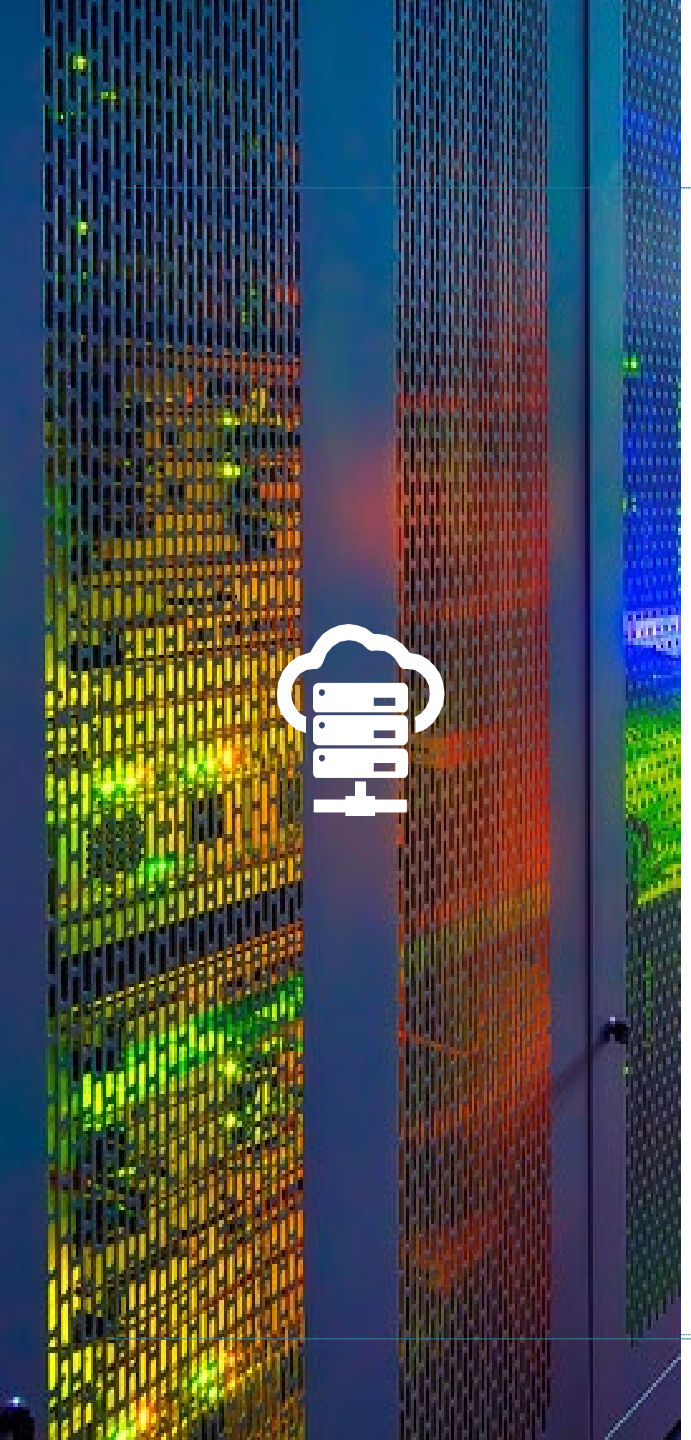

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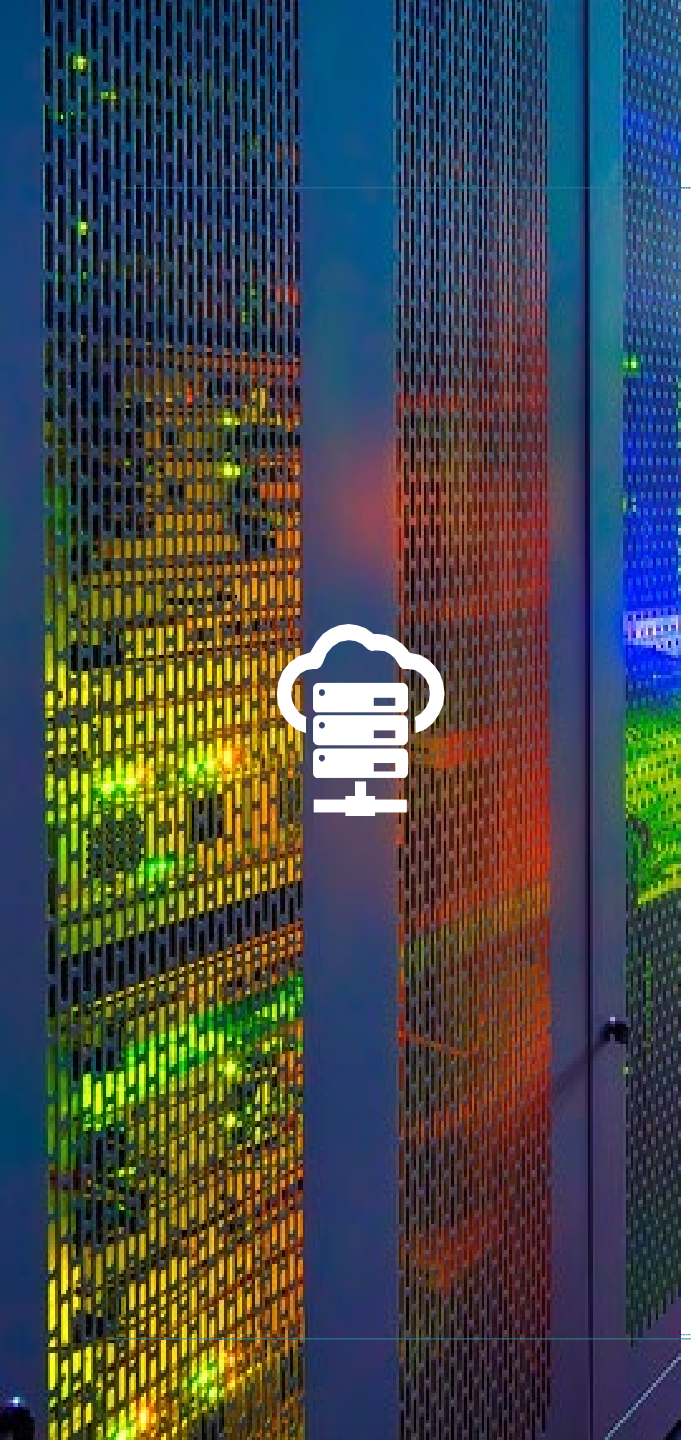

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Markets & Companies Covered

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

- The core analysis of the report is driven by insights and data generated primarily from these markets;
- We provide a country-focused analysis of colo market size, key players, estimated market share, revenue outlook
- Specific country-focused profile, key trends, projections and other analysis:
  - South Africa
  - Nigeria
  - Kenya
  - Ghana
  - Cote-d'Ivoire
  - Morocco
  - Tunisia
  - Senegal
  - Tanzania
  - Uganda

Other Markets Covered

- The core analysis of the report is driven by insights and data generated primarily from these markets;
- Key trends and dynamics are explored and highlighted throughout the report - but no specific country profiling
  - Angola
  - Egypt
  - DRC
  - Djibouti
  - Zimbabwe

Companies Mentioned

- 21st Century Technologies
- Akamai
- Amazon Web Services
- BCX
- CloudExchange Nigeria
- Djibouti Data Center
- Etix Everywhere
- Etix Ngoya
- Google
- Hetzner SA
- Huawei
- iColo
- IS/Dimension Data
- Liquid Telecom/Africa Data Centres
- MainOne
- Maroc Telecom
- Medallion Communications
- Medasys
- MTN Business
- N+One
- Netflix
- NSIA Technologies
- Ooredoo Tunisia
- Orange Business
- PAIX
- Rack Africa
- Rack Centre
- Raxio
- Safaricom
- Telkom Kenya
- Teraco
- Tigo Senegal
- Tunisie Telecom
- Vodacom Business

