



Market Review | South Africa

April, 2020

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Country Overview



Population & Economy

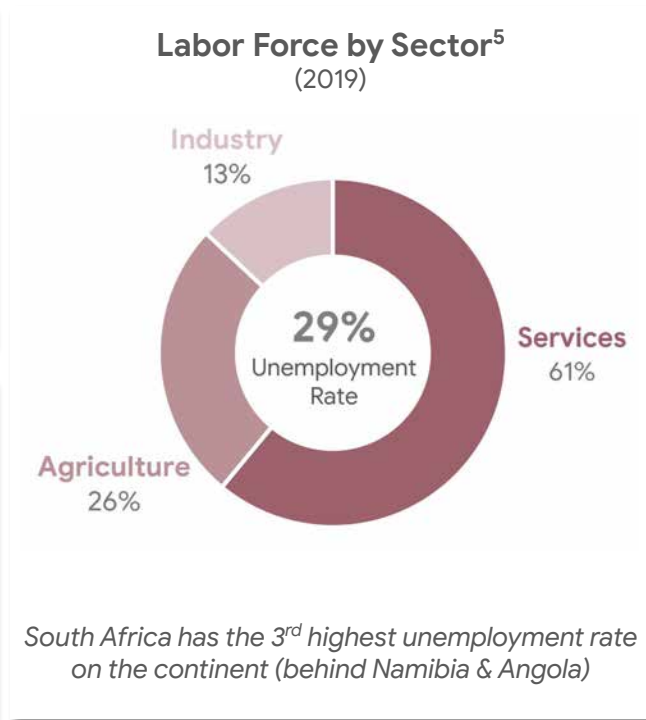
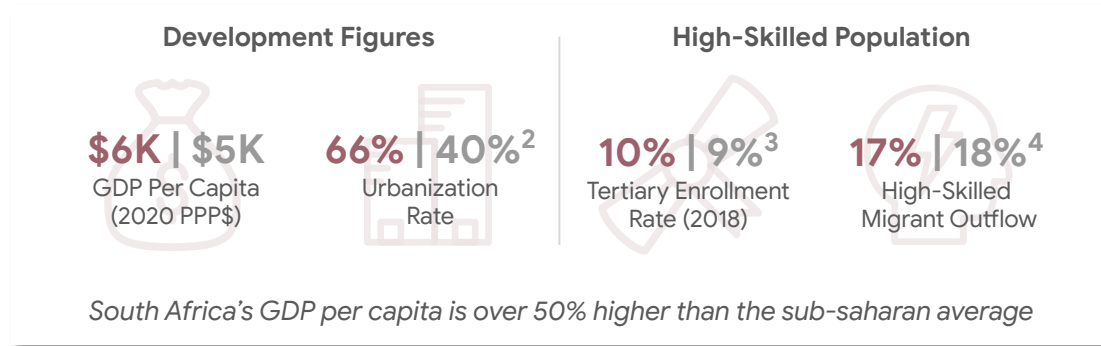
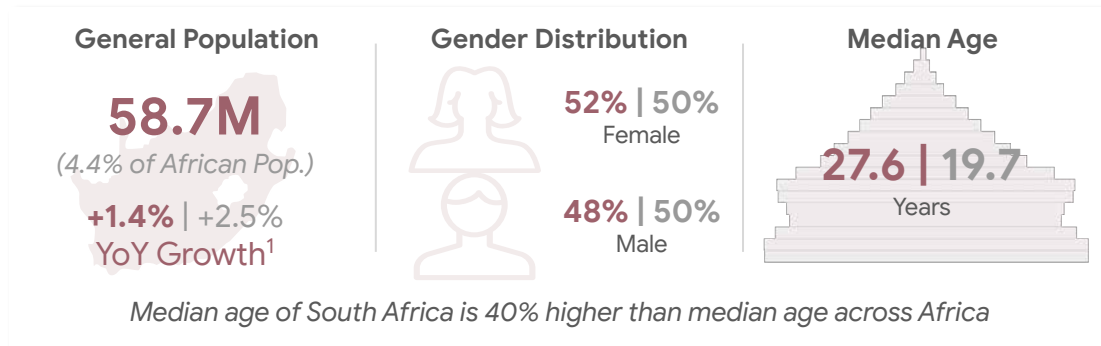


Technology Infrastructure



Government Involvement

South Africa demographics imply growth potential for startups and developers



South Africa's growing tech infrastructure is increasingly able to support internet users and an expanding base of startups

