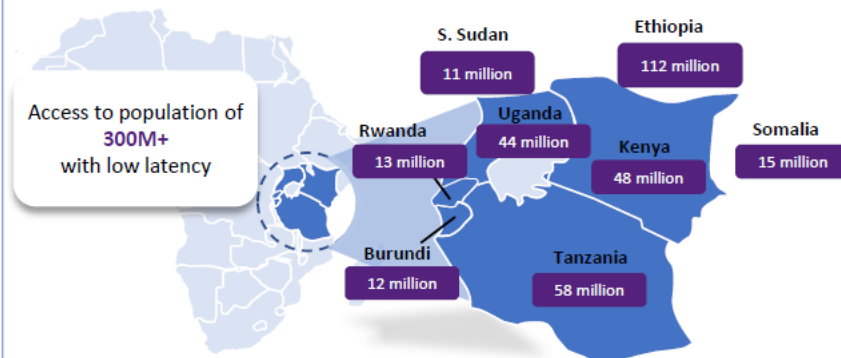iXAfrica
DataCentre

Kenya's "Silicon Savannah" well positioned to be a key player in the Global Data Centre growth

JAN 2024

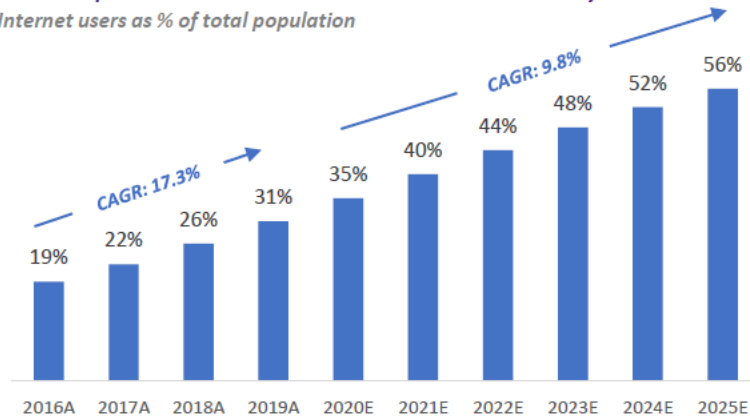East Africa's Largest Hyperscale Carrier Neutral Data Centre

East African economic and demographic drivers

## Kenya is the gateway to East Africa

Access to population of **300M+** with low latency

- S. Sudan — 11 million
- Ethiopia — 112 million
- Rwanda — 13 million
- Uganda — 44 million
- Kenya — 48 million
- Somalia — 15 million
- Burundi — 12 million
- Tanzania — 58 million

Internet penetration rate continues to increase in Kenya
Internet users as % of total population

Year	Value
2016A	19%
2017A	22%
2018A	26%
2019A	31%
2020E	35%
2021E	40%
2022E	44%
2023E	48%
2024E	52%
2025E	56%

CAGR: 17.3%
CAGR: 9.8%

GDP growth has averaged over 5% for the last decade, consistently above Sub-Saharan Africa

Kenya — Sub-Saharan Africa

(Years 2014–2019, 0.0%–7.0%)
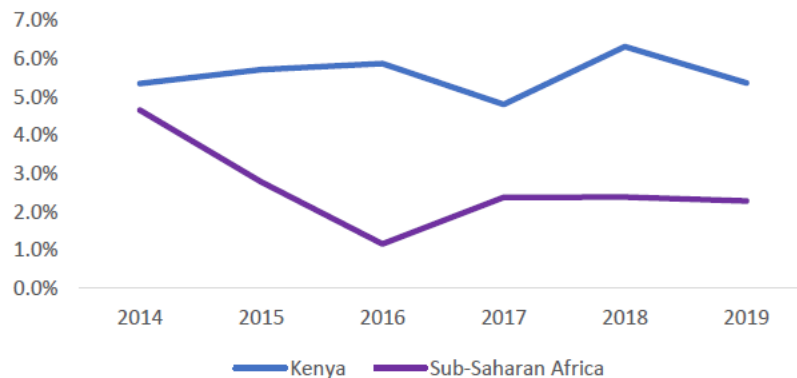
Outsourcing and digital services are expected to grow by c. 11% per year between 2020-2022

Kenya business digital services market size ($m)

