TeleGeography

# Africa Networks Geography Update

Patrick Christian

AfPIF Kinshasa

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# What we'll cover

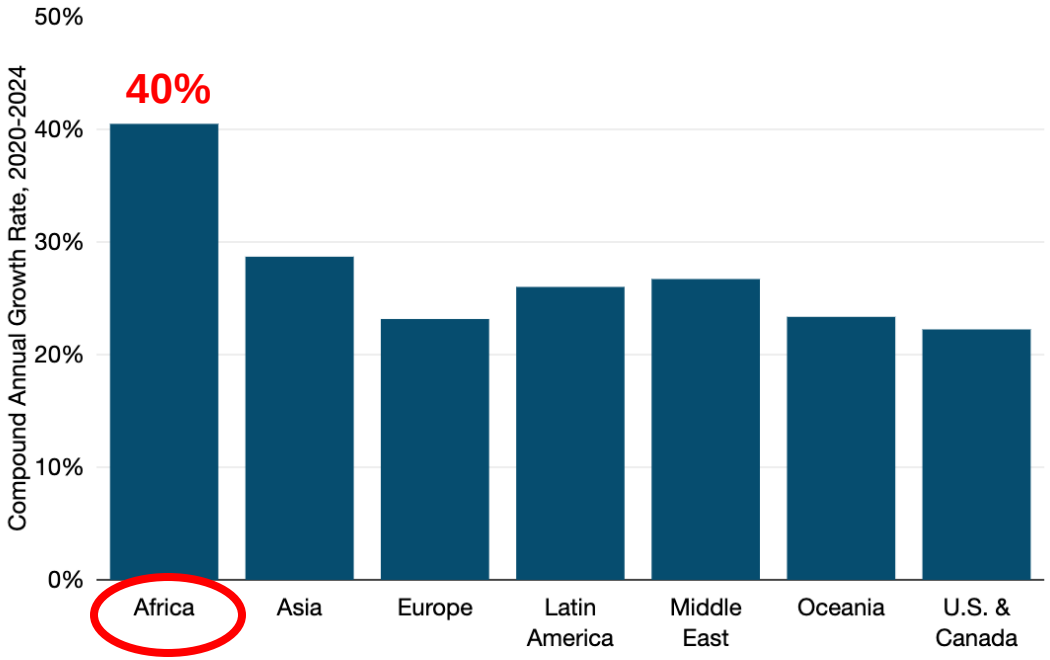
- Global network trends
  - How fast is int'l IP bandwidth growing Globally? Where are sub cables landing?
  - Where are content DCs being built? How fast are global prices falling
- African Bandwidth trends
  - Intra-African int'l capacity growth vs to Europe
  - Capacity and pricing changes
- Interconnection Hub Trends
  - New Metro Connectivity Tool
  - Data center and IXP Trends
- End-user Demand
  - Growth of 4G and fixed broadband, FTTH

