Africa: Regional Insights

AFPIF 2016

<Andrew Owens> <AFPIF> <2016>

Africa – Small Market BIG Opportunities

- Over a billion people - of which 40% are reachable by fibre

- Mobile users set to double in the next 5 Years reaching 60% penetration

- Improved Metro Connectivity averaging at 100 Mbps in key hubs: Johannesburg, Cape Town, Durban, Lagos, Nairobi, Accra

- In Larger economies two-thirds of businesses with 50+ staff have access to broadband

	TIER 1 TELECOs	CARRIER NEUTRAL DATA CENTRES	FIBRE / CABLE COMPANIES	IT / CLOUD SERVICE PROVIDER / ISPs
ESTIMATED NUMBER OF DCs	≈50+	≈7	≈5	≈70+
ESTIMATED SHARE OF DC WHITE SPACE	47%	≈20%	≈7%	≈26%
EXAMPLES	MTN, Telkom, Vodacom	Teraco, Rack Centre, Kooba	MainOne, Liquid Telecom, Broadbased	Internet Solutions, BCX, T-Systems, CWG

Africa – Small Market BIG Opportunities

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Internet Usage Statistics for Africa
(Africa Internet Usage and 2015 Population Stats)

INTERNET USERS AND POPULATION STATISTICS FOR AFRICA						
AFRICA REGION	**Population (2015 Est.)**	**Pop. % of World**	**Internet Users, Latest**	**Penetration (% Population)**	**Internet % Users**	**Facebook 15-Nov-2015**
Total for Africa	1,158,355,663	16.0 %	330,965,359	28.6 %	9.8 %	124,568,500
Rest of World	6,101,546,580	84.0 %	3,035,295,797	49.7 %	90.2 %	1,390,635,650
WORLD TOTAL	7,259,902,243	100.0 %	3,366,261,156	46.4 %	100.0 %	1,515,204,150

NOTES: (1) Africa Population data are 2015 mid-year estimates. (2) Africa Internet Usage Statistics in this table are for November 30, 2015. (3) The Facebook subscriber data are for Nov. 15, 2015, the last available from FB. (4) CLICK on each region or country name for details for each individual location. (5) For methology, help and definitions please see the site surfing guide. (6) Population estimates are based mainly on figures from the U.S. Census Bureau and local sources. (7) The Internet usage numbers come mainly from data published by WWW , ITU , the Nielsen Company, Facebook, and other trustworthy sources. (8) Data from this table may be cited, giving the due credit and establishing an active link back to Internet World Stats. Copyright © 2016, Miniwatts Marketing Group. All rights reserved worldwide.

