



GOLDEN SECTION
REAL Asset Investing. Refined.



AFRICAN DATA CENTRES

REALITY VS HYPE

AN OVERVIEW OF DATA CENTRES IN AFRICA AND
SOUTH AFRICA

WHAT IS A DATA CENTRE?

Data Centre Types and Primary Attributes

A data centre is a purpose-built facility that houses IT equipment (servers, storage, networking) plus the mechanical and electrical systems that keep workloads running.

Type	Size	Characteristics	Key Users	Key Benefits	Key Investor Aspects
Hyperscale Owner-built	Very large 100 MW+ 50,000 m ² + (Exascale >1 GW)	Built, funded, and occupied by the same company. No external tenant or lease. Entirely customised to the operator's workloads.	User and Builders: Amazon (AWS), Microsoft (Azure), Google, Meta.	Full control over design, power, and security. Optimised for proprietary cloud and artificial intelligence workloads. Operates as a long-term competitive moat.	Not directly investable as a standalone asset, exposure is through owning shares in the hyperscaler itself. There is no rent or income yield to value; the facility exists to defend and grow market share.
Hyperscale Leased / Wholesale	Large 10 - 100 MW 10,000 - 50,000 m ²	A specialist developer builds the facility and leases it to a hyperscaler or large artificial intelligence company. Full contracts are measured in MW. The tenant typically dictates the technical specification.	Users: Amazon, Microsoft, Google, large artificial intelligence companies, leasing from specialist operators such as Equinix, Digital Realty, Vantage, NTT, Africa Data Centres, Teraco, etc.	Long lease terms (10-20 years) provide strong income visibility. High-quality tenants with investment-grade credit. Rents often linked to inflation.	Tenant concentration is the central risk, and losing one tenant can devastate income. More importantly, the largest tenants are actively building their own facilities, so lease expiry may mean the tenant leaves entirely rather than renegotiates (hyperscalers are both the customer and the competitor). Plus, moving is not frictionless.
Powered Shell Build-to-suit	Large 20 - 100 MW 20,000 - 100,000 m ²	The developer provides the building structure and power connection only. The tenant designs, installs, and pays for everything inside.	A single hyperscale tenant who requires a bespoke facility but prefers to control the interior specification and cost. Users are spread across spectrum, builders are REITs and development companies (e.g. GREA).	Lower developer capital outlay (no fit-out cost). Long lease term with a strong tenant covenant. Faster delivery than a fully fitted development.	When the tenant owns the fit-out, they effectively control the asset. If they leave, the building interior is bespoke and can have little value to an alternative occupier.

Source: Golden Section Capital

WHAT IS A DATA CENTRE?

Data Centre Types and Primary Attributes

The “product” is delivered power, uptime, and connectivity. Data Centres bill their tenants for price per kilowatt (kW) rather than the square metres (m²) used in conventional real estate.

Type	Size	Characteristics	Key Users	Key Benefits	Key Investor Aspects
Retail Colocation	Medium 1 - 10 MW 1,000 - 10,000 m ²	A multi-tenant facility where businesses each rent a small amount of space, typically a rack, cage, or private suite. The facility also acts as a connectivity hub, allowing tenants to connect directly to other networks and cloud providers on-site.	Banks and financial services firms, media and content companies, network operators, mid-sized enterprises.	Revenue spread across many tenants reduces single-tenant risk. Direct network interconnection is high-margin and hard to replicate elsewhere. Network effects make well-established facilities sticky.	Headline occupancy is a lagging indicator; it is the last number to fall as the tenant base deteriorates. Many traditional enterprise tenants are gradually moving workloads to cloud providers.
Edge / Distributed	Small <1 MW <500 m ²	Many small facilities located close to end users rather than centralised in one campus. Driven by the need to process data locally, either to reduce latency, meet legal requirements about where data must be stored, or reduce the cost of moving data between networks.	Telecommunications companies, Content Delivery Networks (CDNs) deliver internet content quickly by storing copies close to users. Enterprises with real-time applications.	Serves latency-sensitive applications that a central data centre cannot. Supports legal data residency requirements across different jurisdictions. Growing demand driven by 5G networks and connected devices.	Revenue per site is modest and the economics of a micro site bear no resemblance to a large campus. The hidden risk is operational complexity (maintaining, staffing, and securing many geographically dispersed locations) this generates costs that are routinely underestimated.
Enterprise On-premises / Captive	Small-medium <1-5 MW 500 - 5,000 m ²	A private facility built and operated by a single company for its own internal use. Not a commercial transaction, funded through the company's internal technology budget and subject to its own capital expenditure review cycle.	Large corporations, government departments, regulated industries such as defence, healthcare, and financial services.	Complete control over data access and physical security. Meets stringent regulatory and data sovereignty requirements. Predictable internal cost base.	Not directly investable, exposure is through owning shares in the company that runs it.