TeleGeography

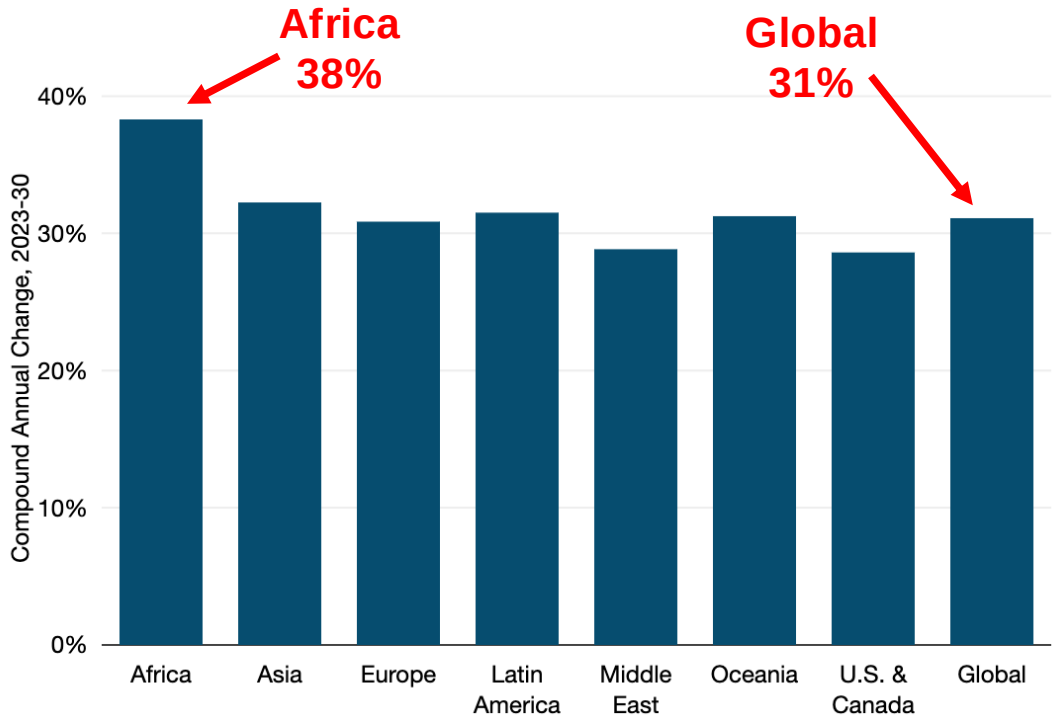
# Global Network Trends

# Int'l used bandwidth growth by region

## Past

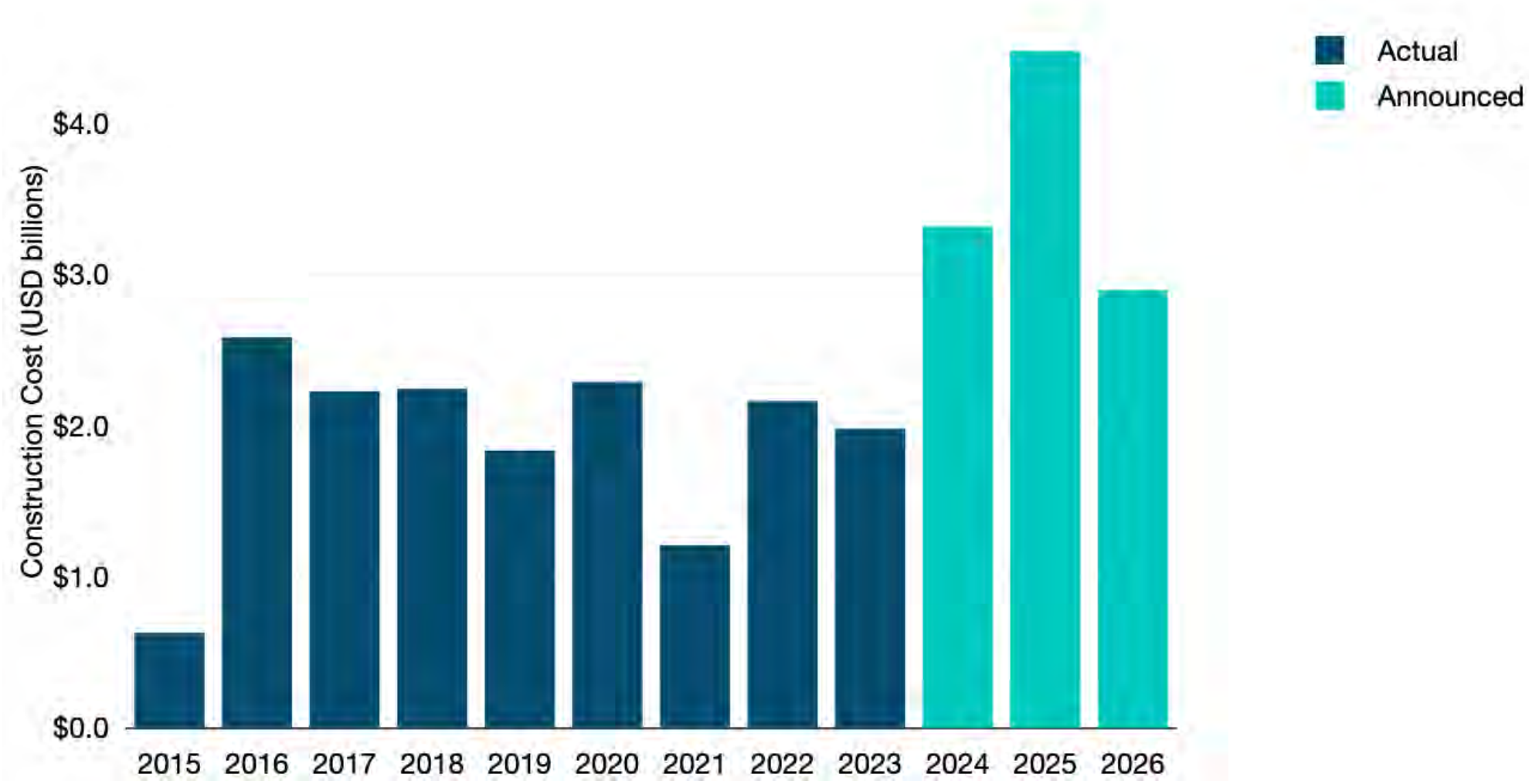



## Forecasted



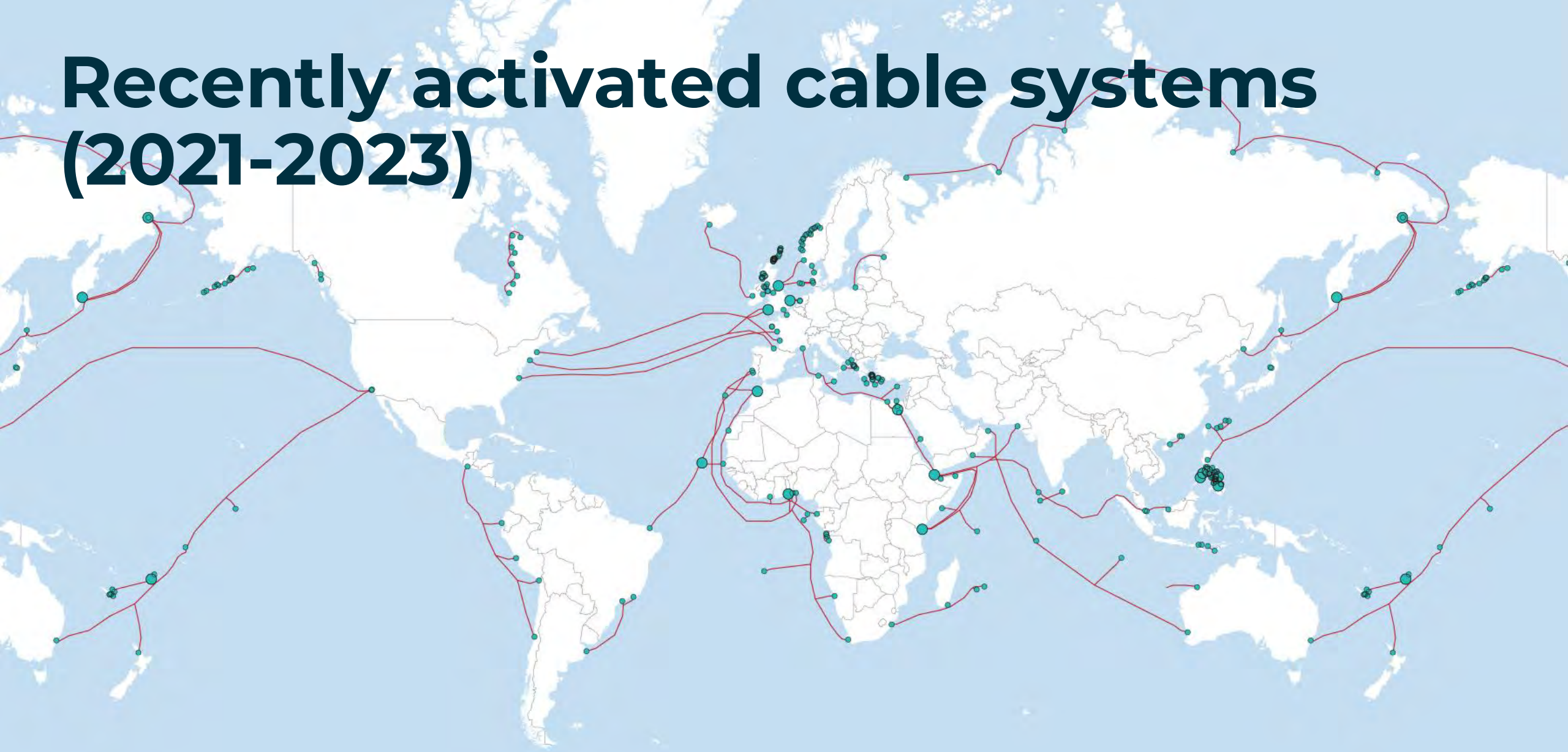

Source: TeleGeography, Transport Networks

# Submarine cable investment



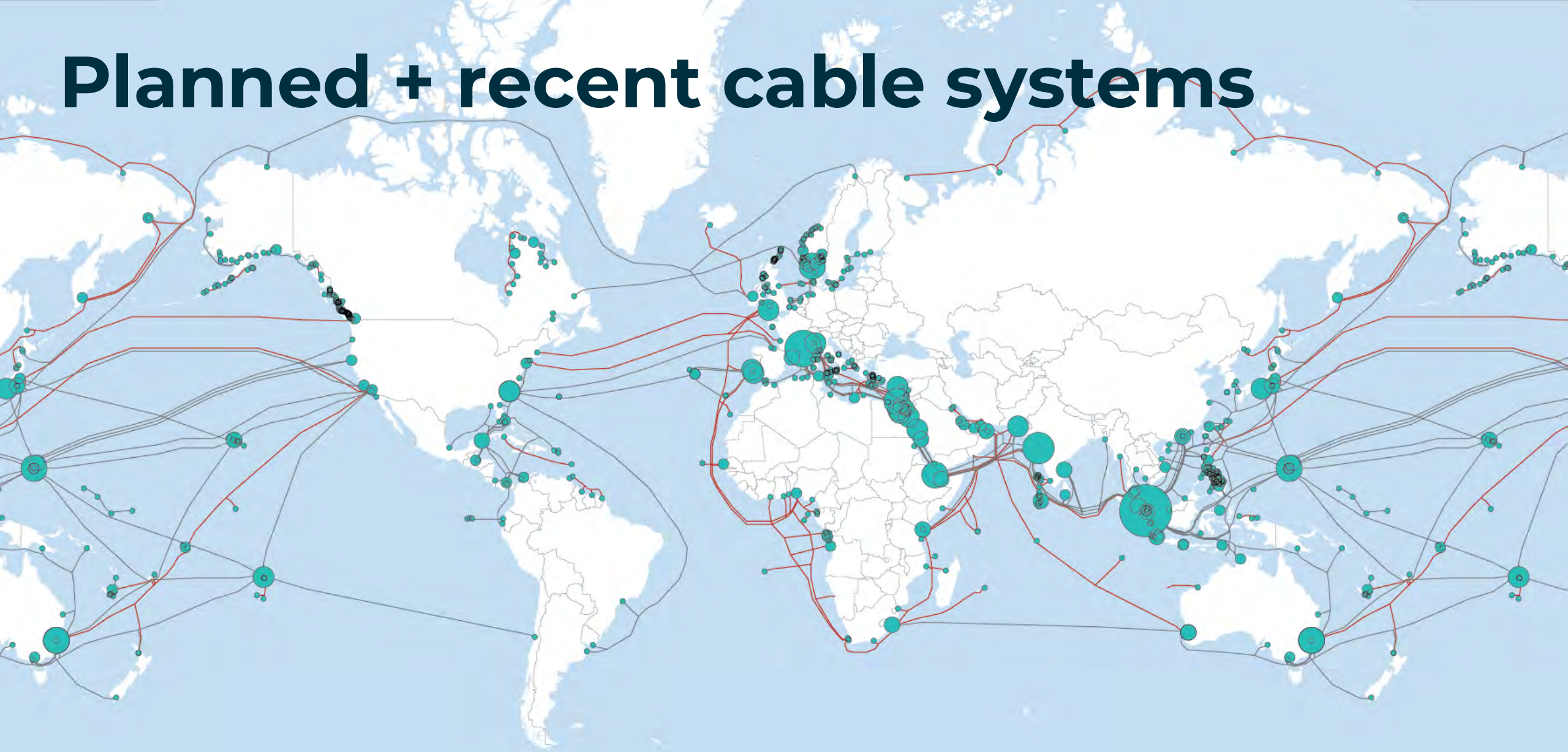

Source: TeleGeography, Transport Networks

# Recently activated cable systems (2021-2023)



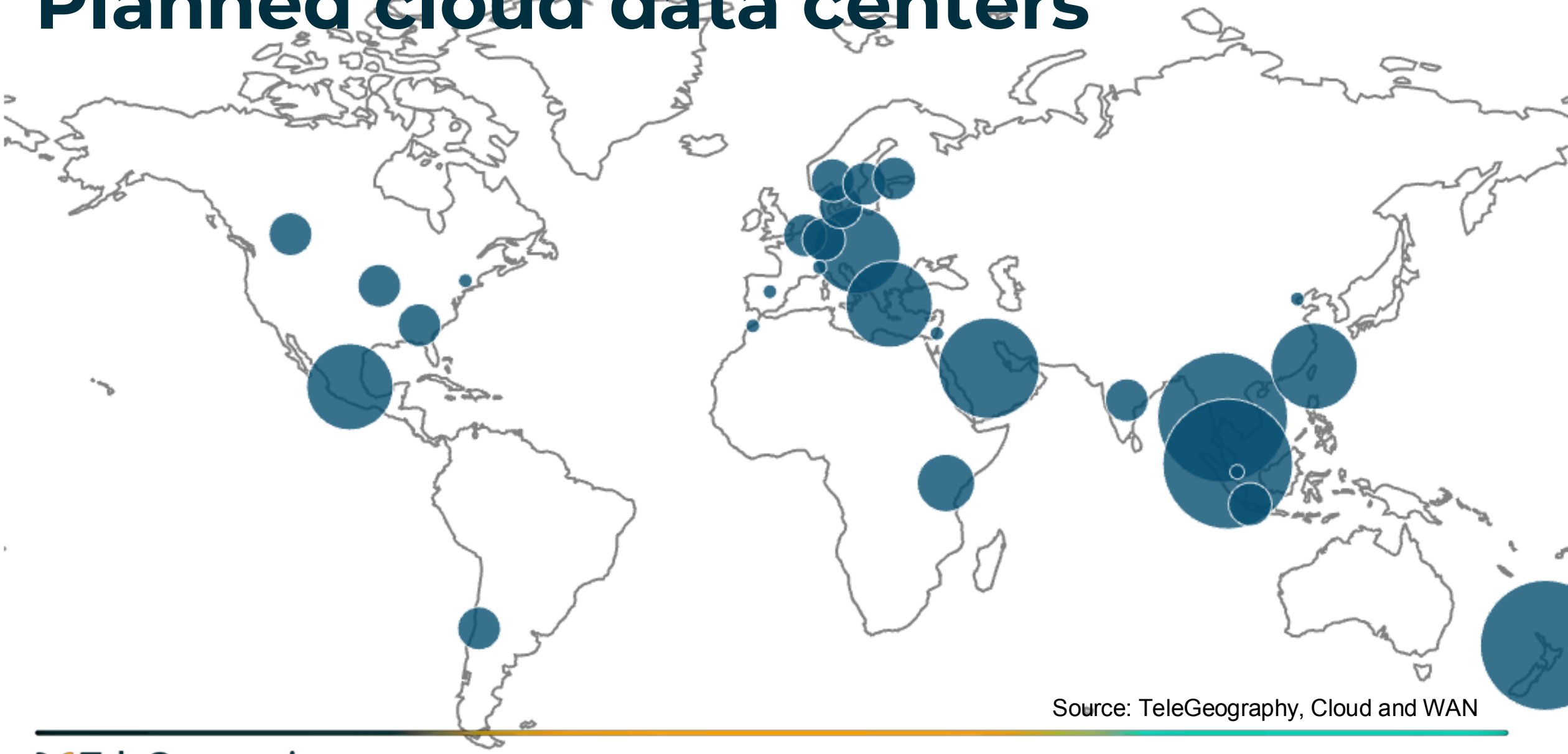
Source: TeleGeography, Transport Networks

# Planned + recent cable systems



Source: TeleGeography, Transport Networks

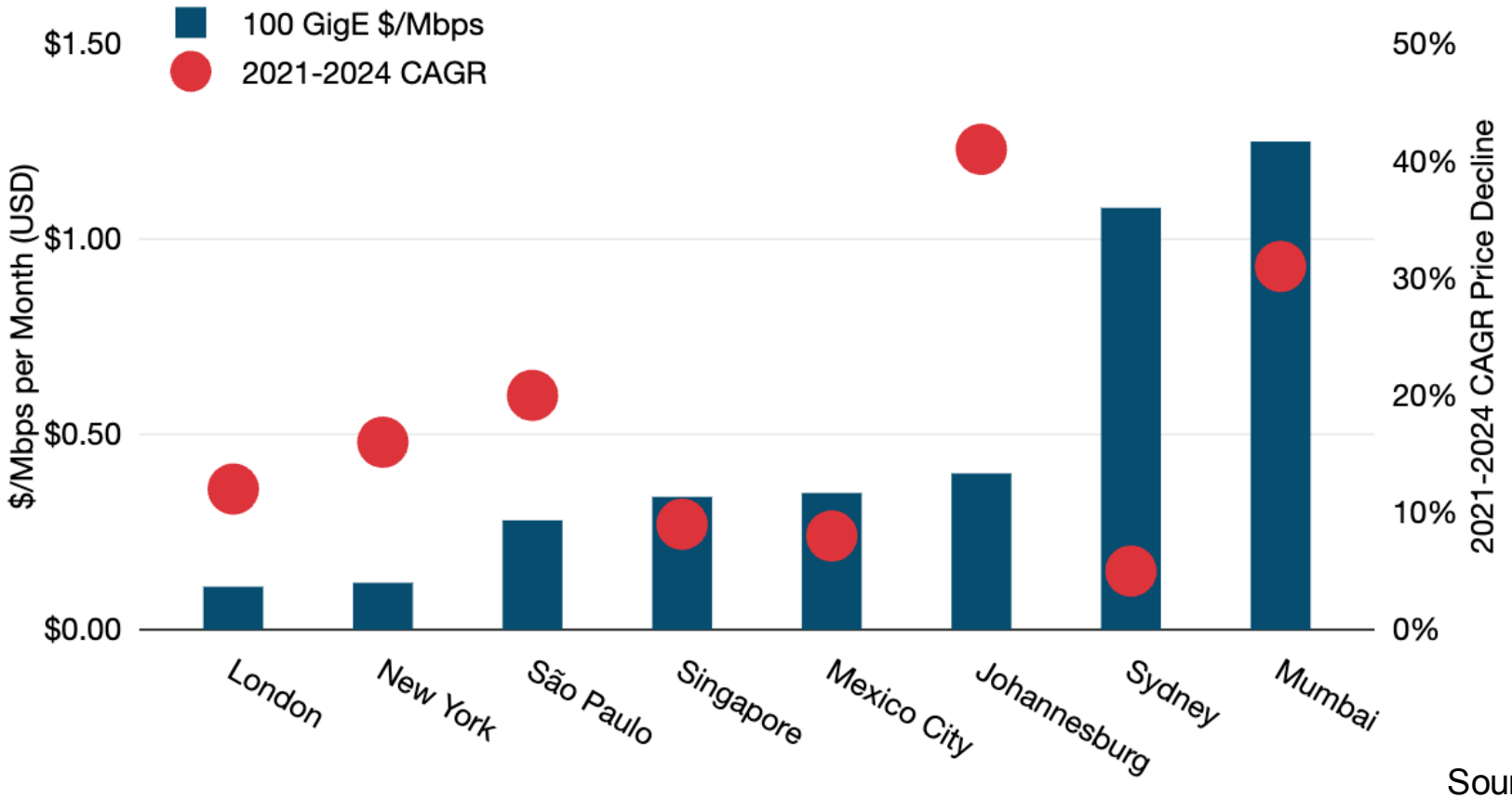
# Planned cloud data centers



Source: TeleGeography, Cloud and WAN

# 100 Gbps median prices and erosion rates varies by region

Weighted Median 100 GigE IPT & Three Year CAGR Decline in Major Global Cities

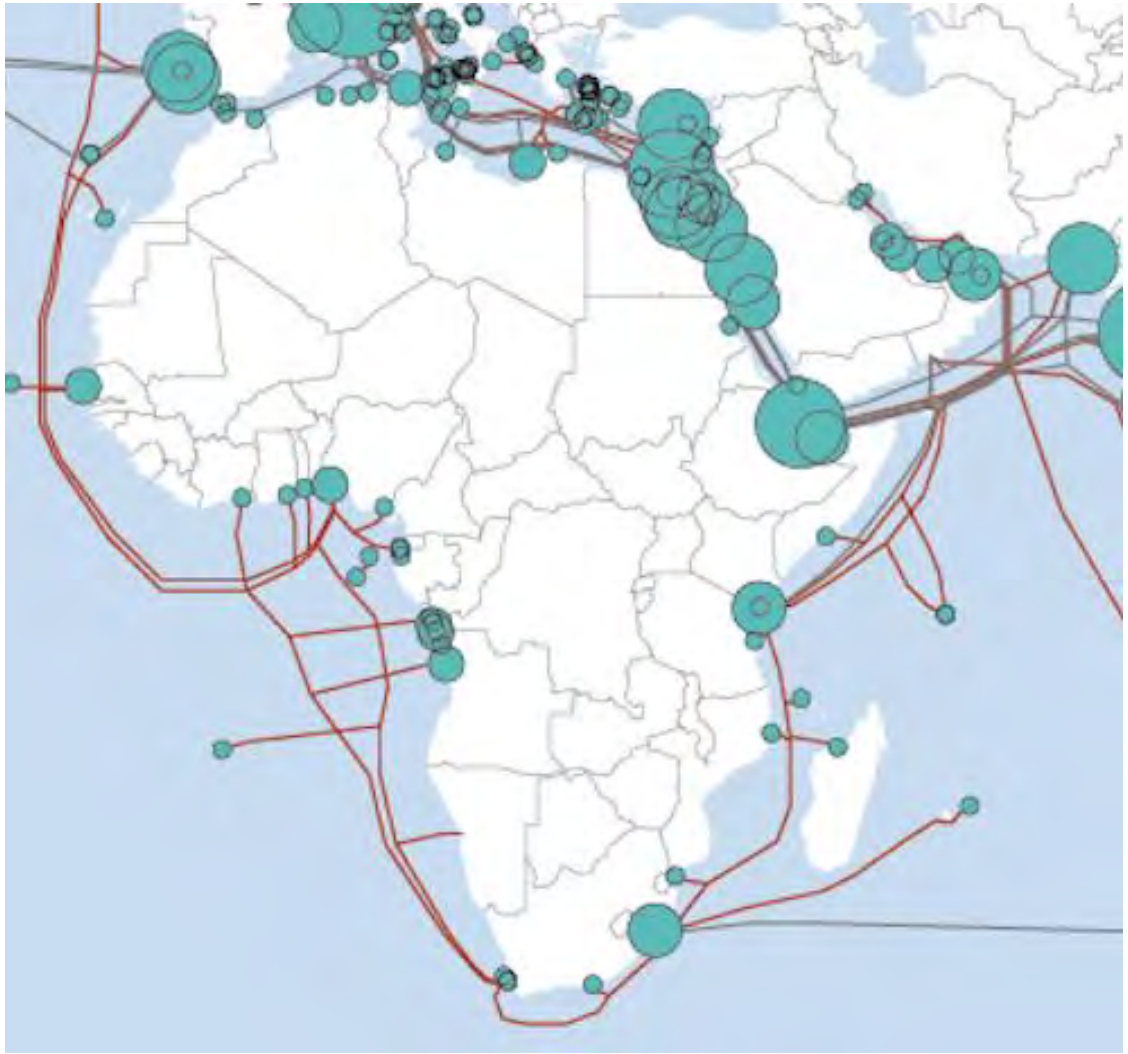



Source: TeleGeography, IP Networks

TeleGeography

# Africa Network Trends

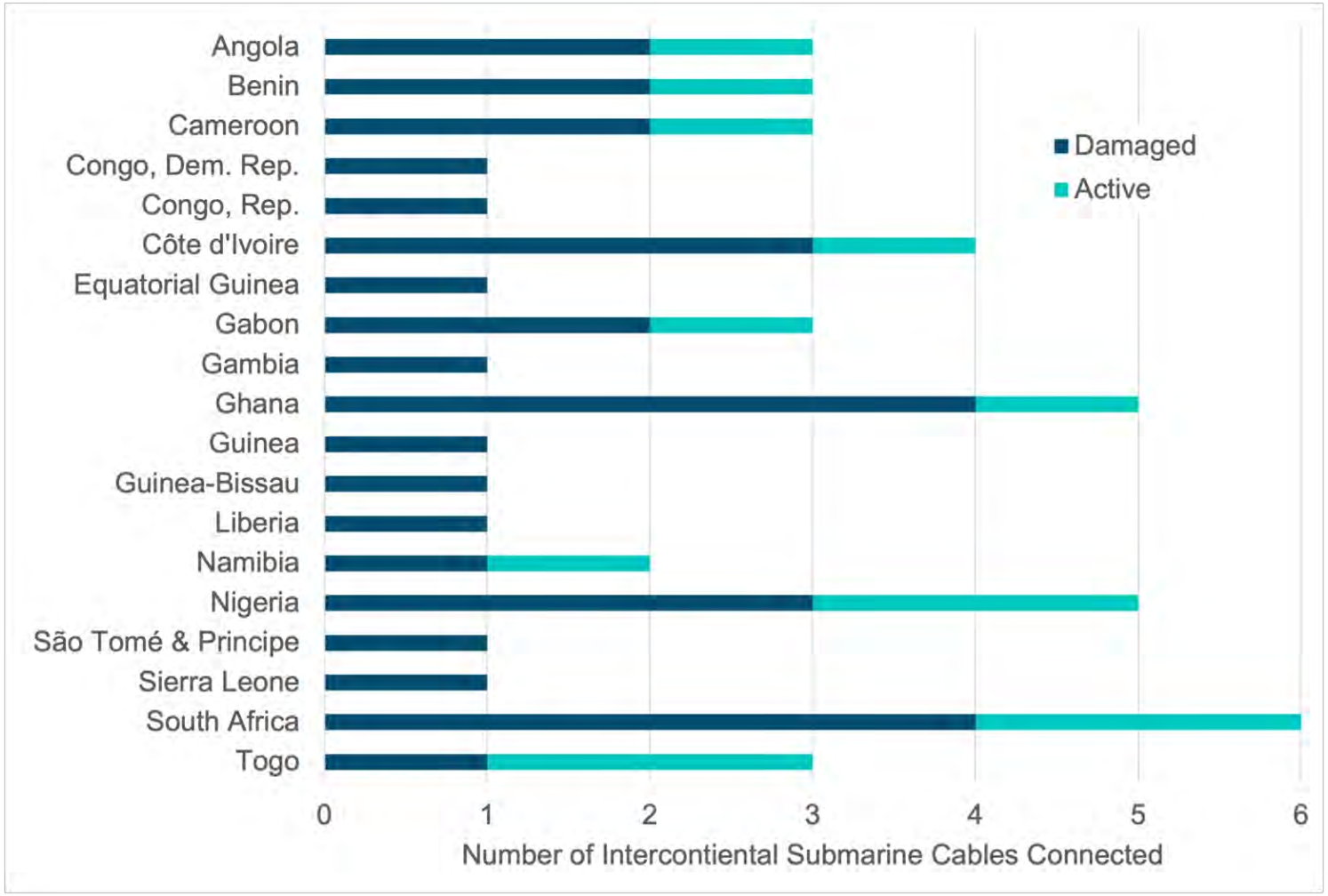
# Planned & recent sub cable landings



- Highest number of planned landings in East/NE
  - More concentrated—in just 3 locations
- West has similar number of landings but spread out among more than 12 countries
- South Africa has 5 different locations