Infrastructure Indicators

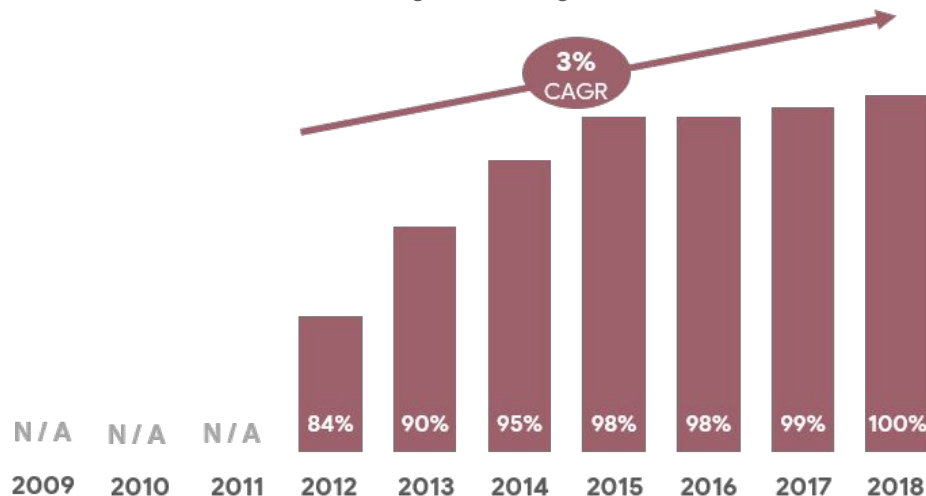
Above / Below Global Average | Global Average

63% 59%	153 69
Internet Penetration (FY20E)	Mobile Phone Subscriptions per 100 People
31.1 30.5	\$7.19 \$8.53
Mobile Internet Download Speed (Mbps)	Cost of 1GB Mobile Internet (PPP\$)
30.7 74.3	\$66 \$50
Fixed Internet Download Speed (Mbps)	Monthly Cost of 5GB Fixed Internet (PPP\$)
670 1,620	84% 89%
Servers shipped (FY20E)	Population with Access to Official Electric Grid

FY20 server shipments to South Africa (39K) were larger than all shipments to the rest of Sub-Saharan Africa (38K)

Population Covered by at Least 3G (2018)

(90% global average)



South Africa has 100% 3G coverage, contributing to a growing tech ecosystem

The government supports tech ecosystem growth and enables a relatively stable environment for global businesses

Notable Government Policies



Program 12J provides **tax deductions for retail investors in VC funds** focused on domestic startups



Labor Legislation and strict workers' rights laws make the **process of hiring and firing employees lengthy and expensive**

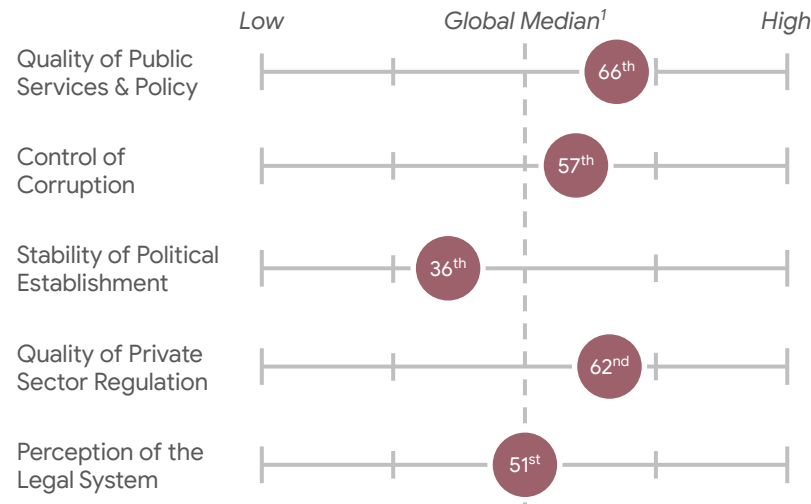


The Department of Trade & Industry **funds supplier trainings and education programs** to facilitate small business and startup growth



The Industrial Development Corporation and Technology VC arm **provides seed capital to startups** ranging from \$70K-\$1M

Governance Indicator Percentiles



South Africa provides a well regarded regulatory environment for business and economic growth compared to the global median