Source: Golden Section Capital

Hyperscaler Owned | Stargate LLC (OpenAI, SoftBank, Oracle, MGX | Abilene, USA | Cape Town, South Africa | Current 421 MW | Projected 1.2 GW



Hyperscaler Owned | AWS af-south-1a | Cape Town, South Africa | Unknown Capacity

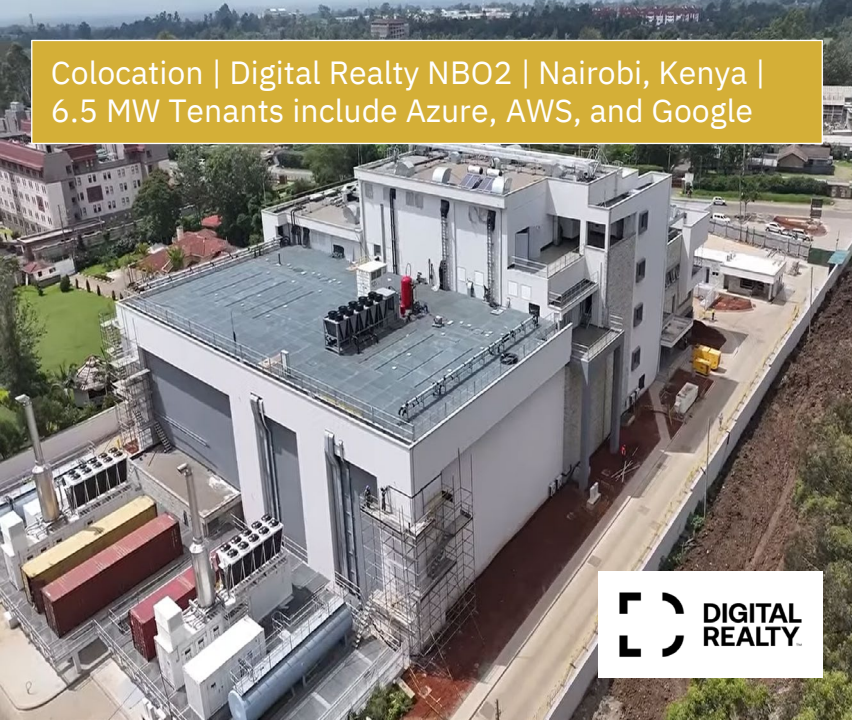


Colocation | Africa Data Centres LOS1 | Lagos, Nigeria | 600 kW

Africa
DataCentres



Colocation | Digital Realty NBO2 | Nairobi, Kenya | 6.5 MW Tenants include Azure, AWS, and Google



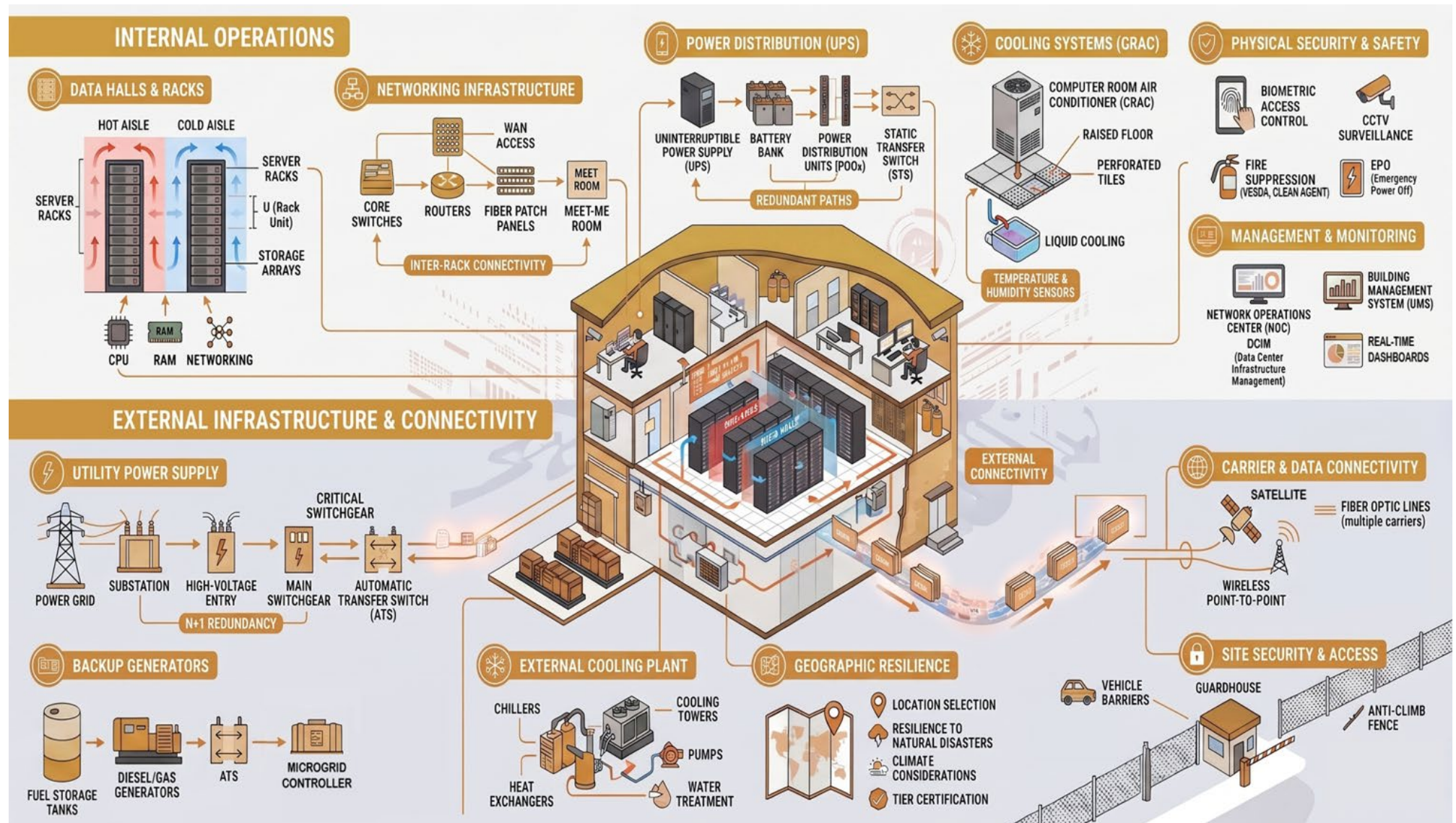
Enterprise | Absa Bank | Randburg, South Africa | Unknown Capacity