CAGR: 26.6%
CAGR: 10.6%

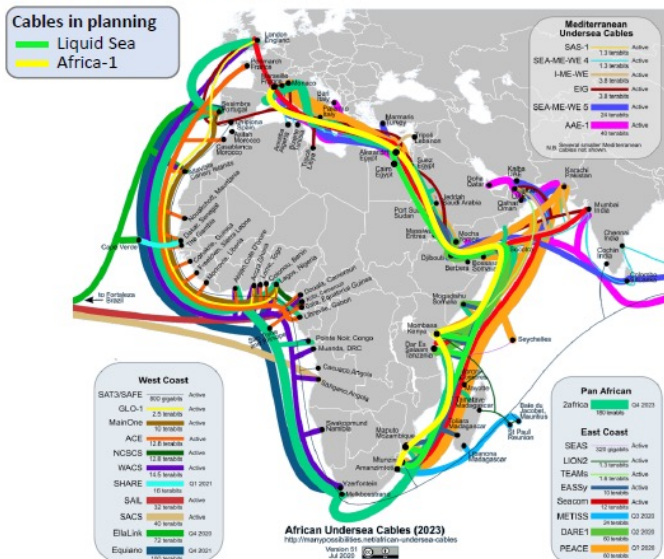| Year	Data Centers	Cloud	BPO
2016A	602	197	602
2017A	825	275	825
2018A	1,047	345	998
2019A	1,279	407	1,154
2020E	1,486	461	1,286
2021E	1,679	514	1,437
2022E	1,848	564	1,545

■ Data Centers ■ Cloud ■ BPO
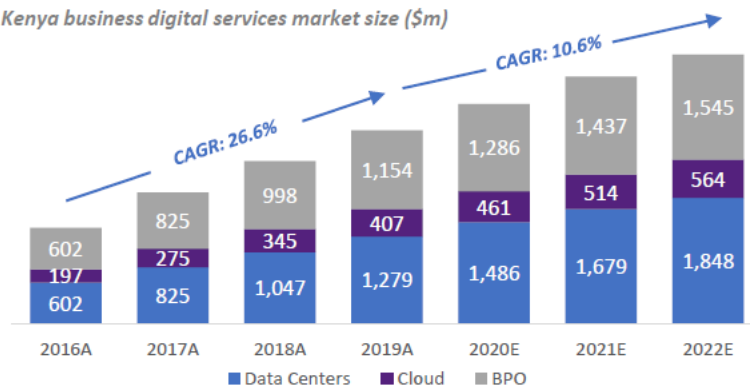
Regional market of 300 million+ and growing internet penetration
>50% of Kenya's GDP is driven by MPESA; higher no of transactions than Western Union globally
75% of population 35 years or younger
Google, Microsoft, AWS have set up product development centres
Stable democracy

Subsea Cables capacity grown from 4 Terabits in 2010 to 720 Terabits in 2023

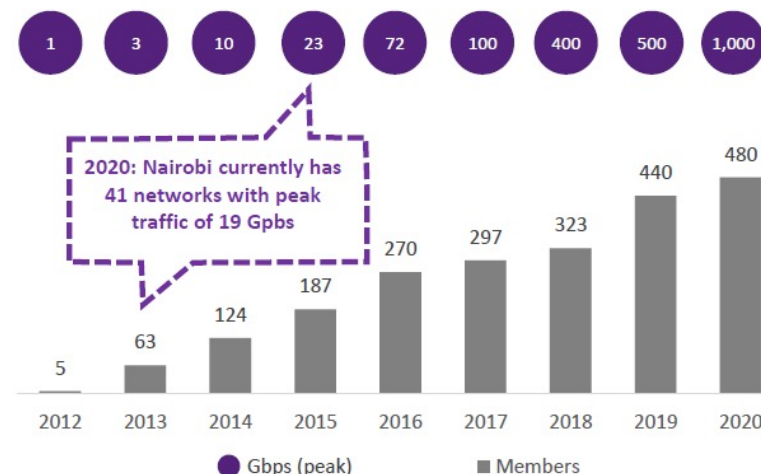## Strategic global network location positioned close to Europe, Middle East and India

2020 Subsea cables around Africa

Cables in planning
- Liquid Sea
- Africa-1

Mediterranean Undersea Cables
Cable		Status
SAS-1	1.3 terabits	Active
SEA-ME-WE 4	1.3 terabits	Active
I-ME-WE	3.8 terabits	Active
EIG	3.8 terabits	Active
SEA-ME-WE 5	24 terabits	Active
AAE-1	40 terabits	Active