Developer Population



Demographics



Education



Employment



Experience

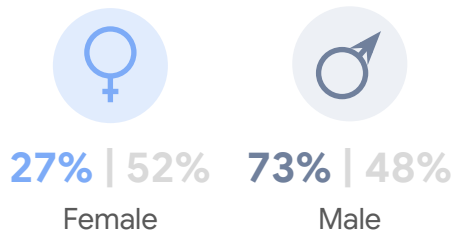
Developer population is largely composed of young males in the Western Cape and Gauteng Provinces

Developer Population (FY20E)

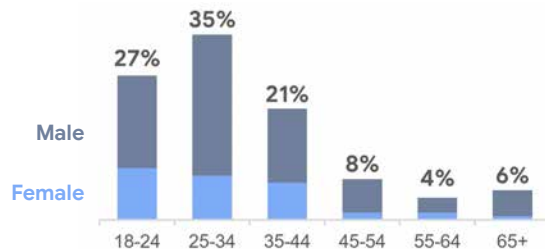


Gender Breakdown^{1,2}

Developer Pop | South Africa General Pop



Age Distribution^{1,2}



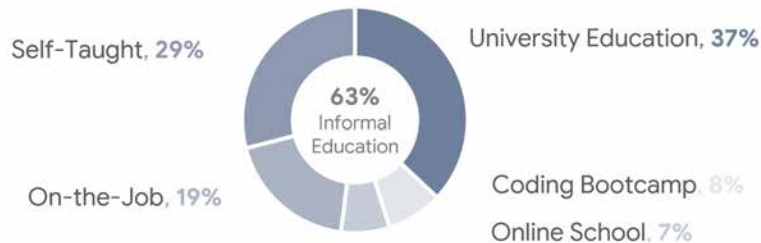
Top Provinces for Developers

- 1 Western Cape** (Cape Town)
- 2 Gauteng** (Pretoria, Johannesburg)
- 3 KwaZulu-Natal** (Durban)

Activities¹



Technical Education



Informal education provides new coders an opportunity to learn coding skills and find well paying jobs

FORMAL EDUCATION

University³

36%¹

Gender²



71% 29%

Top Industries

- 1 Comms., Media, Technology
- 2 Financial Services
- 3 Cons. Products & Services

