TERACO
AN AFRICAN STORY

THE JOURNEY OF A **VENDOR NEUTRAL DATA CENTRE**

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For AfPIF 2018

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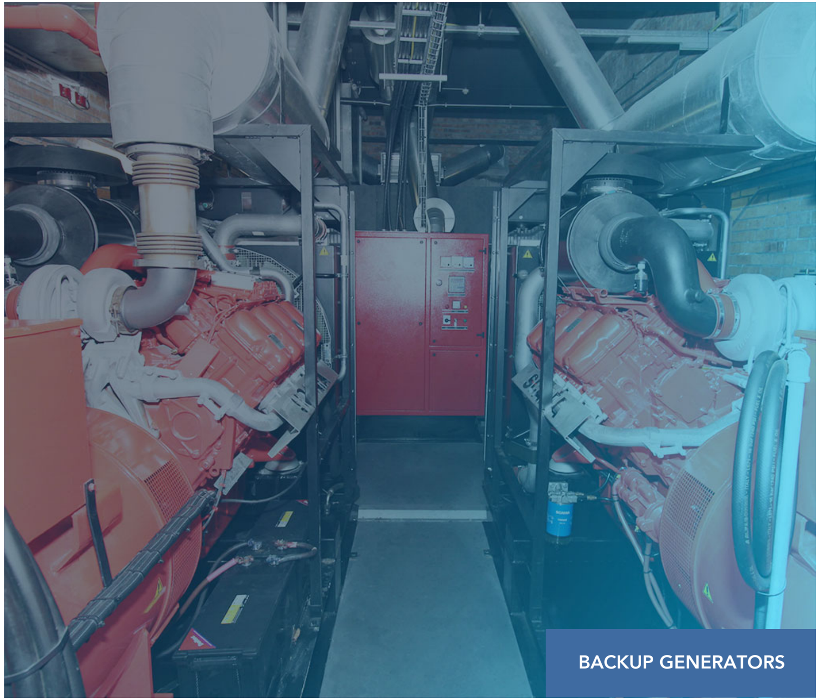
AFRICA'S DATA CENTRE

TERACO **CT1**

CAPE TOWN: CIRCA 2008

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TERACO JB3
ISANDO
CAMPUS
Johannesburg: 2018

2008: **WHY THE TIME WAS RIGHT**

By 2008 the teleco market in South Africa had reached a pivotal point, resulting in the optimal environment for the establishment of a vendor neutral data centre operator:

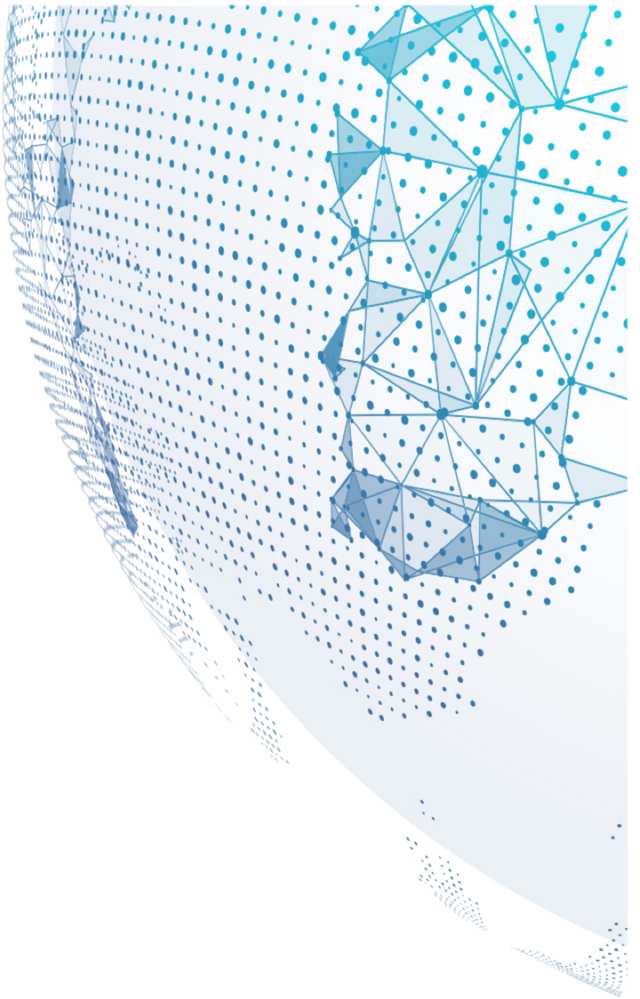
BEFORE 2008

- Single fixed line operator
- Single operator licensed to build infrastructure
- High connectivity costs - $4000 per Mbps
- Large Telco's not peering
- Limited subsea capacity (2 cables: SAT3 & SAFE)
- Limited international content available locally