Source: TeleGeography, Transport Networks

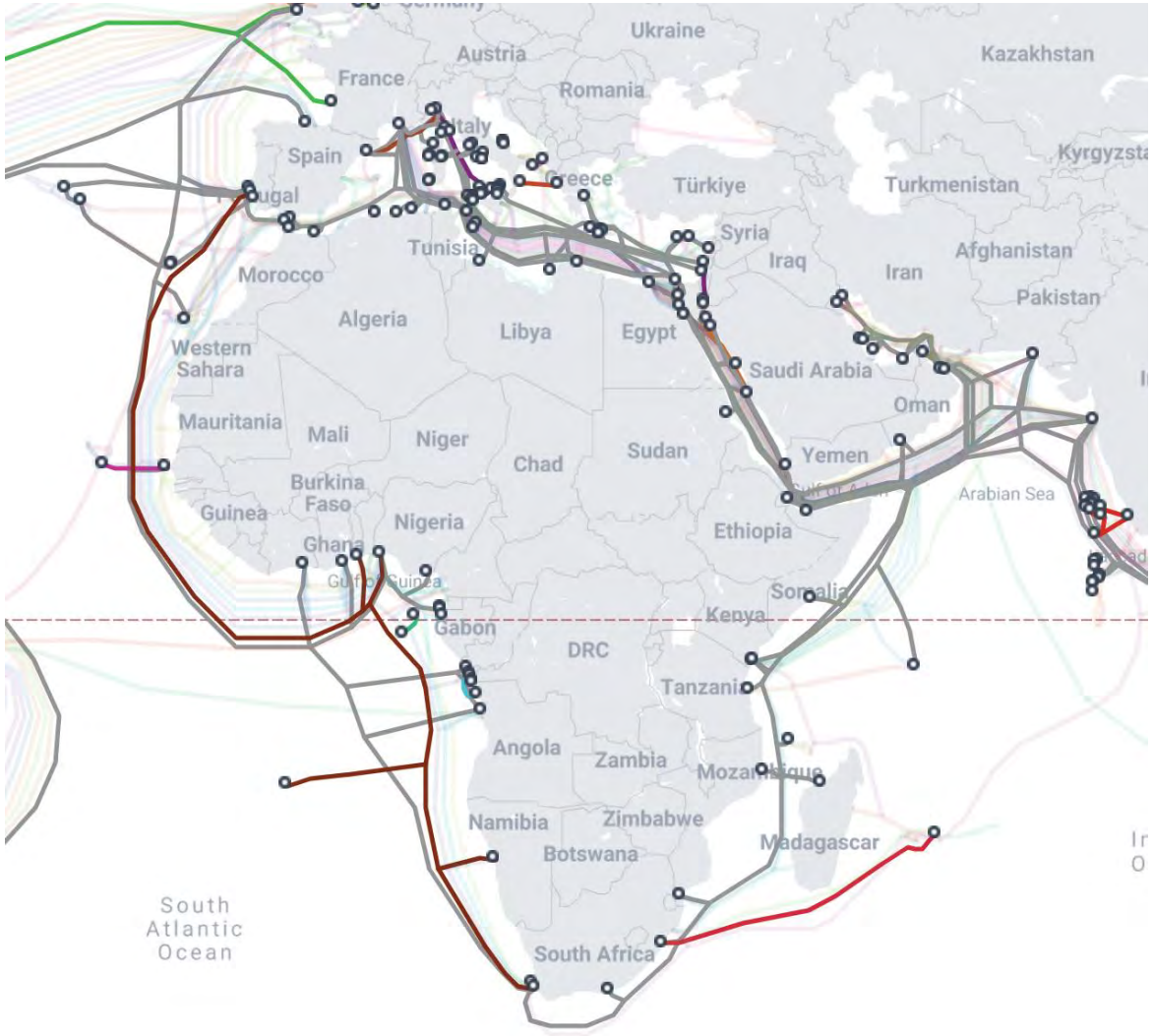
# Planned & recent sub cable landings




- Not long after cuts in Red Sea, west side affected by cables cut Cote d'Ivoire
- ACE, MainOne, SAT-3, WACS were affected (Glo-1, MTWA, Equiano were not)
- Many west African countries only had a single cable (ACE) so lost subsea connectivity

Source: TeleGeography, Transport Networks

# Planned & recent sub cable landings

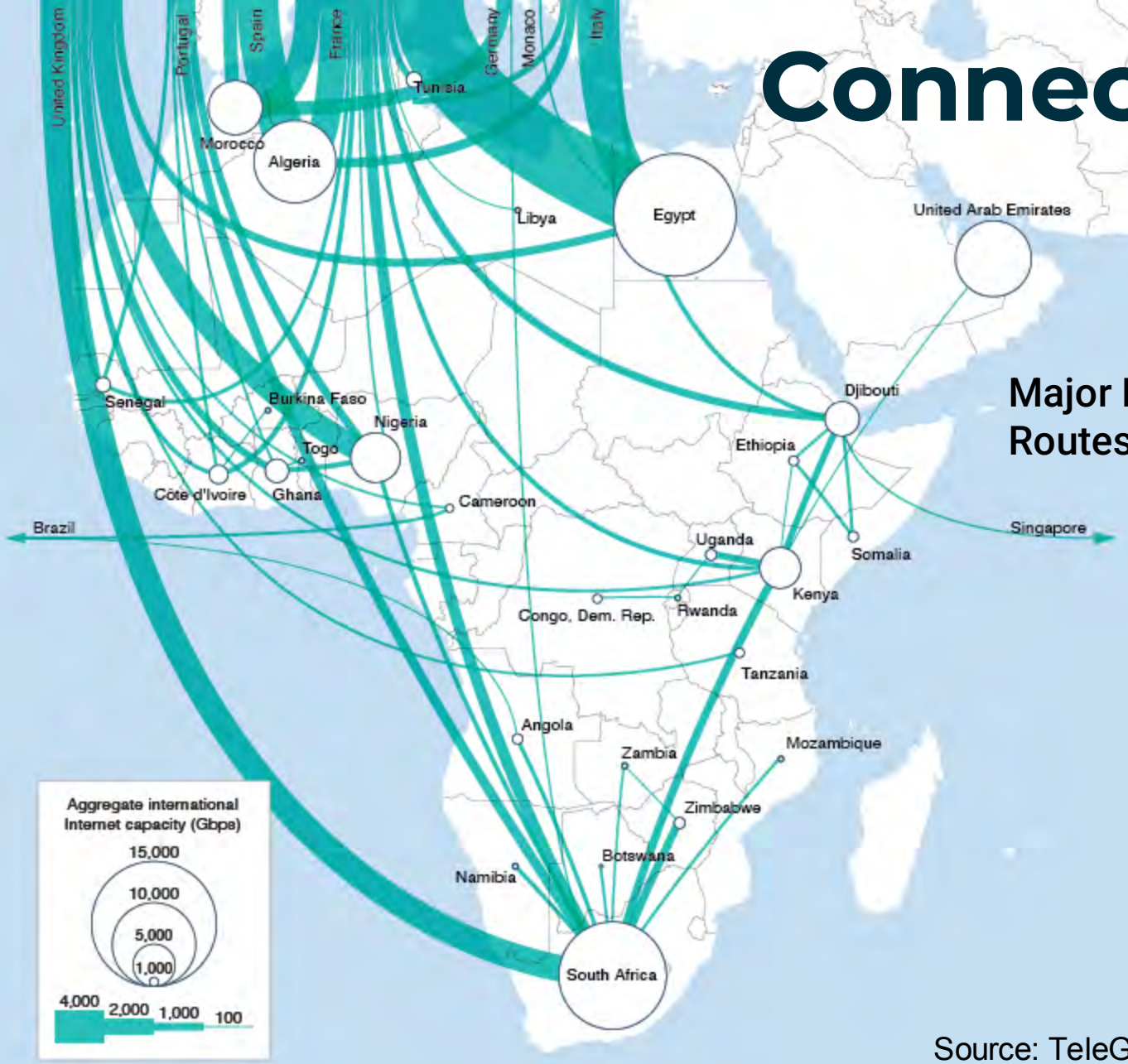



- **Equiano (2023)** – NG, NA, TG, ZA
- **2Africa (2024)** – 33 African, ME, Europe & South Asia
- **Africa-1 (2024)** – Egypt, Saudi Arabia, UAE, Djibouti, Kenya, PK
- **Raman (2025)** Saudi Arabia, Jordan, Oman, Djibouti, India
- **Blue (2024)** – Jordan, Israel, Cyprus, Greece, IT, FR
- **IEX (2024)** – Saudi Arabia, Djibouti, Egypt, Oman, India, Italy
- **Medusa (2025)** – N Africa + S Europe
- **SeaMeWe-6 (2025)** – EG, DJ, SA, PK, LK, IN, BD, MY, SG, FR
- Umoja (no rfs given) –

Source: TeleGeography, Transport Networks

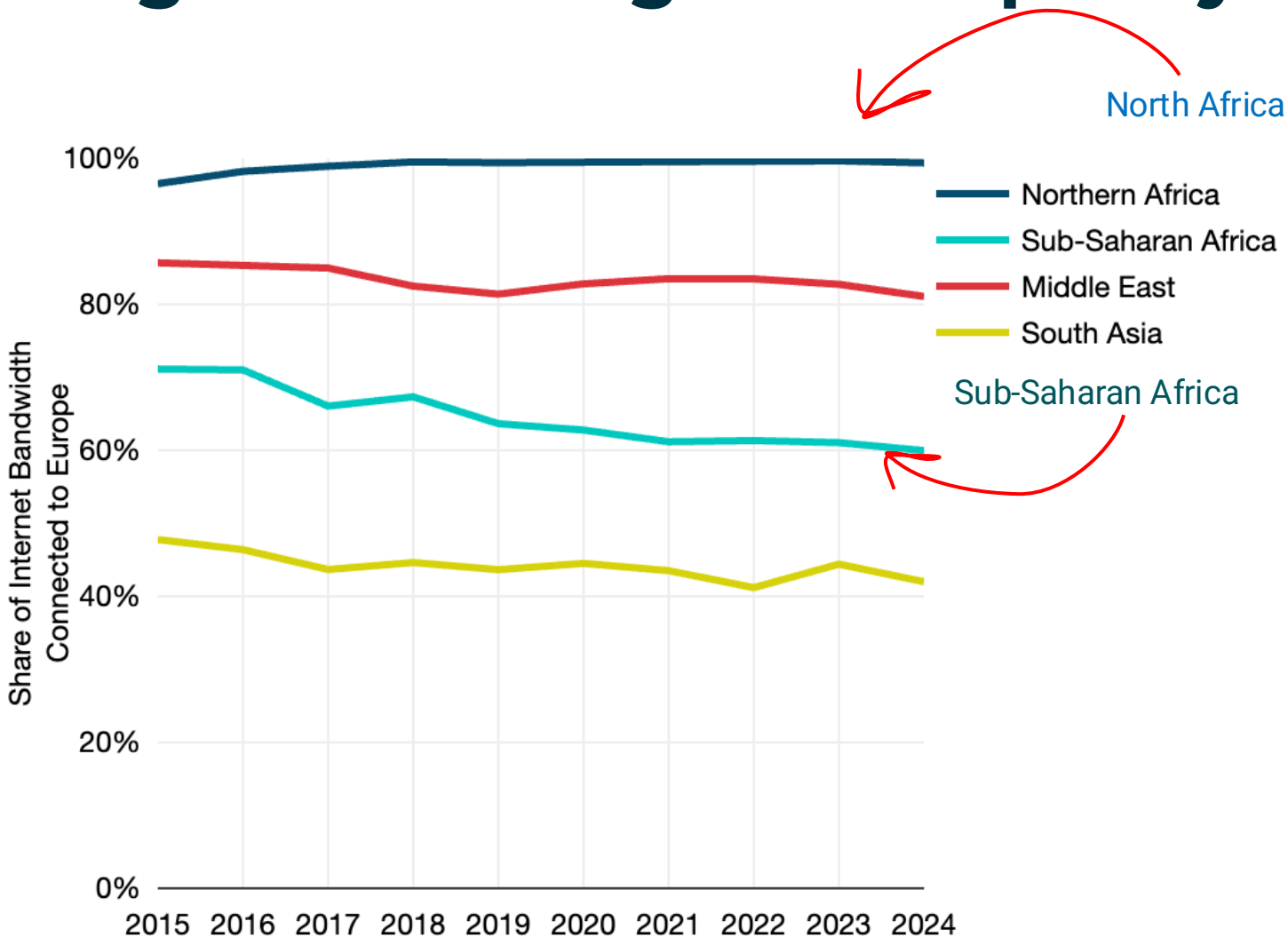
# Connecting to Europe

## Major International Internet Routes in Africa, 2024




Source: TeleGeography, Transport Networks

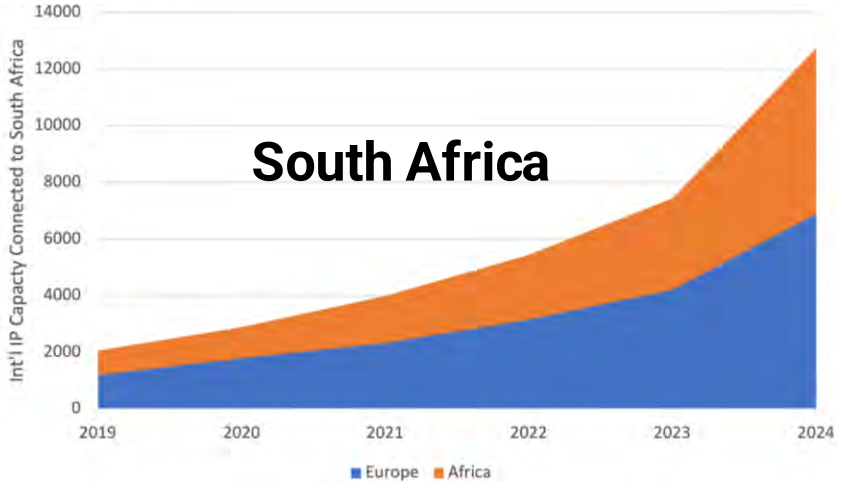
# Changes in Subregional Capacity Connected to Europe

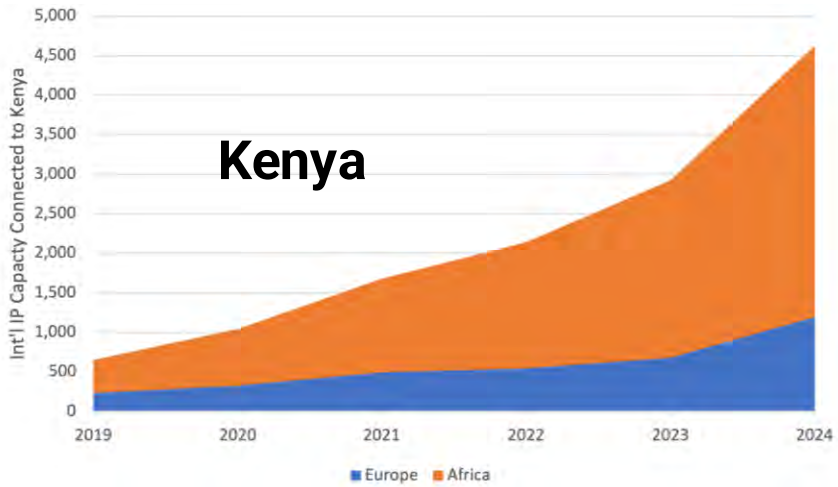


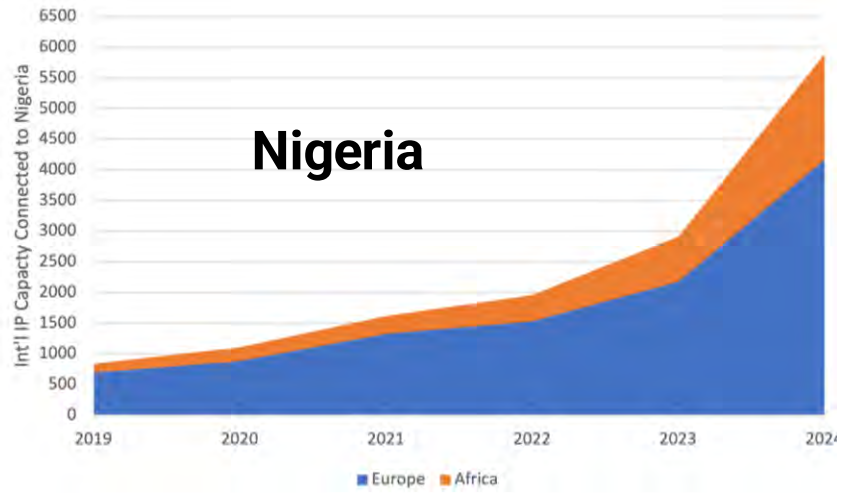

- Total Africa-Europe connectivity has hovered around 80% for the past 5 years
- North Africa's international connectivity is almost 100% to Europe
- While Sub-Saharan Africa's share of connectivity to Europe has dropped to about 60%