Edge | Leading Edge DC TMW1 | Tamworth, Australia | 375 kW



EXAMPLE OF A TYPICAL DATA CENTRE



MOST AFRICAN DATA CENTRE NUMBERS ARE WRONG



THE ISSUES IN QUANTIFYING THE AFRICAN DATA CENTRE MARKET

Why a single, reliable figure does not exist



PRIVATE OPERATORS

Teraco, ADC, Vantage, OADC and Digital Parks are **privately held**, no audited revenue or capacity is published. Teraco's figures surface only via Digital Realty's group filings.



HYPERSCALER BLACK BOX

AWS, Microsoft and Oracle **don't disclose** facility locations, MW, or owned-versus-leased split. AWS masks its sites through shell entities and holds no Uptime tier certification. For example, Oracle uses Teraco and other providers in Africa.



HIDDEN CAPTIVE ESTATES

Banks and telcos (MTN, Vodacom, Airtel, Safaricom etc.) own-use data centres **are material**, yet almost never quantified in MW and revenue. They also use other locations too.

Exact data is mostly proprietary (data is very closely held); GSC figures for revenue, MW, etc. are derived and stress-tested, not asserted as absolute fact. Market value is a range.

Treat every single figure (GSC included) as a constructed estimate.



NO AGREED BOUNDARY

Colocation, hyperscaler self-build, edge, captive and telco are different products with different revenue models. "The market" **means something different** in every report.



ESTIMATES DIVERGE MARKEDLY

Research puts **wide variances** on demand, live capacity. For example, GSC current live SA sizing is ~500 MW versus McKinsey who puts the **combined installed capacity** of Africa's **top five** markets (Egypt, Kenya, Morocco, Nigeria, and SA) at under 500 MW, a significant underestimation.



VALUE DEPENDS ON LENS

Replacement cost (**~R175m/MW**) vs M&A value (**~R370m/MW**, implied by Digital Realty's **~\$3.5bn** valuation of Teraco), a **>2x** spread. Applied to ~499 MW of live capacity, sector asset value spans **~R87bn** (replacement) to **~R185bn** (M&A). The premium over build cost reflects barriers to entry, secured power and entrenched enterprise ecosystems.

