



**iXAfrica  
DataCentre**

# Factors Driving Growth of Data Centres in Africa

**Snehar Shah, CEO**

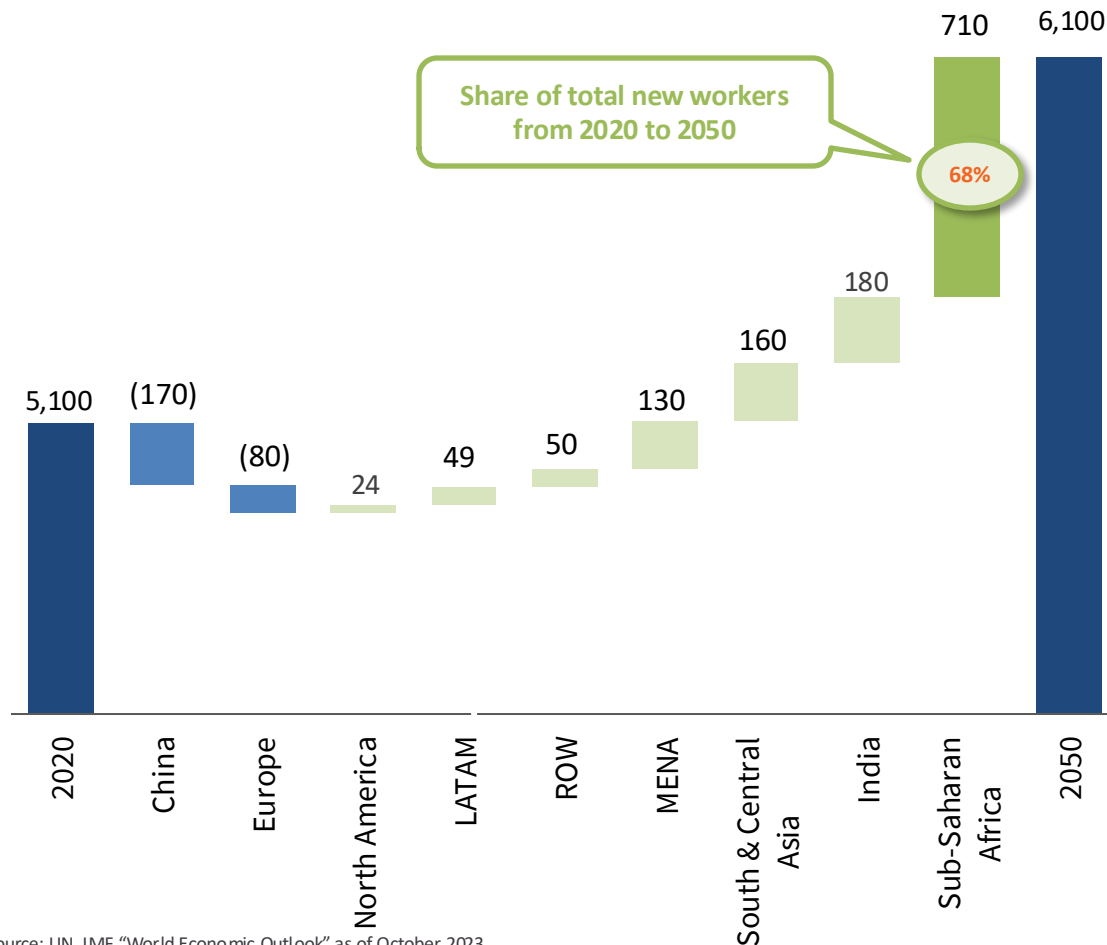
*East Africa's Largest Hyperscale Carrier-Neutral, AI Ready Data Centre*



# Strong, Demographically-Driven Growth Has Long Been a Feature of Africa

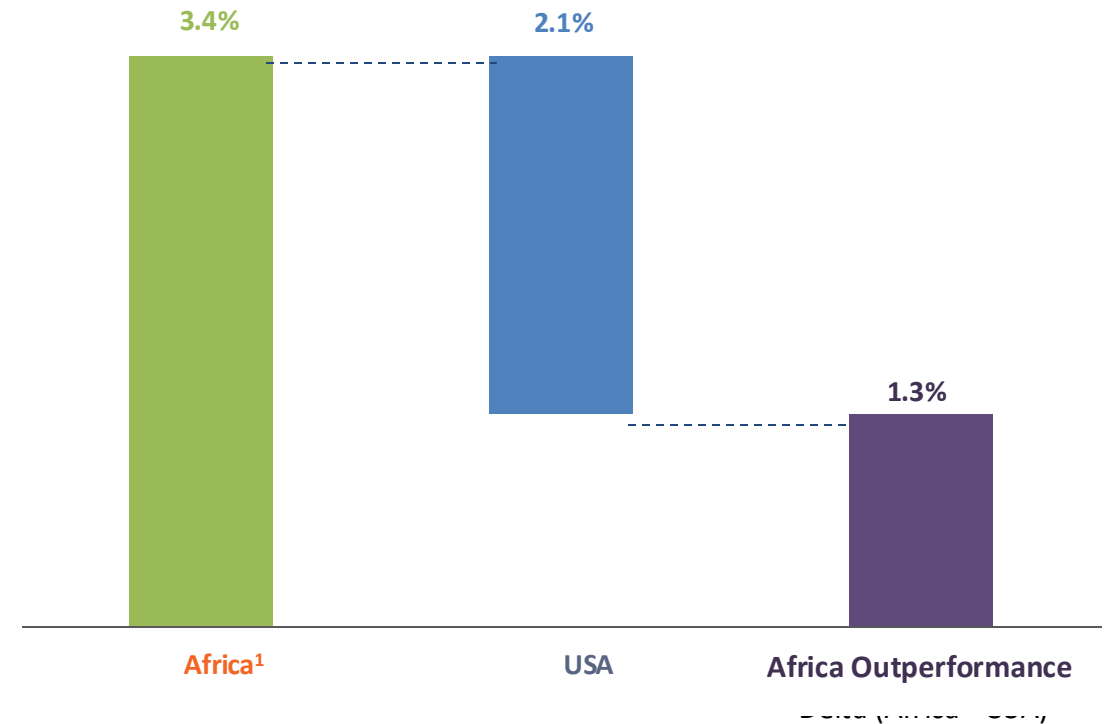
Attractive demographic and urbanization trends in Africa are long-standing...

Global workforce evolution  
Million of workers, 2020-2050



... supporting African GDP growth long-term outperformance

Real GDP Growth  
2010-2023 Average



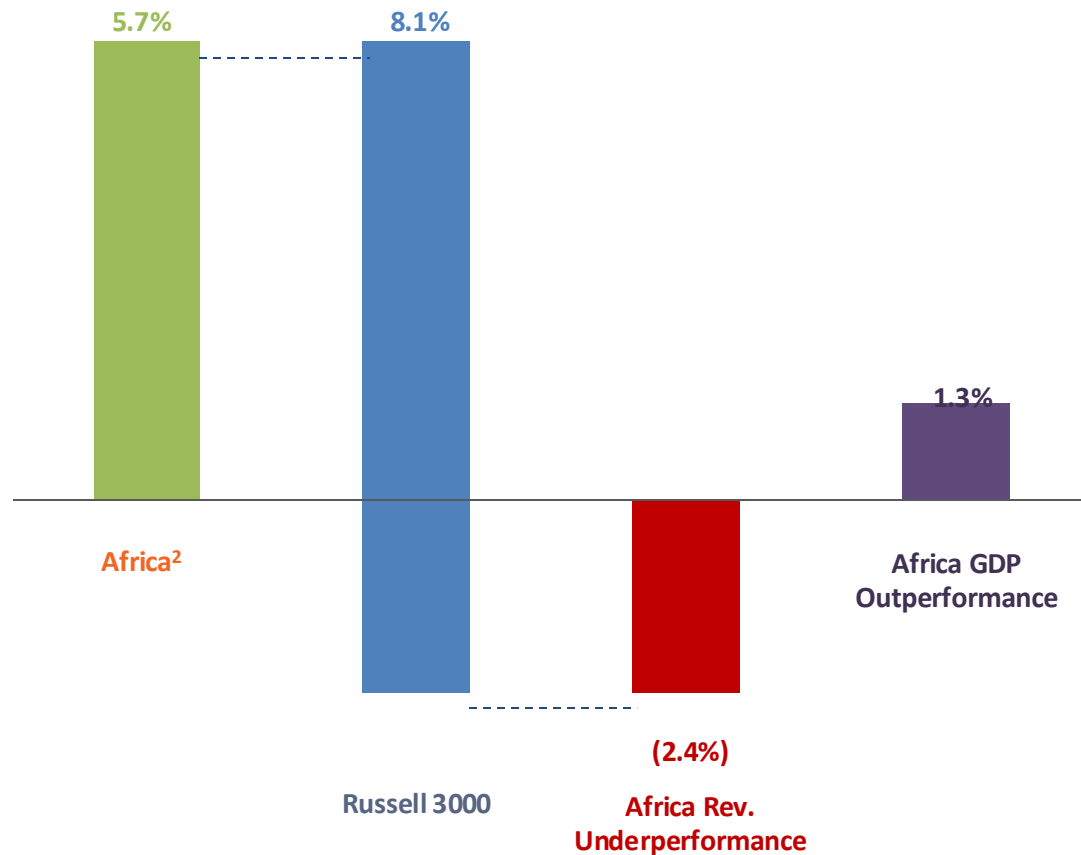
Source: UN, IMF "World Economic Outlook" as of October 2023

(1) Africa GDP growth is calculated as the average growth of Sub-Saharan Africa and MENA regions as reported by the IMF

# Superior Growth Has Not Led to Better Corporate Performance

African corporate revenue growth has underperformed despite Africa's GDP outperformance