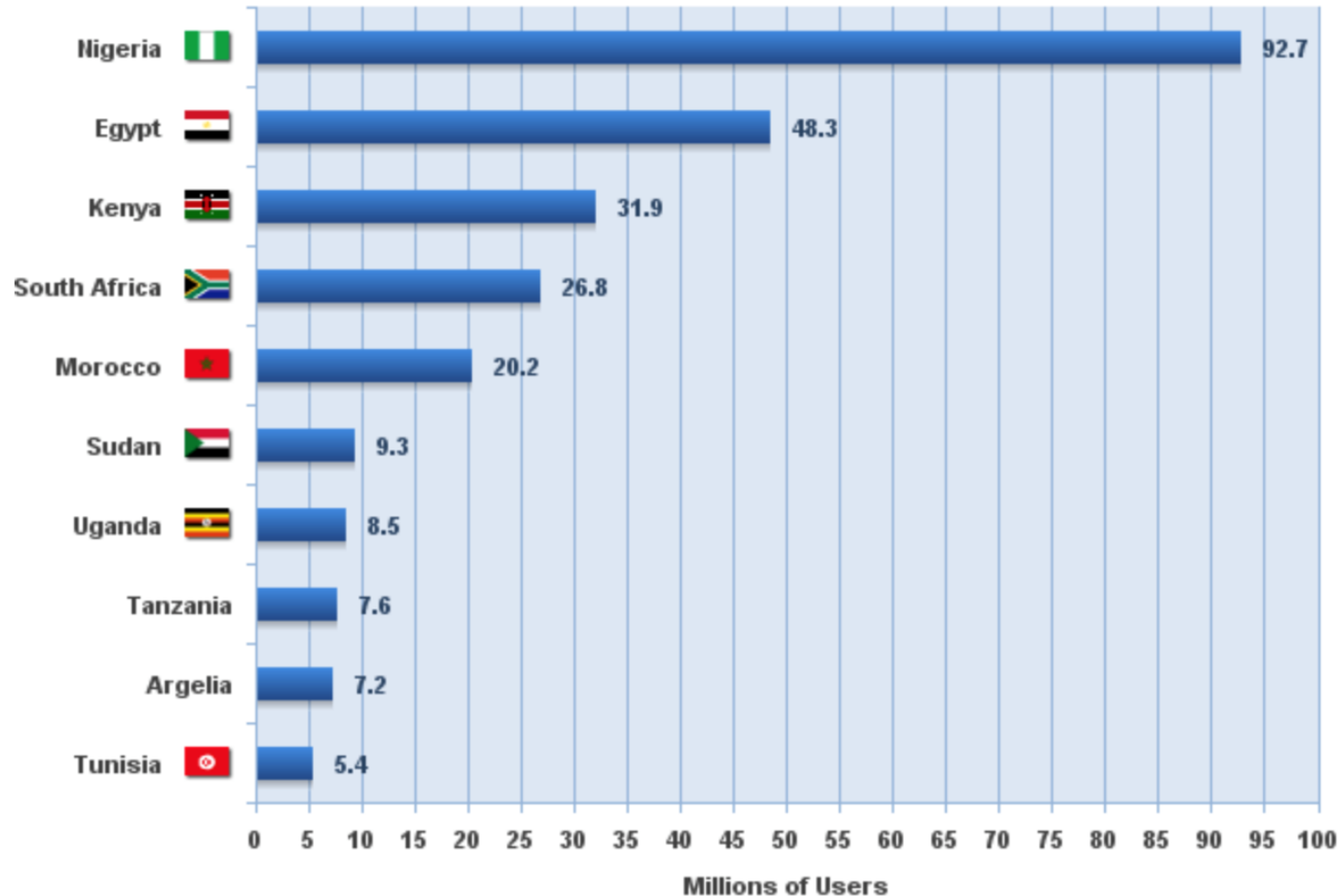**Internet Penetration in Africa**
November 30, 2015
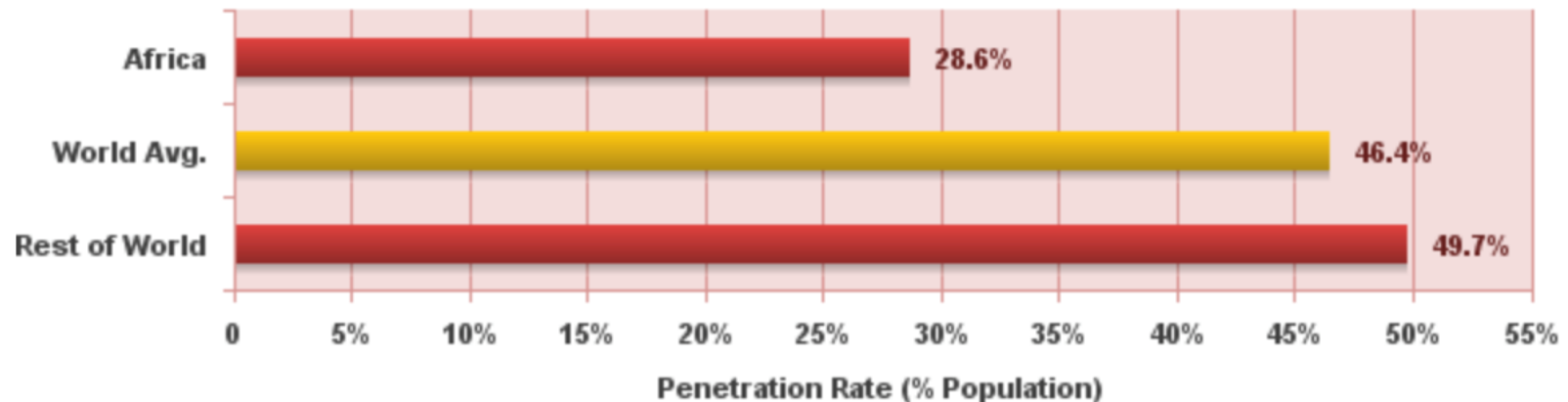
Source: Internet World Stats - www.internetworldstats.com/stats1.htm
330,965,359 estimated Internet users in Africa for Nov 30, 2015
3,366,260,056 Internet users in the World on Nov 30, 2015
Copyright © 2015, Miniwatts Marketing Group

Africa – Small Market BIG Opportunities

Africa Top 10 Internet Countries
November 2015

Country	Millions of Users
Nigeria	92.7
Egypt	48.3
Kenya	31.9
South Africa	26.8
Morocco	20.2
Sudan	9.3
Uganda	8.5
Tanzania	7.6
Argelia	7.2
Tunisia	5.4

Millions of Users

Source: Internet World Stats - www.internetworldstats.com/stats1.htm
330,965,359 Internet Users in Africa estimated for November 30, 2015
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TERACO
DATA ENVIRONMENTS

Winston won't win this time:

- South Africa's Largest ISP, Telkom, now known as Openserve (AS5713) has finally opened it's doors and ready to peer with you as of today!!

- Let me know if you need an introduction

More Cables:

- Finally the cables system between Angola and Brazil have commenced!
- Angola Cables and NEC have paired up to build 40Tbps of capacity which is expected to be ready to play with mid 2018


In order to see who could deliver 4 GB of data to a location 60 miles away the fastest, Telekom, South Africa's largest ISP, raced a pigeon outfitted with a memory stick. When the pigeon arrived, Telekom had only sent 4% of the data.