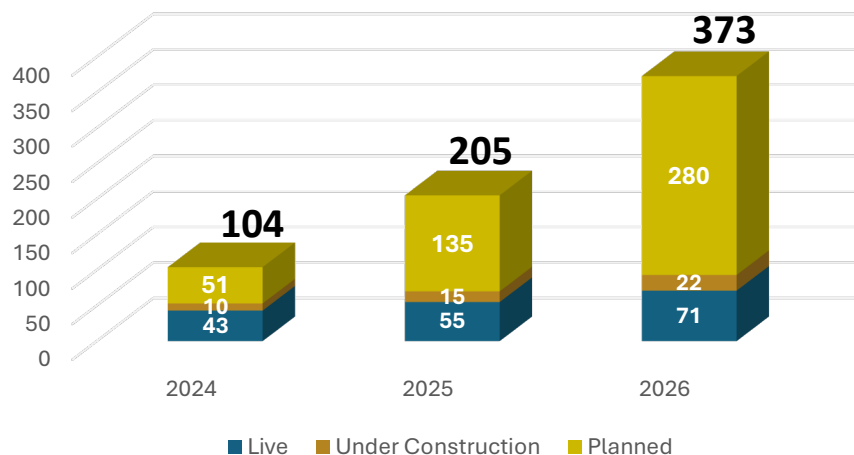


GLOBAL LIVE DATA CENTRE CAPACITY

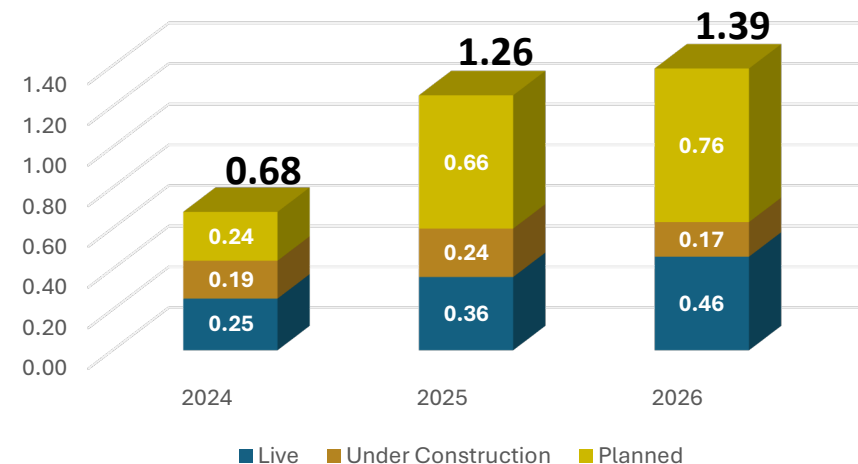
- According to Infrastructure Masons' Annual Research, Africa only accounts for 0.65% of **live** global capacity.
- Of **total** capacity this drops to 0.37%, with the global construction and development pipeline that has grown far in excess of Africa's current, and planned pipeline.