Real rates of corporate revenue growth<sup>1</sup>  
2010-2022 Average



*Why?*

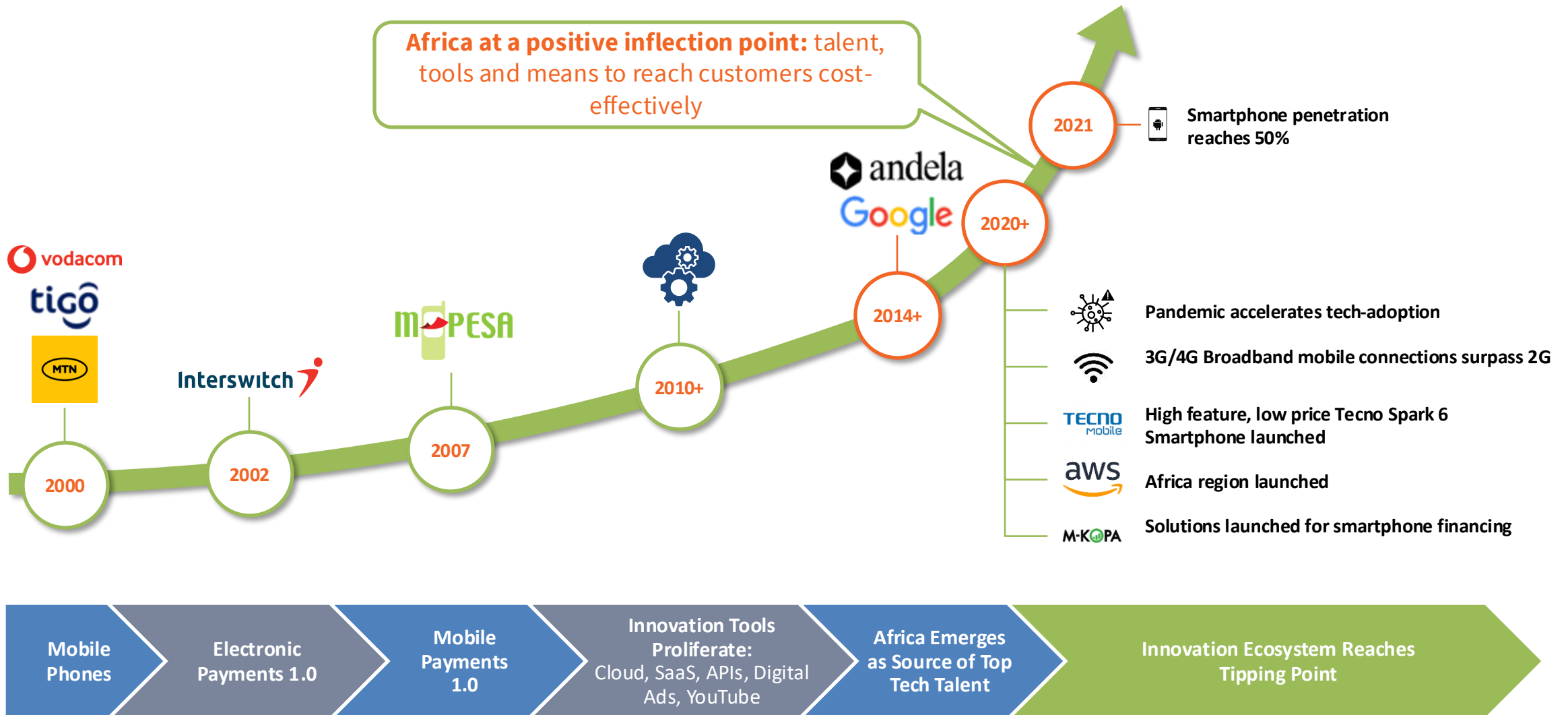
*Because customer value is low & cost to serve is high...*

Source: IMF World Economic Outlook, Factset

(1) Real revenue growth is calculated as revenue growth in local currency minus country average inflation (CPI).

(2) Africa revenue growth is based on local Stock Exchange data in Nigeria, Egypt, Morocco, Kenya, South Africa, averaged according to country GDP

# Technology and Innovation is Disrupting the High Cost, Low Value Equation for the Better



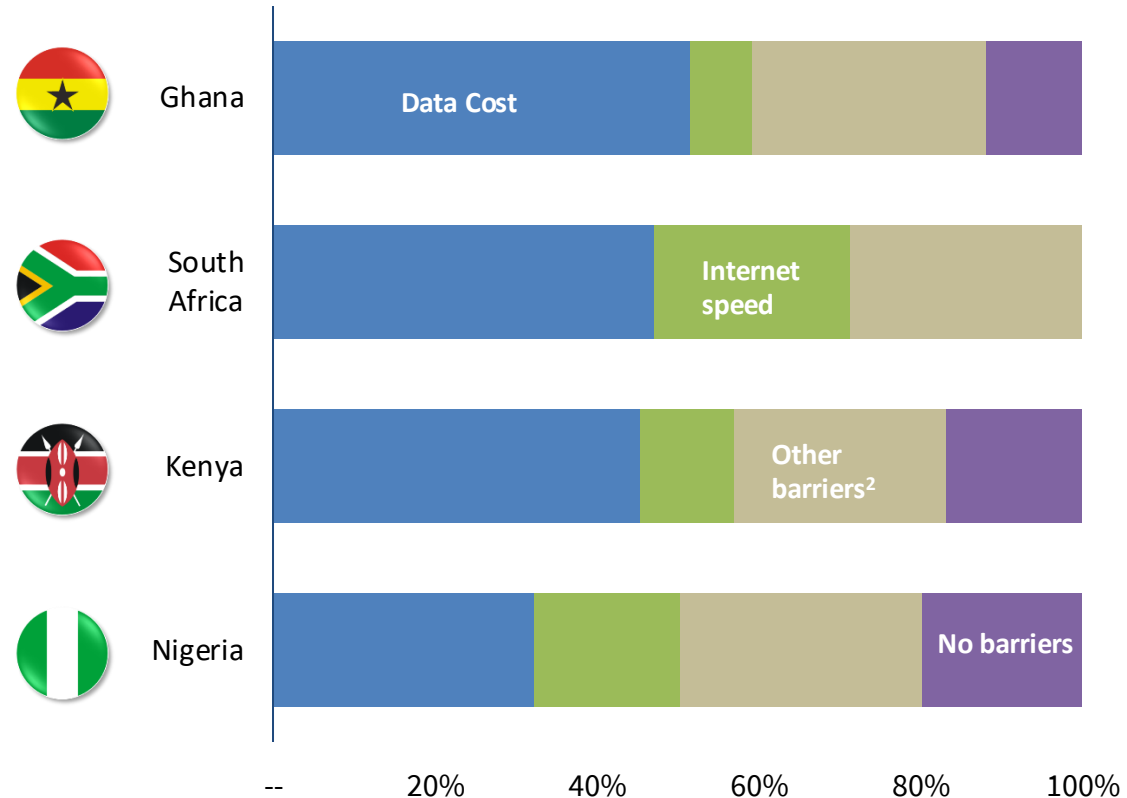


# Investing in digital infrastructure unlocks significant growth in data traffic and associated digital spend

## Cost and speed are the main obstacles to internet use

## Due to bottlenecks across the data value chain

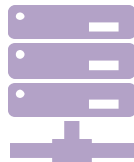
**Barriers to internet use**  
(% of survey respondents)<sup>1</sup>



De-bottlenecking investment strategy includes investments in:



Fiber



Data Centres



Towers

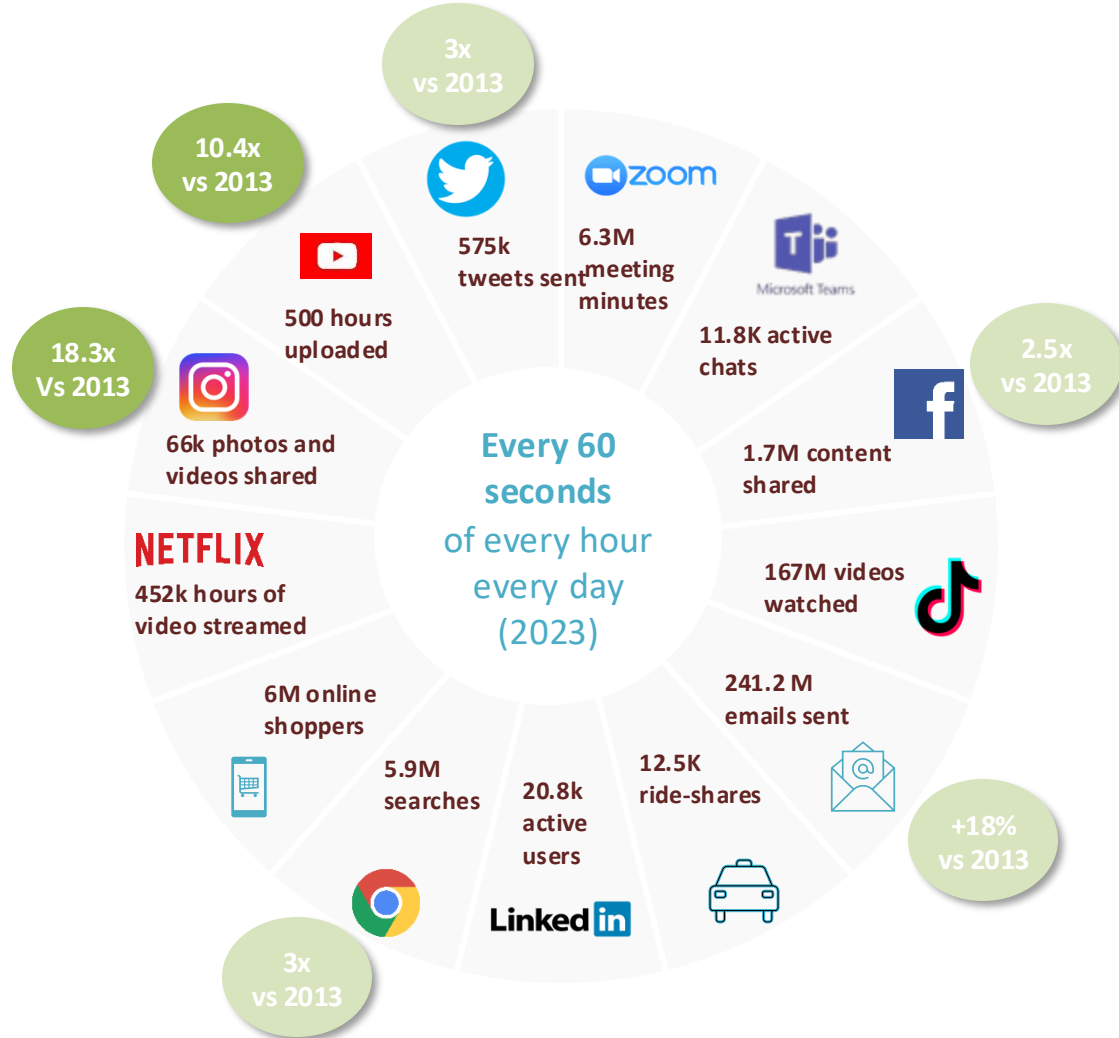


Internet & cloud software solutions

Source: Afrinic: Internet Development in Africa.  
Notes: (1) Based on Research ICT Africa surveys conducted in 2017. (2) Other barriers include lack of time, lack of local content, privacy concerns, malware concerns, difficulty of use, not allowed to use the internet.