Africa a Young IXP market

- 54 countries in Africa (AU)

- 34 IXPs in 26 countries

- Oldest IXP: 1996

- Newest IXP: 2016 (Gabon-IX)

- IXP Traffic: 160 Gbps+

- Largest: 90 Gbps (South Africa)

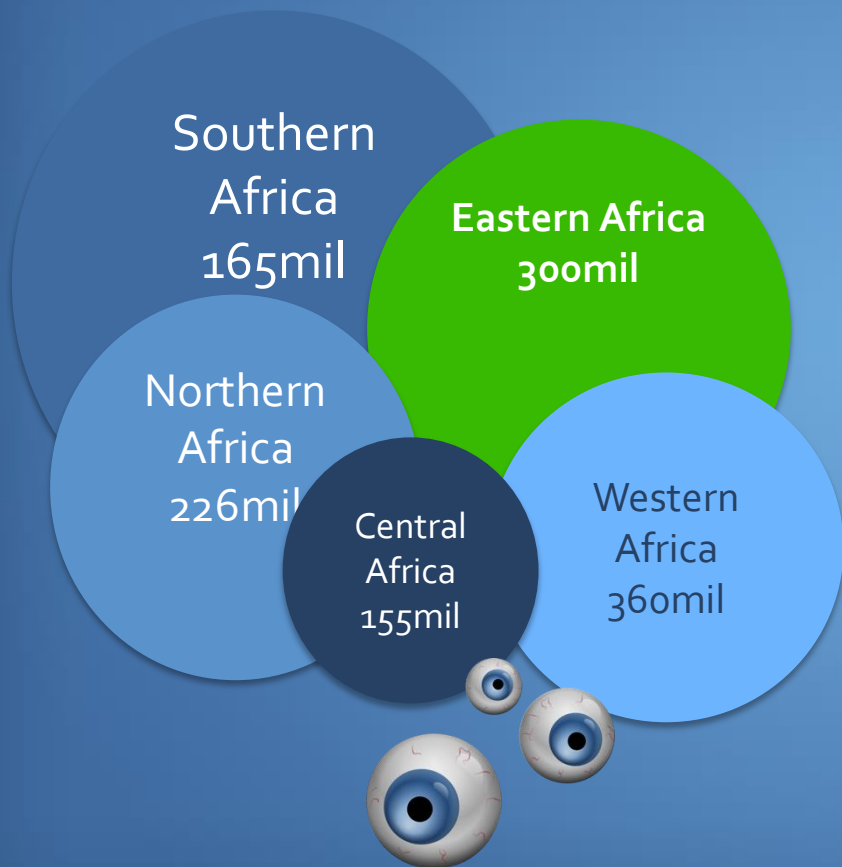- AF-IX Association 3 years old

  http://www.af-ix.net/
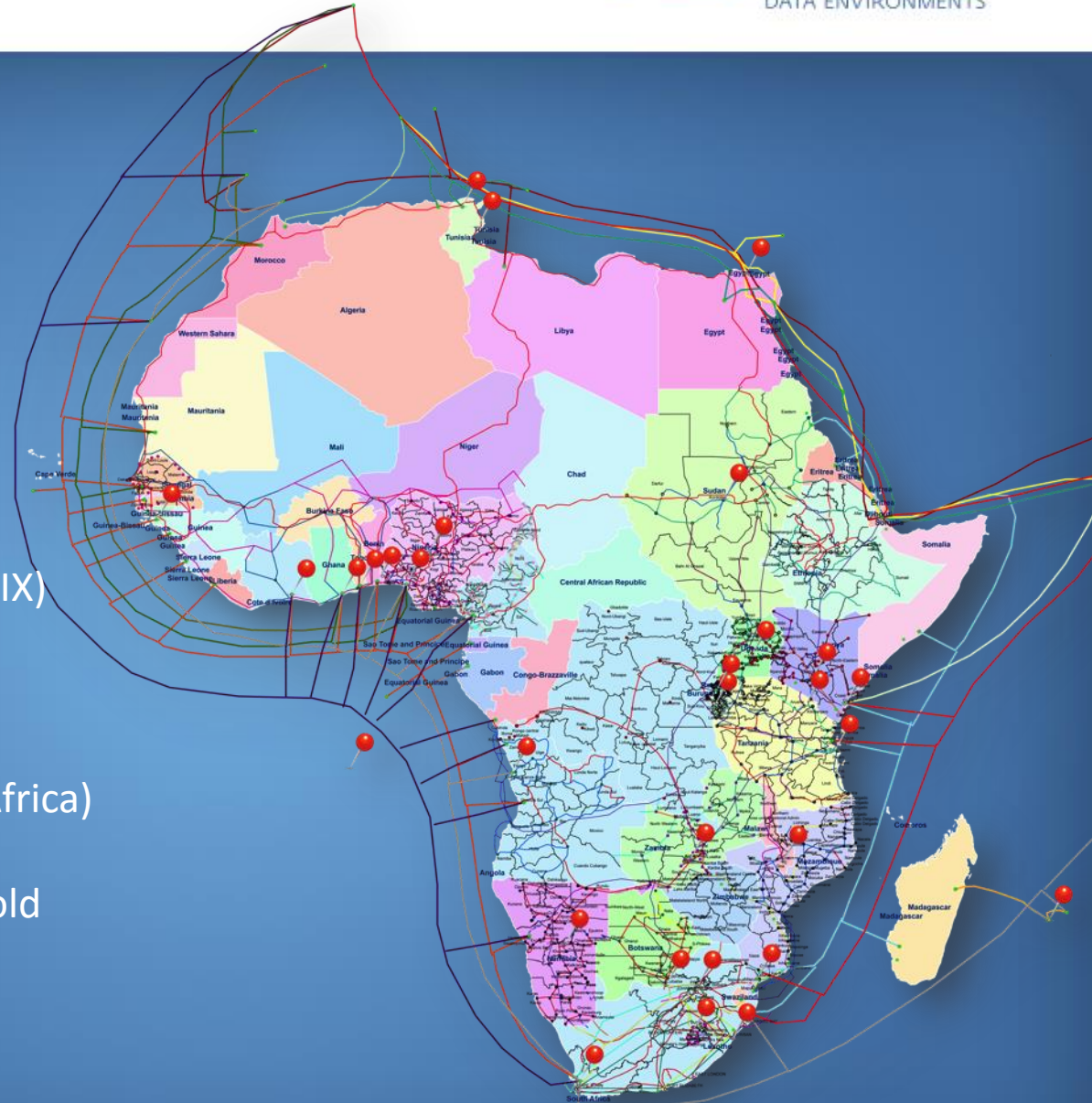
Varied commercial models per country