Median Age

25-34

Avg. Monthly Salary

\$1,700

Full-Time

40%

INFORMAL EDUCATION

Bootcamp, online courses, on-the-job, self-taught

64%¹

Gender²



74% 26%

Top Industries

- 1 Comms., Media, Technology
- 2 Financial Services
- 3 Heavy Industry

Median Age

25-34

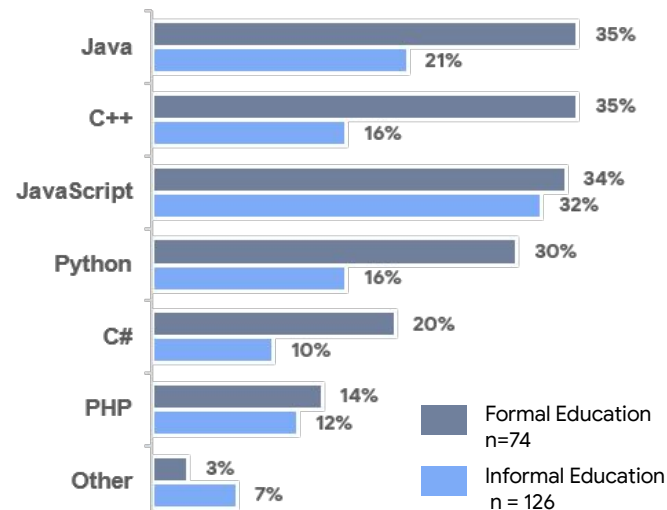
Avg. Monthly Salary

\$1,700

Full-Time

29%

LANGUAGE PROFICIENCY by EDUCATION

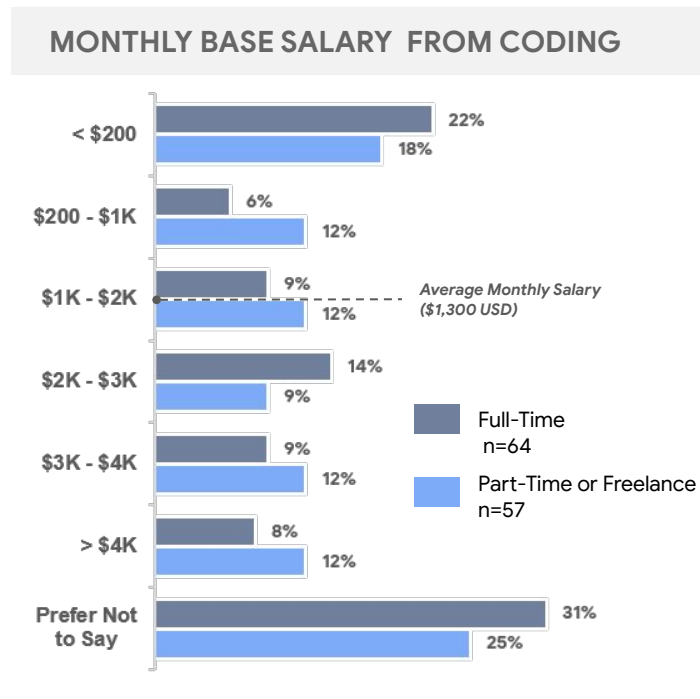
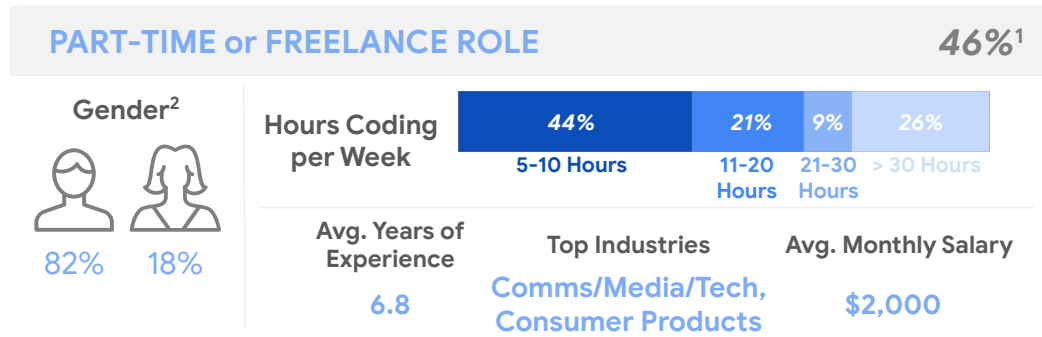
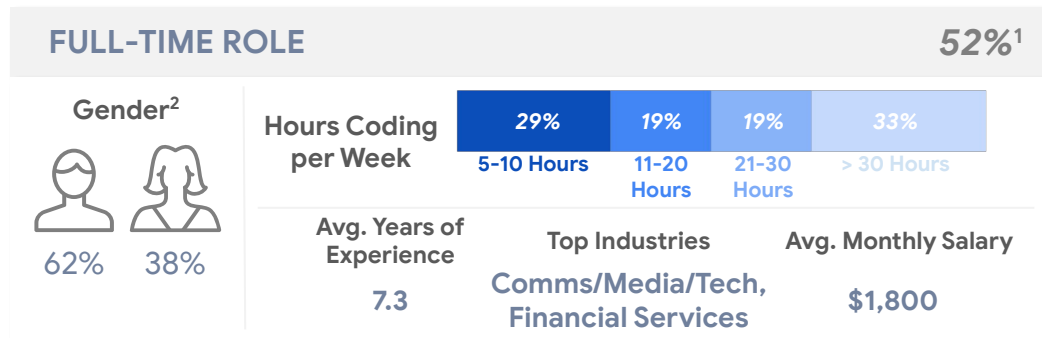


"There is increasing demand to learn JavaScript & Python as front-end development and data science becomes popular."

-Coding Bootcamp, South Africa

Question: How did you primarily learn to program or code?

The South African ecosystem supports a nearly even distribution of part-time to full-time roles



Question: How do you spend your time coding or programming?

Junior developers focus primarily on mobile and web, senior coders on cloud and big data platforms

JUNIOR DEVELOPER

Less than 6 years of coding experience

58%¹

Gender²



Open Repository Contributions



11% Once a year
8% Once every 6 months
14% Once a month
34% Once a week
33% Have never contributed

Top Languages

1. JavaScript
2. Java
3. C++

Top Industry

Comms/Media/Tech

Avg. Monthly Salary

\$1,000

Full Time

45%

SENIOR DEVELOPER

Over 6 years of coding experience

42%¹

Gender²



Open Repository Contributions



19% Once a year
11% Once every 6 months
5% Once a month
11% Once a week
54% Have never contributed