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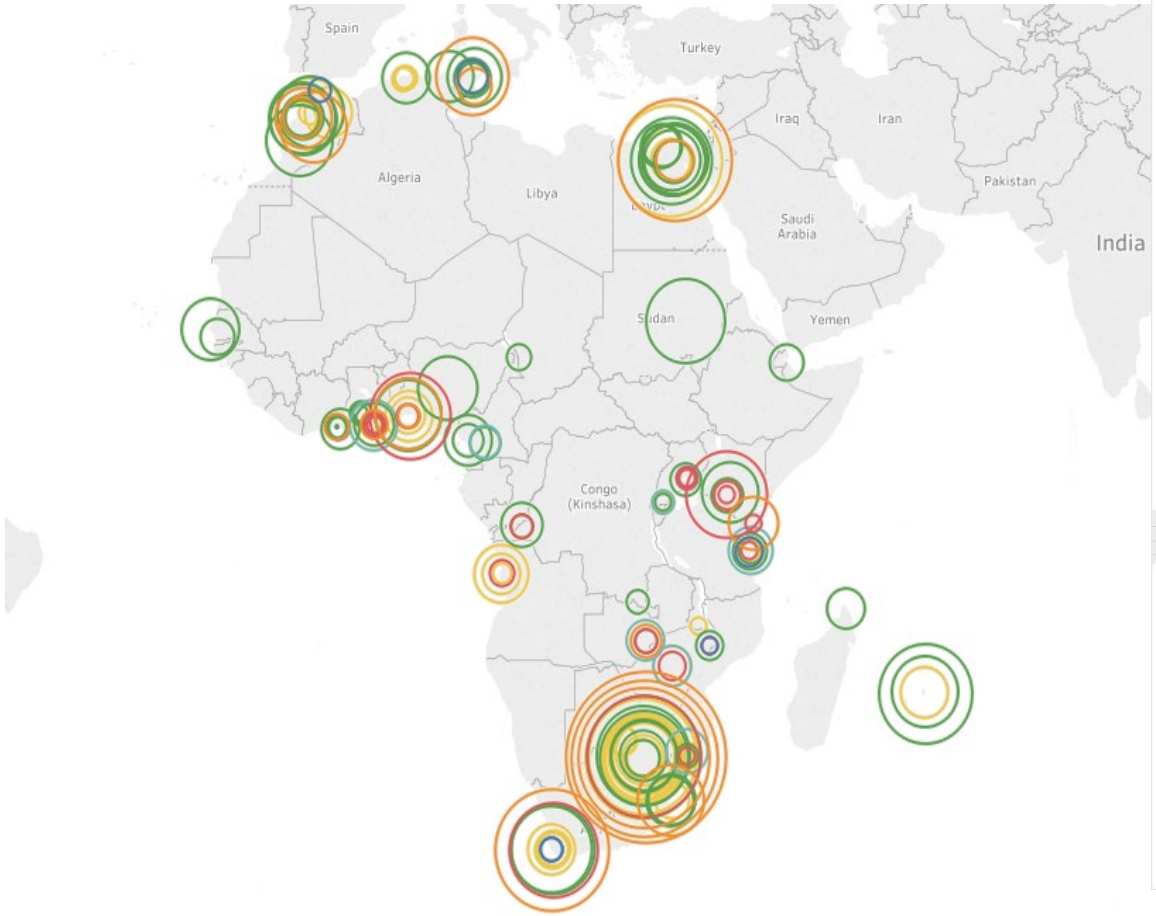