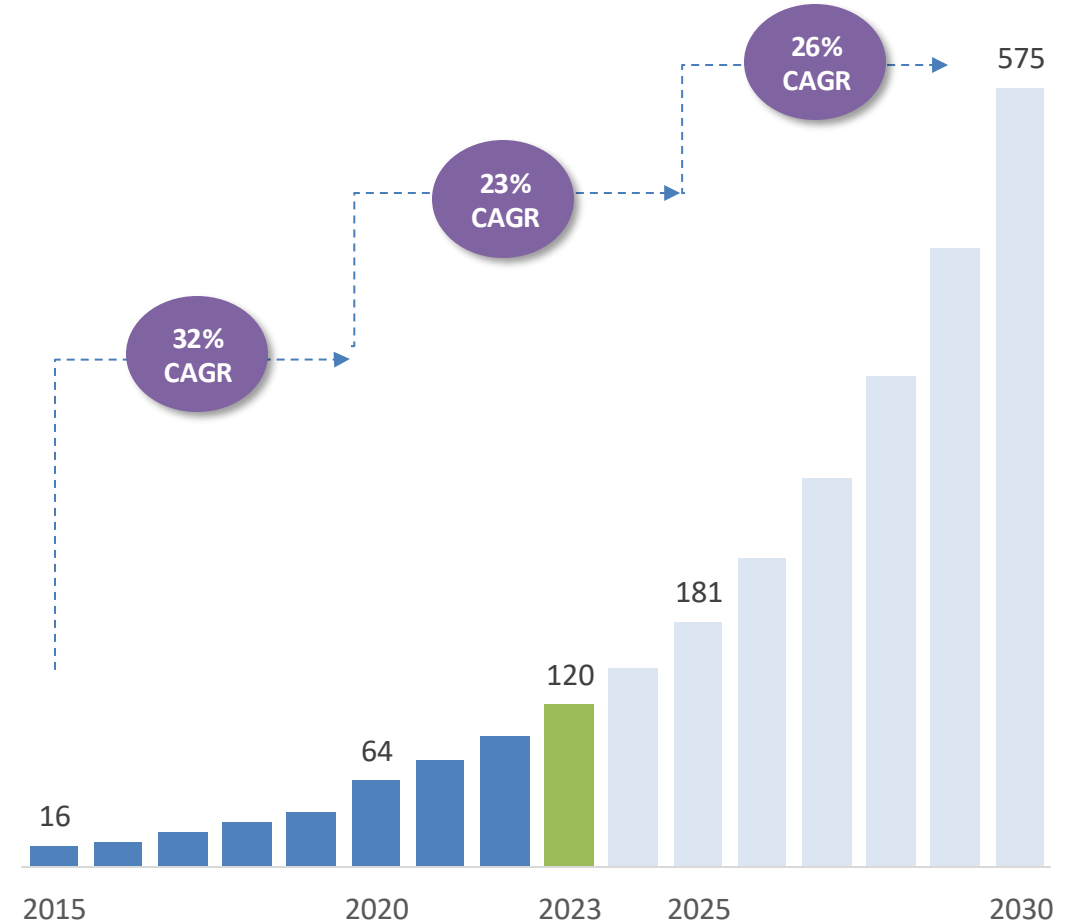
# Apps & Super Apps are Driving a Digital Transformation for Every Organization, in Every Industry – Everywhere Around the Globe

The digital universe is always buzzing...



...driving a growing volume of data created and consumed globally

Global Data Consumption Annually  
In zettabytes



# In Africa This Results in Even Faster Data Growth...

Stubbornly fast internet data consumption...

...overwhelmingly accessed through ever cheaper mobile devices

**37%**

FORECAST CAGR<sup>(1)</sup>  
in Total African data  
volume

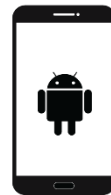
*vs. 23% in Europe*



**7X**

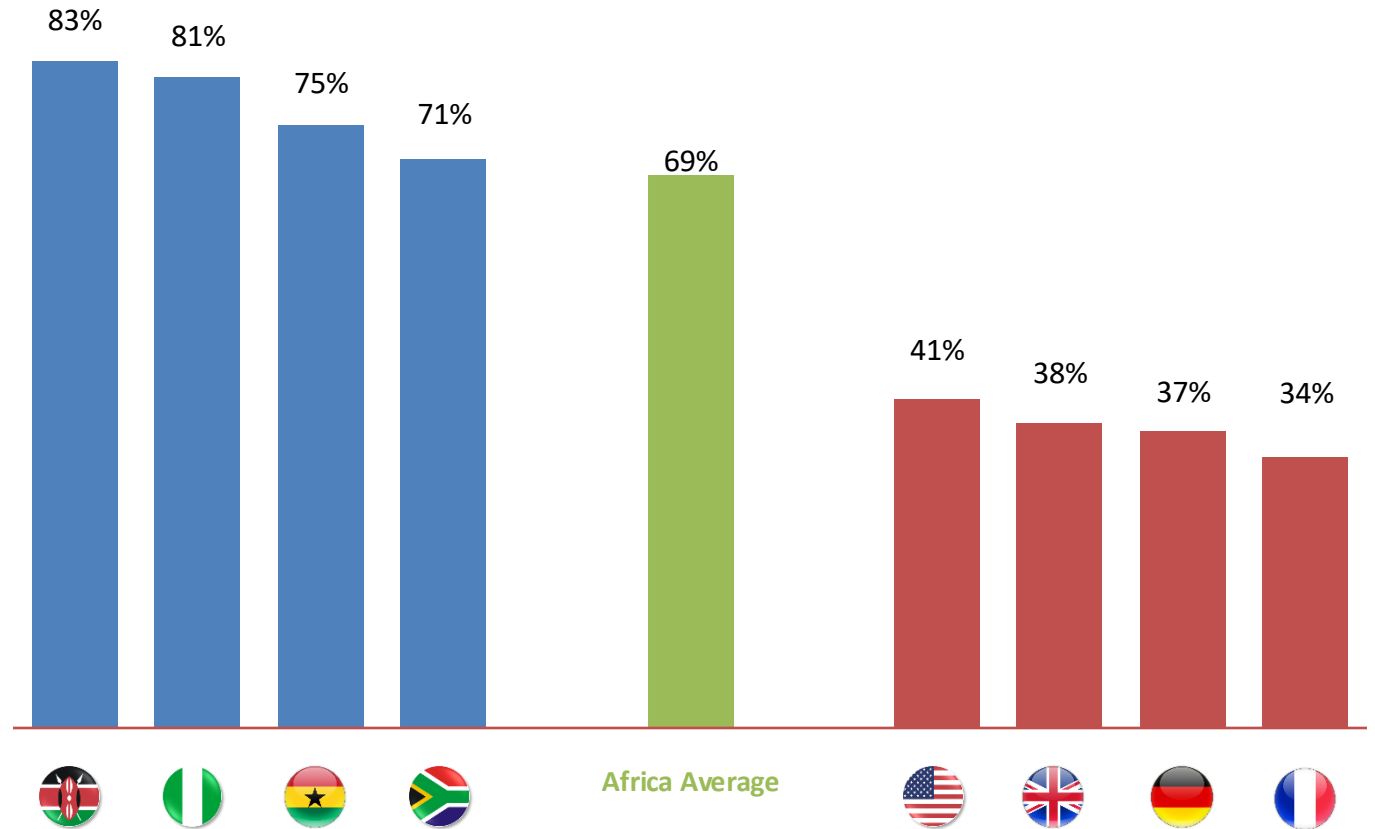
CHANGE<sup>(2)</sup>  
in Mobile data traffic  
Across all Africa

*vs. 3.7x in Europe*



Consumers, companies, public sector organizations and local regulators all contribute to the exponential growth in local data and the surrounding digital ecosystem

Mobile Versus Desktop Share of Page Views



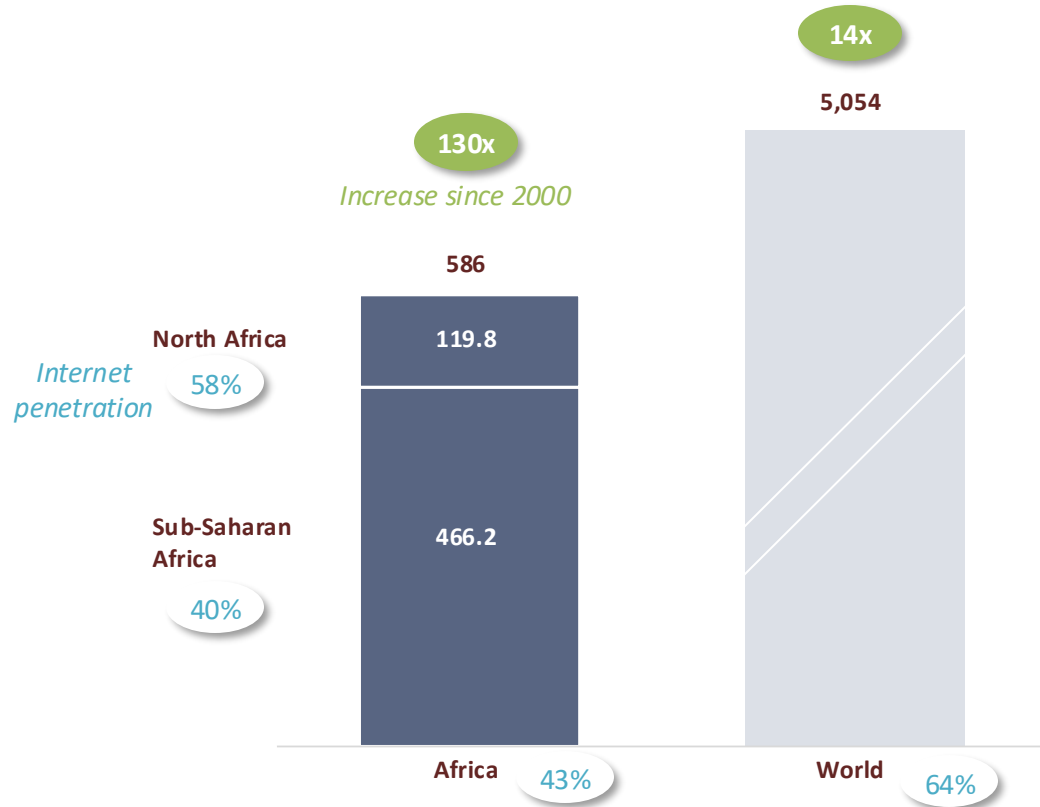
Source: Ericsson, Brookings, The Xalam Rise of African Cloud Report March 2019, Juniper Research, Data Reportal, Hootsuite, GWI Social Media Flagship Report 2022  
Notes: (1) 2022 to 2028 CAGR. Volume in annual exabytes (2) 2017-2022 change