Top Languages

1. C++
2. Python
3. Java

Top Industry

Comms/Media/Tech

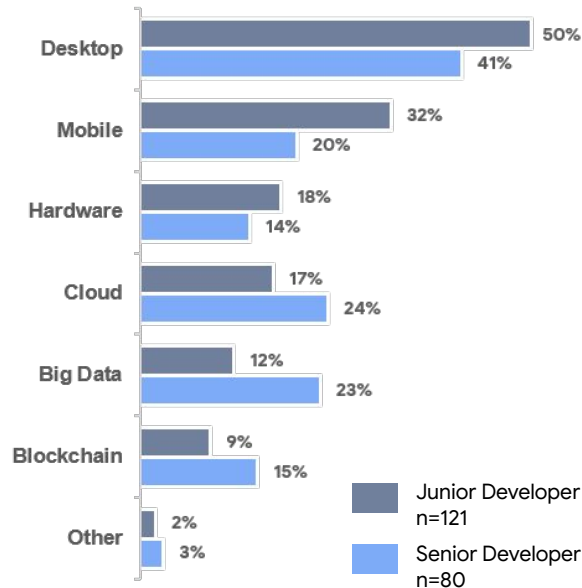
Avg. Monthly Salary

\$2,500

Full Time

55%

DEVELOPER PLATFORMS OF CHOICE



Question: How many years of professional coding or programming experience do you have?



Technology Ecosystem



Innovators (*focus areas*)



Innovators (*fundraising*)



Investors



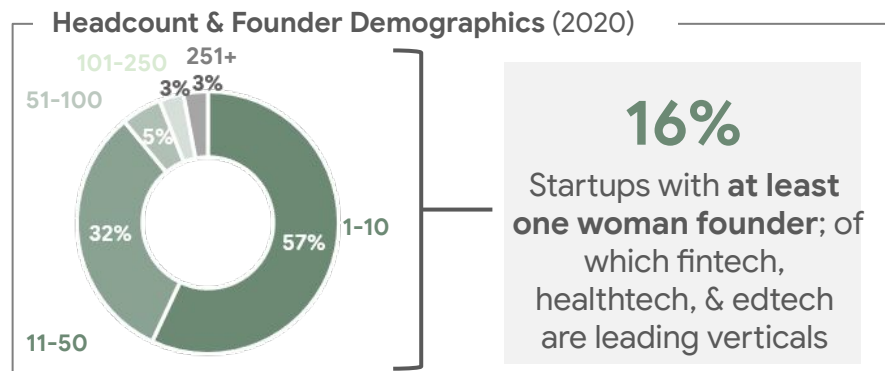
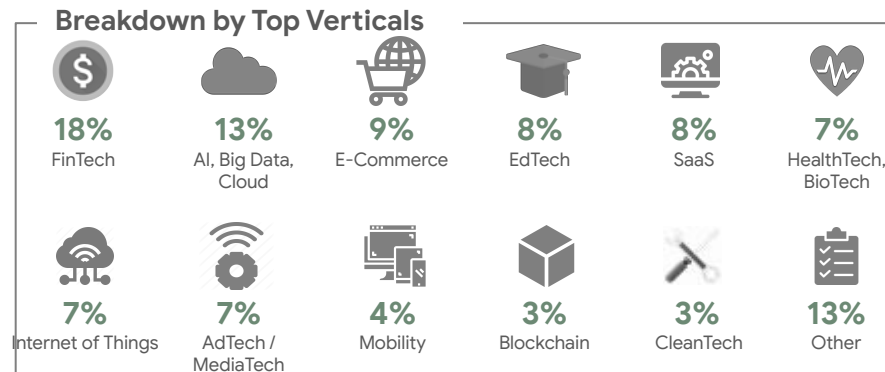
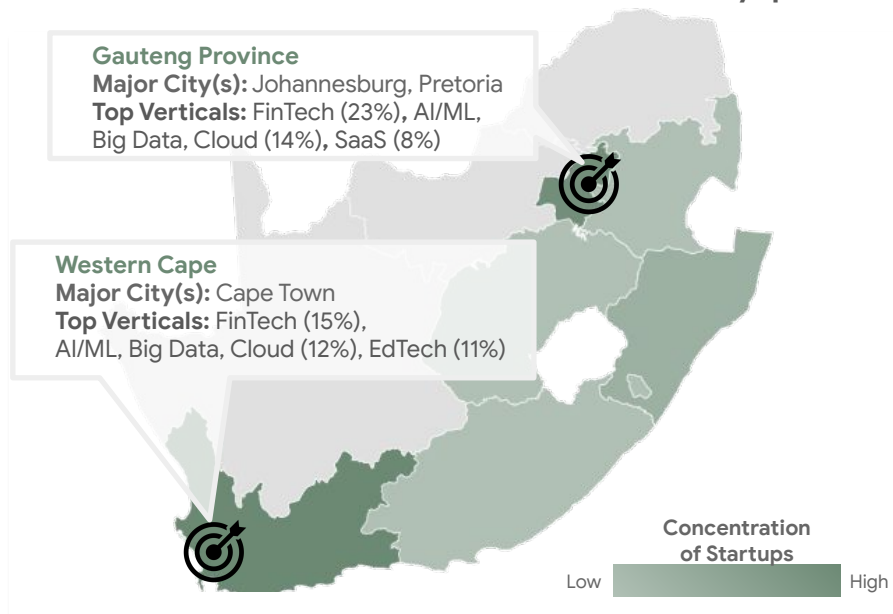
Educators