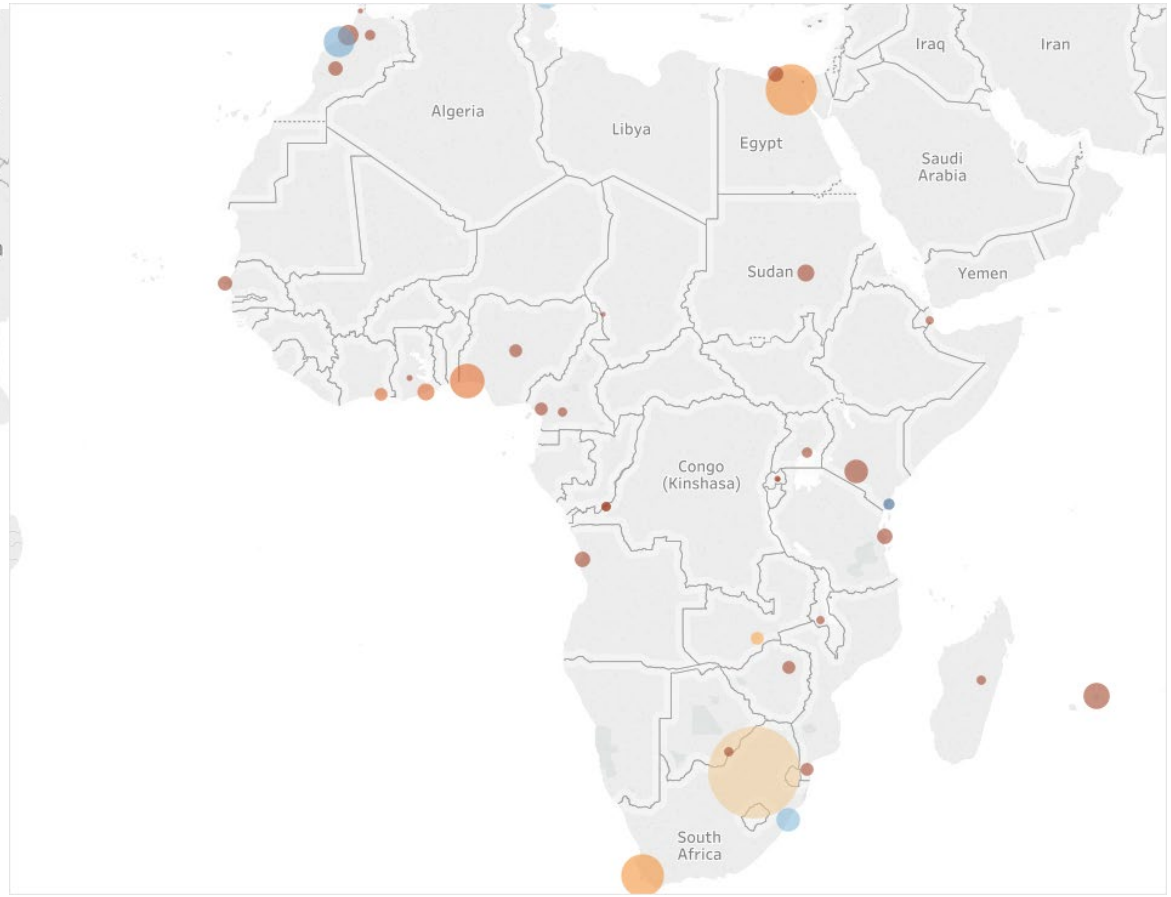
African colo space supply – a map view