TODAY

- Over 350 registered ASNs
- ECNS license holders build out own infrastructure
- 2 established IXP operators
- Multiple high capacity subsea cables (EASSy, WACS, SEACOM, SAT3 & SAFE)
- 6/10 top content providers available locally
- 6/10 top CDNs available locally

	LARGEST INTERNET COMPANIES	NAPAFRICA	LARGEST GLOBAL PEERS	NAPAFRICA
1		✓	Akamai	✓
2		✓	QUANTIL	✓
3	Microsoft	✓	BITGRAVITY	✓
4	amazon	✓	CLOUDFLARE	✓
5		✓	Level(3)	✓
6	NETFLIX	✓	CDN sun	✓
7			CDNetworks	✓
8			edgecast	✓
9			Limelight NETWORKS	✓
10			swarmify	✓



3 TERACO **INVESTMENT TIMELINE**

2008 — SERIES A

The Series A round of fundraising closed in July 2008 with R47,5m

Funds used to build & fit-out Cape Town DC1 – 500sqm, 1MVA power

2009 — SERIES B

Series B closed in July 2009 with R50m raised

Funds for purchase of land % construction of Isando, JB1 (Phase 1) – 1300sqm, 2MVA

2011 — SERIES C

Closed June 2011 with total of R158m

Capital was used to expand JB1 (Phase 2 & 3) as well as build Durban DB1 – 700sqm, 1,6MVA

2015 — R400M

An initial debt facility of R400m is established

Funds used for further fit-outs in CT1 – 1100sqm, 2MVA, JB1 – 3000sqm, 4,5MVA

2017 — R1,2B DEBT FUNDING

Debt facility is increased spurred by strong growth

Funds used to build and fit-out JB1 West – 4800sqm, 14MVA and JB2 Bredell – 5000sqm, 24MVA

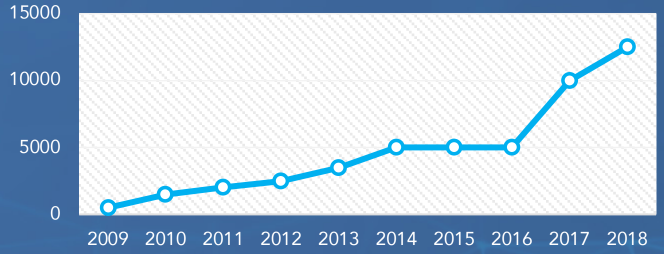
2018 — R1,8B GROWTH FUND

A further increase in the debt fund to R1,8b

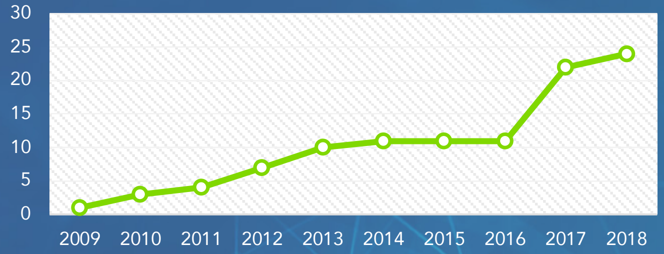
Teraco announces the next build JB3 Isando Campus (Phase 1) – 5000sqm, 16MVA

4 GROWTH **TIMELINES**

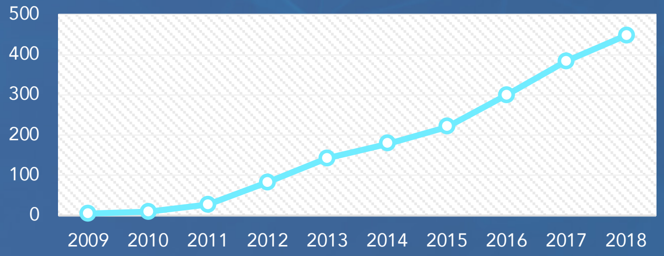
WHITE SPACE (SQM)