Enablers



Fintech and AI/ML are leading verticals in, both, Cape Town and Johannesburg; healthtech and edtech show early promise

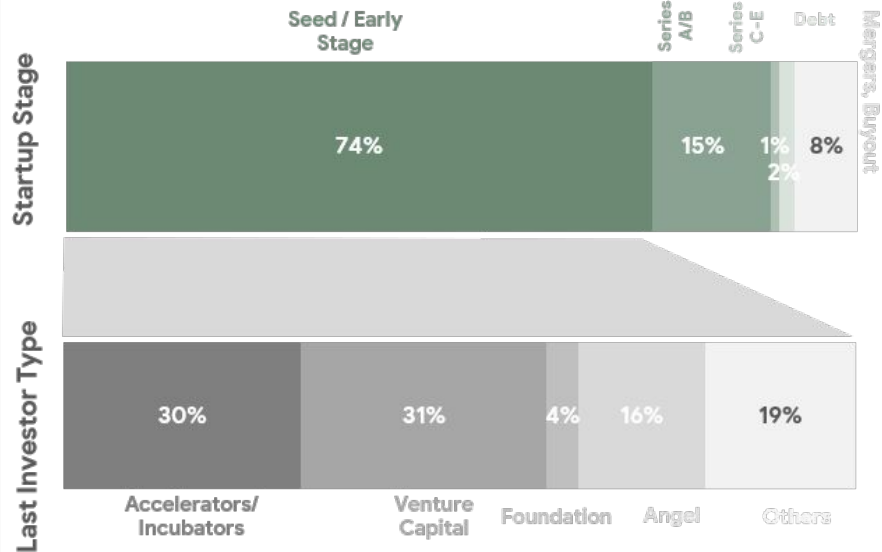


"The Western Cape has always been a hub with many internationally invested startups; but the Gauteng ecosystem grows because of technical universities and government funded enablers."
 - Accelerator, South Africa



Nearly 90% of South African startups are in seed or early stage rounds of growth

Distribution of Startups by Stage (2020)



Most startups are still in seed rounds of funding, getting much of their funding from incubators, accelerators and venture capital

Investor Count by Company Age (2020)



Most startups are less than 5 years old, but a large percentage of those older than 5 years, have 3+ disclosed investors

Innovator Characteristics

50%



of the startups primarily focus on the B2B market

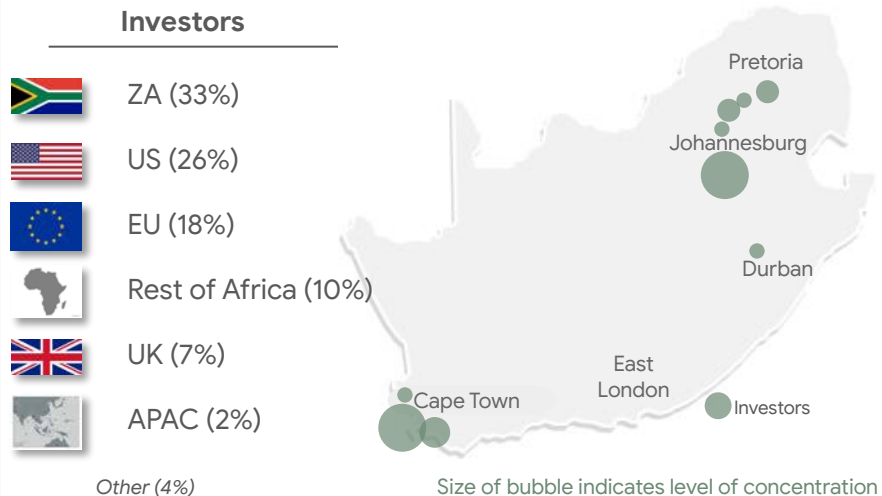
13%¹ of the startups operating in South Africa are headquartered internationally