N.B. Several smaller Med terranean Cables not shown

West Coast
Cable		Status
SAT3/SAFE	800 gigabits	Active
GLO-1	2.5 terabits	Active
MainOne	10 terabits	Active
ACE	12.8 gigabits	Active
NCSCS	12.8 terabits	Active
WACS	14.5 terabits	Active
SHARE	16 terabits	Q1 2021
SAIL	32 terabits	Active
SACS	40 terabits	Active
EllaLink	72 terabits	Q4 2021
Equiano	100 terabits	Q4 2021

Pan African
Cable		Status
2africa		Q4 2023

East Coast
Cable		Status
SEAS	320 gigabits	Active
LION2	1.3 terabits	Active
TEAMs	1.6 terabits	Active
EASSy	10 terabits	Active
Seacom	12 terabits	Active
METISS		Q3 2020
DARE1	60 terabits	Q4 2020
PEACE	60 terabits	Q1 2020

African Undersea Cables (2023)
http://manypossibilities.net/african-undersea-cables
Version 51
Jul 2020

- Kenya has four subsea cables including EASSy, TEAMS, SEACOM, and LION-2, which hold more than 2.8 terabytes of bandwidth, with another 4 cable projects in planning and development (DARE, PEACE, Africa-1 and Liquid Sea)
- Facebook, alongside China Mobile International, MTN GlobalConnect, Orange, STC, Telecom Egypt, Vodafone and WIOCC, are in the planning stages of developing a 37k kilometre subsea cable system covering 23 countries coined 2Africa (Project "Simba") which is to be operational in 2023

Kenya is on a similar journey to South Africa

The rise of NAPAfrica

Gbps (peak): 1, 3, 10, 23, 72, 100, 400, 500, 1,000

> 2020: Nairobi currently has 41 networks with peak traffic of 19 Gpbs

Members:
Year	Members
2012	5
2013	63
2014	124
2015	187
2016	270
2017	297
2018	323
2019	440
2020	480

- Gbps (peak)
- Members

- NAPAfrica is Africa's largest Internet Exchange Point with over 480 unique ASNs (networks) connected from across the world, including 26 African countries
- Launched in 2012 in South Africa, it is now recording traffic of >1Tbps
- Nairobi currently has 41 networks with peak traffic of 19 Gpbs in 2020 placing it in a similar position to South Africa in 2013 and 2015, respectively
- Today, 2 of the top 5 African data centres by # of networks are located in Kenya which makes the country the most connected outside South Africa

Kenya is where South Africa was in 2015 in terms of peak traffic and networks connected

Kenya has favourable climate and low-cost power
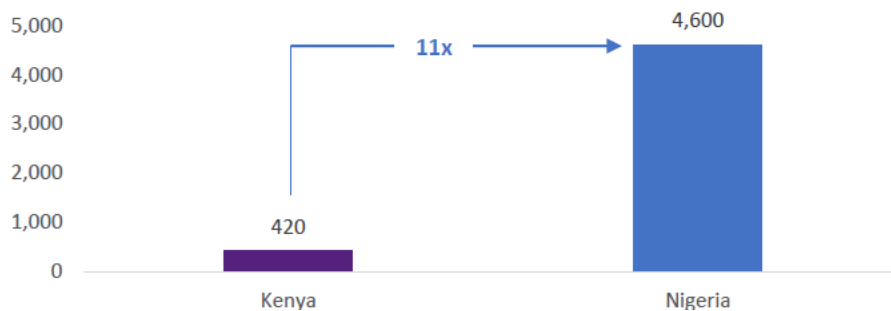
iXAfrica DataCentre