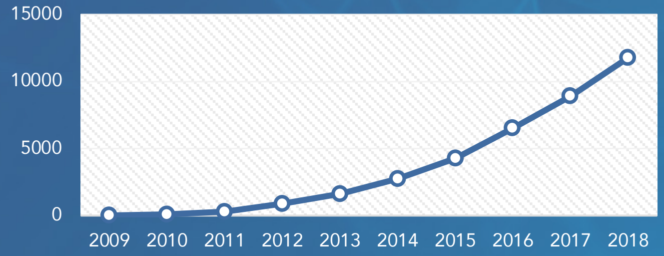
AVAILABLE POWER (MVA)



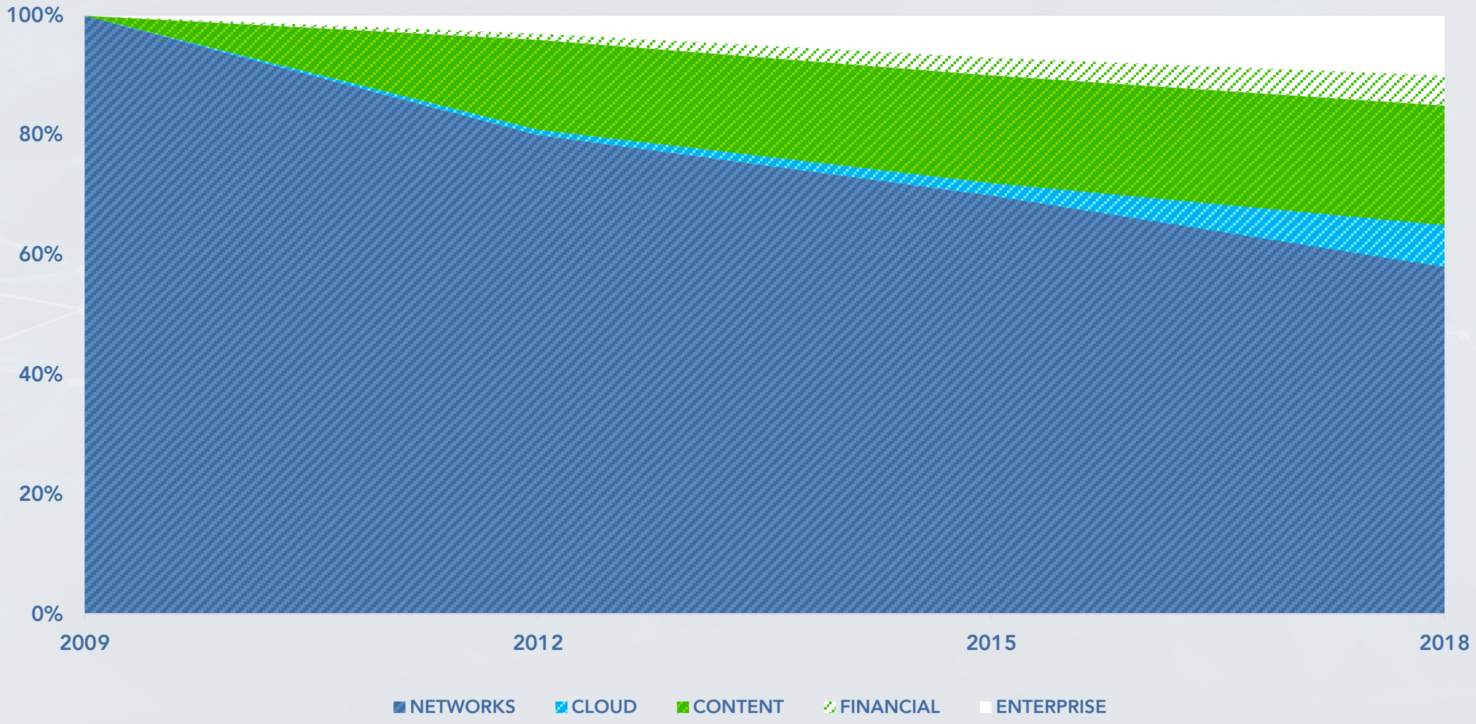
NUMBER OF CLIENTS



INTERCONNECTS



THE MARKET VERTICALS
ECOSYSTEMS



6 TRENDS DRIVING **DC GROWTH IN AFRICA**

- **Content is moving closer to the edge (user)**
- **Accelerated migration to the Cloud**
  - Infrastructure capex
  - Lack of resources (skills)
  - On premise DC cost escalation
  - Access to connectivity
  - Lower connectivity (capacity) costs
- **The Cloud is local**
  - Improved security
  - Data sovereignty
  - Lower latencies
  - Emerging market
- **Access to multiple networks**
- **Access to peering (NAPAfrica, JINX, etc.)**
- **Enterprise is becoming digital**
  - eCommerce
  - Online everything
  - On premise DC cost escalation
  - Access to connectivity
  - Lower connectivity (capacity) costs

7 2018: THE ADVENT OF PUBLIC CLOUD INFRASTRUCTURE

WHY ARE THEY HERE?

RANK '16	RANK '15	COMPANY	INDUSTRY	COUNTRY
1	1	Sonatrach	Petroleum	Algeria
2	2	Sonangol	Petroleum	Angola
3	4	The Bidvest Group	Diversified	South Africa
4	3	Sasol	Chemicals	South Africa
5	5	Eskom	Utilities	South Africa
6	6	MTN Group	ICT/Telecoms	South Africa
7	7	Steinhoff International Holdings	Wood and paper	South Africa
8	8	ShopRite	Holdings Retail	South Africa
9	10	BidCorp (ex Bidvest Foods)	Agribusiness	South Africa
10	9	Imperial Holdings	Diversified	South Africa

TOP 25 AFRICAN RETAILERS, FY13