The USA alone constitutes **50-60%** of global capacity

Global Data Centre Capacity 2024-2026 in GW



African Data Centre Capacity 2024-2026 in GW

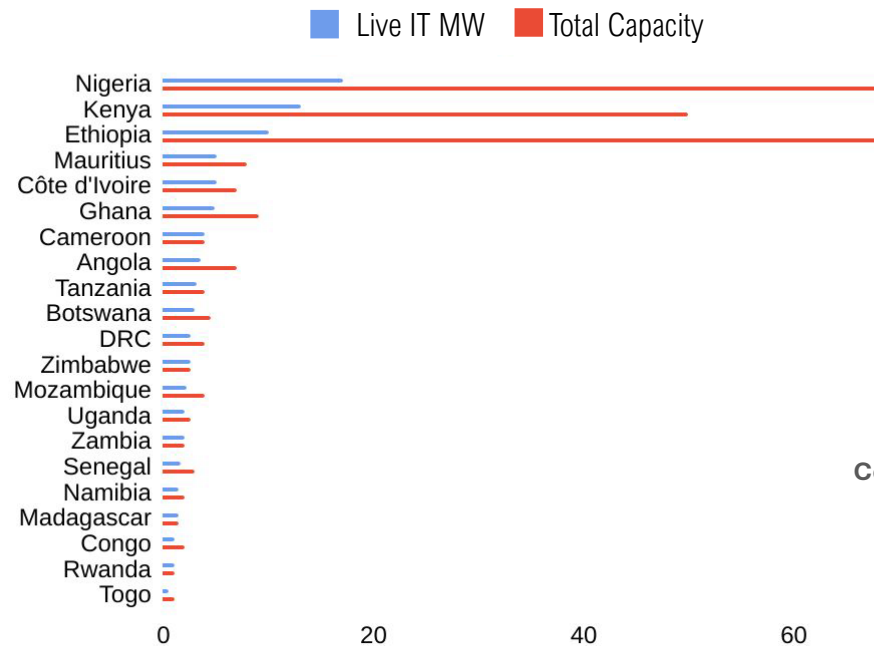


GSC'S VIEW IS THAT THESE FIGURES DRASTICALLY UNDERESTIMATE THE AFRICAN MARKET

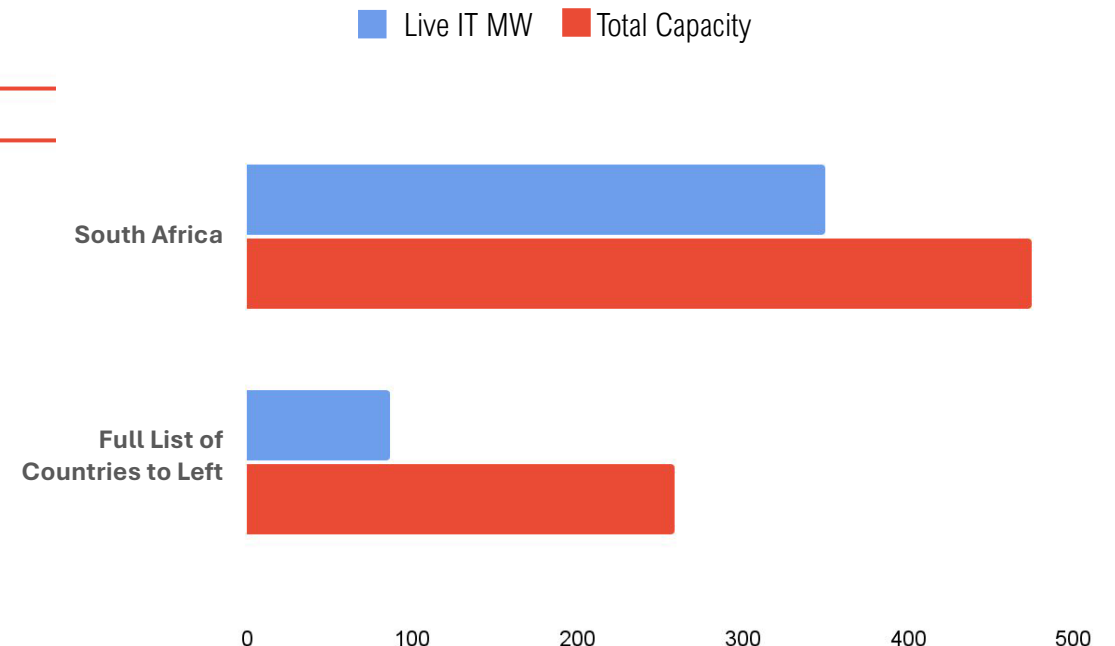
SOUTH AFRICA IS THE CONTINENTAL DATA CENTRE GIANT

South Africa commands a disproportionate share of continental capacity, operating as a sophisticated, hyper-growth African digital hub.

Live IT MW and Total Capacity

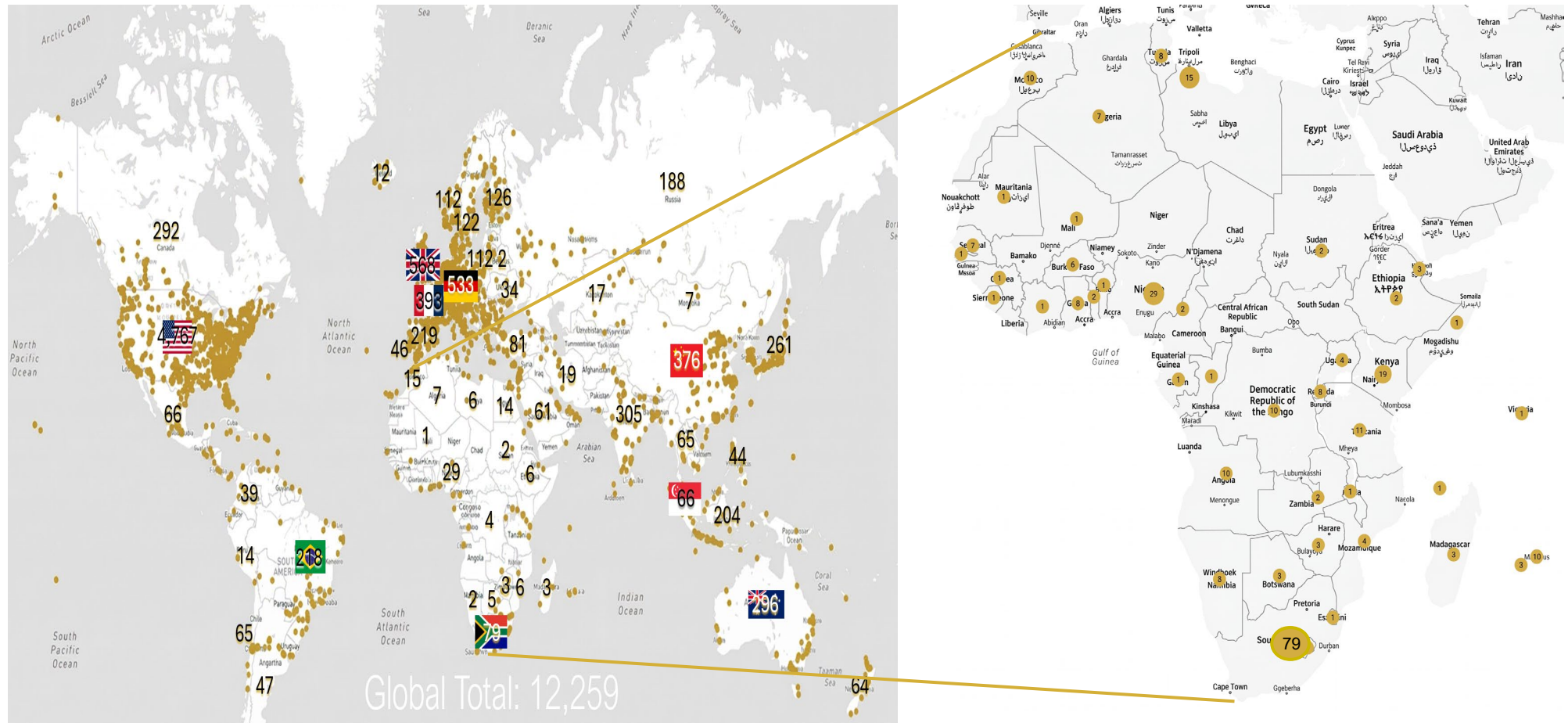


South Africa Specific



EUROPE USED TO BE THE CONDUIT FOR MOST AFRICAN TRAFFIC, THIS IS CHANGING

GSC estimates that the African continent hosts over 700 MW of data centre capacity, and South Africa is currently ~70% of this capacity.