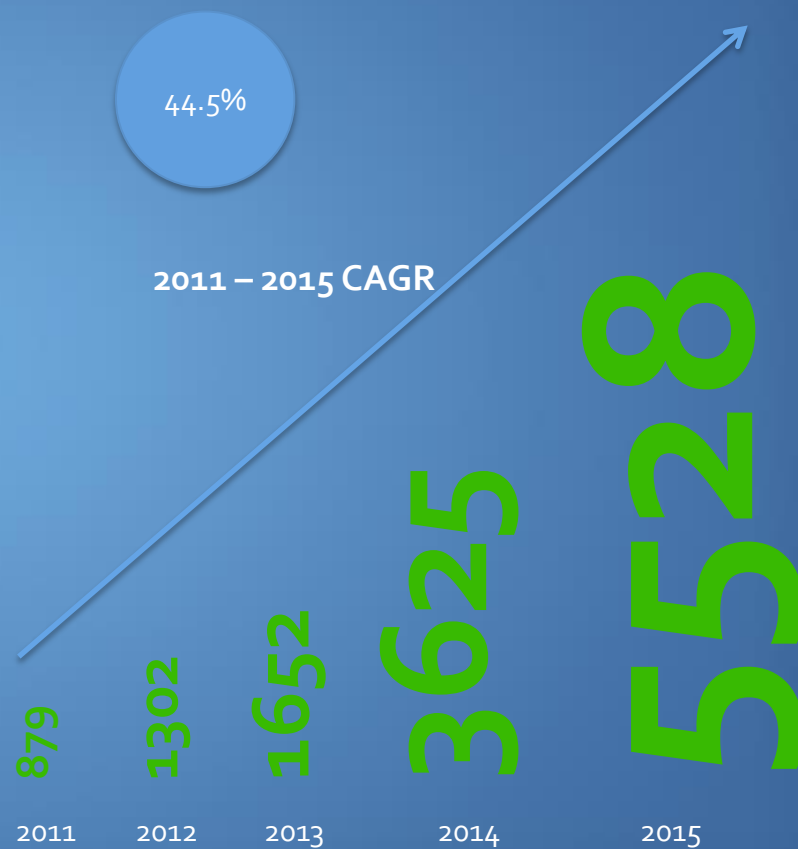| Fees		IXP A USD	IXP B USD	IXP C USD	IXP D	Average
Membership		1250	0	0	0	312,5
10Mbps Port	monthly	100	0	0	0	25
100Mbps Port	monthly	250	220	0	385	213,75
1Gbps Port	monthly	750	670	0	500	480
10Gbps	monthly	2500	832	0	655	996,75

- Low capacity ports still available at 90% of exchanges;