RETAIL REVENUE RANK	NAME OF COMPANY	HEADQUARTER COUNTRY	CORE RETAIL SEGMENT 2013	REVENUE (US$ MILLION)	REVENUE GROWTH (Y-O-Y)	FY11-FY13 REVENUE CAGR
1	Shoprite Holdings Ltd	South Africa	Food and beverage	9 852,50	10,5%	11,1%
2	Massmart Holdings Ltd	South Africa	General merchandise	7 529,90	9,8%	8,7%
3	Pick n Pay Stores Ltd	South Africa	Food and beverage	6 343,30	65,0%	6,8%
4	The SPAR Group Ltd	South Africa	Food and beverage	5 166,70	10,7%	11,5%
5	Woolworths Holdings Ltd	South Africa	Clothing and accessories	3 827,80	12,7%	17,8%
6	The Foschini Group Ltd	South Africa	Clothing and accessories	1 594,10	13,6%	11,7%
7	Mr Price Group Ltd	South Africa	Clothing and accessories	1 557,70	15,0%	14,1%
8	Clicks Group Ltd	South Africa	Health and personal care	1 349,70	7,9%	6,7%
9	JD Group Ltd {Steinhoff International Holdings Limited)	South Africa	Furniture and home furnishings	1 141,30	-5,8%	2,5%
10	Truworths International Ltd	South Africa	Clothing and accessories	1 008,20	7,1%	8,8%

8 WHY **SOUTH AFRICA**

1. Large Addressable Market
2. Internet Freedom
3. Broadband Penetration
4. Stable Power Infrastructure
5. Favourable Regulatory Environment
6. Stable Political Climate
7. Stable Economic Climate
8. Geographic Location (Furthest Point South from European Hub)

JHB – CPT	= 16ms
JHB – London	= 155ms
JHB – Nairobi	= 52ms
JHB – Lagos	= 168ms
London – Nairobi	= 135ms
London – Lagos	= 94ms
CPT – London	= 128ms
CPT – Nairobi	= 72ms
CPT – Lagos	= 151ms