21% of the startups are part of the financial services sector

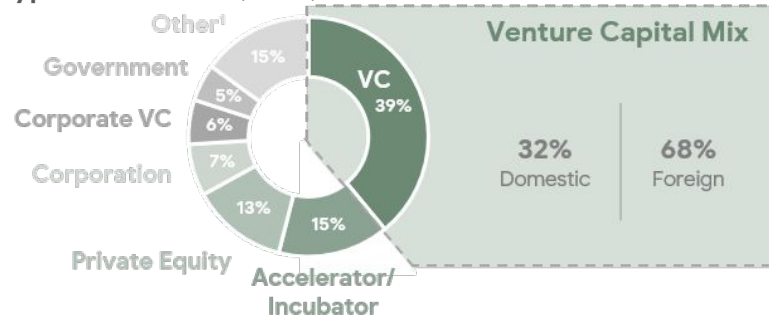
South Africa has a balanced mix of local vs. foreign investors

Concentration of Investors



"There has been an increase in later-stage funding and more startups begin to scale, but still face difficulty gaining capital. South Africa is one of the major investment markets - with Kenya and Nigeria."
 - Investor, South Africa

Type of Investors (2020)



Areas of Focus



30% of foreign investors only invest in early stage vs 47% of local investors



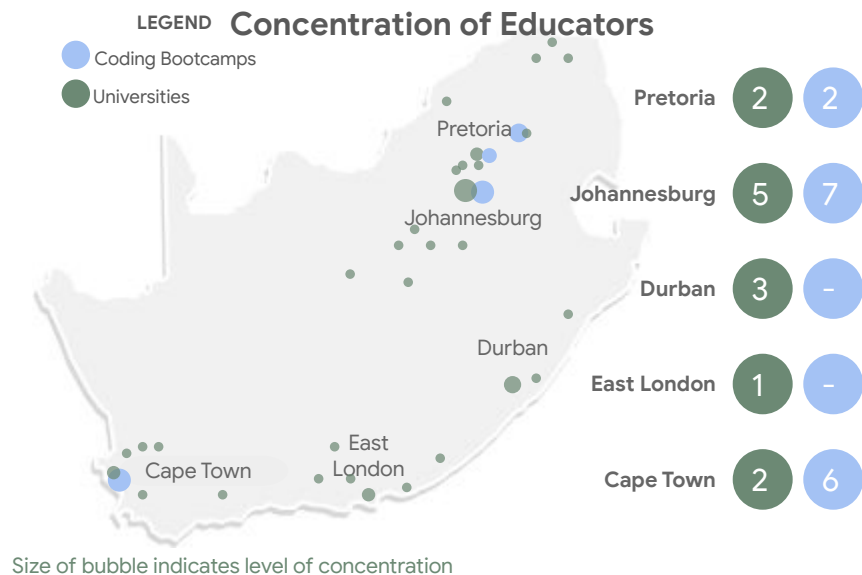
18% of investors active in South Africa solely invest in the software sector



9% of investors active in South Africa solely invest in fintech

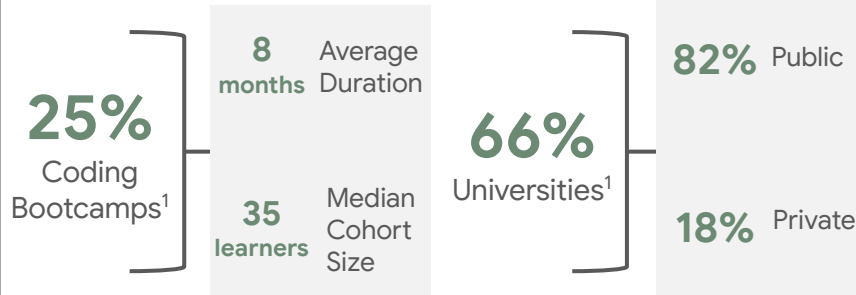


Universities and bootcamps are common across the largest population centers



"University is the preferred avenue for high-skilled developers, and coding bootcamps attract people from more underserved communities"
- Entrepreneur/Investor, Cape Town

Educator Type Breakdown



Case Study: Project CodeX

Overview: A four-and-a-half month coding program focused on **full-stack web development**. Introduce agile practices, such as scrum, and provide mentorship to prepare graduates. Graduates are hired by partners as interns or juniors for a 3-month trial period.