- Port fees vary and can be as high as Europe with less value

- Can still get away with high port fees due to high transit costs... Good for the internet growth in Africa?
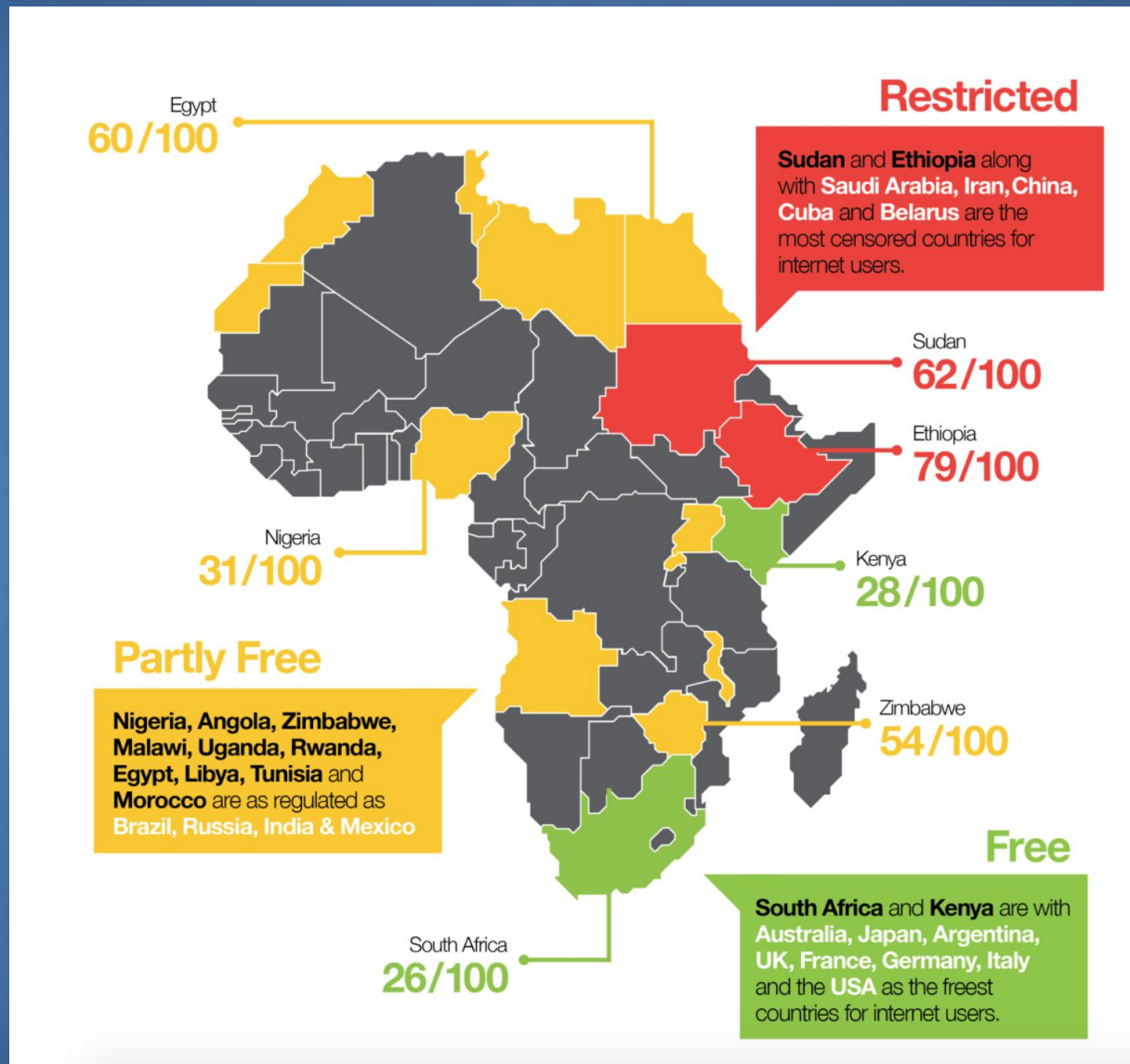
African Hubs – a Modern Marketplace

The world's 2nd fastest growing economic region and its growing population

Southern Africa 165mil

Eastern Africa 300mil

Northern Africa 226mil

Central Africa 155mil

Western Africa 360mil

SADC Example of a Growing Community: Interconnection: Up and to the right!

44.5%

2011 – 2015 CAGR

879

1302

1652

3625

5528

2011   2012   2013   2014   2015

Mobile Penetration driving Growth

Global IP traffic (EB per month) – CAGR 2013-18

Middle East and Africa	Central and Eastern Europe	Asia Pacific	Latin America	North America	Western Europe
38%	23%	21%	21%	20%	18%
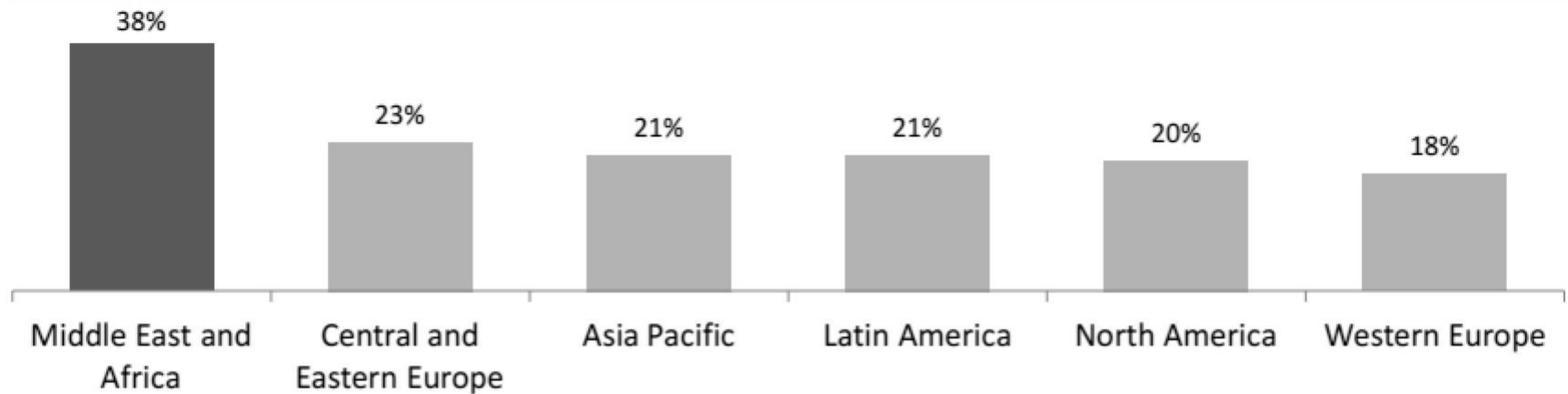
Mobile Penetration by Region