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
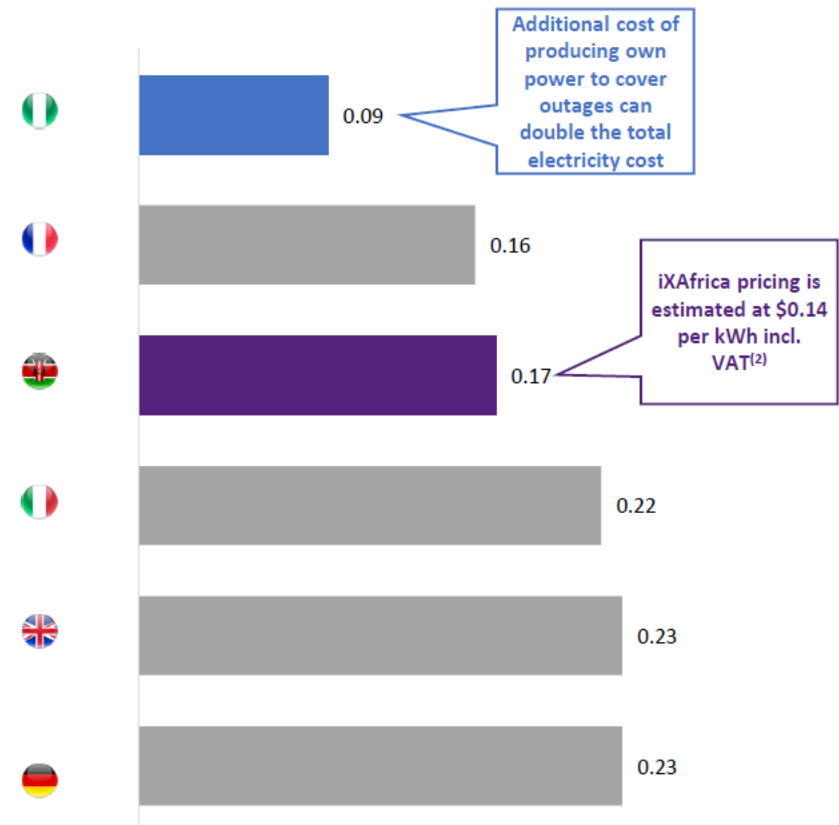
Average temperature (Celsius)

— Nairobi — Abuja
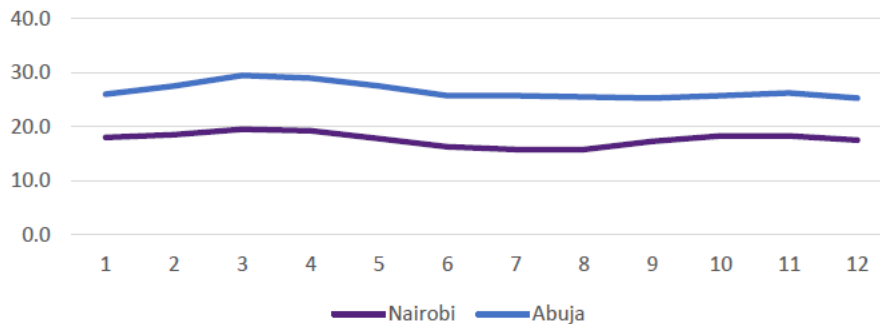
Average hours power outage per year

...and attractive power pricing

Power cost for businesses by market incl. taxes | $ per kWh, 2020 [1]

> Additional cost of producing own power to cover outages can double the total electricity cost

> iXAfrica pricing is estimated at $0.14 per kWh incl. VAT[2]

Kenya is the 8th largest geothermal power producer globally with 92% renewable energy

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

Hyperscaler[1] numbers are increasing and seeing rapid growth in investment

Number of hyperscalers worldwide
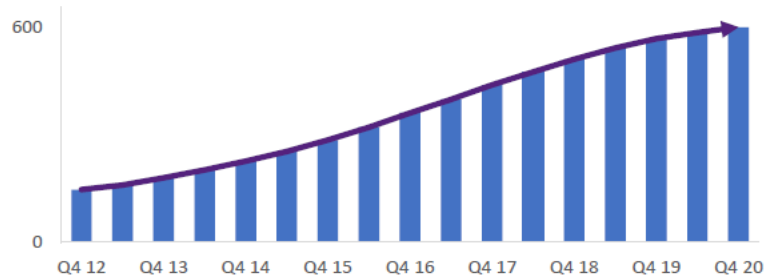
Hyperscale Investment worldwide

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[2]	$8.0bn		$9.1bn		3%
Total CapEx	**$52.0 bn**		**$131.4 bn**		**20%**

Total CapEx | Cloud CapEx

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)