OPERATIONAL VS UTILISED CAPACITY

Operational data centres are physical facilities that have been commissioned and brought live.

Utilisation is a distinct measure, it is the share of live capacity actually contracted to and occupied by customers, as opposed to the facility's total installed capacity (and distinct again from real-time power draw, which is lower still).

The two should not be conflated as a market can be heavily built out, yet lightly utilised.

What “utilisation” measures

Total / Installed / Operational capacity



Contracted / Utilised (occupancy)



Live Power Draw



SOUTH AFRICAN UTILISATION

~83%

→ projected >94% by 2030

Concentrated in Johannesburg and Cape Town.
The continent's most absorbed market

High Occupancy = Pricing Power

Note: Utilisation here is commercial occupancy (contracted vs available), distinct from real-time draw. The ~83% figure is an industry-body estimate (African Energy Chamber); operators do not disclose utilisation rates directly.

AFRICA IS DWARFED BY ONE US EXASCALE DATA CENTRE CAMPUS



SWITCH'S THE CITADEL CAMPUS LOCATED IN TAHOE RENO, NEVADA

Original ① 130 MW and 120 000m² | Current 650 MW
Final ~2 GW and 1.6 million m²



Source: Switch, Google Earth, GSC. An exascale DC is a multi-gigawatt facility designed to power and cool extreme high-performance computing and AI workloads operating at the scale of a quintillion operations per second (1x10¹⁸).

AFRICA HAS A MIX OF INTERNATIONAL, REGIONAL, AND LOCAL OPERATORS

Global Giants



Regional and Local Specialists



Managed Service Providers and System Integrators



Mobile Network and Telecom Operators



THE PRIMARY AFRICAN MARKETS

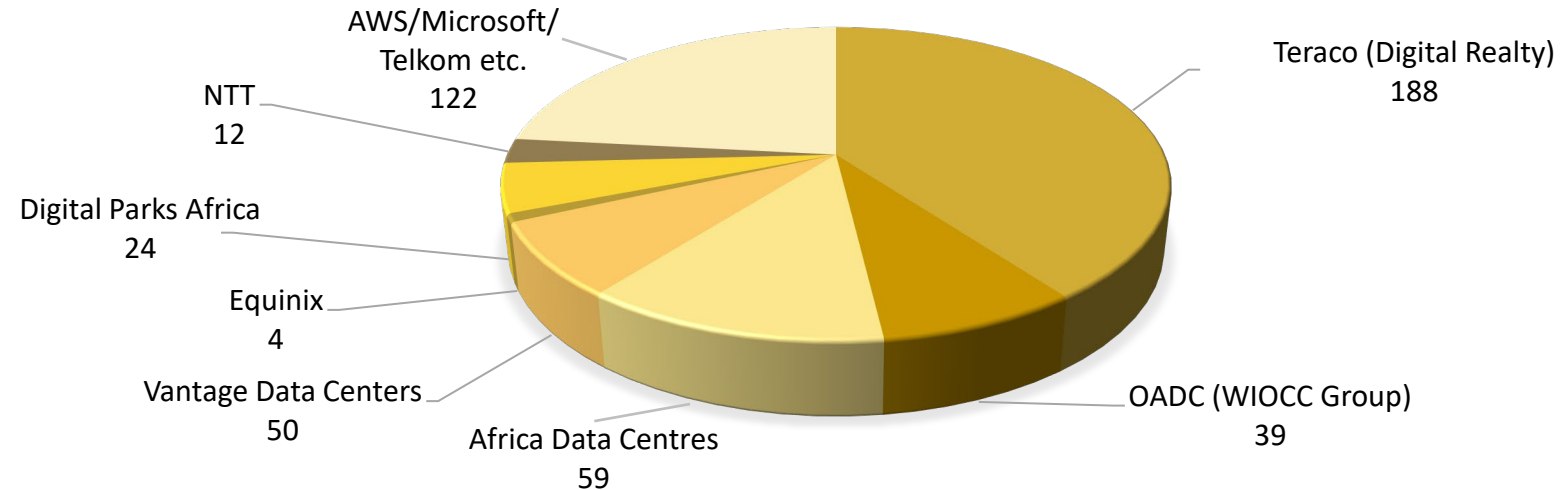
Five Markets But One “Giant”