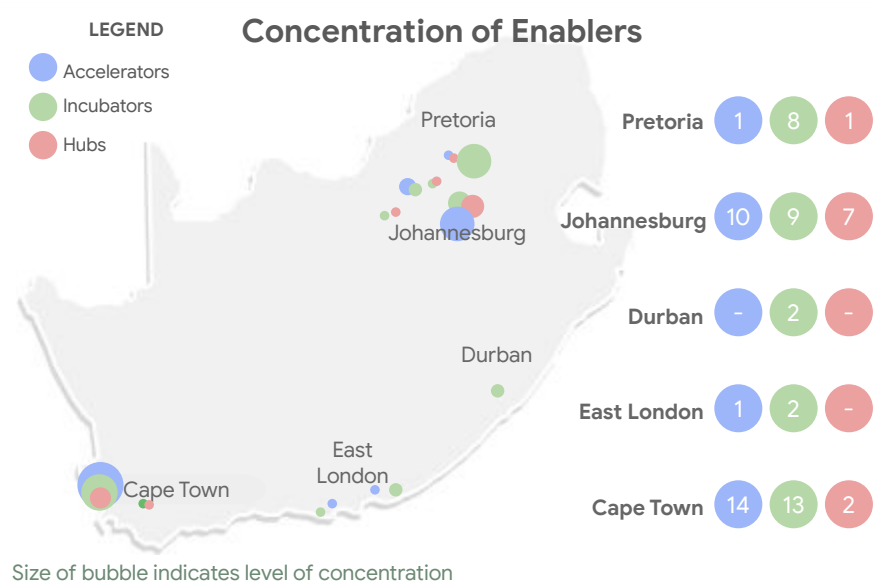
Tech Stack:

JavaScript



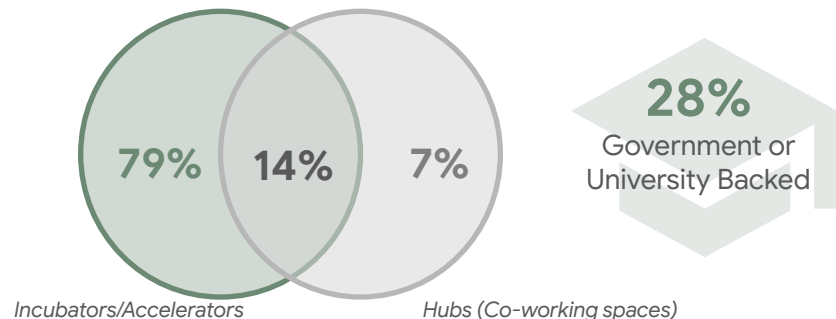


Cape Town and Johannesburg are, both, centers for accelerators and incubators, but Johannesburg has a significantly higher concentration of hubs



"Due to a lack of understanding in startup needs, it is tough to work with the government, despite the large number of grants and initiatives."
- Entrepreneur/Investor, Cape Town

Incubators/Accelerators vs Hubs



Case Study: The Innovation Hub

Overview: An innovation agency, with **five business incubators**, developed through the Department of Economic Development in the Gauteng Province to "promote economic development & competitiveness." It currently supports **more than 260 startups**.

Focus Sectors:



Smart Industry
(ICT & Advanced
Manufacturing)



BioEconomy &
Green Economy



Creative
Economy &
Multimedia



Supporting Materials

Glossary

Term	Definition
Countries Analyzed	South Africa, Egypt, Morocco, Nigeria, Kenya, Ghana, Rwanda, Ethiopia, Uganda, Tanzania, Ivory Coast
African Startup	A company that meets the following criteria: <ul style="list-style-type: none"> • In growth stage of funding (e.g., seed round, series A - F) • Technology-focused • Headquartered in Africa or driving the majority of its revenue in Africa
Tech Ecosystem	The network of people, organizations and institutions that enable innovation
Innovator	African startup (see definition above)
Investor	Provides funding in the tech ecosystem (e.g. venture capital, corporate venture capital, angel investors, government funding, private equity)
Educator	Provides technical training or education (e.g. university, bootcamps, online courses, on-the-job training)
Enabler	Provides support in the form of work space, training, education, mentorship or funding (e.g. accelerators, incubators, work hubs)
Professional Developer	An individual that is employed in a job that involves coding and spends 5 or more hours per week coding
Junior Developer	An individual with less than six years of coding experience
Senior Developer	An individual with six or more than six years of coding experience
Formal Education	Universities or secondary schools that provide information communication technology (ICT) curriculum
Informal Education	Bootcamps, online course, self-taught or on-the-job curriculum to teach coding skills
Female Founded Startup	Startup with at least one female founder