# ...with Significant Further Upside

Even with high growth rates, internet access and internet usage levels in Africa will remain significantly underpenetrated

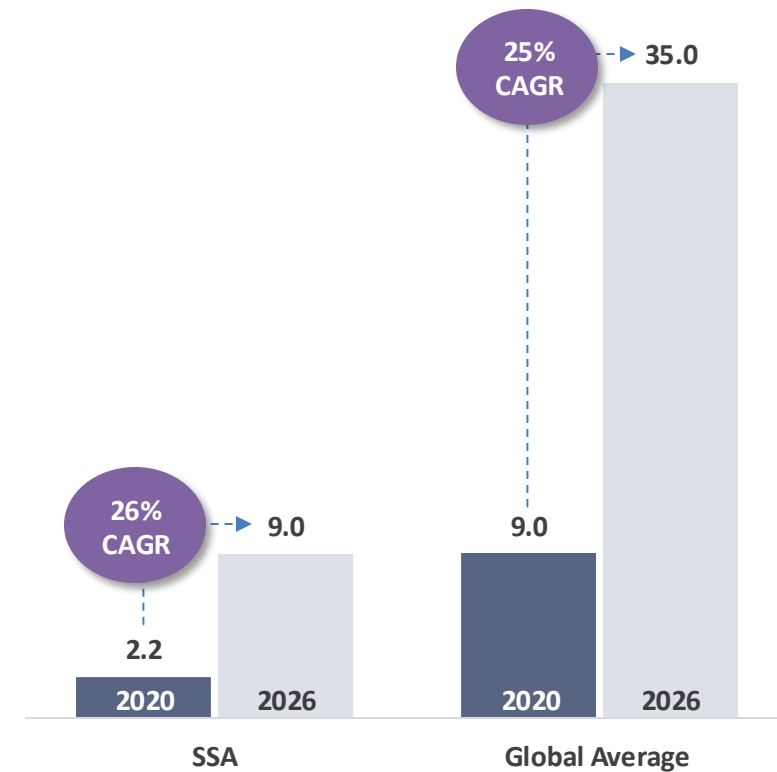
## High growth in internet users but lag in penetration curve...

Number of internet users  
(2020, in millions of users)



## ...with room for upside in individual data consumption

Average mobile data traffic per user  
(gigabyte per month)

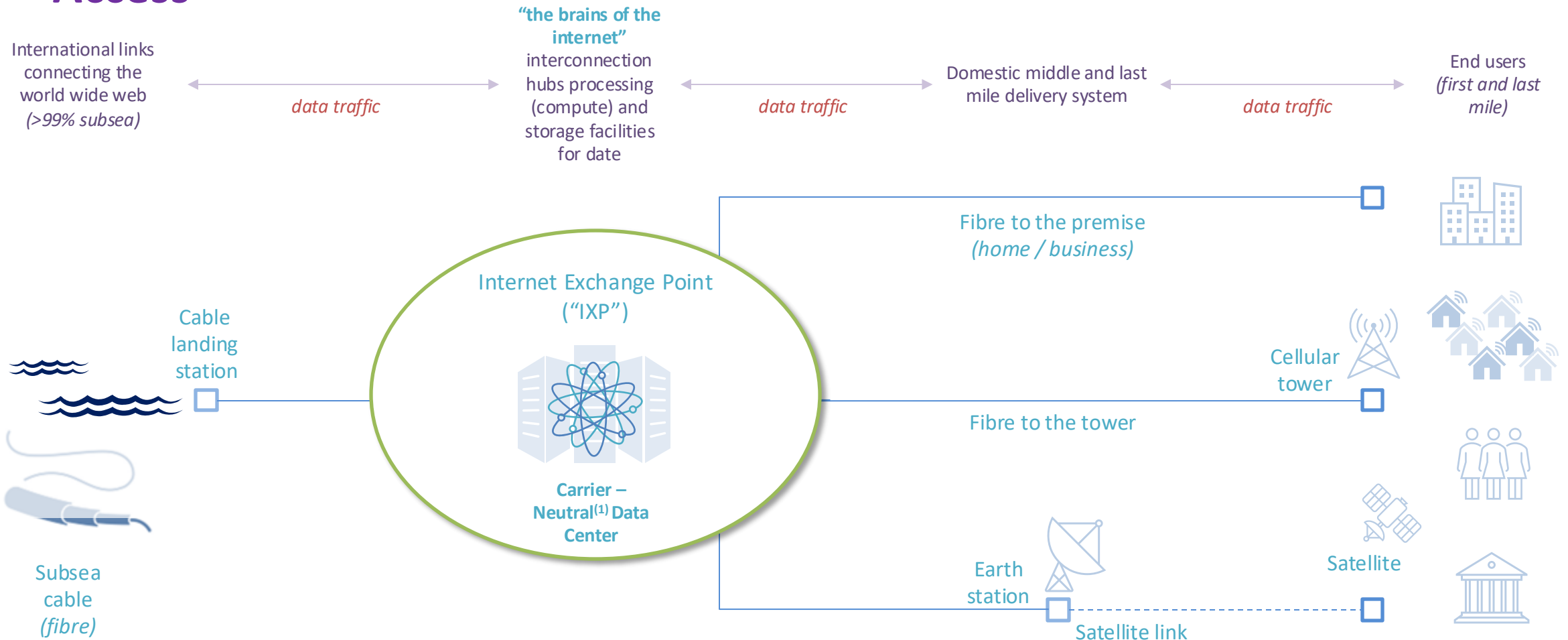




# The Highway of the 21st Century...



# The Digital Infrastructure Ecosystem Enables Internet Access

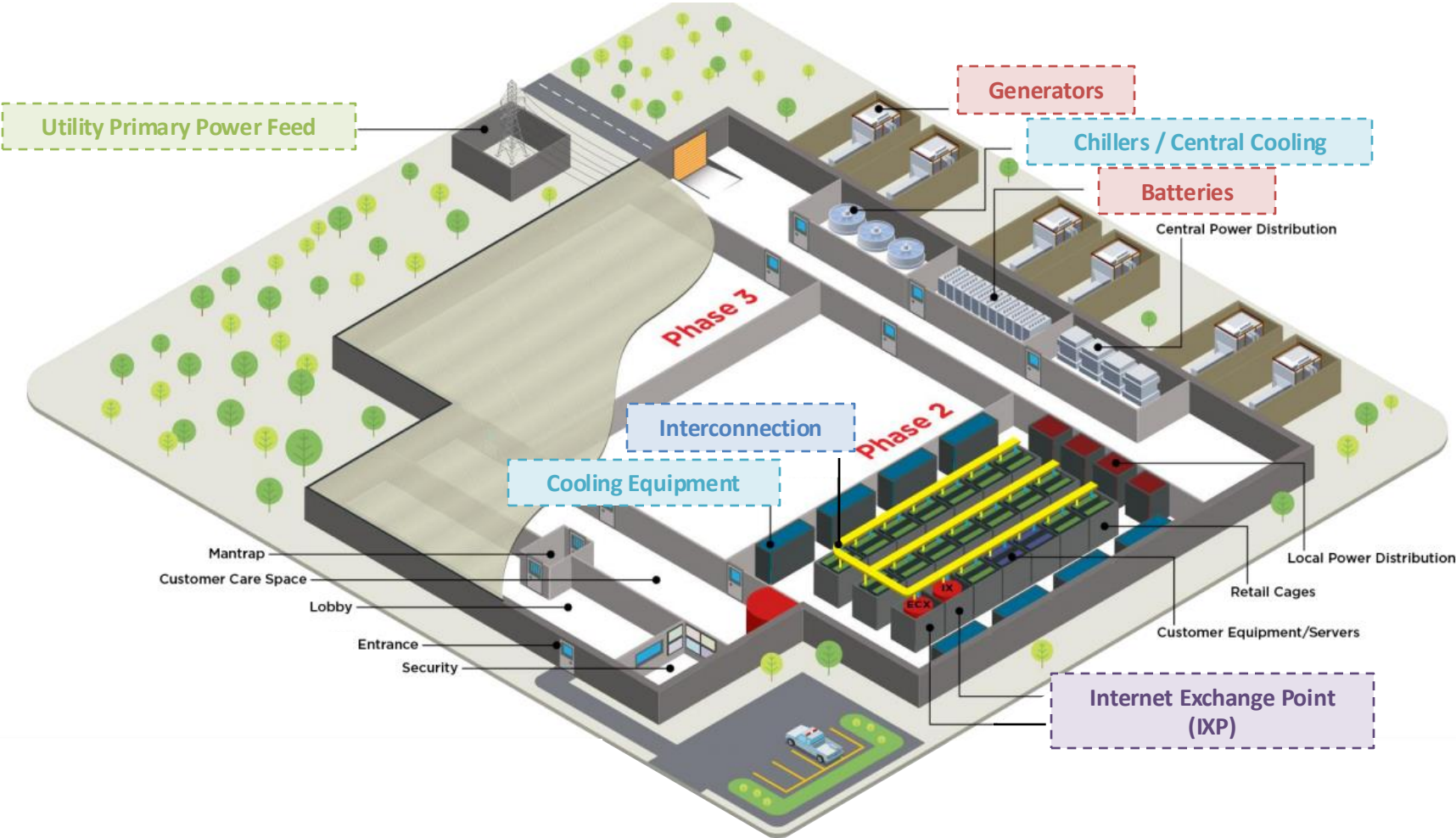


Notes: (1) A carrier-neutral, vendor-neutral data center operator is not itself, nor directly affiliated with, a network carrier, internet service provider (ISP), hardware or software provider.