| SSA	Emerging Europe	Asia Pacific	Latin America	North America	MENA	Western Europe
64% / 79%	131% / 141%	83% / 103%	104% / 119%	103% / 107%	114% / 126%	131% / 136%
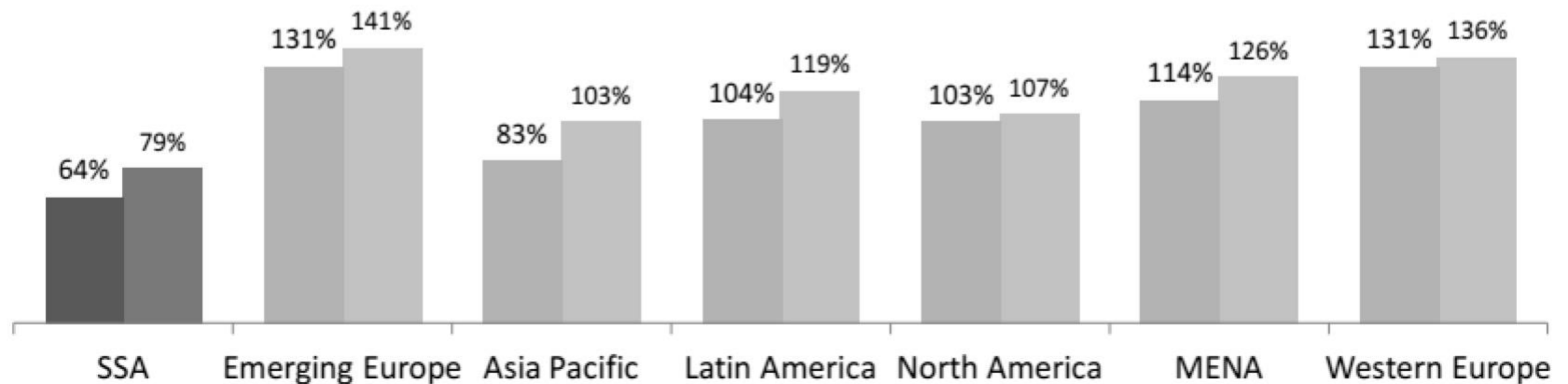
Africa – Highly concentrated