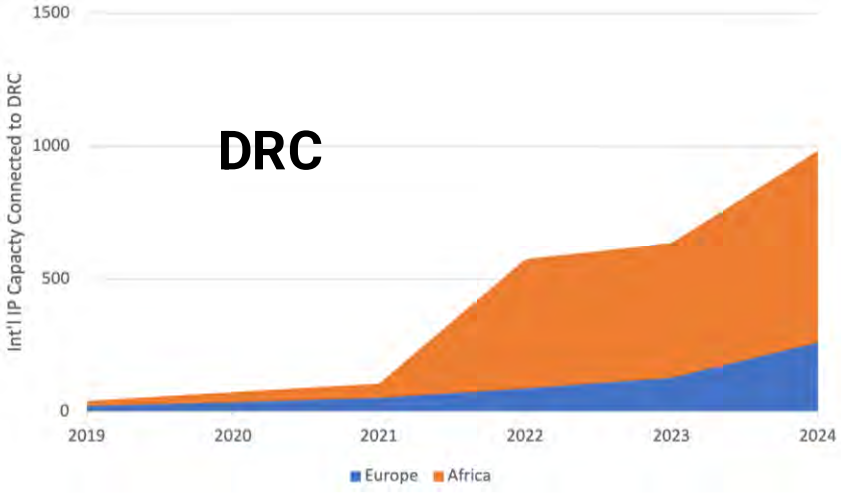
Source: TeleGeography, IP Networks

# Int'l IP capacity connected to ZA, Kenya, Nigeria & DRC



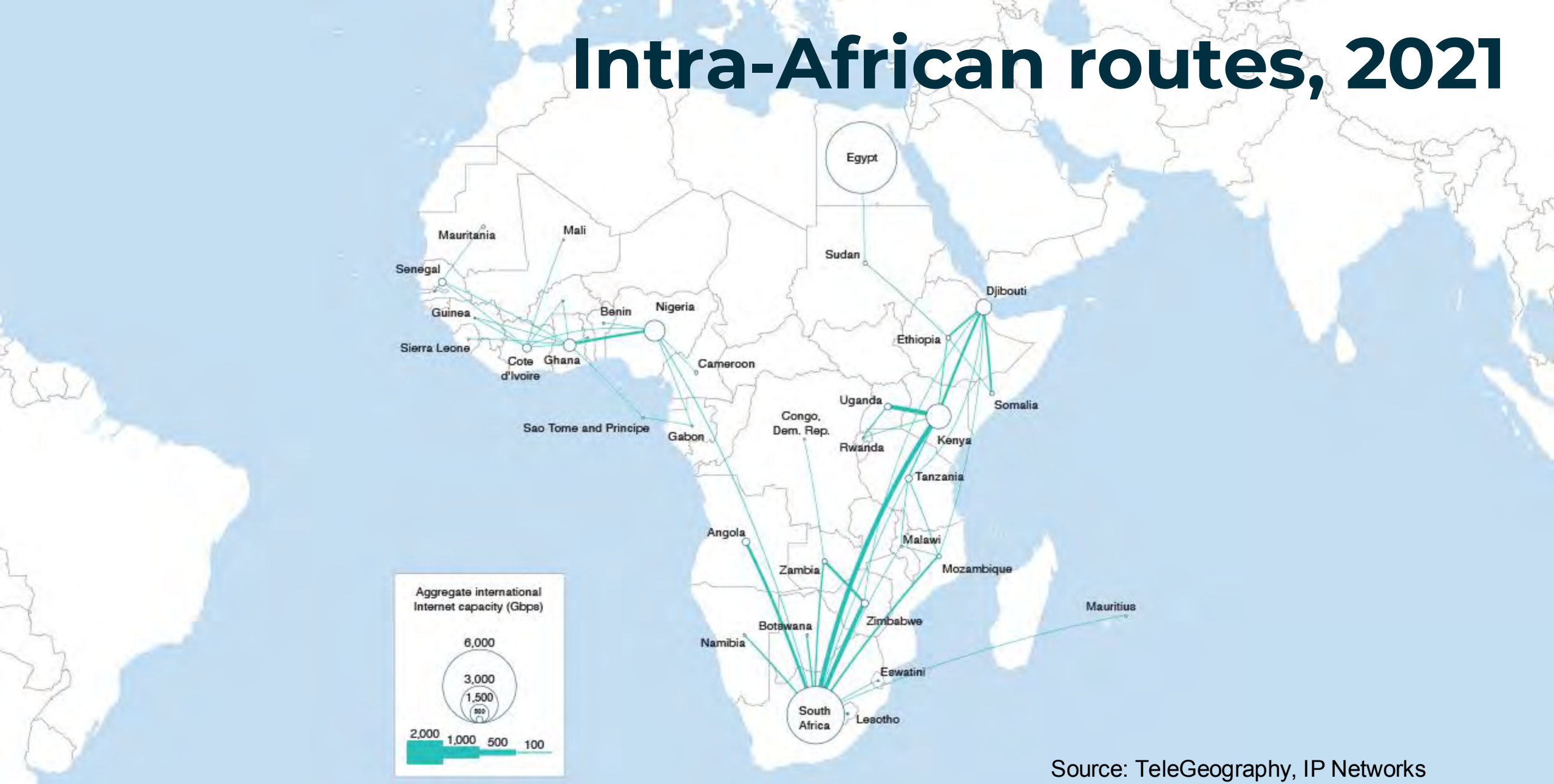




Source: TeleGeography, IP Networks

# Intra-African routes, 2021

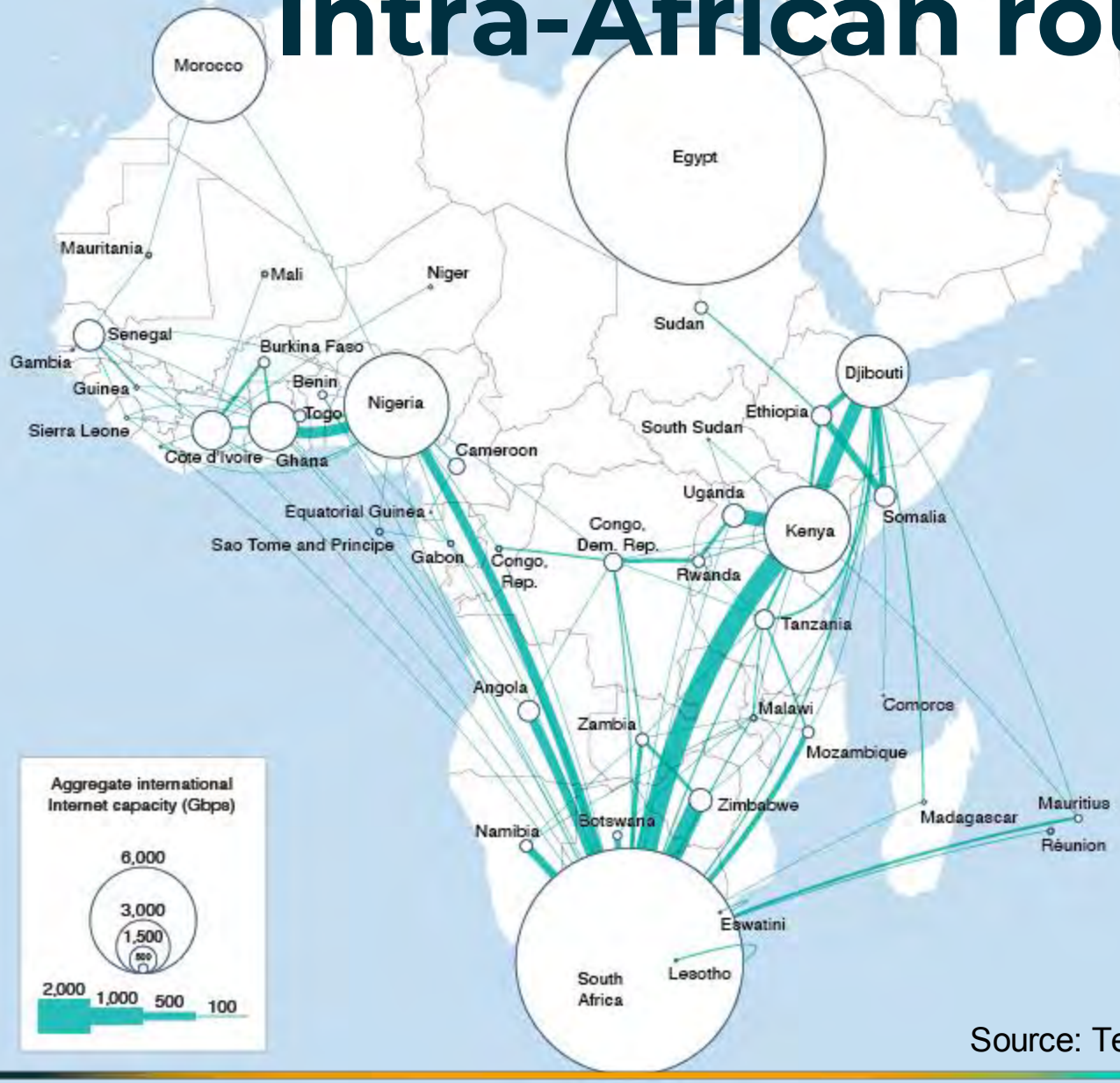



Source: TeleGeography, IP Networks

# Intra-African routes, 2023


Source: TeleGeography,IP Networks

# Intra-African routes, 2024

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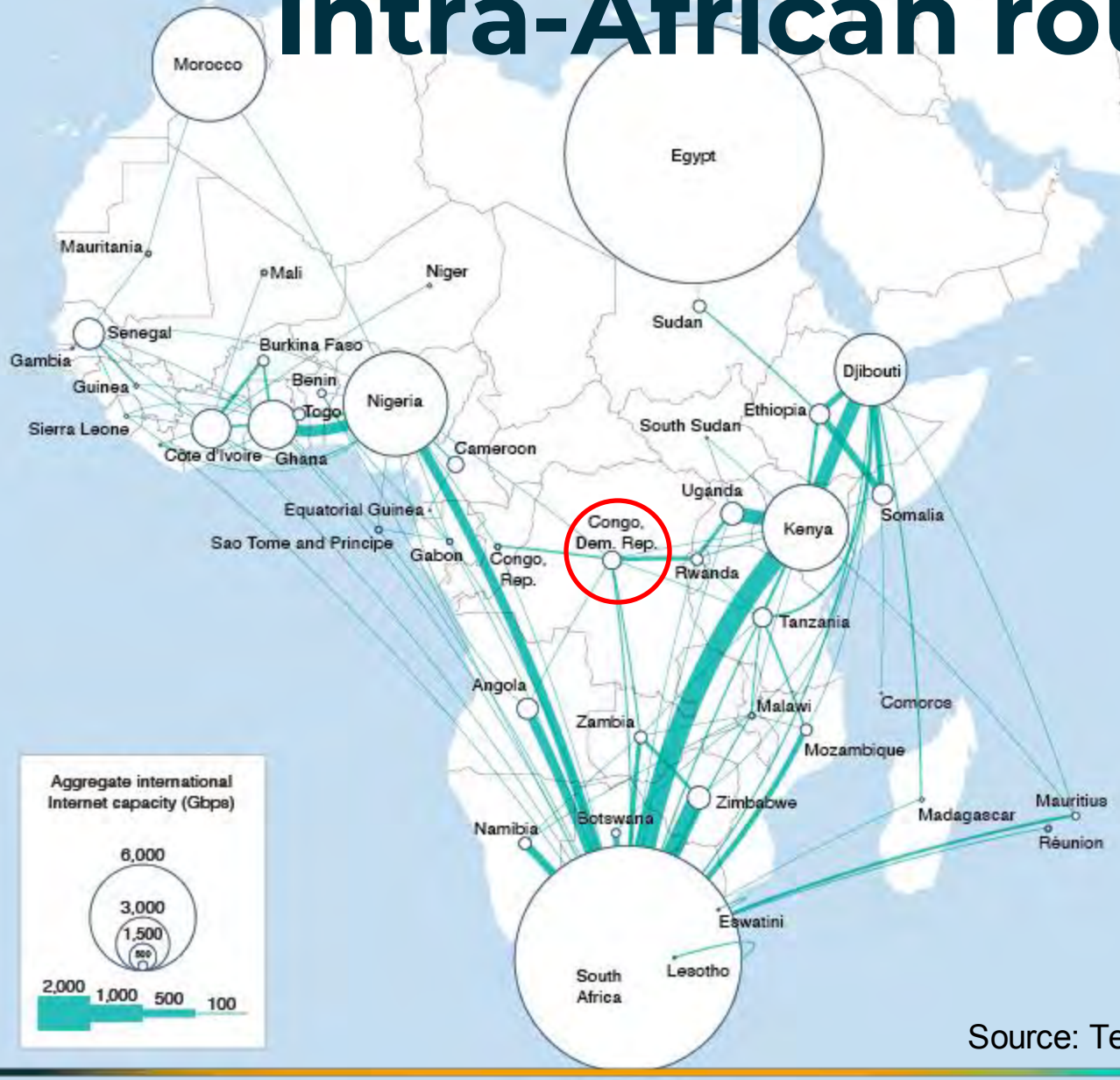
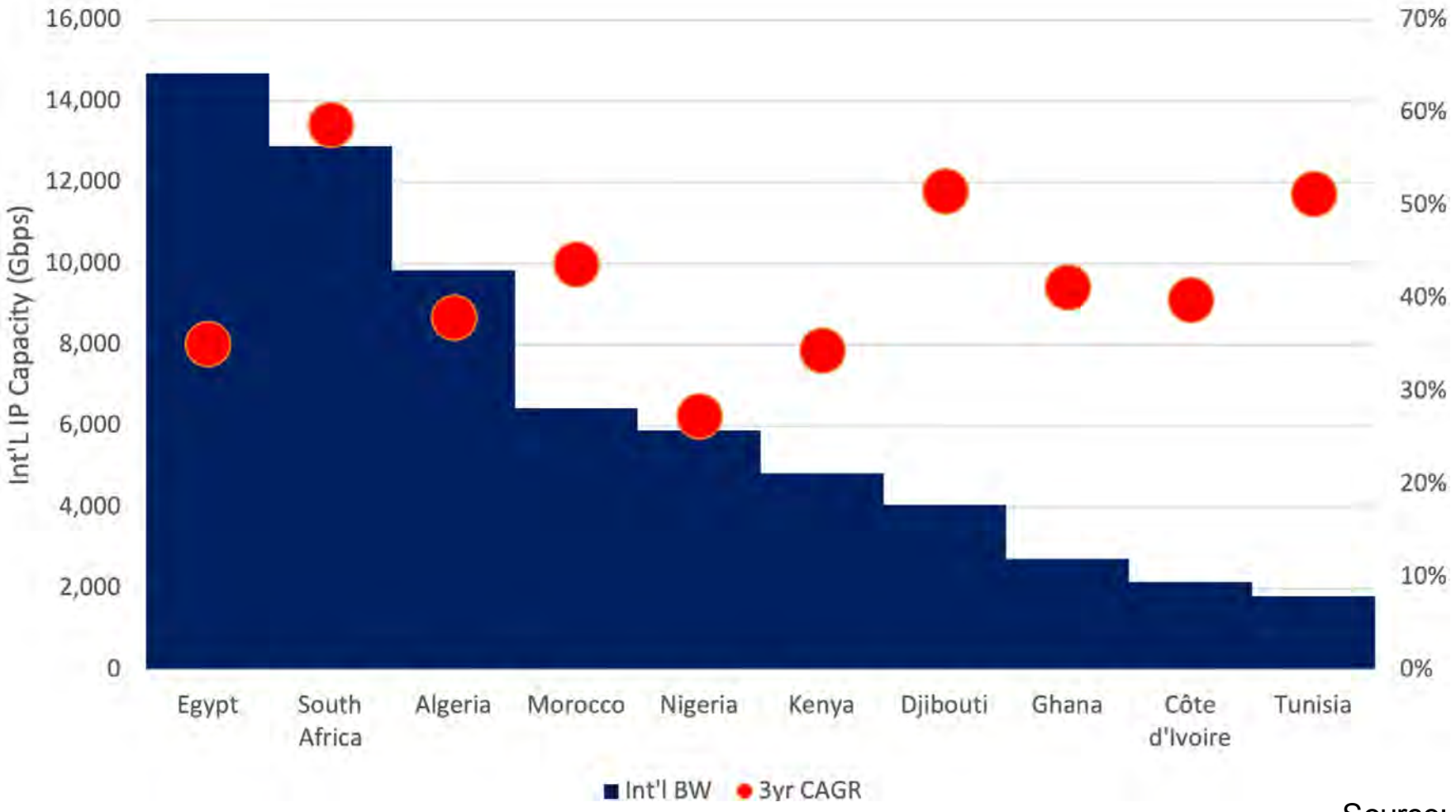