# Data Centres: Heart of the Internet Delivery System



## Stylised Data Centre Layout



Space



Primary Power



Backup Power



Cooling



Connectivity



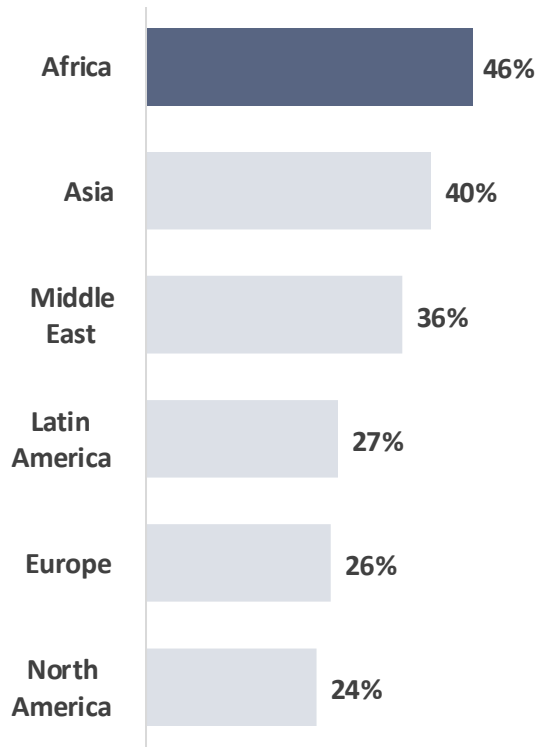
Data Exchange

# Infrastructure Bottlenecks Causing High Prices: Subsea Capacity

Africa leads the world in bandwidth and traffic growth, but capacity constraints result in high prices

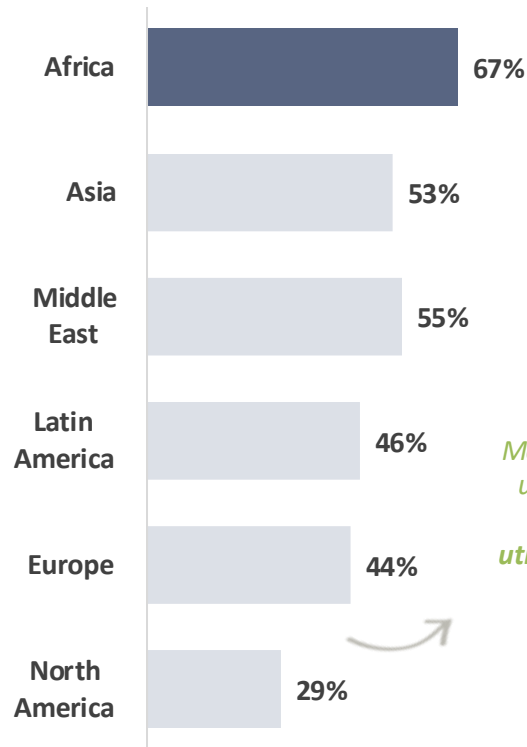
High international bandwidth and traffic growth...

2016 – 2020 bandwidth CAGR



...but high utilization of limited absolute capacity<sup>1</sup>...

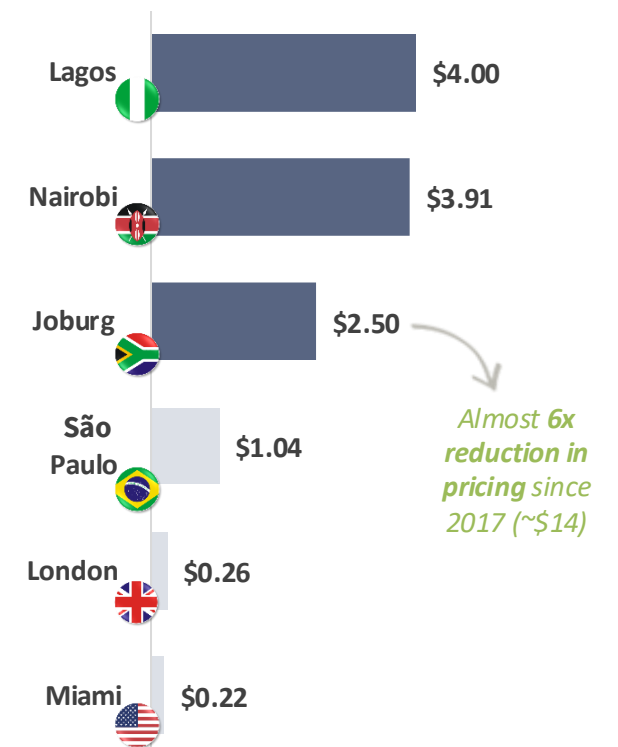
Peak utilization in 2020



Most operators will upgrade capacity when peak utilization surpasses 60% threshold

... results in high pricing relative to global benchmarks

Transit prices per Mbps, 10GigE<sup>2</sup>

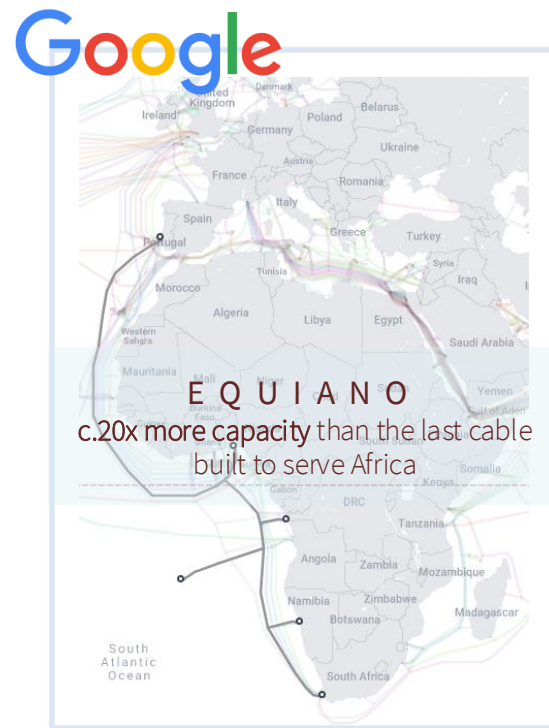
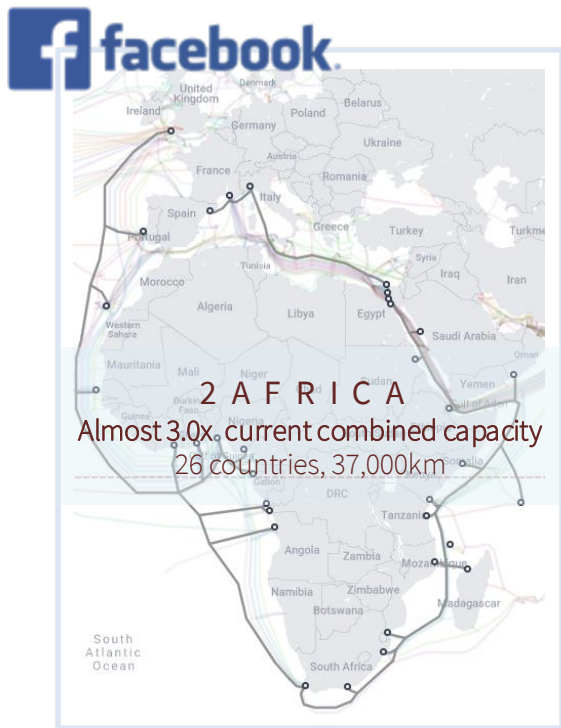


Almost 6x reduction in pricing since 2017 (~\$14)



# Subsea Bottleneck Easing Rapidly as Large Content Providers have Mobilized Billions in Investment

A few subsea cables are financed by large content providers who account for c.70%<sup>1</sup> of global bandwidth capacity and are also the largest data center customers