African Colocation – View of the Facilities



Each circle represents a data center facility; circle size reflects the facility's relative size; full facility detail (location, type, capacity, owner) available in the Xalam colocation market dashboards.
Source: Xalam Analytics Research

African Colocation – View by Metro



Each circle represents a metro market; circle size reflects the market's relative size, in square meters.
Source: Xalam Analytics Research

The African data center boom: key takeaways (1)

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THE FOUNDATIONS

- **The foundations for African colocation market growth are increasingly solid**. African broadband adoption is booming; demand for cloud services is emerging and the hyperscale are coming.
- **We estimate that there are 170 to 200 colocation facilities in Africa**, but only around 75 are dedicated to commercial colocation services. African facilities are small; Around 65% of African data centers are smaller than 500 square meters; 95% are smaller than 2000 square meters.
- **Market structure varies;** carrier-neutral contribution is higher in South Africa; In Kenya, Nigeria and Ghana, carrier-neutral providers, fibercos and MSPs are overtaking integrated telcos – the sign of a rapidly developing marketplace
- **Other African markets have been essentially telco-dominated** – largely due to doubts on viability of colocation business on a stand-alone basis. But even there, carrier-neutral options are expanding.

HOW BIG IS THE MARKET?

- The African colocation market is growing fast. **We estimate the African MTDC base at around 112,000 square meters as of 2018.** The available white space base has been growing by an average of around 14% since 2014.
- On average, the region has been adding 10,000 to 15,000 square meters of equipped space every year. **In terms of rack space, we estimate Africa's established supply base at around 36,000 racks.**
- The region's colo power capacity has been growing faster, averaging around 20% since 2014. **We estimate that African colo power capacity will hit around 200 MW in 2018, nearly double 2015 levels.**
- **The African colocation market is small relative to the rest of the world.** This is largely a reflection of lower cloud adoption on the continent; in addition, hyperscale providers, who are driving colocation growth around the world are only expected to enter the African continent at the end of 2018.

ENTERPRISE DEMAND

- **On paper, enterprise demand for colocation services accounts for more than 95% of potential demand in most markets**. In practice, the African enterprise market is highly underpenetrated, due to a range of factors including inadequate, or expensive supply, low awareness of colocation services, slow movement towards outsourcing and in many countries, widespread distrust of third-party providers.
- **We estimate potential demand for enterprise colocation services in Africa at around 80,000 rack units**, with actual usage at around 10,000 racks. In effect, **we estimate that less than 20% of potential enterprise demand is currently being served.** In some smaller African markets, enterprise usage of colocation services is largely non-existent. This points to both the considerable potential of the market and the significant challenge in realizing that potential.
- **For the most part, however, we are relatively skeptical of enterprise colo demand outside of some large corporate customers** – we believe most mid-sized businesses will opt for some form of on-premise, or public cloud service.

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How large are African data centers?

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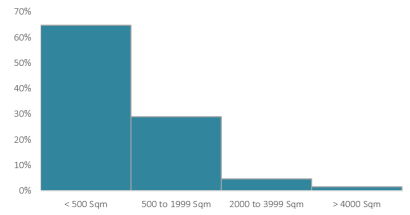
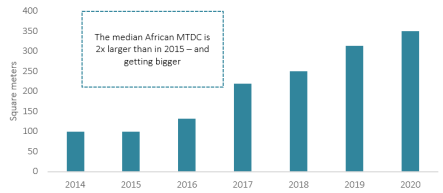
A Predominantly Small MTDC Base

- **African data centers are small, consistent with the nature of the market, relatively small demand, and a power generation capability inadequate for large facilities.** The median size of an African MTDC has doubled over the past three years, to around 250 square meters.
- **Around 65% of African data centers are smaller than 500 square meters;** 95% are smaller than 2000 square meters. Only 10 facilities have more than 2000 square meters of white space. As of 2018, Africa's largest data center was Teraco's JB1 Isando site, with around 6000 square meters*.
- **There are key variations by region.** South Africa has the continent's largest data centers; in other sub-Saharan African markets, the median available white space is only around 100 square meters.

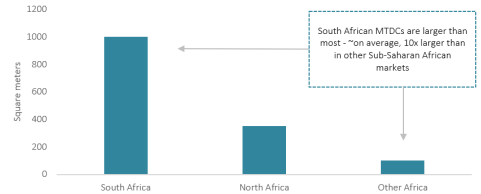
Distribution of African MTDCs by Size - (2018E)**



Evolution of African median MTDC size



Median MTDC size by key African region (2018E)**



*Based on overall equipped, usable space; actual space dedicated to third-party colocation may be smaller.

