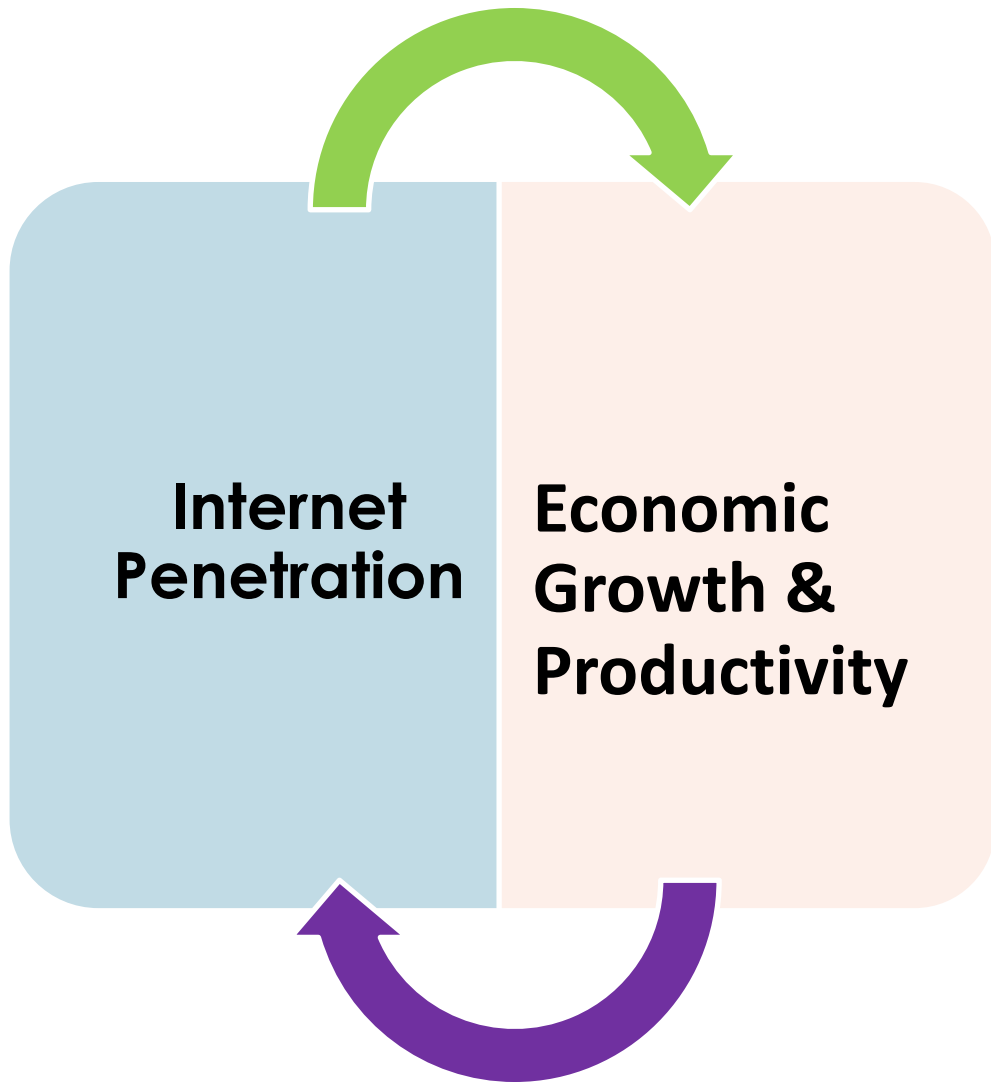


WESTERN CAPE DIGITAL OPPORTUNITIES IMPLEMENTATION FRAMEWORK



Western Cape
Government
Economic Development
and Tourism

01 Oct 2018



1.38%

World Bank, 2012

Why is the focus on the digital economy?

Digital disruption's impact on economic growth is a result of:

- Reduced transaction costs, allowing businesses to enhance efficiencies and exploit economies of scale (particularly if data-intensive transactions are automated);
- Increased innovation
- Reduced information failures, search costs and the costs to communicate
- Increased labour productivity
- Increased exports and development of new markets
- Greater business efficiencies

Do nothing?