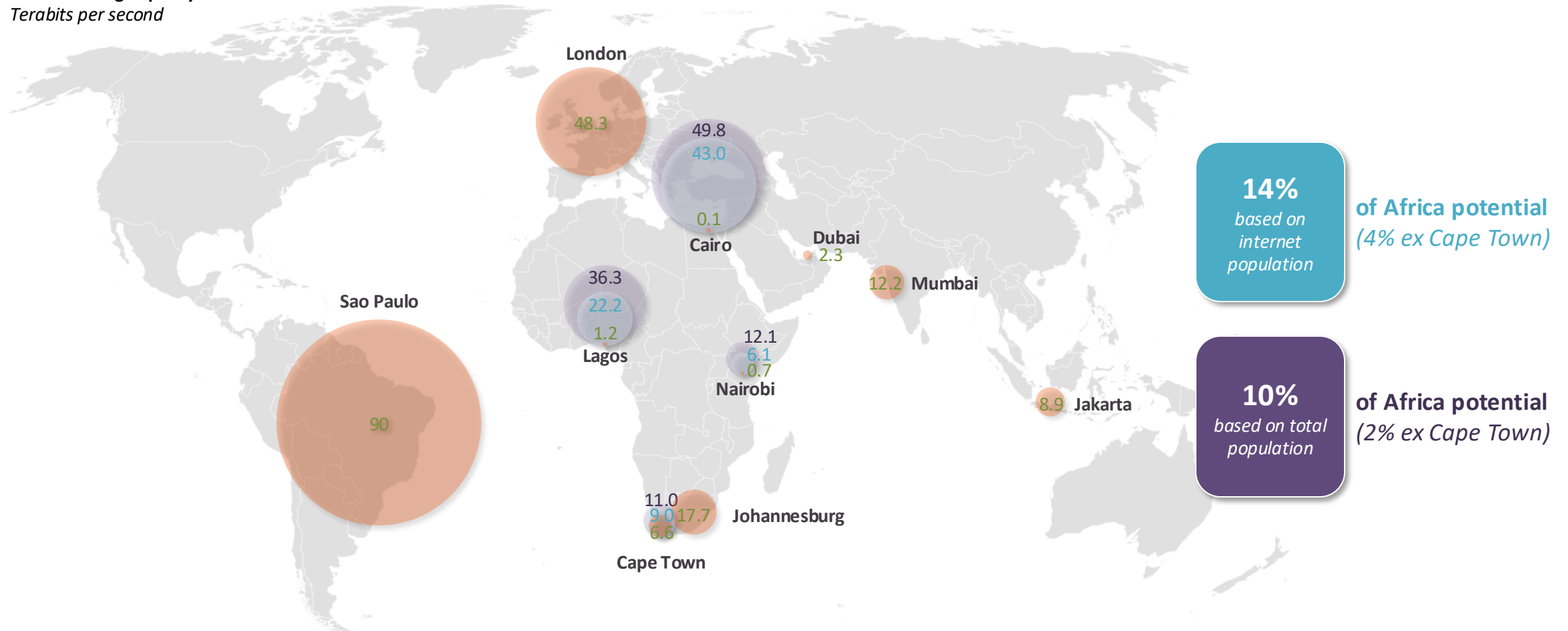


Massive ongoing investments expected to drive **>50% annual bandwidth growth until 2027**

# African Internet Exchange Ecosystem is Notably Underdeveloped...

African cities fall behind other developing internet exchange ecosystems in current and future hub markets

Public Peering Capacity  
Terabits per second

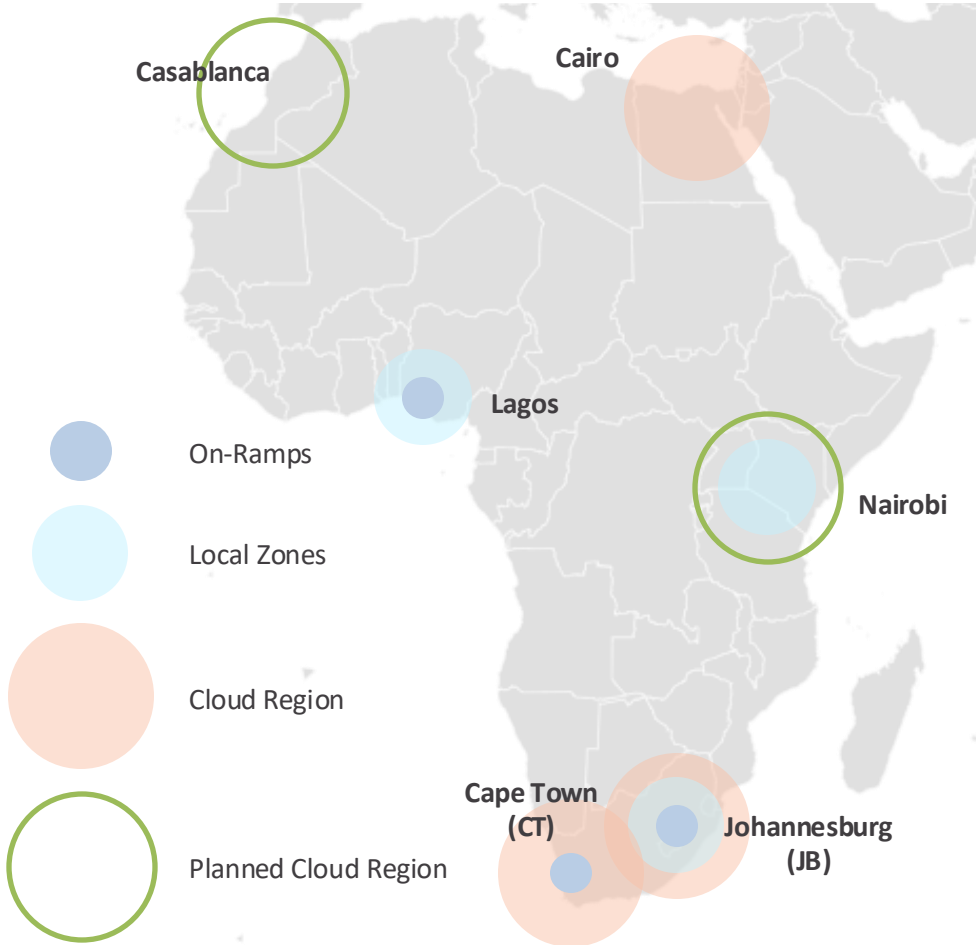




# ... but the Large-Scale Customers are Preparing their Terrain...

South Africa further up the maturity curve, major Cloud Service Providers developing plans to enter other African metros

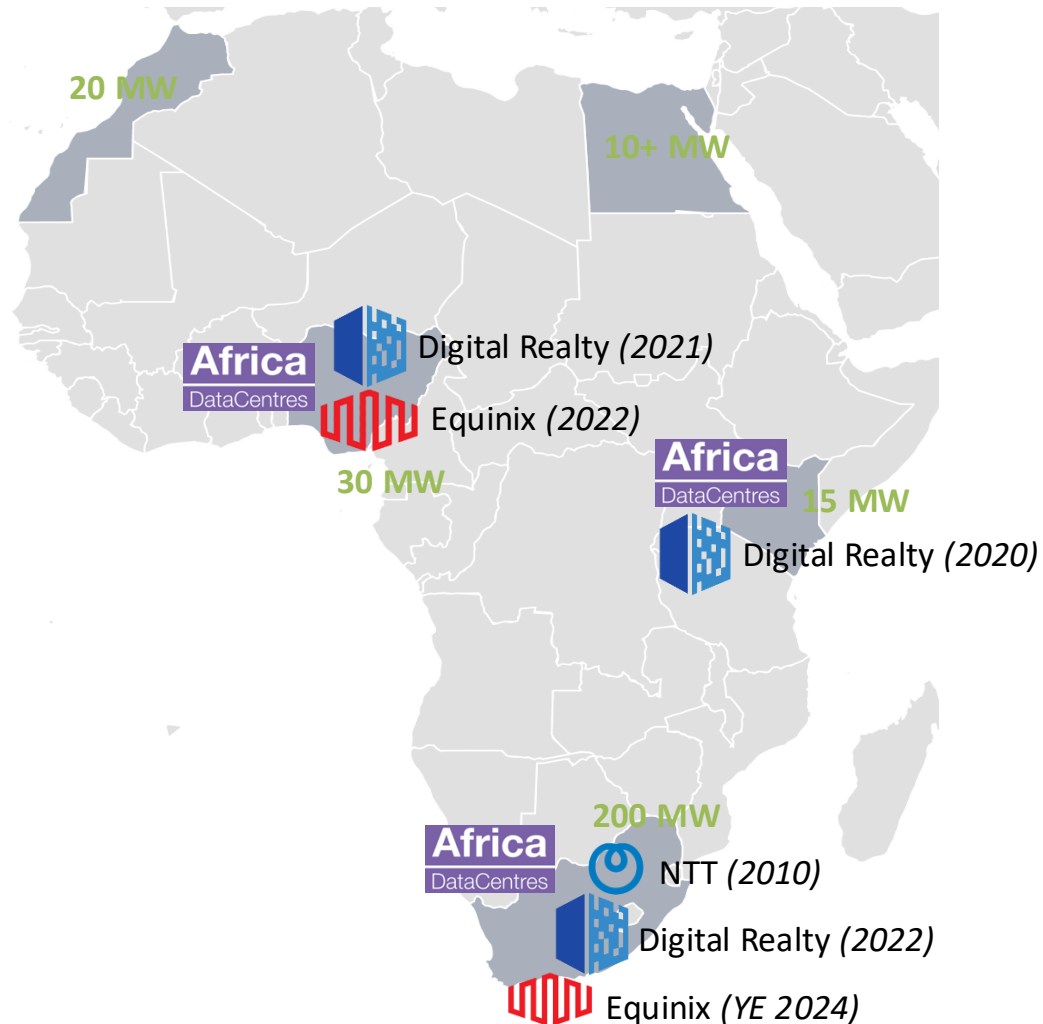
Current and Planned Cloud Deployments Zones



	On-Ramp	Local Zone	Cloud Region
aws	South Africa, Kenya, Nigeria	South Africa, Kenya, Nigeria	South Africa
Azure	South Africa, Nigeria	South Africa, Nigeria	South Africa, Nigeria
Google Cloud Platform	South Africa, Nigeria		South Africa
ORACLE Cloud Infrastructure			South Africa, Nigeria, Kenya
HUAWEI CLOUD		South Africa	South Africa, Nigeria

# ... and the World's Largest Operators are Paying Attention

Since the turn of the decade, the **largest global operators in the data centre space** have ramped up their transaction activity in Africa



White space, competitive dynamics, ecosystem development potential, cloud deployment activity...



# Compelling Case for Data Centre Investments



Significant demographic profile...

**590m**

Internet users in Africa,

**43%** of the population

...and notably undeveloped local internet ecosystems...