Source: TeleGeography, IP Networks

# Top 10 countries int’l IP capacity in Africa

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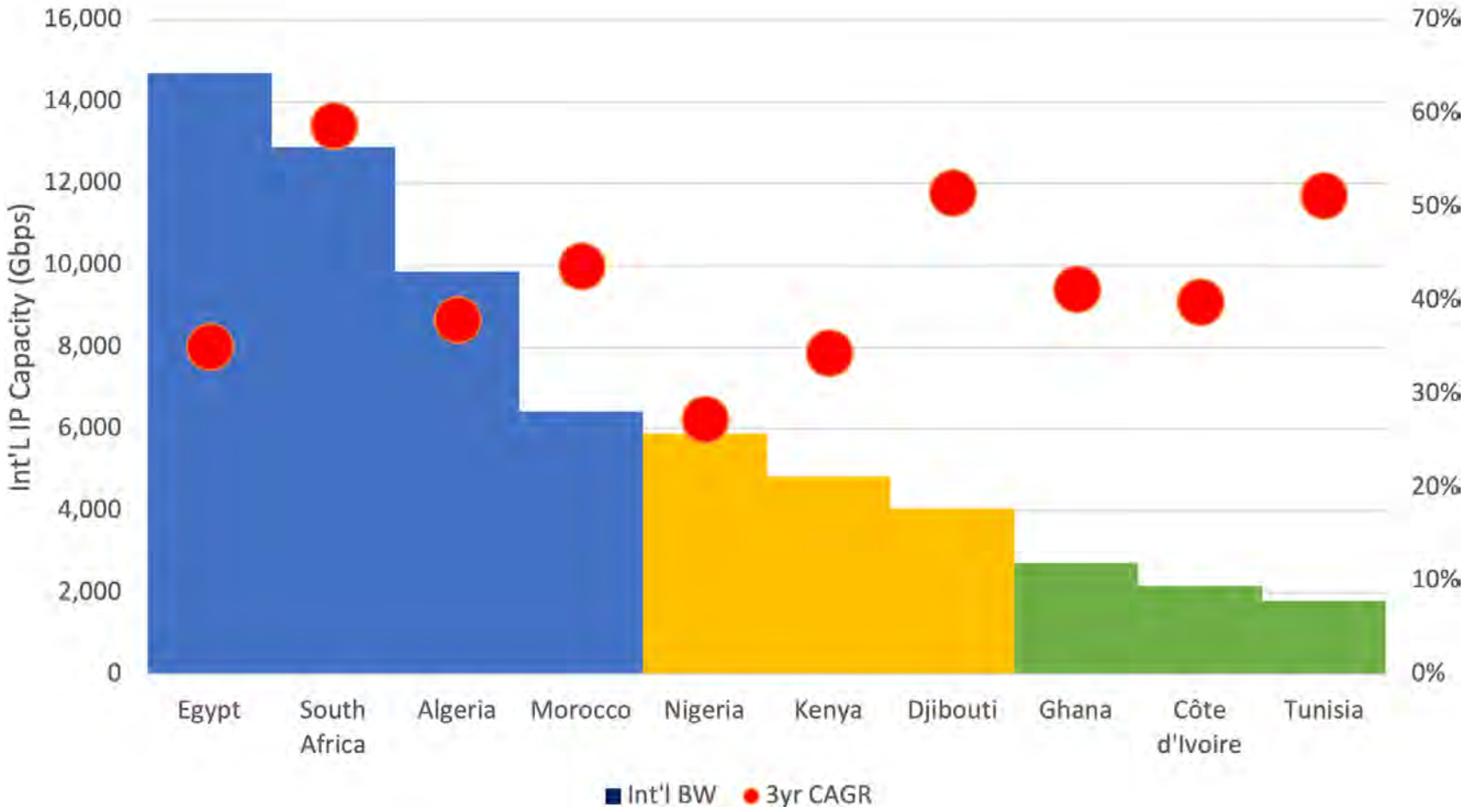
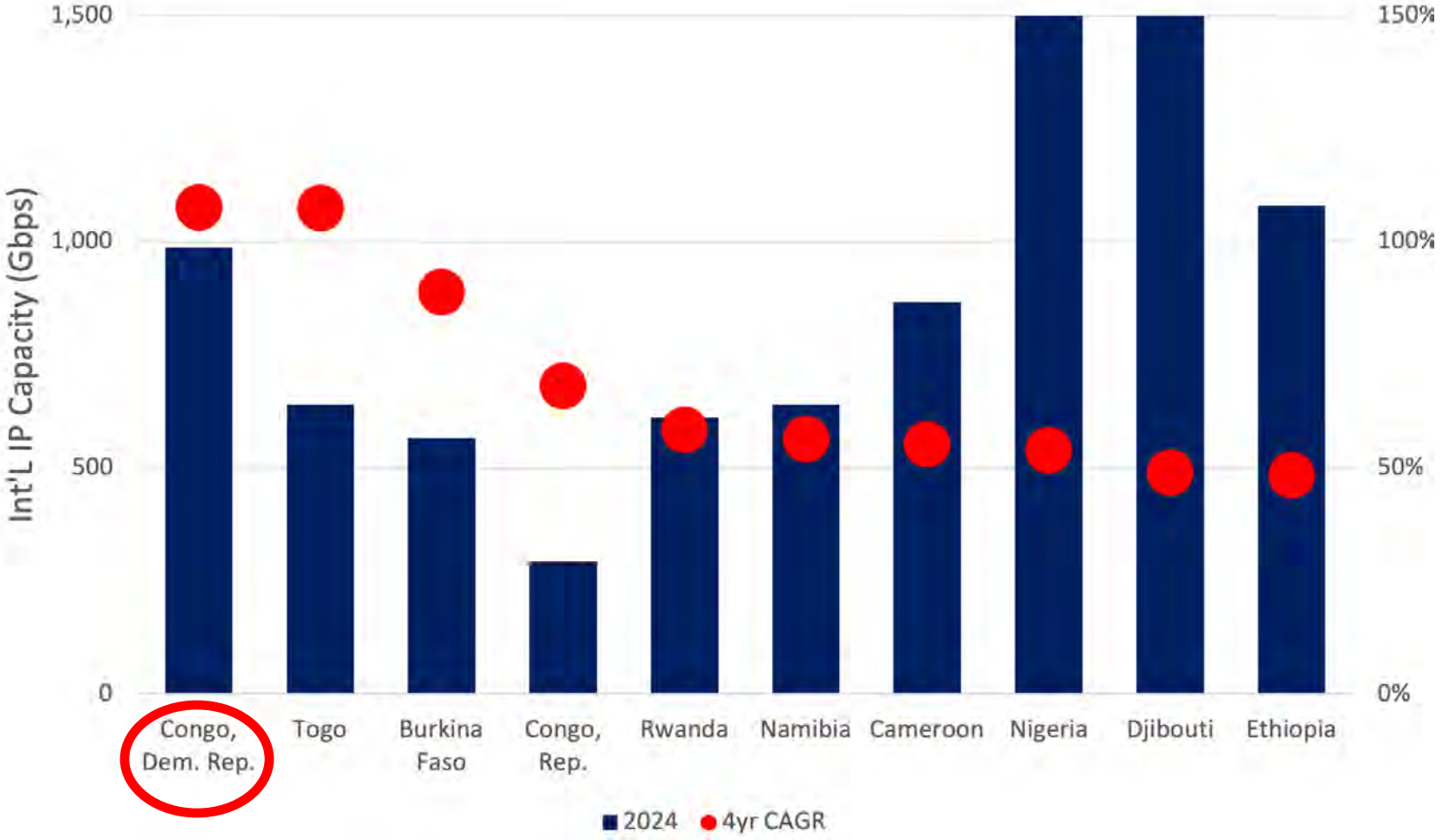



Three groups:

- North African + ZA – a lot of int'l capacity to Europe
- Second group - major hubs connecting Europe and Africa
- Third group – growing hubs for sub-Saharan Africa + Tunisia

Source: TeleGeography, IP Networks

# Int'l IP capacity growth of African countries

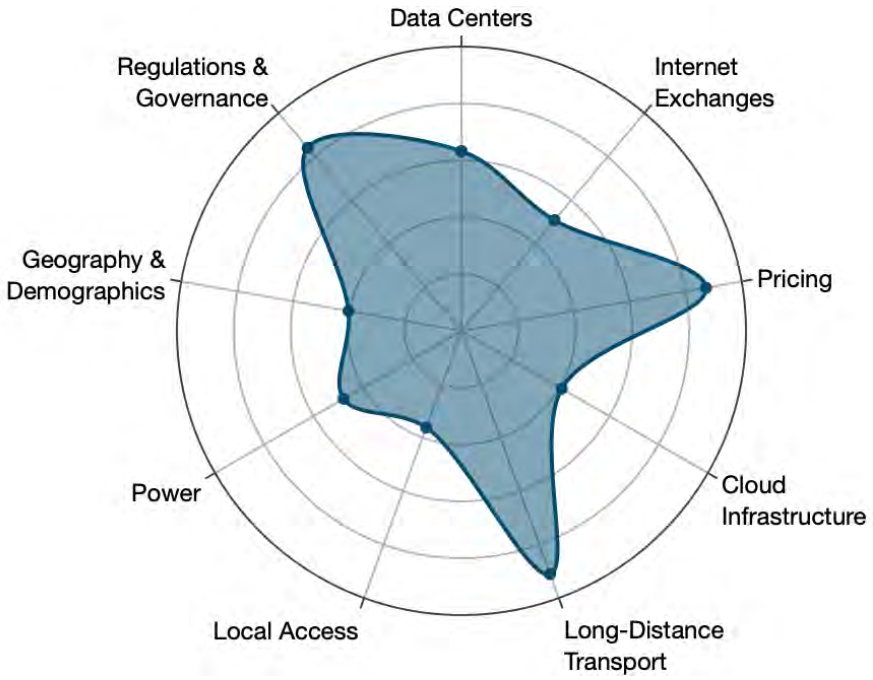


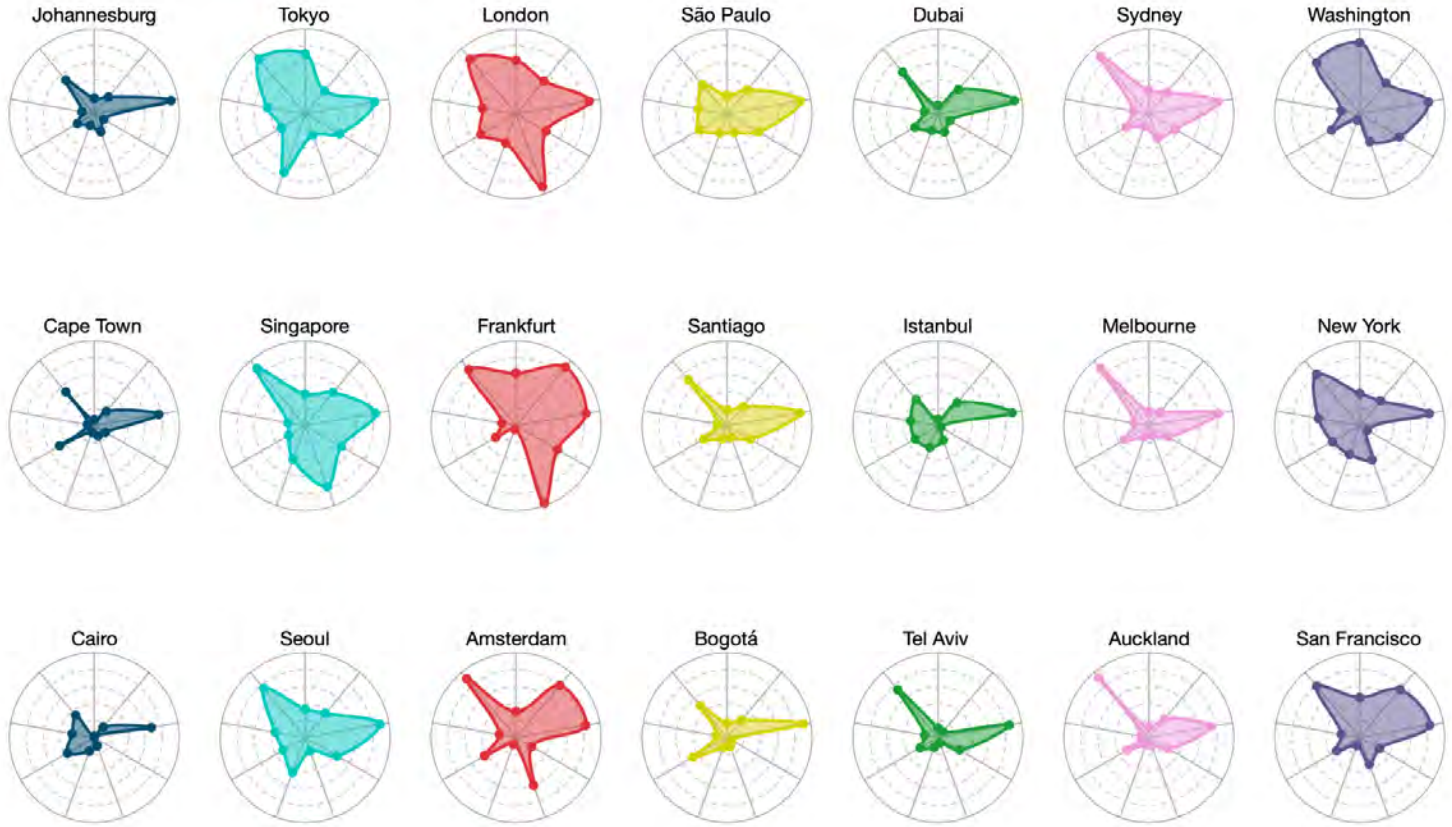

- DRC and Togo, experiencing more than 4y CAGR of 100%

# Data sets for each interconnection hub

- Data Centers
  - Data center infrastructure
  - Internet exchange infrastructure
- Network Connectivity
  - Cloud infrastructure
  - Long-distance internet
  - Long-distance transport
  - Pricing
- Market Potential
  - Geography and demographics
  - Local access
  - Power
  - Regulations and governance

# Top 3 hubs in each region




Source: TeleGeography, Data Centers

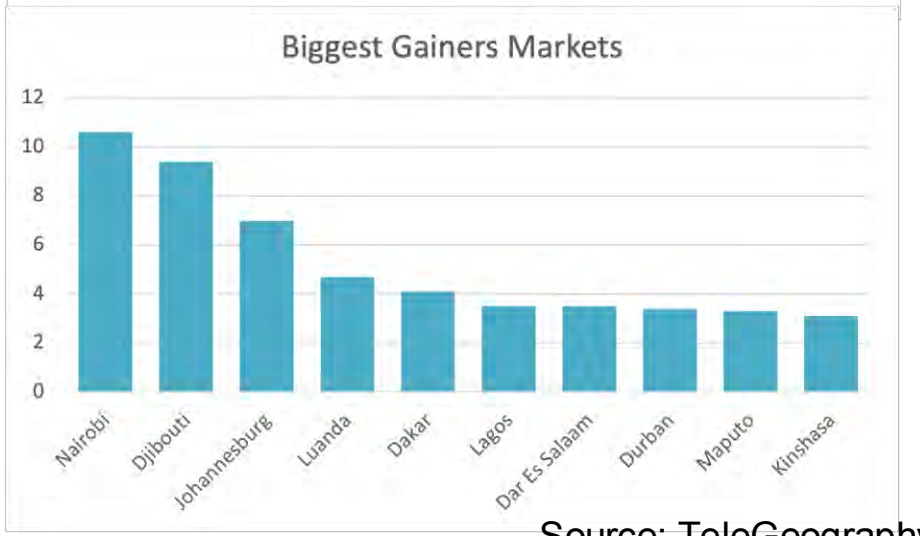
# African connectivity hubs

## Top ranking

- Johannesburg
- Cape Town
- Cairo
- Nairobi
- Lagos

## Biggest gainers

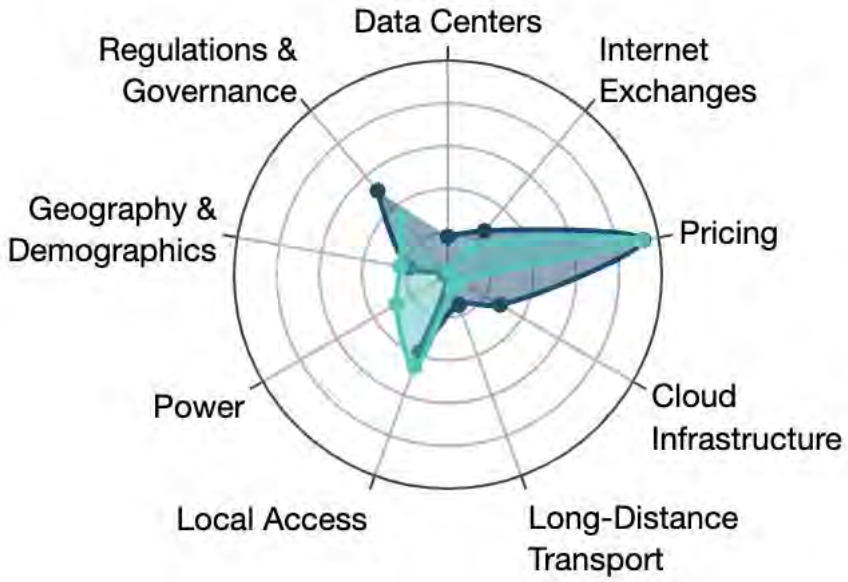
- Nairobi
- Djibouti
- Johannesburg
- Luanda
- Dakar