Readiness for colocation – the international capacity infrastructure is excellent

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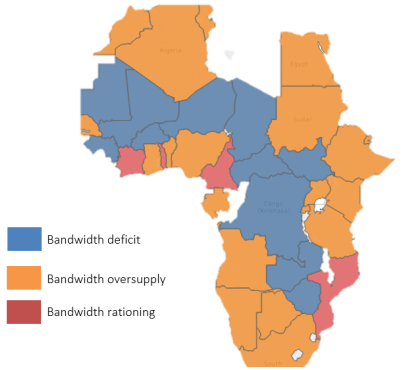
International bandwidth demand vs. supply in sample markets



The international bandwidth market is arguably the segment "most ready" to support a thriving data center colocation market. For the most part, African international capacity is abundant, competitively priced, and increasingly resilient.

Cable Availability

- **Most countries with a coastline now have access to at least one cable.**
- **International equipped capacity has doubled over the past two years** – it will double again by 2020 (from 2017 levels).
- **~75% of African markets are now in technical oversupply**, when it comes to international bandwidth; they have 2x-3x enough capacity to meet domestic demand;
- **Two thirds of the markets have a liberalized**, or semi-competitive international gateway.

Cable Diversity

- **International cable diversity continues to improve;** ~75% of markets have at least two cables and 10 markets have access to more than 2 international cables.
- An analysis of the data center in our sample shows that most facilities that are carrier-neutral, or operated as such have access to at least two separate international cables.
- **Route diversity is improving**; by the end of 2020, Africa should have at least three high capacity cables to Europe, Asia, and the Americas respectively.

Competitive Prices

- **From a pricing standpoint, the international bandwidth market is the most competitive**

African colocation demand: international providers and CDNs

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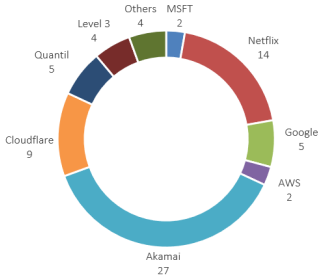
Global CDN Edge PoPs in Africa – A Map View

Global CDN Edge PoPs in Africa – Distribution by Provider



- **Global connectivity providers and content delivery networks (CDNs) are a critical source of demand for African colocation space**. Connectivity providers set up PoPs in local data centers to peer with other providers and sell capacity services. CDNs set up their servers in local data centers to improve Internet user experience, as part of "edge cache" networks that keep content closer to the end user.
- **Global CDN players typically lease in excess of 2-3 racks at a time;** larger content providers can pick up up to 50 racks per facility. In addition, CDNs can pay in hard currency, and are thus less sensitive to FX fluctuations. Their demand is especially critical for those markets that are unlikely to attract sizeable hyperscale investment, and where enterprise demand is small, and unrealized.
- **We believe CDN presence is a solid indicator of colo market health and upside.** CDNs hunt traffic hubs and ecosystems and favourable environment, and typically attract other providers in their wake.
- **As a whole, we estimate that the world's top CDNs have around 70 edge points of presence across African markets as of 2018**, a number that has been accelerating over the past few years. Including the extensive Facebook and Google smaller edge caching nodes, the total number of edge locations by international providers in Africa is close to 300, and growing by about 10% a year.

Sources: Xalam research analysis of provider data; estimates as of October 2018

The analysis in this report is powered by the Xalam Africa colocation dashboards

- See Africa colocation data at country, metro level
- 10+ country markets. 30+ metros. 150+ facilities.
- Get full detail on estimated colo demand and supply–
- Space, power, facilities, revenue by demand segment, etc.

- **A powerful, AWS-based, interactive visualization tool** - that transforms how you see and absorb African market data
- **Combining years of extensive research,** data collection, colo market analysis and modelling with the latest analytics technology
- **Flexible access options**

Request a demo today – hello@xalamanalytics.com

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