3 COUNTRIES: KENYA, NIGERIA & SOUTH AFRICA REPRESENT 95% OF TOTAL WHITE SPACE IN AFRICA

A mapping of sub-Saharan Africa's data centre white space capacity (sqm) - 2015

KENYA ≈ 2000sqm

NIGERIA ≈ 6000sqm

SOUTH AFRICA ≈ 40 000sqm

Global Comparison
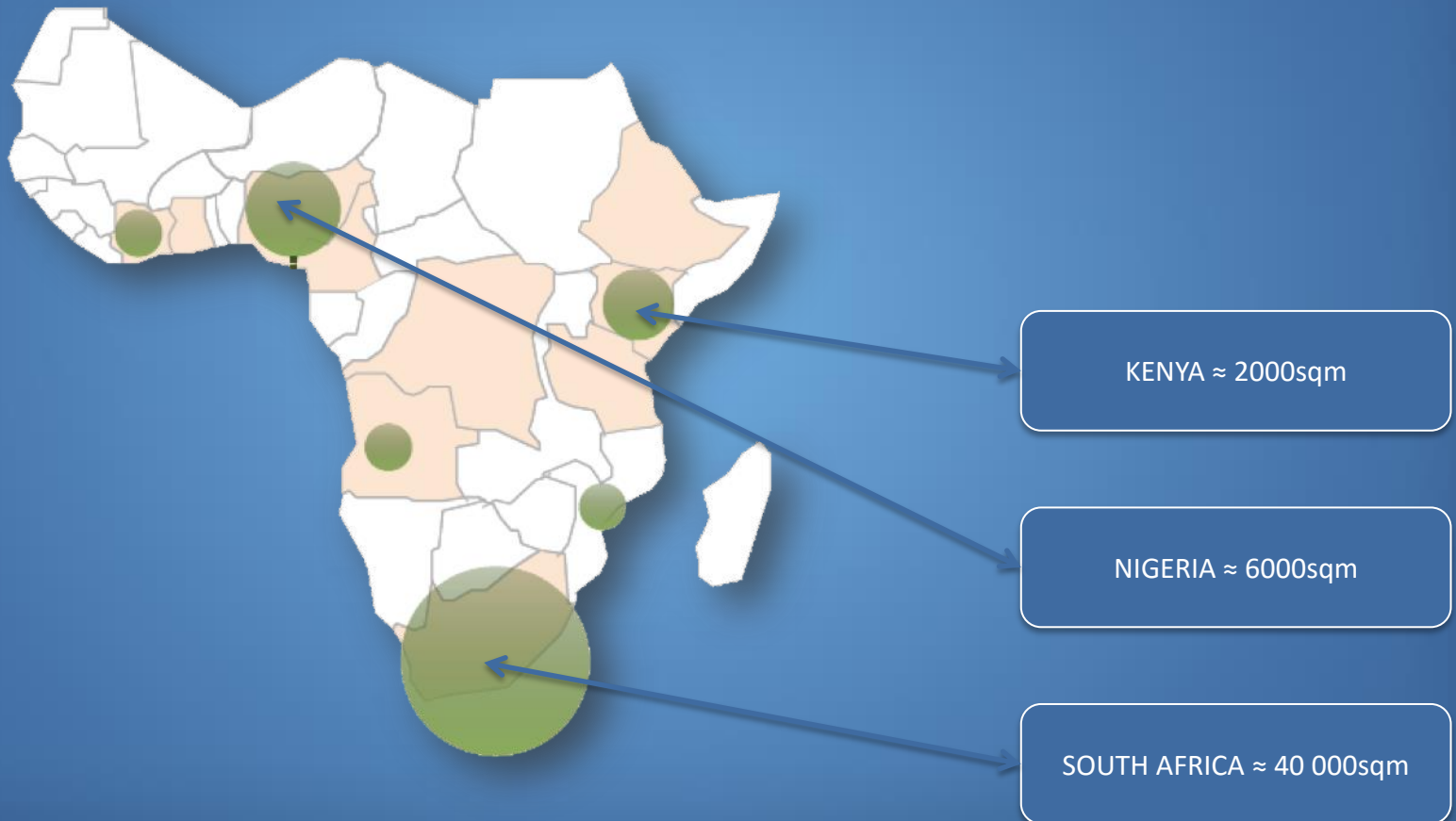
	DIGITAL REALTY	EQUINIX	TELEHOUSE	interxion	TelecityGroup
DC FACILITIES	131 DC's	105 DC's	44 DC's	39 DC's	40 DC's
IT POWER IN MW	800 MW	370 MW	400 MW	109 MW	113 MW
WHITE SPACE SQM	611 000	323 000	370 000	95 000	120 000

Source: Company Webpages

What are the Next Hotpots?

- **Tanzania**

- **Côte d'Ivoire**

- **Ghana**

- **Nigeria**

African Undersea Cables
(a history by @stevesong)
manypossibilities.net/african-undersea-cables
Creative Commons - CC - BY
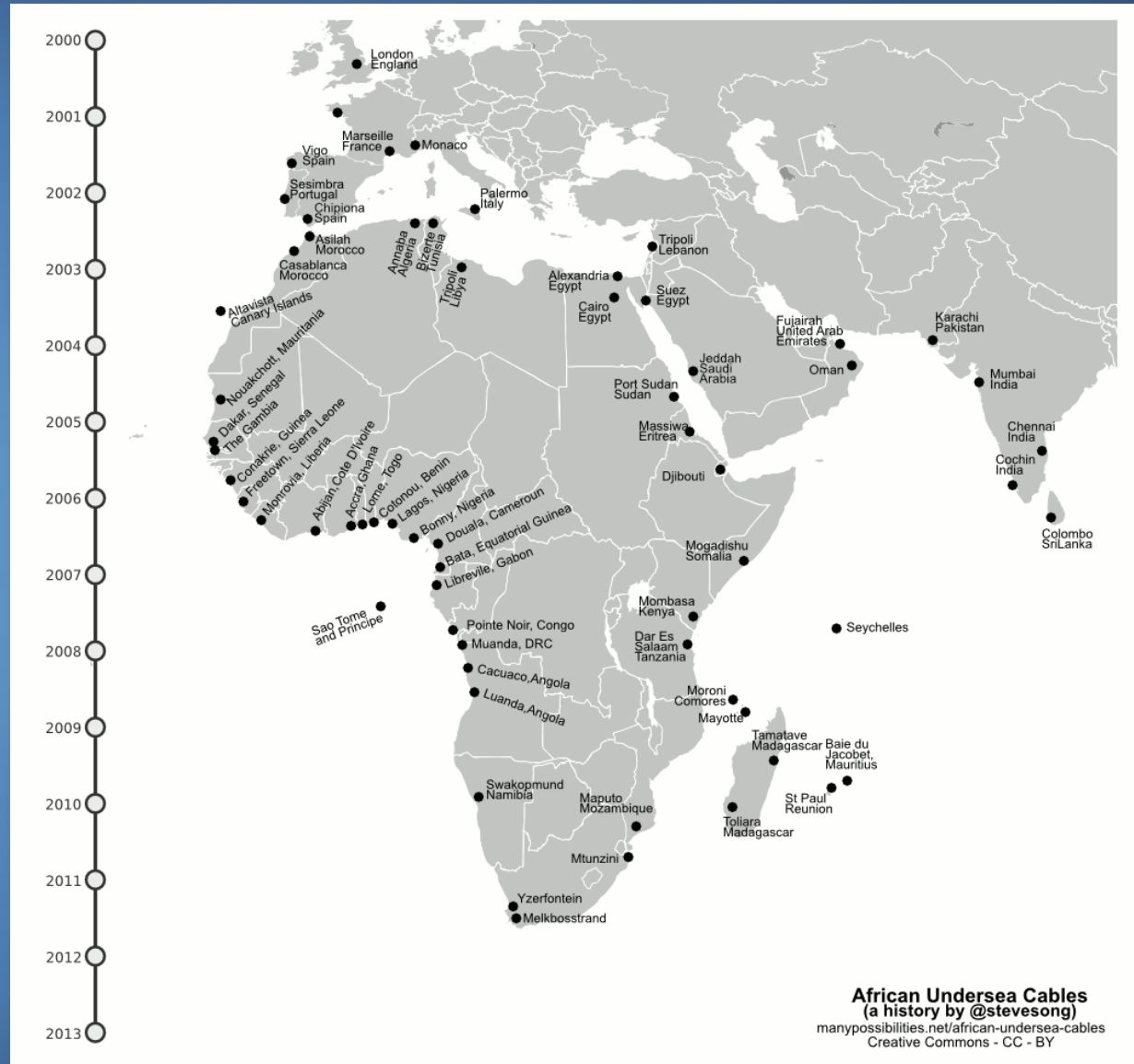
Growth Opportunities