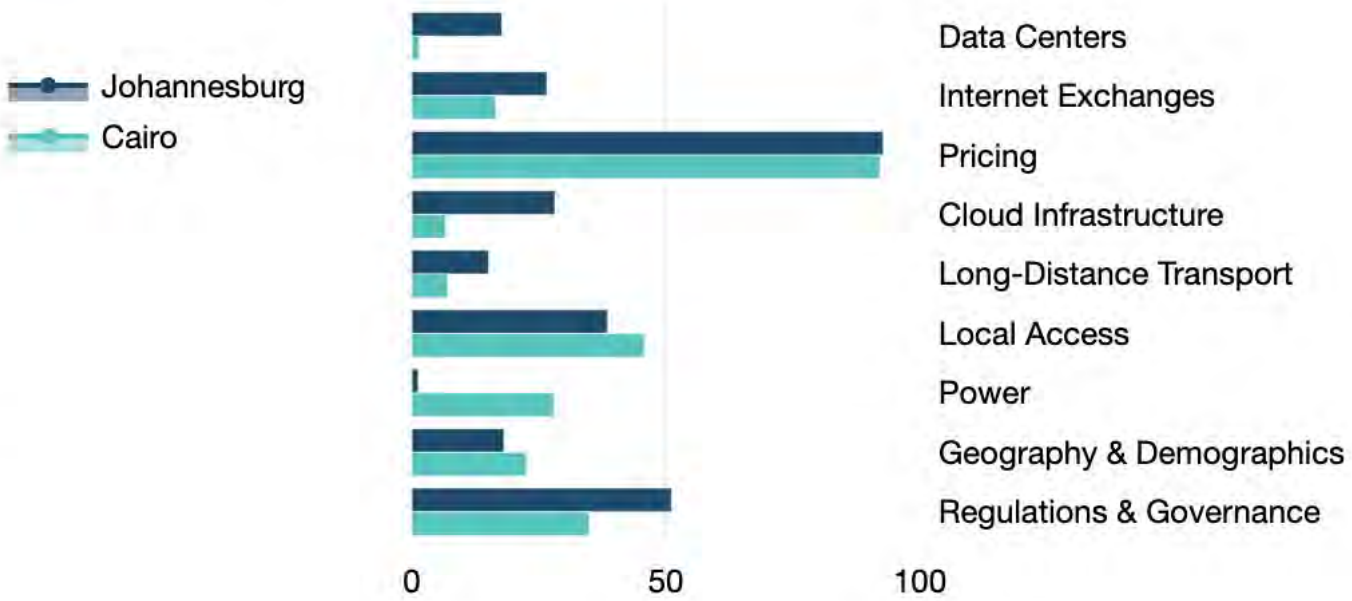




Source: TeleGeography, Data Centers

# African interconnection hubs

## Johannesburg vs. Cairo

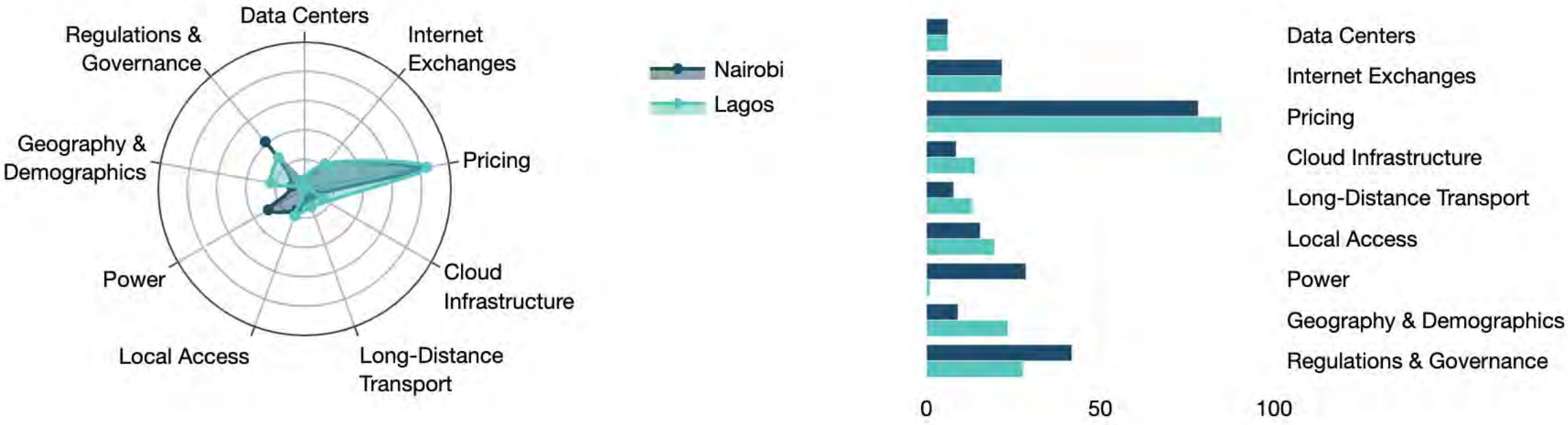



Source: TeleGeography, Data Centers

# African interconnection hubs

## Nairobi vs. Lagos



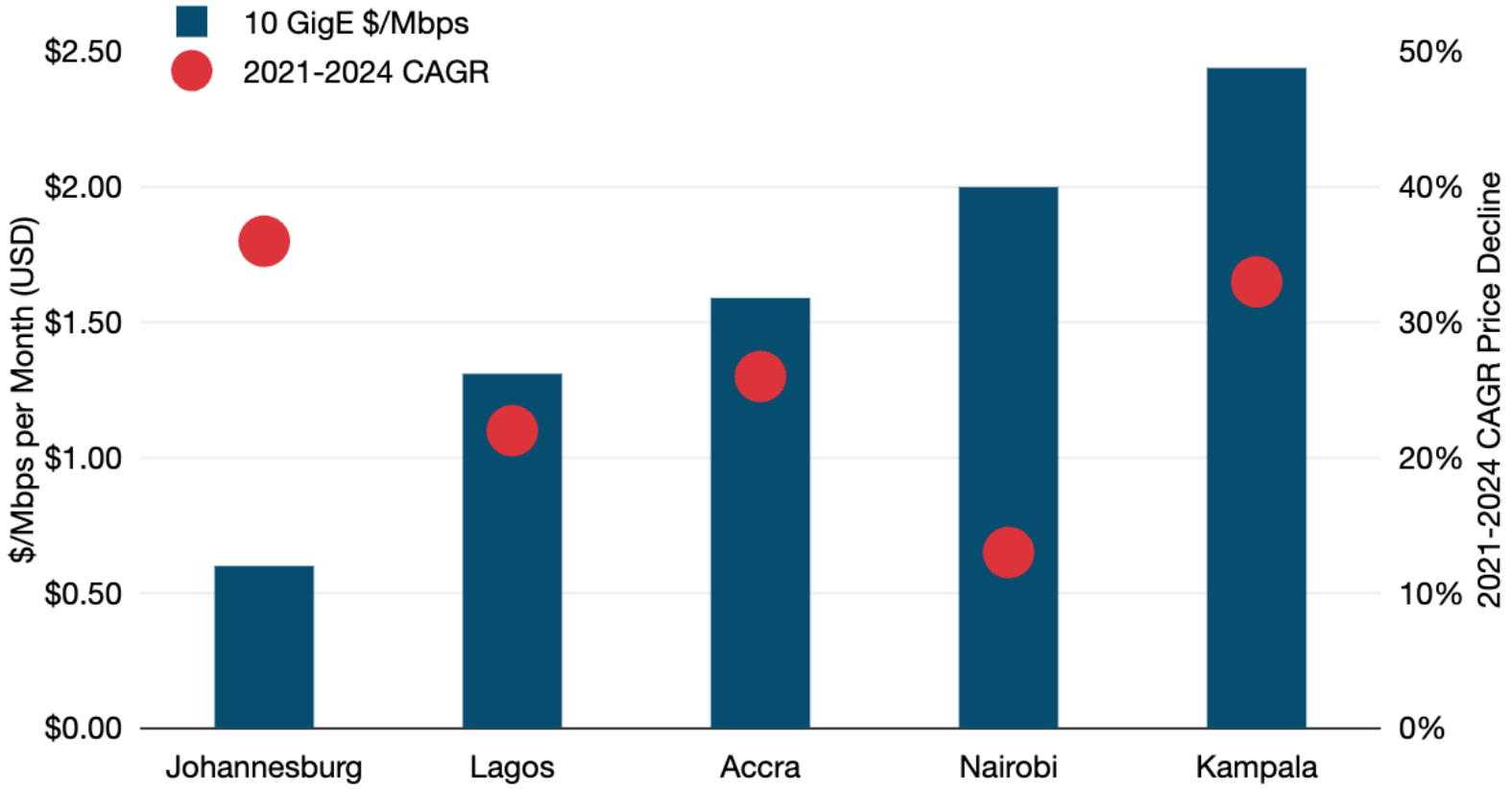

Source: TeleGeography, Data Centers

# Africa’s cloud scene


- 7 live and 4 planned cloud regions
- South Africa most regions with 5
- Most recent in Joburg (5 in Joburg, 2 in Cape Town)
- Planned regions in Kenya and Morocco

Source: TeleGeography, Cloud and WAN

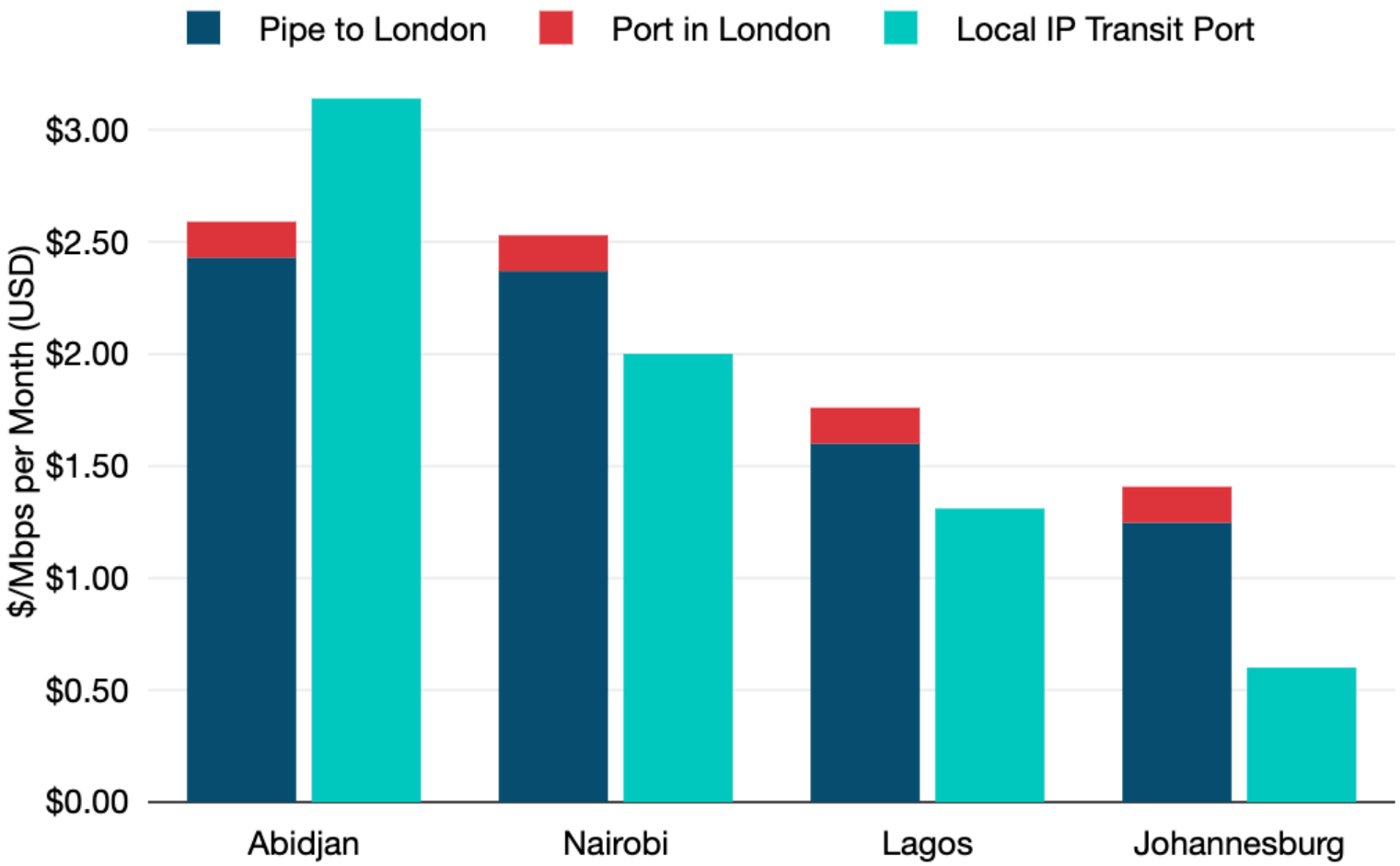
# 10 GigE IP Transit Prices in Africa




- West Coast cities, such as Accra and Lagos, had the highest rates of price erosion.
- East Coast price erosion is more muted. Higher transport costs to Europe and added backhaul costs affect IPT costs
- Inland routes still highest, but starting to experience higher price erosion

Source: TeleGeography, IP Networks

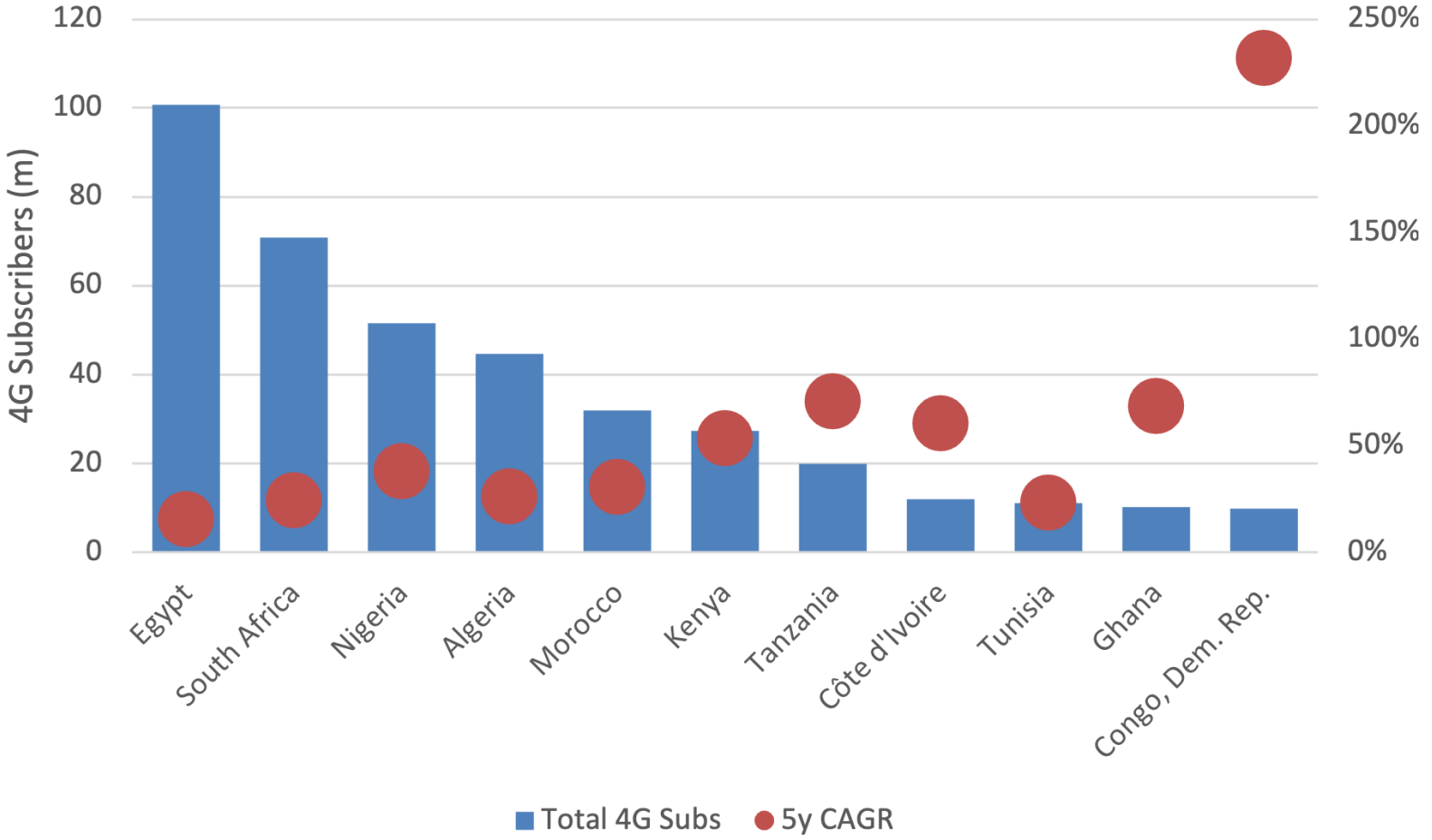
# Pipe and Port versus Local IP Transit Prices