9 SOUTH AFRICAN **NATIONAL FIBRE ROUTES**

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GAUTENG VERSUS WESTERN CAPE

ECONOMIC FACTORS

GAUTENG

Population: 12 272 263
Households: 3 909 022
Employment: 32%
Contrib. GDP: 34%

WESTERN CAPE

Population: 5 822 634
Households: 1 634 000
Employment: 15%
Contrib. GDP: 14%

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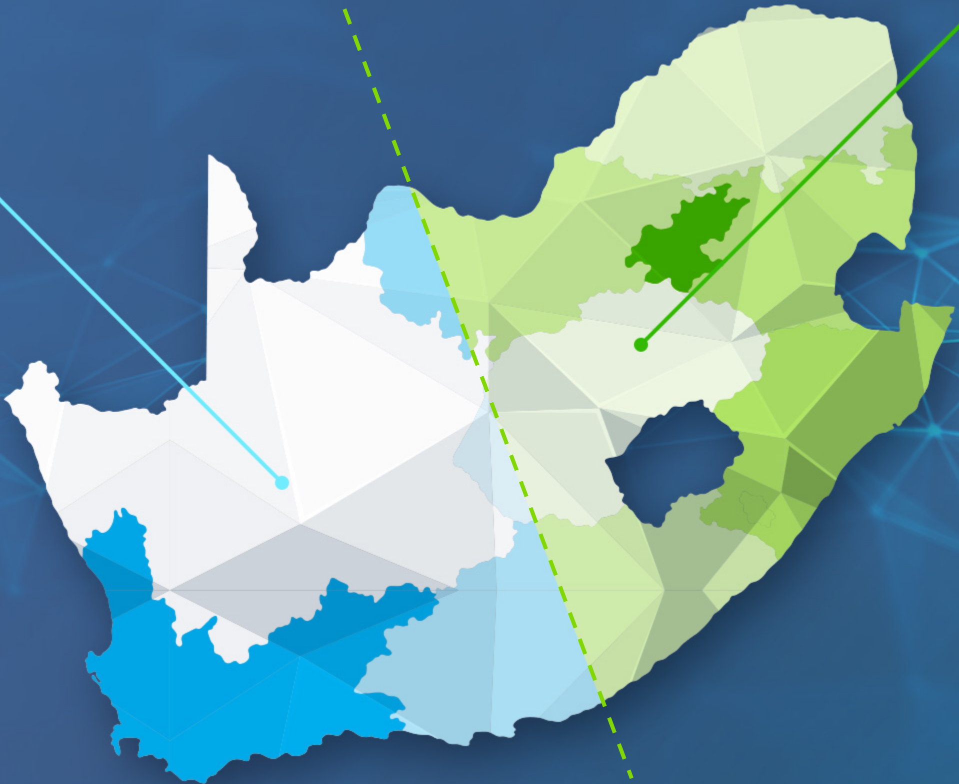
COMBINED LATENCY SENSITIVE
REGIONAL SPLITS