MARKET	ESTIMATED SIZE	LEADING OPERATORS	CLOUD / NOTES
 SOUTH AFRICA Johannesburg, Cape Town	~500 MW ~70% of continent	Teraco (Digital Realty), Africa Data Centres (Cassava), Vantage, NTT, Equinix, OADC, Digital Parks, xneelo	AWS, Azure, Oracle and Google regions all live
 NIGERIA Lagos	~17-29 DCs, none >20 MW yet; large AI pipeline	Rack Centre (Actis), MDXi/Equinix, OADC, Nxtra by Airtel (38 MW under construction), Kasi Cloud (5.5 MW with 100 MW planned), Digital Realty (bought Medallion)	Equiano and 2Africa landings; power is the binding risk
 KENYA Nairobi	Small live base; >160 MW upcoming (~6x)	iXAfrica (Helios and RMB; 22.5 MW NBOX1 expansion), Africa Data Centres, icolo (Digital Realty), PAIX, Safaricom, Nxtra (project 44 MW in 2027)	Oracle region via iXAfrica (NBOX1); Mombasa cable landings; good green energy
 EGYPT Cairo	Early base; first hyperscale entering	Telecom Egypt, Khazna + Benya (25→50 MW), G42; Vodafone Business, Elsewedy Electric, and Cassava 20 MW “AI” factory	Europe and Middle East position; strong data-sovereignty push
 MOROCCO Casablanca, Tetouan	Tiny live base; but over ~2 GW announced	N+ONE, Maroc Telecom, Inwi; lozera (386 MW), Naver (500 MW, Nvidia)	Gateway to Europe

The gap between announced vs built is **real**
SA is the only market with current depth

SA DATA CENTRE SECTOR SHOWS STRONG GROWTH

SA OPERATIONAL MW



Operator	Operational MW	No.	Committed (under constr.)	No.	Announced / Planned	No.	Total MW	Notes
Teraco (Digital Realty)	188	8	42	1			230	Company data.
Open Access DC	39	41					39	Has 30 edge sites.
Africa Data Centres	59	3	20	1			79	Expansion of existing.
Vantage Data Centers	50	3	18	1	32	1	100	Company data.
Equinix	4	1	16	Expansion	160	1	180	Company data.
Digital Parks Africa	24	1			5		29	Company data.
NTT	12	1					12	Company data.
Microsoft, Telkom, AWS, etc	122	23			75	1	197	e.g. Microsoft Centurion. GSC estimate.
Total	499	81	96	3	272	3	867 *	Table does not include all banks, or telco owned data centres; GSC estimates that it adds another ~50 MW to ~100 MW.
Market Value Estimate	R87 bn		R17 bn		R48 bn		R151 bn	R175m per MW estimate.
In USD	\$5 bn		\$1 bn		\$3 bn		\$9 bn	R16.50- \$1.00

* Note: Full development cost was not disclosed, TechCentral reported NTT invested between ~€100m to ~€120m.

Note: Numbers may not sum due to rounding, Source: Golden Section Capital Analysis.

LARGE HYPERSCALE AND COLOCATION DEVELOPMENTS ARE VERY CAPITAL INTENSIVE

It is risky to develop hyperscale campuses anywhere in Africa



The cheque dwarfs the strategy

One campus runs R3-15bn (Vantage: R15bn for 80MW). A single build can dominate balance sheets.



Specialists already own the field

Teraco, Vantage, NTT and Equinix hold the hyperscaler relationships, capital and operating skill. AWS has built its own dedicated facilities.



Binary tenant concentration

A campus leans on one or two giant tenants (the opposite of a diversified lease book). One decision can strand a multi-billion-rand asset; hyperscalers can, and do, self-build (e.g. AWS, Microsoft, Google).



Obsolescence risk

Densities and cooling shift fast (air→liquid cooling; 5→30+ kW per rack for AI). Staying current demands constant re-investment, old space is not easily upgraded to new densities. DCs are a specialist's game.



Power is complex

40-80MW needs dedicated bulk supply, new substations and grid allocation, not “spare” capacity. One campus dwarfs most listed property companies’ entire solar platforms.



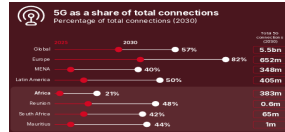
Risk = yours Value = theirs

Co-developing means carrying construction and lease-up risk on billions, while the operator keeps the Mechanical and Electrical engineering, the tenant and the value. The landlord's shell is ~9% of cost.



POSITIVE DRIVERS

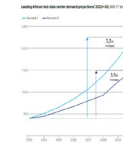
The Structural Tailwinds Behind Demand



MOBILE-FIRST

Surging Data Demand

Rapid mobile-data and cloud consumption as African digital economies formalise and come online.



5.5×

Demand Set to Scale

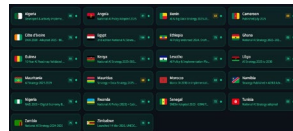
Leading-hub data-centre demand projected to rise up to 5.5×, to ~1.5-2.2 GW of IT load by 2030.