- 3 cities local IP transit was 25% cheaper than pipe and port.
- 5 years ago it was ~25% more expensive to purchase local IPT

Source: TeleGeography, IP Networks

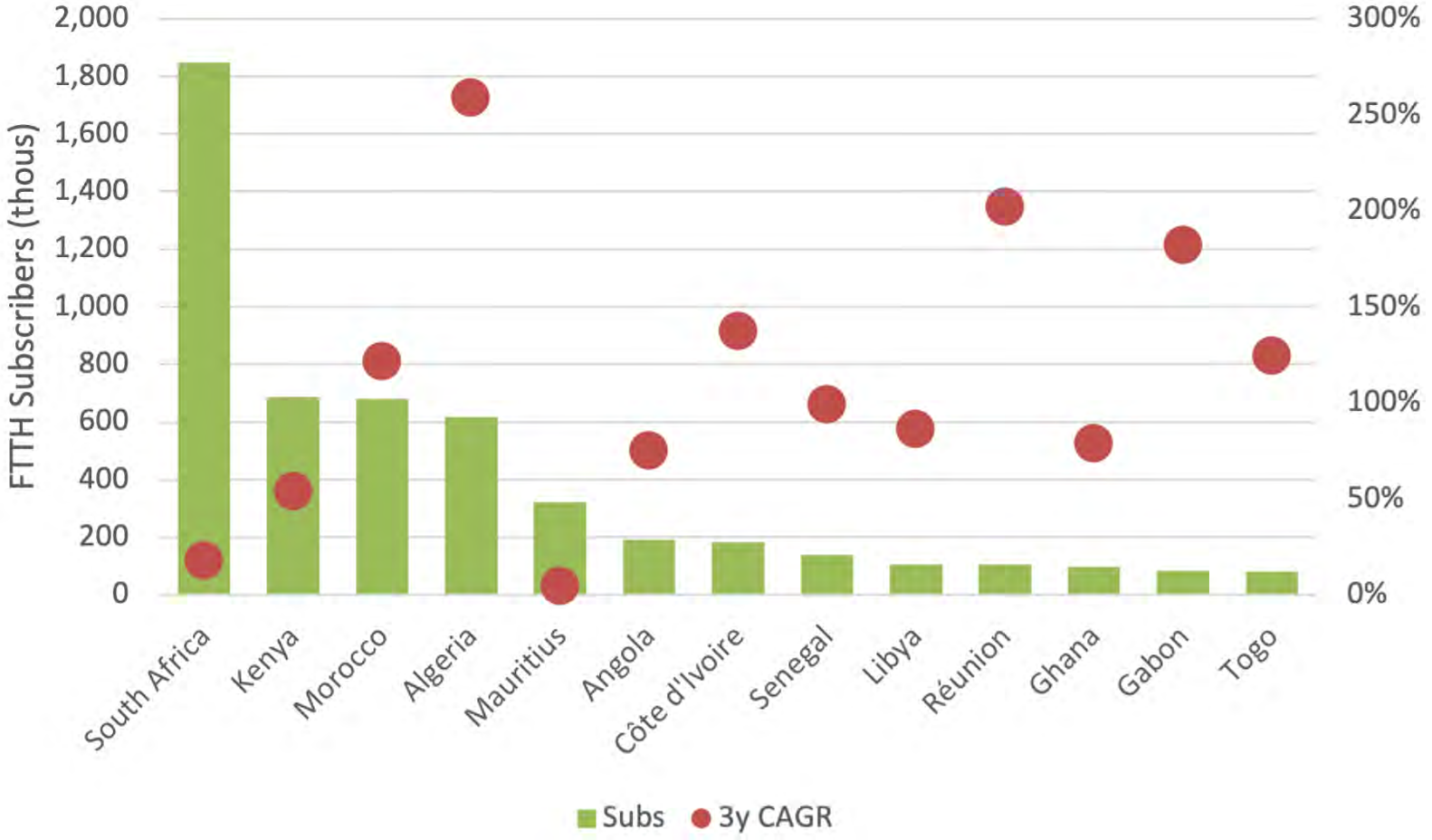
# Top 10 African 4G Markets (subscribers)




- Only 31% of all mobile subs in Africa are 4G (ROW around 60%)
- Largest most mature 4G markets have slowest growth
- North African countries and South Africa have largest subscriber bases but lower growth
- DRC stands out with over 200%
- Kenya, Tanzania, Cote d"Ivoire and Ghana have between 50-100% growth

Source: TeleGeography, GlobalComms

# FTTH Growth by Country (subscribers)

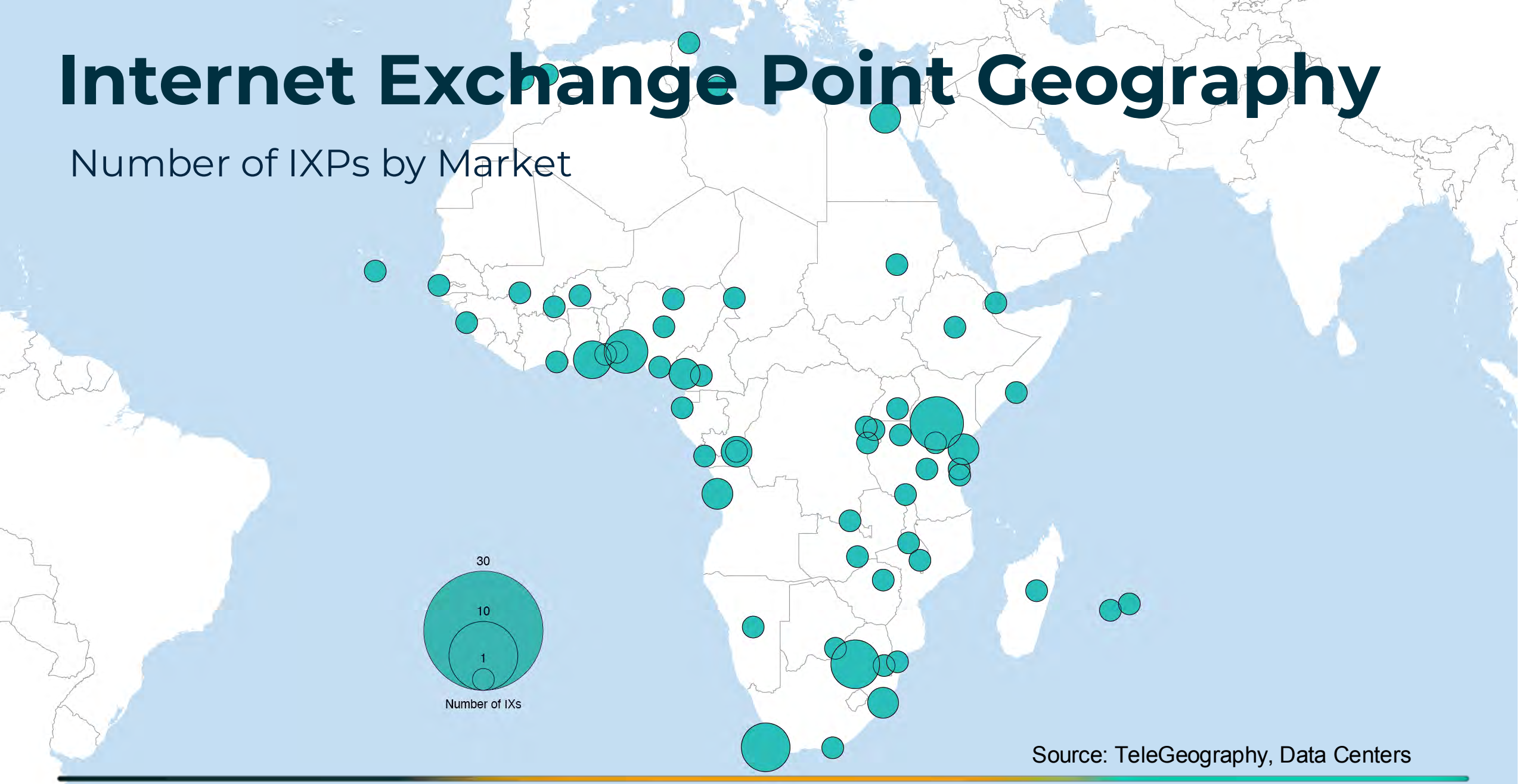



- South Africa dominates in FTTH, but also a mature market and low growth rate
- Most countries growing at at least 50% - Kenya, Angola, Senegal, Libya and Ghana
- Many growing at above 100% - Cote d'Ivoire, Gabon, Togo