WESTERN CAPE
Population: 5,8mil
Employment: 15%
Contrib. GDP: 14%

EASTERN CAPE
Population: 6,9mil
Employment: 9%
Contrib. GDP: 8%

NORTHERN CAPE
Population: 1,2mil
Employment: 2%
Contrib. GDP: 2%

COMBINED REGION
Population: 13,9mil
Employment: 26%
Contrib. GDP: 24%



GAUTENG
Population: 12,2mil
Employment: 32%
Contrib. GDP: 34%

FREE STATE
Population: 2,8mil
Employment: 5%
Contrib. GDP: 5%

KWA-ZULU NATAL
Population: 10,9mil
Employment: 20%
Contrib. GDP: 16%

LIMPOPO
Population: 5,7mil
Employment: 4%
Contrib. GDP: 7%

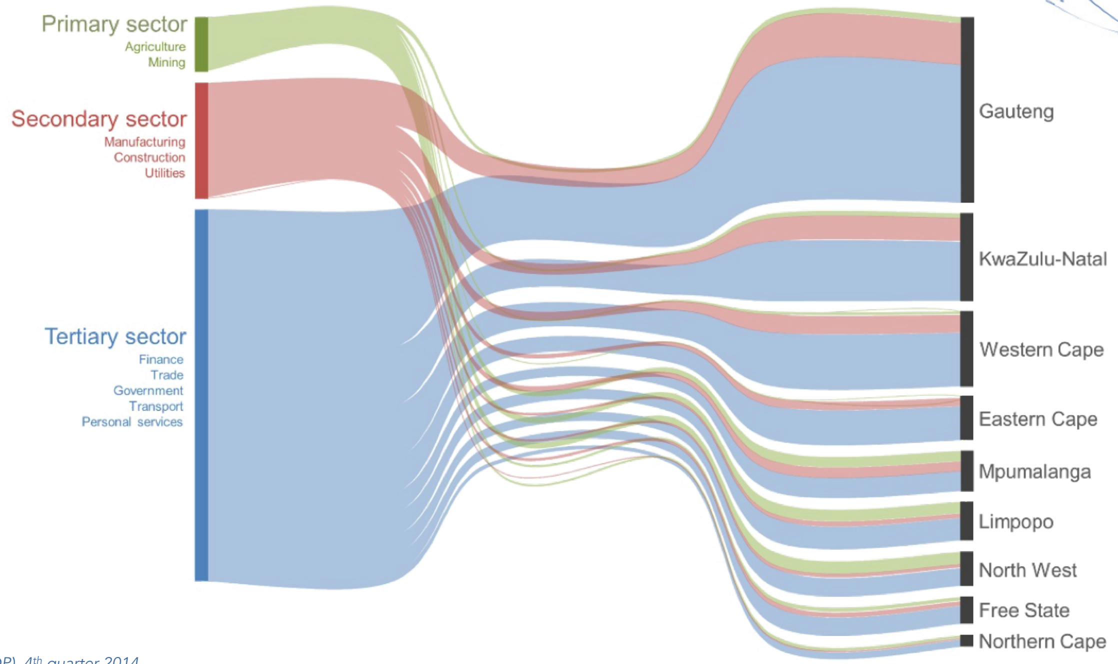
MPUMALANGA
Population: 4,3mil
Employment: 6%
Contrib. GDP: 7%

NORTH WEST
Population: 3,7mil
Employment: 7%
Contrib. GDP: 7%

COMBINED REGION
Population: 39,6mil
Employment: 74%
Contrib. GDP: 76%

12 CONTRIBUTION **TO ECONOMIC SECTORS**

Breakdown of the South African economy by province, 2015



Source: Gross domestic product (GDP), 4th quarter 2014

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WORLD'S **300 LARGEST METRO AREAS BY GDP (US$)**

METRO	RANKING IN TOP 300	EST. GDP (US$ BILLION)
Johannesburg	148	82.9
East Rand (Ekurhuleni)	180	55.3
Pretoria (Tshwane)	190	49.9
Gauteng City Region	**62**	**188.1**
Durban Metro	192	48.9
(proximity to Gauteng)		
Cape Town Metro	177	58.9

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Ref: Project by Brookings & JPMorgan Chase

KEY INDICATORS **FOR GAUTENG**

Table: Key indicators for the Gauteng City-Region and global peer metro areas

RANK	POPULATION	NOMINAL GDP	EMPLOYMENT	GDP PER CAPITA	GDP PER WORKER
1	Mexico City	Mexico City	Mexico City	Warsaw	Warsaw
2	Istanbul	Istanbul	Shenzhen	Shenzhen	Istanbul
3	**Gauteng City-Region**	Shenzhen	Rio de Janeiro	Istanbul	Santiago
4	Rio de Janeiro	Rio de Janeiro	Istanbul	Santiago	Shenzhen
5	Shenzhen	**Gauteng City-Region**	**Gauteng City-Region**	Mexico City	Mexico City
6	Santiago	Santiago	Santiago	Rio de Janeiro	Rio de Janeiro
7	**Cape Town**	Warsaw	Warsaw	**Gauteng City-Region**	**Gauteng City-Region**
8	Warsaw	**Cape Town**	**Cape Town**	**Cape Town**	**Cape Town**

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Source: Brookings analysis of Oxford Economics data.