LOCALISATION

Digital Sovereignty

Data-protection and localisation laws spreading (Malabo Convention), keeping workloads on-continent.



AI Strategy

Policy Momentum

15 African countries have adopted a national AI strategy or policy, signalling state-level intent. 22 have published a strategy. SA draft AI policy was withdrawn after fake sources were found in it.



CONNECTIVITY

Deepening Connectivity

Subsea and terrestrial cable systems concentrating at SA (11), Egypt (22) and Djibouti (12) landing hubs.



0–10%

Vast AI Headroom

Most of Africa sits in the lowest AI-diffusion band vs ~59% in UAE / Singapore; there is large latent upside.

KEY RISKS

Can Africa Actually Build What Is Needed?



600m Lack Power

Power Deficit, Continent-Wide

Almost half of Africa lacks reliable power. Nigeria: never above 6 GW for 230m people.



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A Handful of Real Markets

Under 1% of global capacity, in five hubs: SA, Egypt, Nigeria, Kenya, Morocco.



13% vs 8%

Cost and Scale of Capital

Infra WACC ~13% vs 8% OECD; a mid-size DC now costs \$0.5-2bn, beyond most local balance sheets.

Across the continent the binding constraint is delivery. Power, capital, equipment, people, and compute are globally contested, but Africa is a price- and policy-taker.

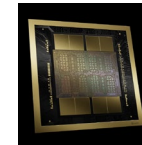
THIS IS WHY ANNOUNCED ≠ BUILT



3-5 yrs

At the Back of the Queue

Transformers 3-5 yrs, switchgear sold out to 2028; Africa bids behind \$650bn of US hyperscaler-led buildout.



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Gatekept Compute

Under the Diffusion framework and its proposed successor, no African state sits in the USA's ~18-country allied tier.



~250k

Talent Pipeline

Young market, no pipeline; ~250k IT professionals needed by 2030, contested globally.

KEY RISKS

The Global Risks and The Africa Read-Through

1 CAUSE

Circular Financing

Nvidia funds OpenAI, which commits to Oracle and CoreWeave, which buy Nvidia chips. Vendor financing inflates apparent demand and leverages the whole chain.



2 TRIGGER

Demand Disappoints

Even the buyers are slowing the pace: Microsoft deferred 2 GW+ (TD Cowen). If enterprise AI monetises slowly, contracted MW proves speculative.



3 CONSEQUENCE

The Cascade

Debt and opaque, interlinked counterparties unwind together (the 2000 / 2008 template). The IMF (Jul '26) warned of a sharp AI-valuation correction.

The first three are ONE risk in three acts. The cause, trigger, and consequence.



THE SEPARATE FOURTH:

Political and local opposition Cross-spectrum US pushback on electricity rates, pollution, noise, water and grid is driving moratoria and permit delays.

AFRICA READ-THROUGH

Largely Insulated on Financing

SA operators are funded by Digital Realty, Cassava and DigitalBridge, not directly through the Nvidia OpenAI loop. A neocloud unwind dents US companies, not SA's contracted base.

But Exposed Via Anchors and Cost

The same hyperscalers anchoring SA capacity are cutting US capex; a global pullback hits SA's announced pipeline harder than its live base, and refinancing bites at ~13% WACC.

Chips Cut Both Ways

A bust frees up GPU supply, plus is easing the compute constraint. Minus is that capital gets scarcer and dearer. Macro contagion will likely see global economic contagion, that Africa will certainly not escape.

DATA CENTRES BRING PEOPLE TOGETHER

There Seems To Be At Least One Thing MAGA and the US Left Agree On



Teraco Data Environments, CT2, Brackengate 2, Brackenfell, Cape Town, 50MW.

QUESTIONS?

Garreth Elston is a property investment professional, with over 20 years of South African and international property investment experience. He has served as the portfolio manager of South African and Global unit trust portfolios, hedge funds, and private equity property portfolios.

His fund management track record has been recognised at the highest level. He is a three-time Raging Bull Award winner for Best Global Real Estate Fund. He was further nominated for the HedgeNews Africa Hedge Fund of the Year award in the Specialist Strategies category in 2021.



Past leadership roles include Deputy Chair of the Investment Analysts Society of Southern Africa (IASSA), Chair of the Corporate Finance and Corporate Presentations committees of the CFA Society Toronto, and Southern African representative on the International Council of Investment Associations. Garreth currently serves as a non-executive director on listed, private, and not for profit boards.

He holds an MBA from the Rotman School of Management (University of Toronto), an MA in International Relations, and a BCom in Banking Management. Garreth is a Chartered Member (MRICS) of the Royal Institution of Chartered Surveyors, Fellow of the Institute of Financial Markets, and Certified Associate of the Institute of Bankers in South Africa. Mr Elston has completed the Canadian Securities Course, the Partners, Directors and Senior Officers Course, alongside FSCA regulatory examinations (categories RE1, RE3, and RE5).

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