**5-15%**

of ecosystem capacity already developed

...with global CSPs and operator investment activity

**200MW+**

development and transaction activity across key African metros, including by global operators

**Data Centers are where the internet lives**

**The foundation of our connected society and the digital economy**

**11.7%**

Share of global internet users but **<1.0%** share of available data center capacity

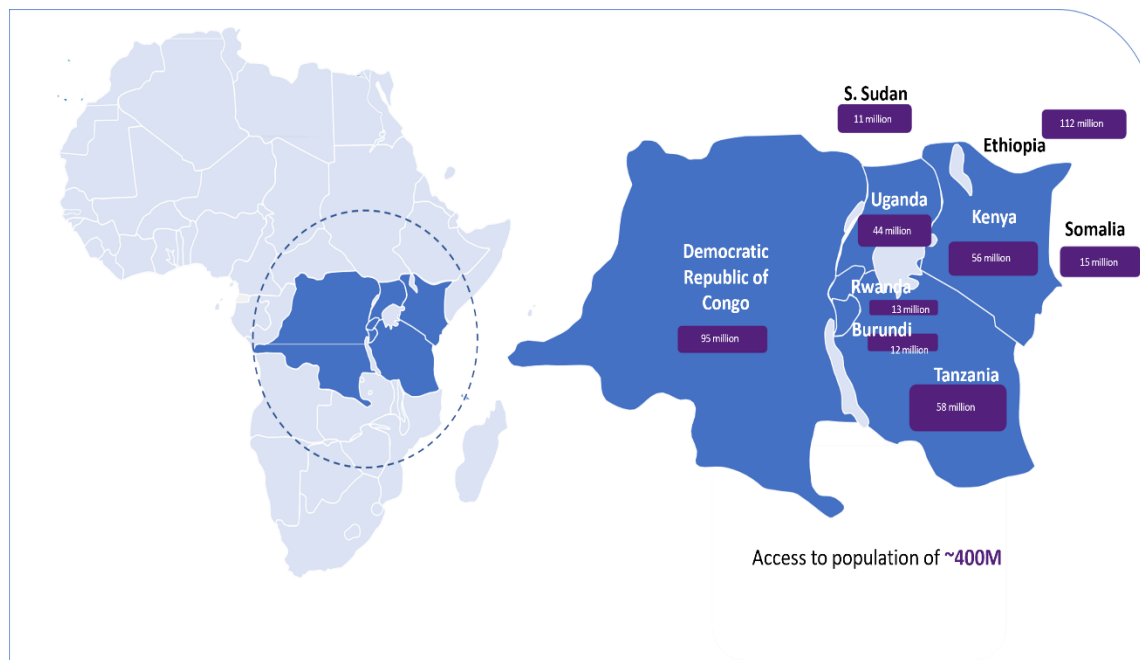
**70% - 90%**

Unserved data center colocation demand

**40-60%**

Of top 5 cloud service providers actively deploying in Africa

# Why Kenya for Data Centres?

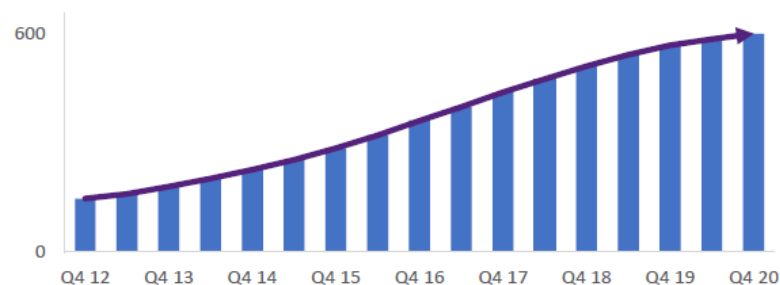


- Provides access to large East African Market of upto 400m population
- Growing Digital Ecosystem dubbed “Silicon Savannah
- Most advanced Mobile Money utilisation globally
- Growing smartphone penetration with innovative financing models
- Hub for many regional Multinationals
- Current data centre utilisation of sub 10 MW vs SA being >400 MW
- Availability of reliable and renewable power
  - 93% of energy production is from renewable sources and 8<sup>th</sup> largest Geothermal producer globally
- Advanced in regulation including “Data Protection” and “Wheeling of Power”
- Key submarine cables landing in Mombasa

# Kenya is anticipated to become a key new hub for hyperscalers...

*Hyperscaler<sup>1</sup> numbers are increasing and seeing rapid growth in investment*

*Number of hyperscalers worldwide*



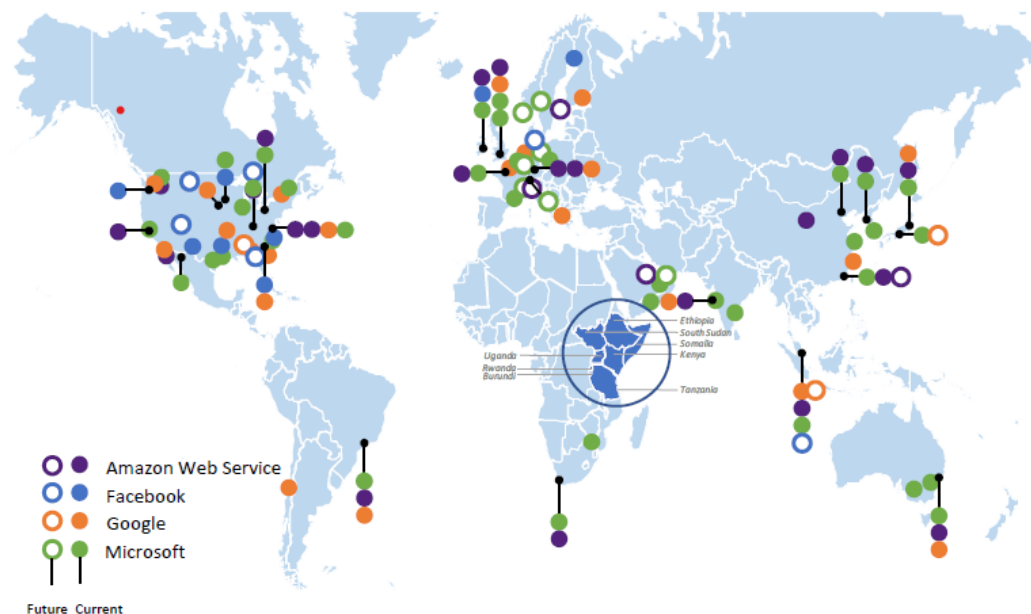
*Hyperscale Investment worldwide*

Company	2015A		2020E		CAGR (%)
Google	\$10.0bn	\$2.0bn	\$28.2bn	\$5.6bn	23%
amazon	\$9.6bn	\$4.7bn	\$27.4bn	\$11.0bn	23%
Microsoft	\$6.7bn	\$6.3bn	\$20.9bn	\$17.8bn	26%
facebook	\$2.5bn		\$17.8bn		48%
Apple	\$11.6bn		\$12.3bn		1%
Alibaba Group	\$1.2bn		\$8.2bn		47%
Tencent 腾讯	\$0.8bn		55.1bn		44%
ORACLE	\$1.6bn	\$0.5bn	\$3.2bn	\$1.6bn	7%
Others <sup>2</sup>	\$8.0bn		\$9.1bn		3%
<b>Total CapEx</b>	<b>\$52.0 bn</b>		<b>\$131.4 bn</b>		<b>20%</b>
<b>Total CapEx</b>	<b>Cloud CapEx</b>				

*Africa is massively under-penetrated by hyperscale cloud providers*

- East Africa is a very significant market and the logical next step for hyperscalers after South Africa
- Currently there are no hyperscalers present in Kenya and, as a result, high quality cloud services are not available to a large population with increasing demand for digital services
- International and intercontinental connectivity to the region has been transformed by recent infrastructure developments, enhancing the opportunity for hyperscaler deployments

*Hyperscale Deployments (2020)*



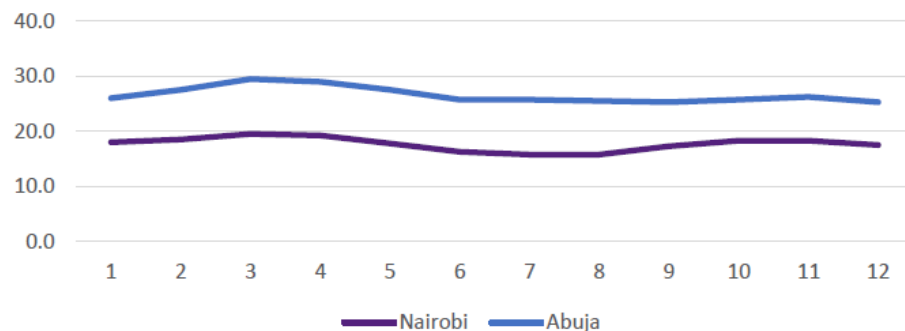
**Africa is home to less than 2% of global data centre capacity and more than half of that capacity is located in South Africa**

# Kenya has favourable climate and low-cost power

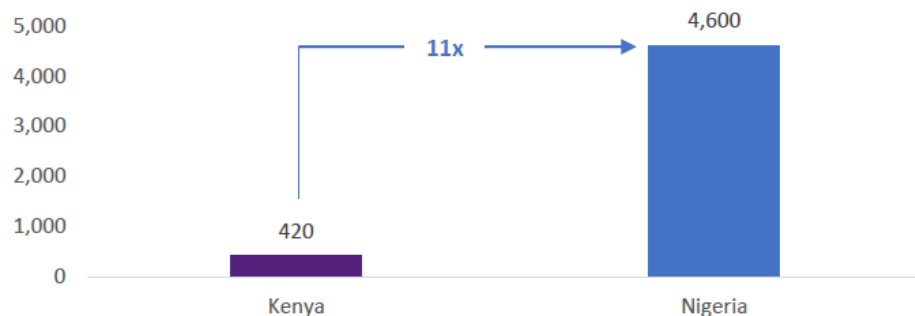
## Kenya has stable power infrastructure and Nairobi benefits from a temperate climate...