Market Contribution to Africa Colocation Supply – Sq. m - 2015E

Nairobi 3%
Others 8%
Lagos 15%
Cape Town 20%
Johannesburg 53%
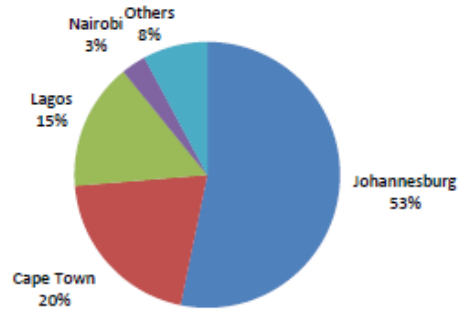
Africa Colocation White Space – Five Year Projections*
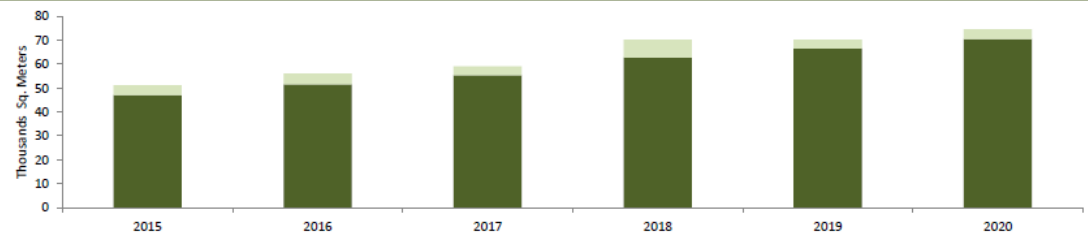
*Estimated space immediately available for leasing (not shell capacity)

Africa New Data Centers – Sample Projects & Plans – Indicative Only

COUNTRY	COMPANY	PROJECT	TIMING
Kenya	Kooba	New data center planned for Nairobi/Limuru	2016
Tanzania	Kooba	Dar es Salam	2016-17
Nigeria	Globacom	Ibadan	NA
Nigeria	MainOne	Sagamu	NA
Mozambique	Vaninga	Beira, Pemba/Tete	2016

The Economic Drive

CITY	ESTIMATED GDP ($ bn)	# OF MULTITENANT DC WITH >250 SQM WHITE SPACE
Johannesburg	141	>10
Lagos	120	>5
Cape Town	70	>5
Durban	60	>3
Ibadan	25	0
Nairobi	28	1
Dar es Salam	5.60	0
Abidjan	9	0
Kano	30	0
Kinshasa	7.5	N/A**
Accra	5	N/A**

***Sources: TZS, NBS, Stats SA, World Bank, KNBS, Departement des Statistiques de Cote-d'Ivoire

Summary: Benchmarking

	Enterprise Addressable Market Size/GDP	Key Verticals	Tech Startup Ecosystem	Electric Power Availability	Availability of Affordable Metro & DLD Fiber	Availability of Affordable International Fiber
Johannesburg	●	Financial Services, Tourism, Mining, Media, Tech	◕	◕	◔	●
Lagos	●	Financial Services, Manufacturing, Tech, Media	●	◔	◑	●
Cape Town	◕	Financial Services, Tourism, Tech, Media	●	◕	◕	●
Nairobi	◔	Financial Services, Tourism, Tech, Media	●	◕	◑	●
Abidjan	◑	Financial Services, Tech	◑	◕	◑	◕
Ibadan/Oyo State	◕	Trade, Media, Tech, Academic Research	◔	◑	◑	●
Dar es Salaam	◑	Financial Services, Tourism, Tech, Media	◑	◕	◔	●

Thank you – Questions?

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