Source: TeleGeography, GlobalComms

# Internet Exchange Point Geography

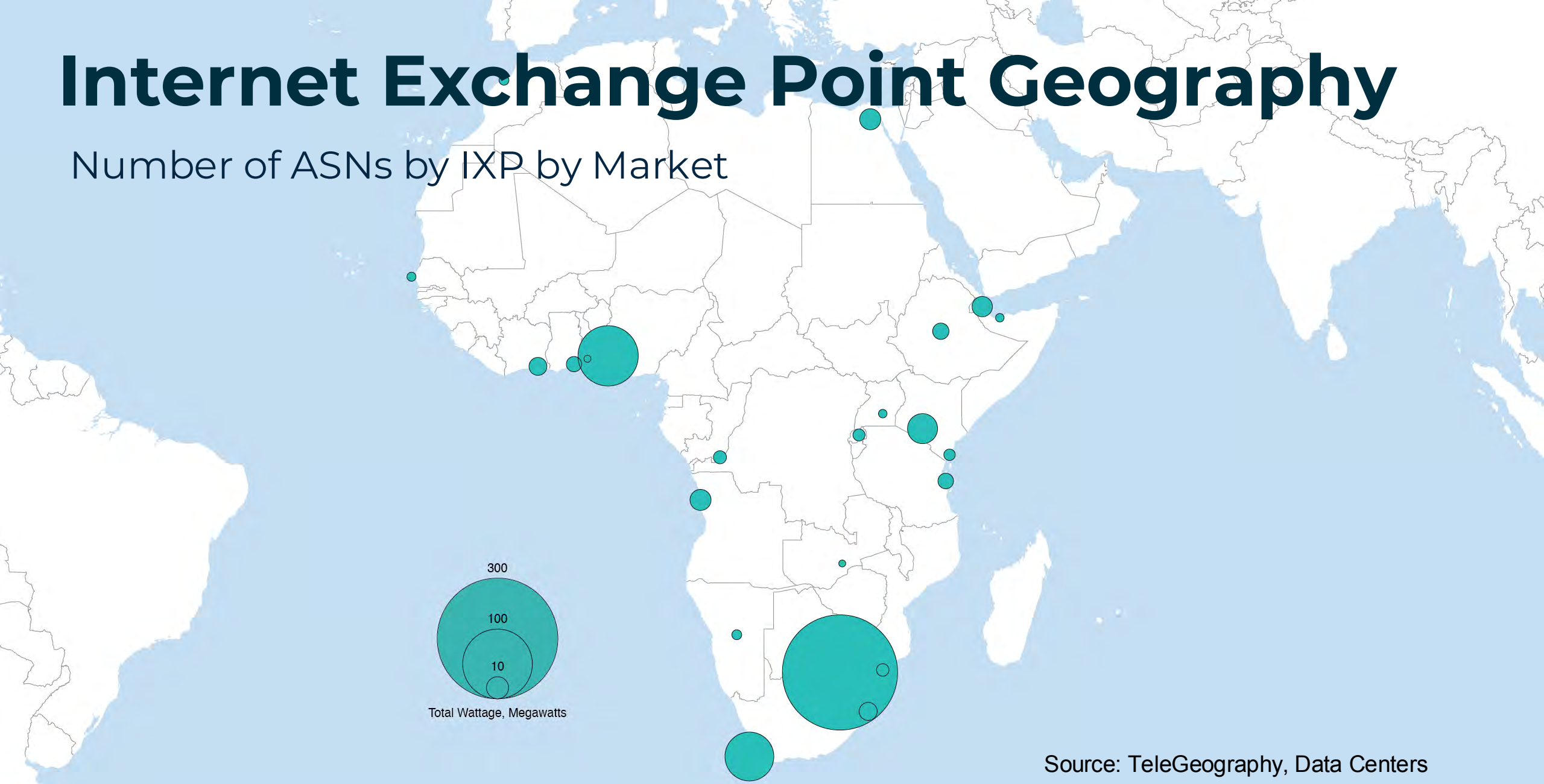
## Number of IXPs by Market




Source: TeleGeography, Data Centers

# Internet Exchange Point Geography

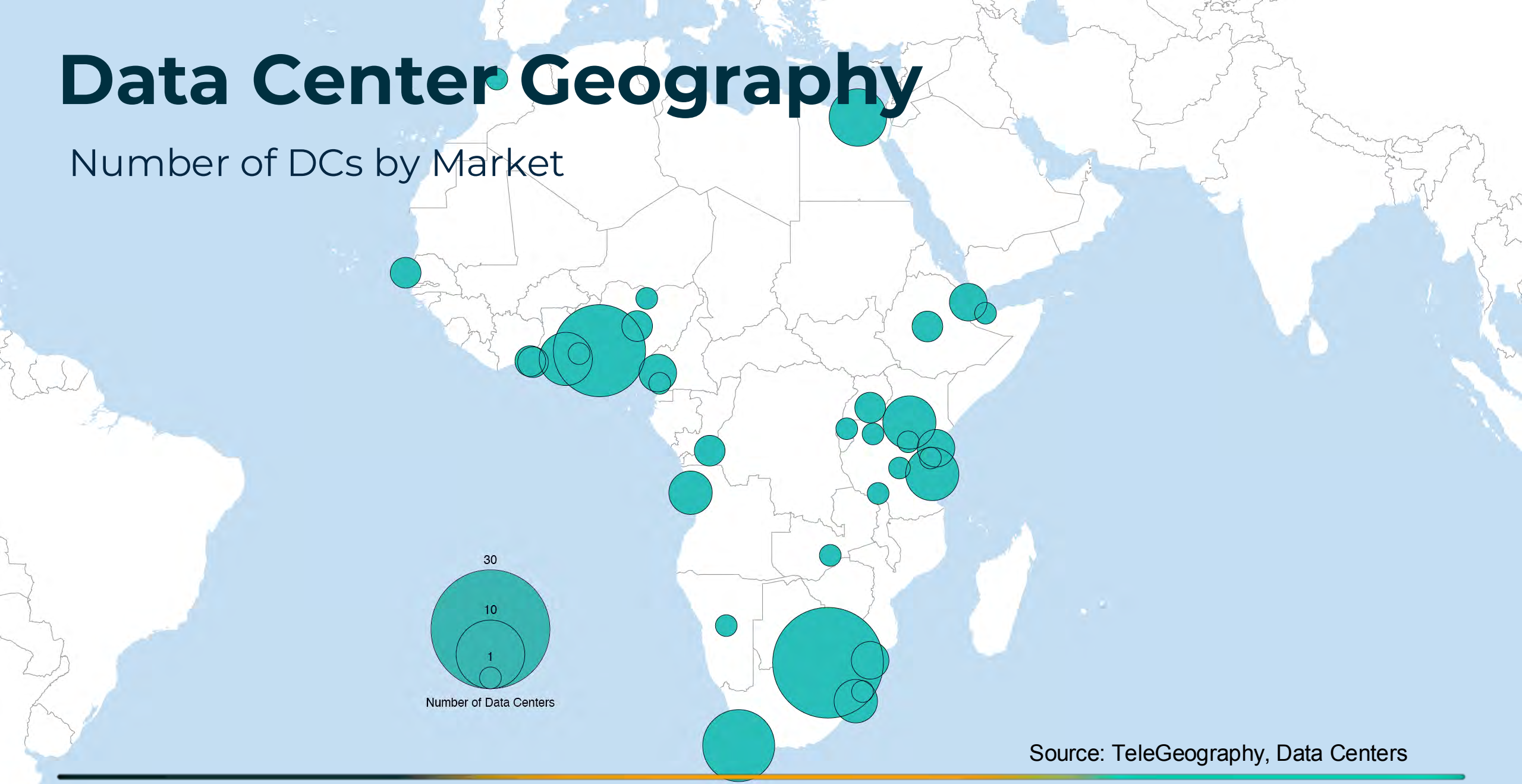
## Number of ASNs by IXP by Market




Source: TeleGeography, Data Centers

# Data Center Geography

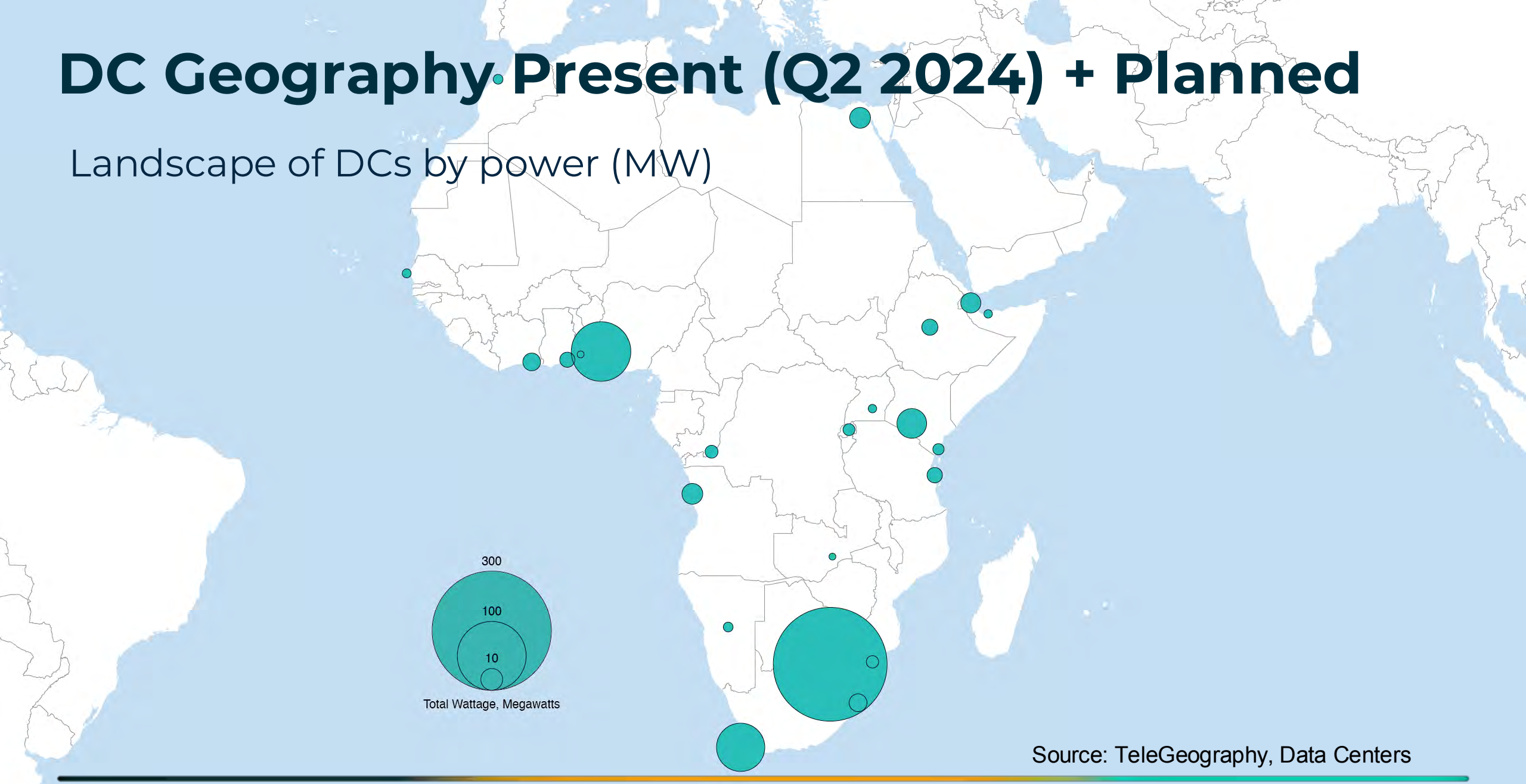
## Number of DCs by Market




Source: TeleGeography, Data Centers

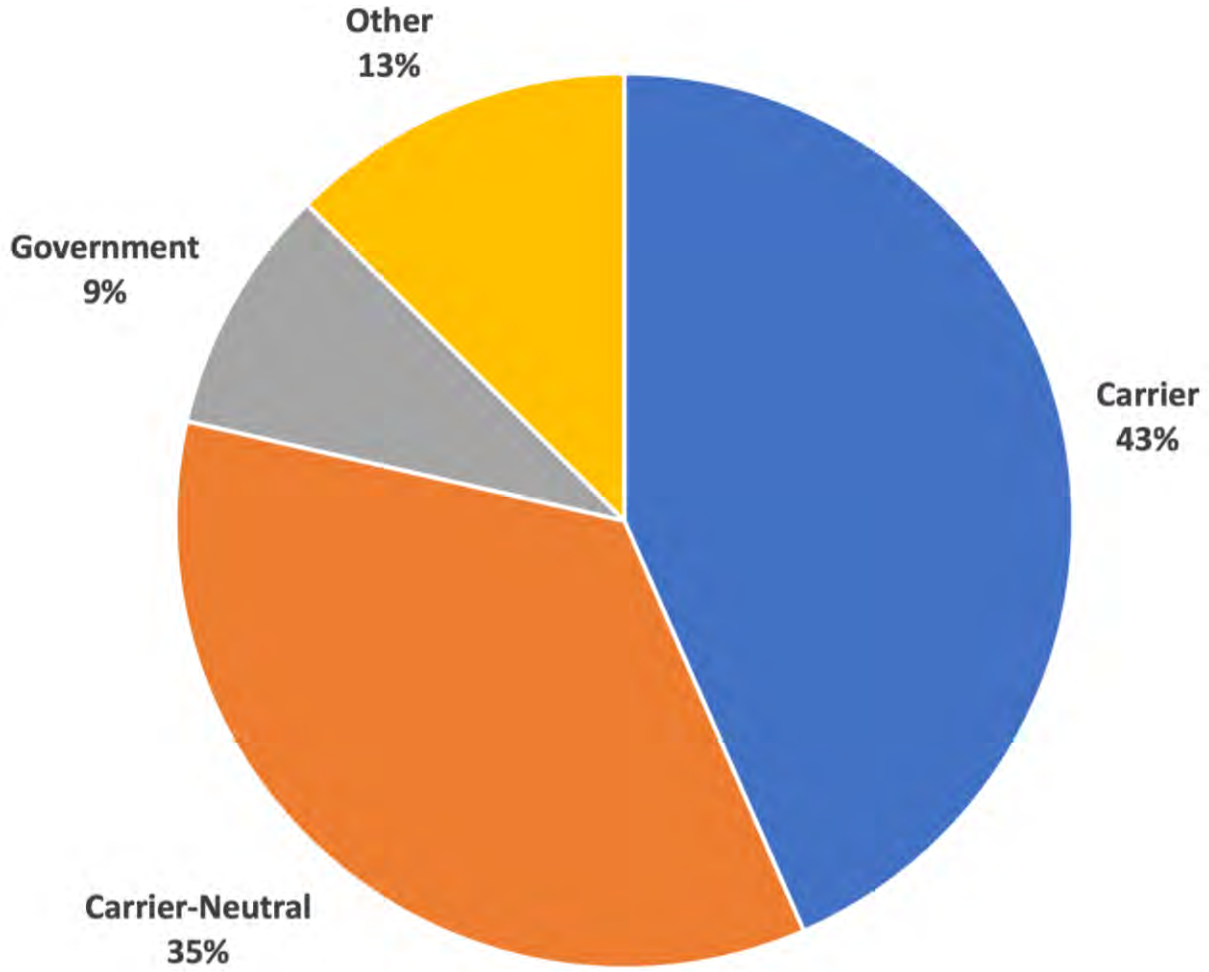
# DC Geography Present (Q2 2024) + Planned

Landscape of DCs by power (MW)




Source: TeleGeography, Data Centers

# Share of Data Center Types - Africa

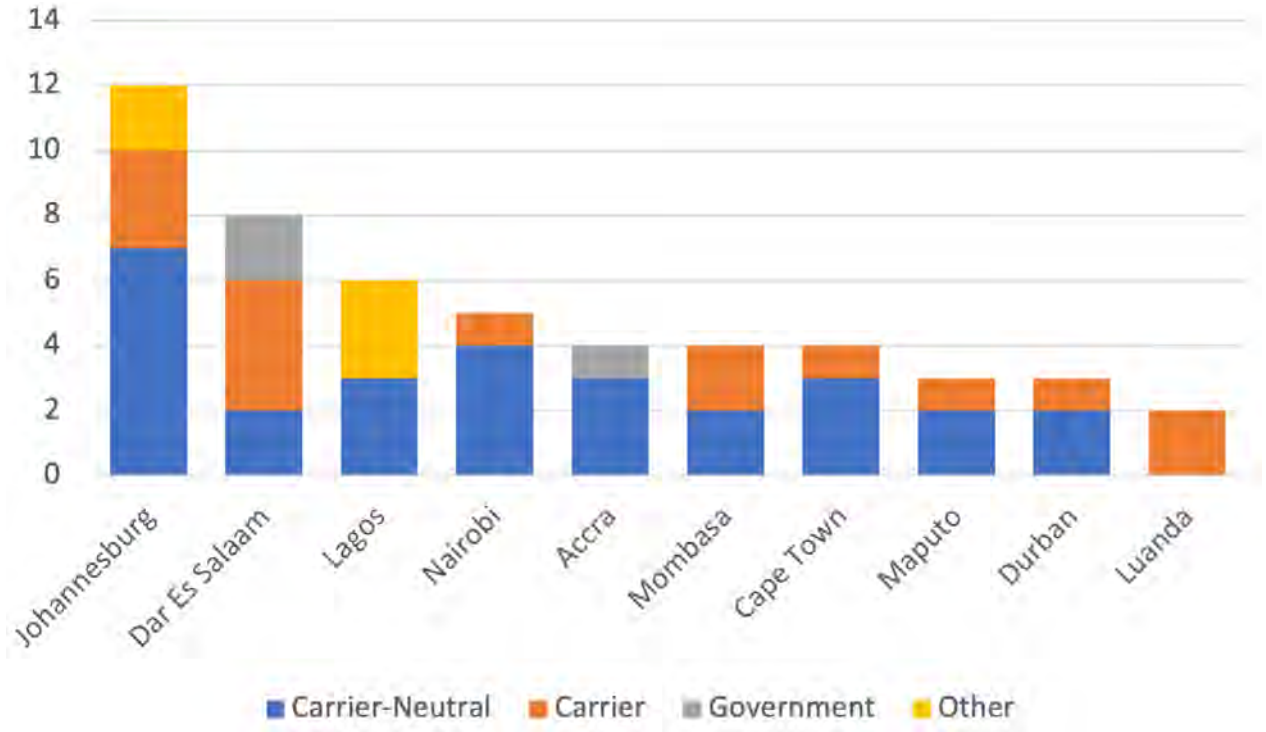



- Carrier-neutral DCs make up about 1/3 of all DCs
- Majority of DCs in Africa are carrier DCs
- Many of these “DCs” may actually be server rooms of carriers *not* carrier neutral style colocation

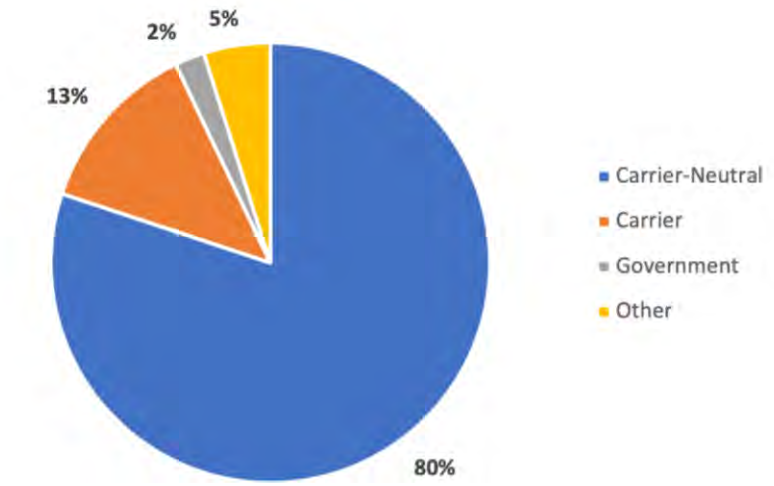
Source: TeleGeography, Data Centers

# Not all Data Centers are really Data Centers

## DC Types breakout by market




## Share of networks by DC type

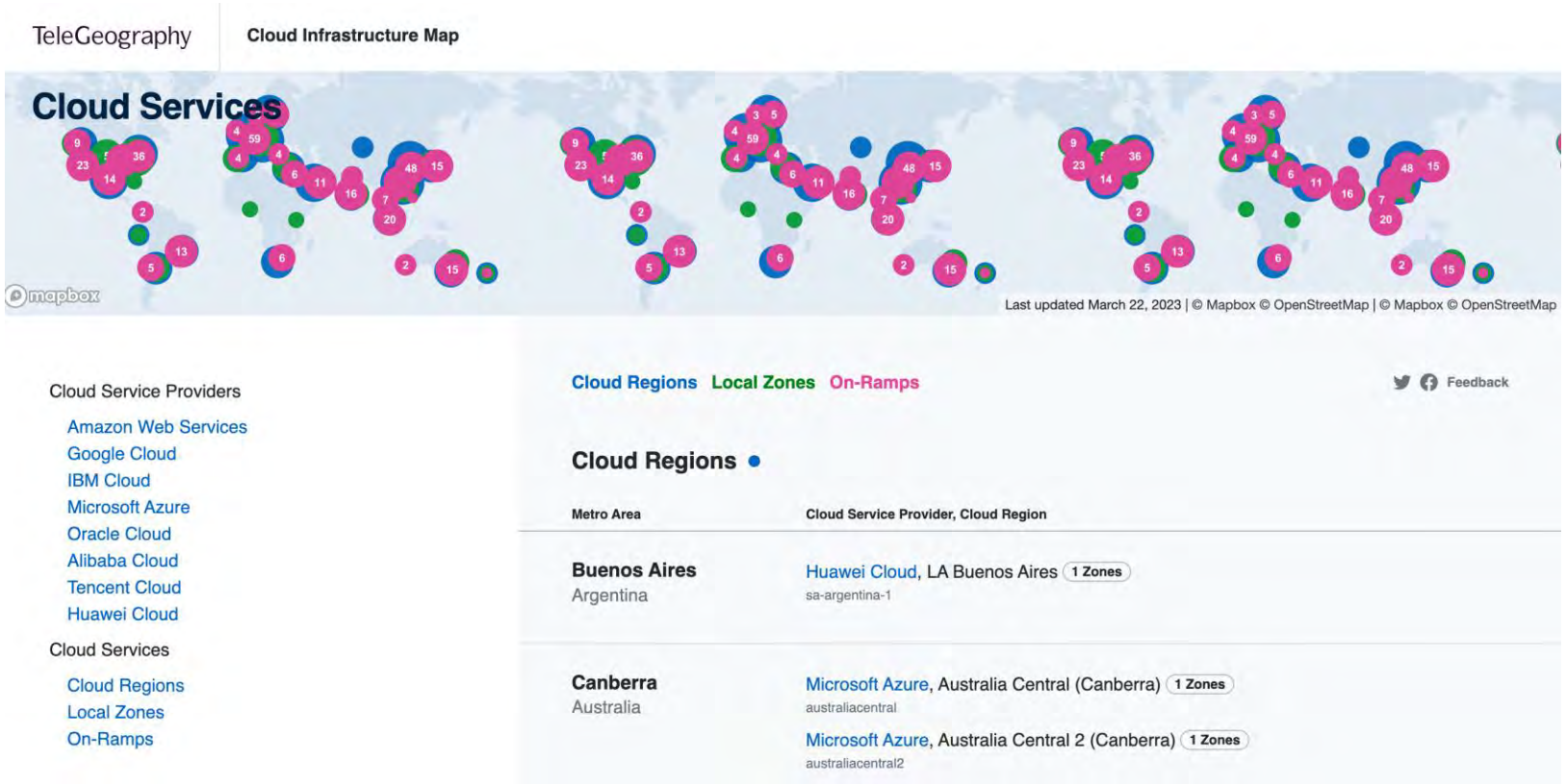



Source: TeleGeography, Data Centers

# Looking ahead

- **Increased competition, redundancy, access to capacity**
  - New sub cables offering lower prices and more capacity
  - More cables means more redundancy and better performance
  - Growth of terrestrial cross-border connectivity
- **Less dependency on Europe**
  - **Uptick in data centers, CDNs, exchange traffic**
  - Increase in intra-African capacity vs international connectivity
- Carrier-Neutral Data Centers on upswing and Cloud is here
  - Arrival of DC global players – Digital Realty, Equinix…
  - Cloud infrastructure in major hubs – Joburg + CPT but Nairobi Lagos + Cairo & Casablanca
- DRC is on the rise
  - Int'l IP capacity quickly growing more that 100%; 4G subs 200%
  - High intra-African share of int'l capacity

# Have you seen the Cloud Infrastructure Map yet?




https://www.cloudinfrastructuremap.com
https://www.submarinecablemap.com **(yeah, you know this one)**

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# Thank you!


**Patrick Christian**

Senior Research Manager

pchristian@telegeography.com