- Kenya has a very reliable power supply with an average of only 420 hours outage per year compared to 4,600 hours in Nigeria
- The benefits of reliable and low cost power are further amplified by Nairobi's cool climate, making it an ideal location for the largest data centre in East Africa

Average temperature (Celsius)

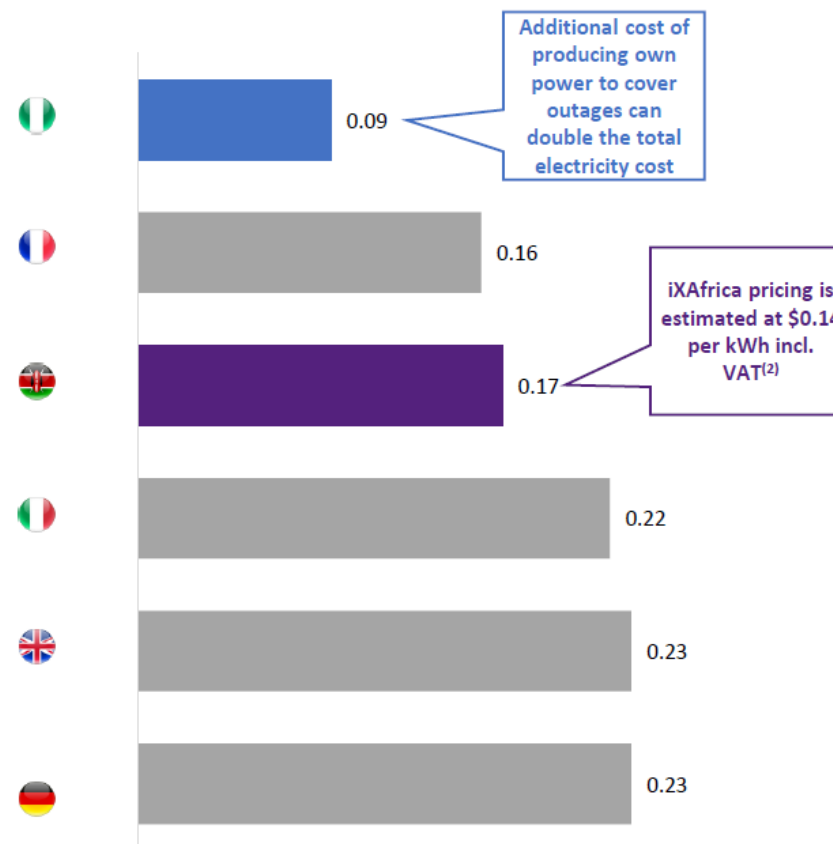


Average hours power outage per year



## ...and attractive power pricing

Power cost for businesses by market incl. taxes | \$ per kWh, 2020 <sup>(1)</sup>



Kenya is the 8<sup>th</sup> largest geothermal power producer globally with 92% renewable energy



# iX Africa Data Centre – NBOX1

A new era in data centres - East and Central Africa's largest digital universe for hyper cloud, content networks and connectivity

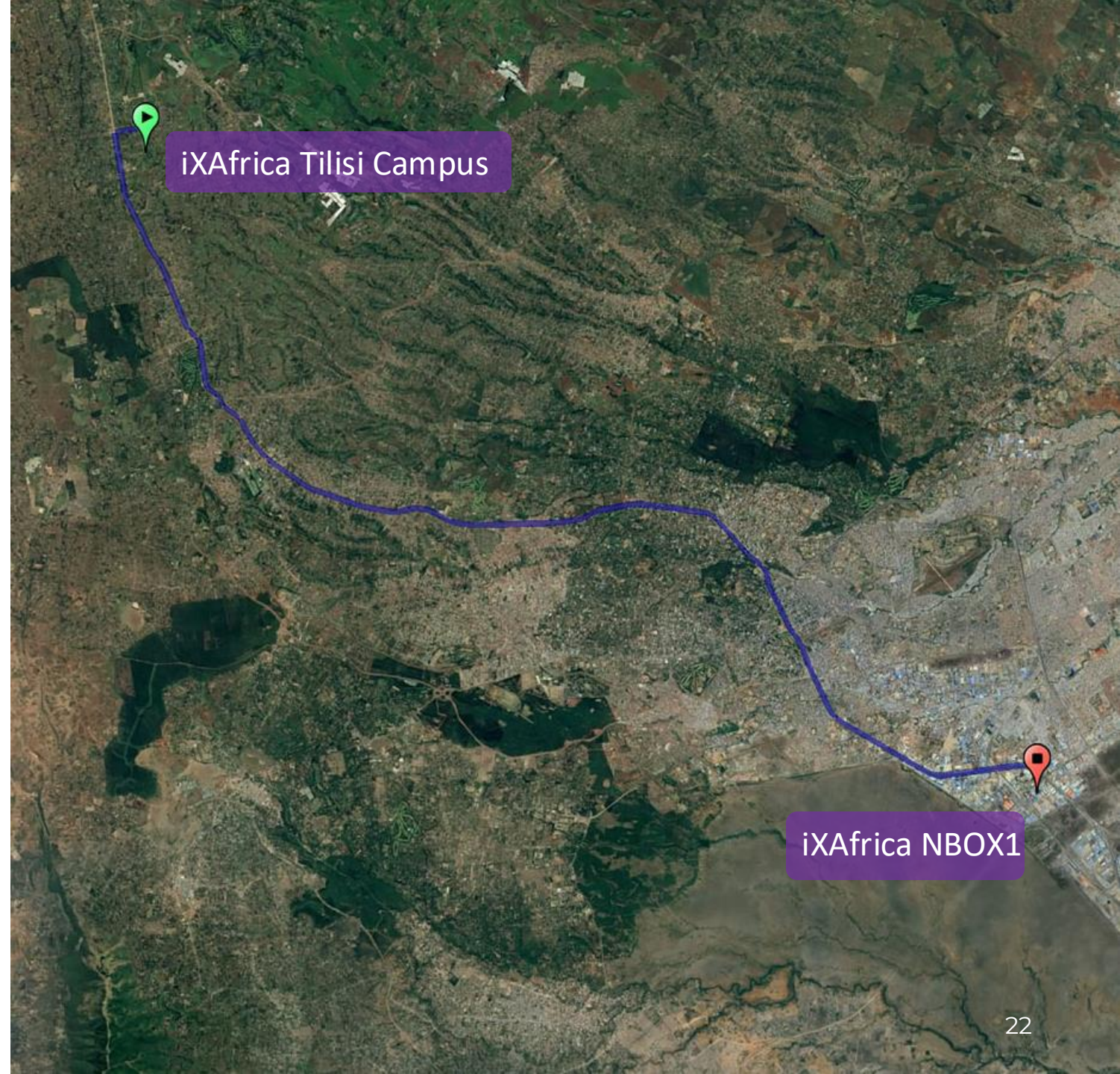




# iXAfrica Tilisi Campus

*NBOX2 (Planned)*

- 11 acres
- 40KM from iXAfrica NBOX1
- 30+MW
- Average temperature <15 degrees
- Latency <5 milli-seconds between the campuses
- Elevation of 2,286 Meters
- Elevation of NBOX1 1,795 m





# Sustainability underpins the data centre design

*iXAFRICA is dedicated to the goals of sustainability and shares this same passion and ethos. We would like to reassure our colocation partners that we are committed to achieving these goals.*

## Social responsibility

- iX Africa champions CSR initiatives (e.g. managed waste control for recycling plastic and disposables)
- The company employs a community liaison officer to drive KIA initiatives
- Studies for noise have been carried out
- A planting programme is being undertaken
- EHS process and practice is strictly enforced (full time site officer during construction)

## Renewable resource initiatives

- Kenya's power supply is 90% Green
- The use of solar energy is being designed with the aim of providing 500kW of power to the site
- Primary source of water is a borehole (through treatment plant) with backup from utility
- Recycled wood from the construction has been used for the furniture



- Materials selected from the local supply chain
- Distance materials travel is minimised
- Ongoing support is available by local supply chain vs importing labour
- Drive a “Buy Local” ethos
- Materials sourced that are easily available locally
- Corporate responsibility to minimise impact and maximise benefits

- Carbon footprint of logistics is reduced
- Wealth is distributed within region rather than exported
- Local systems can be installed by local vendors
- Ease of access results in JIT procurement and reduces stockpiling
- Driving an industry shift to KIA vs importation of materials
- Corporate positive impact on both local and regional community

*iX Africa has a Keep it African (“KIA”) procurement framework focusing on sustainability, renewable resources and social responsibility*

# Experienced leadership team



**Guy Willner**  
Co-founder & Chairman

- 25 years in DC sector
- Among the 50 Most Influential Persons in the Data Centre, Cloud Computing Data Industry and Big Data industry in the EMEA region
- Co-Founder and CEO of IXcellerate (Russia) and Chairman of the Data Centre Alliance
- Previously Non-Executive Director of Teraco, Africa's leading carrier neutral data centre
- Previously CEO at IXEurope, acquired by Equinix



**Niraj Shah**  
Director Sales & BD

- 6 Years – focused in DC sector management and sales.
- 15 years experience in sales team leadership & management
- Previously GM at Icolo
- Previously Country Manager at Avis Budget Group
- Previously Head of Marketing at Telkom Orange



**Snehar Shah**  
CEO

- 25 years in the tech sector of which 5 year is East Africa.
- Scale up specialist - grown businesses in Towerco and Paygo Energy Sector
- Ex CEO and Chair Position at Moringa School, leading tech training provider in the region
- Blue Chip experience at PwC, HSBC and C Level experience at Orange, Eaton Towers, Azuri technologies, Moringa School
- Electrical Engineer, Chartered Accountant and Chartered Financial Analyst
- Awarded Top 40 Under 40 by Business Daily Africa



**Clement Martineau**  
Co-founder & Projects Director

- Previously involved in the construction of a terminal "LION 2" submarine fibre optic cable landing station connecting Kenya and Mayotte (Orange Telkom Kenya)
- Previously General Manager of Lighthouse Property Company
- Co-founder of Nelion Partners Ltd



**Andrew Hunt**  
Co-founder & Finance Director

- Founder and Managing Director of Marlow Capital
- Early equity investor in Teraco and led four successful capital raisings
- Assisted iXcellerate capital raise of over \$20 million.
- Previously the Head of Investment Banking, Africa for HSBC Bank plc



**Naresh Mehta**  
Founding Shareholder

- 40 years experience in electrical engineering
- Founder of Power Technics (sold to Schneider in 2015)
- Previously Chairman of Schneider Electric Kenya
- Founder and MD at Prisma Technics

The combined leadership and advisory team for iXAfrica has over 30 years of data centre experience with leading global operators

Significant expertise within leadership team in new business development in the property and ICT sectors in Kenya



**Tosin Awoyinka**  
Senior Vice President at Helios Investment Partners

- 14 years of professional experience in corporate finance, M&A and professional investments
- Currently serves on the Board of Directors of iXAfrica Data Centre
- Currently a Senior Vice President, Investment Team
- He joined Helios in 2018 from TPG/Greensphere Capital in London
- Previously at TPG/Greensphere, as an Associate focused on Infrastructure at Evercore in London



# Thank You

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