GLOBAL 2000 **CORPORATE HQ LOCATION**

Table: Global 2000 corporate headquarters; 2012

CITY	COUNTRY	NUMBER OF HQ	REVENUE (USD BILLION)	PROFITS (USD BILLION)	ASSETS (USD BILLION)
Johannesburg	**South Africa**	**14**	**116**	**18**	**410**
Shenzhen	China	12	129	14	1,051
Mexico City	Mexico	12	106	15	168
Santiago	Chile	9	66	5	153
Istanbul	Turkey	7	89	8	411
Rio de Janeiro	Brazil	7	246	43	598
Cape Town	South Africa	6	32	4	114
Warsaw	Poland	4	27	4	99
Tshwane	South Africa	1	2	1	5

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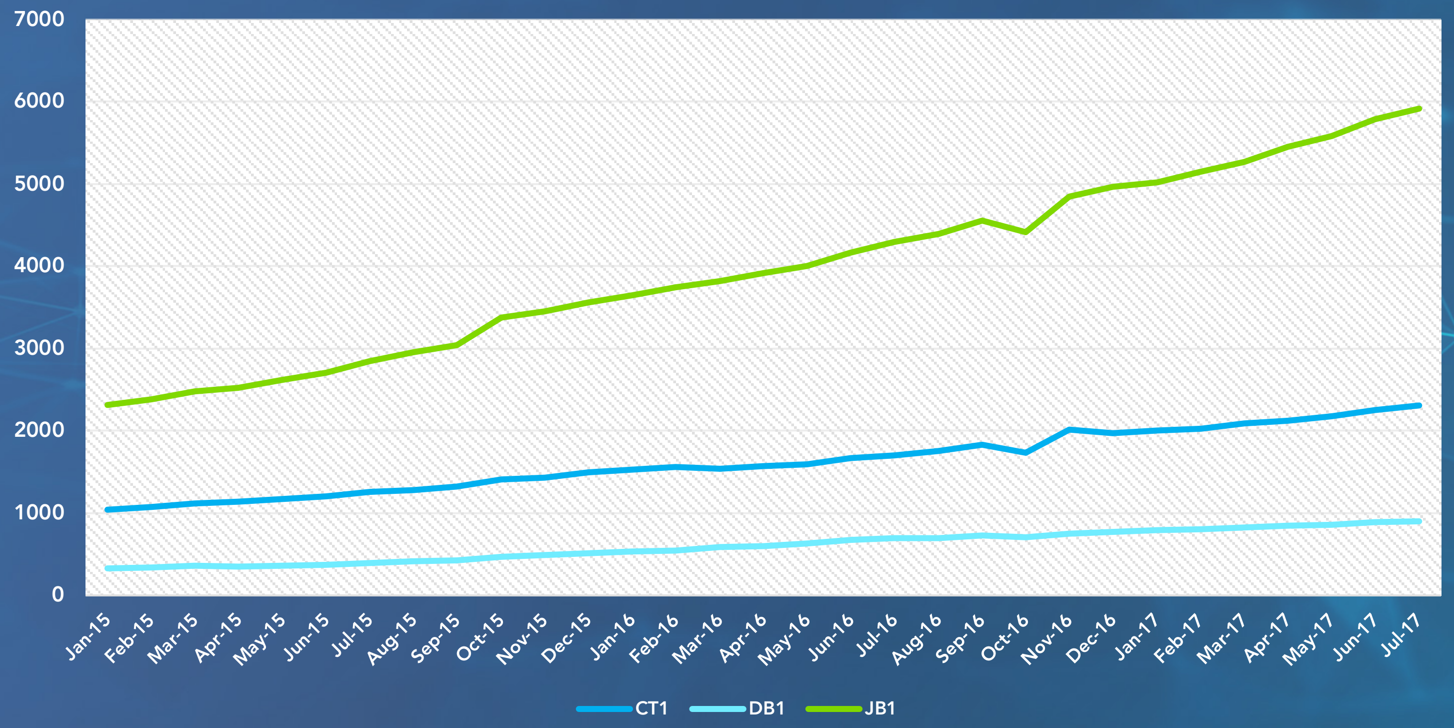
Source: Brookings analysis of GaWC data.

REGIONAL

INTERCONNECT GROWTH



THE NEXT 10 YEARS **IN AFRICA**

1. Vendor neutral DCs will proliferate across the major tech hubs (SA, Nigeria, Kenya)
2. Global tech brands will adopt a local approach to these markets
3. 5G accelerates connecting the continent
4. Africa’s informal economy becomes digital
5. Cloud becomes mainstream
6. Corporate/enterprise investment in African technology increases

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https://www.youtube.com/watch?time_continue=6&v=PdcvDbYyazQ

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Ref: Project by Brookings & JPMorgan Chase

THANK YOU

The world **connects here.**

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