Amazon Web Service
Facebook
Google
Microsoft

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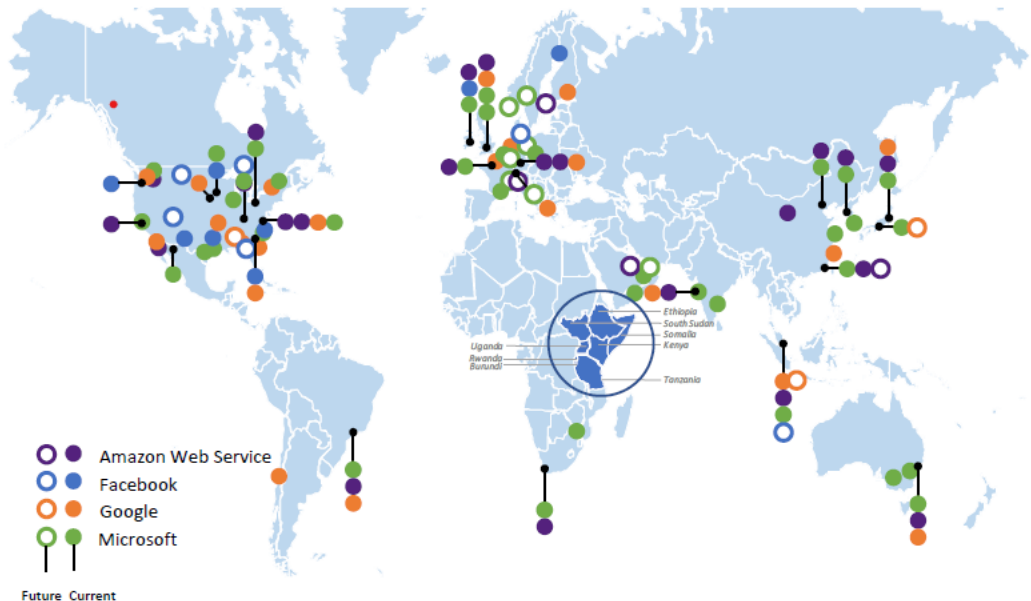
Africa is home to less than 2% of global data centre capacity and more than half of that capacity is located in South Africa

# NBOX1 - East Africa's only hyperscale campus with 22.5MW of IT power

iXAfrica DataCentre

☑	**Land acquired - Owned**	99-year leasehold from 1987 (65 years remaining)
☑	**Power sourced & designs approved**	Two 11kV feeds from a two substations. Approved plans (power route) for a 66kV on-campus substation.
☑	**Development capacity**	Campus no 1 will have 22.5MW of IT power on current IXAFRICA plot. Campus 2, Tilisi identified to increase capacity to 53MW
☑	**Hyperscale focused**	iXAfrica is the only operator in East Africa able to offer a multi-MW carrier neutral facility to hyperscalers

Data Centre 1 (Phase 1.1 – live with 1MW)
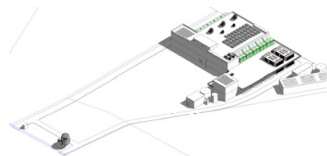
- **Building size:** 4,314 m^2
- **White space:** 1,653 m^2
- **Data halls:** 2
- **Racks[1]:** 780
- **Power:** 4.5MW IT
- **Office space:** 900 m^2

Data Centre 2
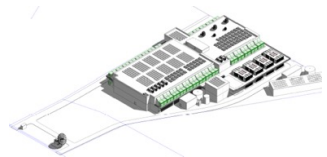
- **Building size:** 12,000m^2
- **White space:** 6,360 m^2
- **Data halls:** 6
- **Racks[1]:** 3,744
- **Power:** 18MW IT

- RIBA Stage 3
- RIBA Stage 4 (Q1 2024)

Satellite farm

- **Satellite teleport:** 4000m^2

Total campus

- **Building size:** 16,314 m^2
- **White space:** 8,013m^2
- **Racks[1]:** 4,500
- **Power:** 22.5MW IT

TSIX1 – Africa's AI ready 53MW Hyperscale Campus

TSIX1 Facility Overview

53 MW IT campus

Rack Density of up to 90KW

On-chip Liquid cooling option

Flexible rack density

99.999% availability

Heated water and backup power export to local community

Dedicated office building and training academy

Specifications

Phase one power: 5 MW IT

Future phases: 12 MW IT x 4

Location: Tilisi

Mechanical: N+2 with liquid cooling options

Concurrently maintainable with no single point of failure

Green power grid

Nairobi's grid is among the greenest in the word 93% coming from renewable energies

IXAfrica's newest data centre deployment builds on the success of NBOX1 by introducing liquid cooling technology to increase efficiency and rack densities.

Designed to the highest specification for hyperscale customers, the TSIX1 facility will be the first of its kind in East Africa to feature liquid cooling options for its end users.

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

Snehar Shah
CEO
- 25 years in the tech sector of which 15 years 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

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

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

IXEUROPE

EQUINIX

IXcellerate

TERACO DATA ENVIRONMENTS

orange

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

Disclaimer

iXAfrica DataCentre