WC failure to embrace Digital Disruption will mean:

- Digitally smart competitors entering into the market and eroding the customer base of local businesses
- Locally produced products and services becoming redundant or obsolete
- Local firms unable to meet an increasingly digitally savvy customer expectation of services
- Local firms unable to access export opportunities in foreign markets due to uncompetitive pricing and quality;
- Local firms unaware of new trends and developments in their sectors enabled by digital technology
- Competitors offering cheaper products and services
- Competitors' products and services being more efficiently and affordably produced, make better margins; and
- Competitors' utilisation of data intelligence allowing them to respond quicker, cheaper and more bespoke products and services to customers' needs =

↑ Unemployment;

↓ Quality of service to government & citizens

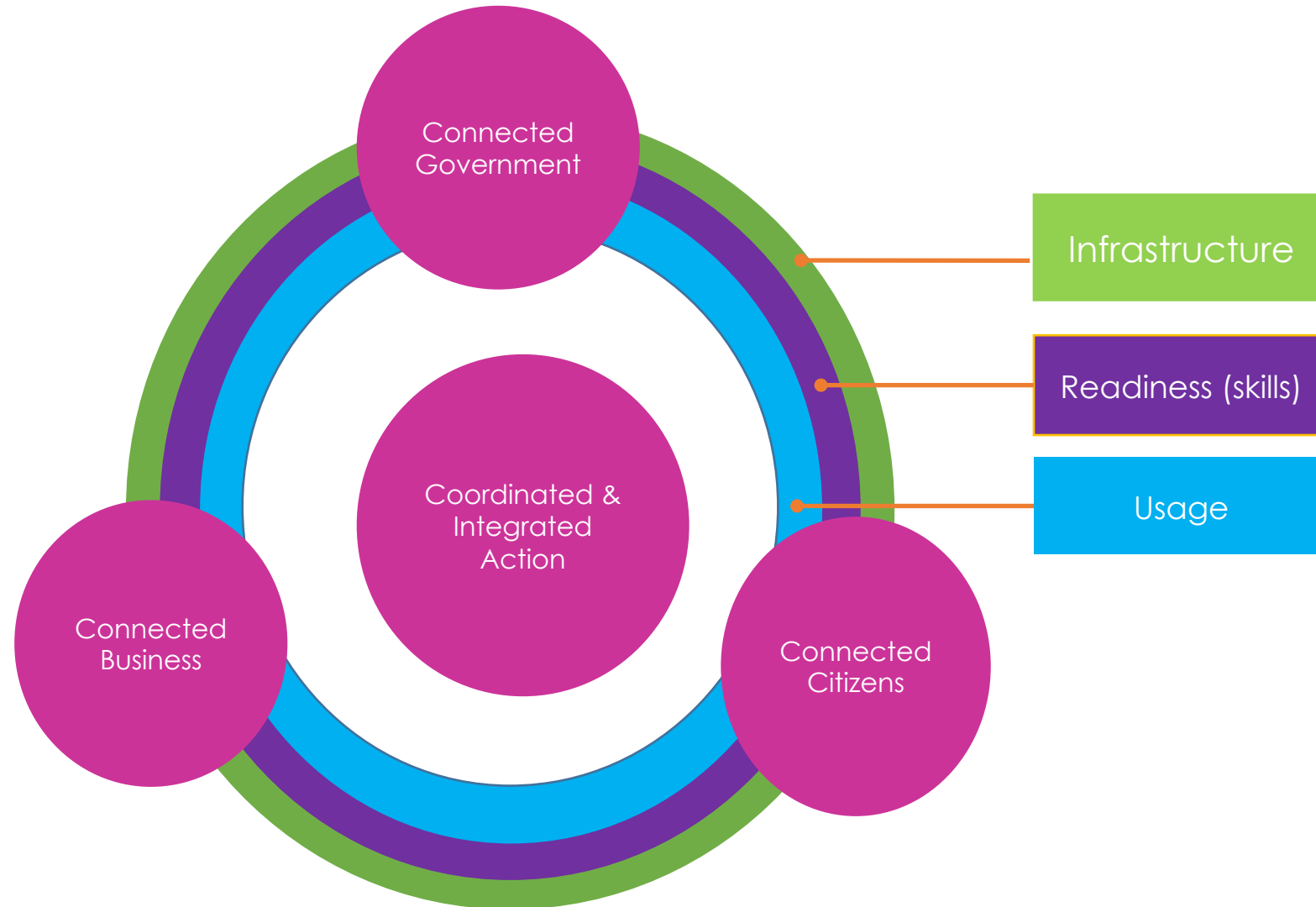
↑ Reliance on international companies for solutions and price by government and citizens

↑ Un-competitiveness of local firms

↓ Local innovation and R&D

=

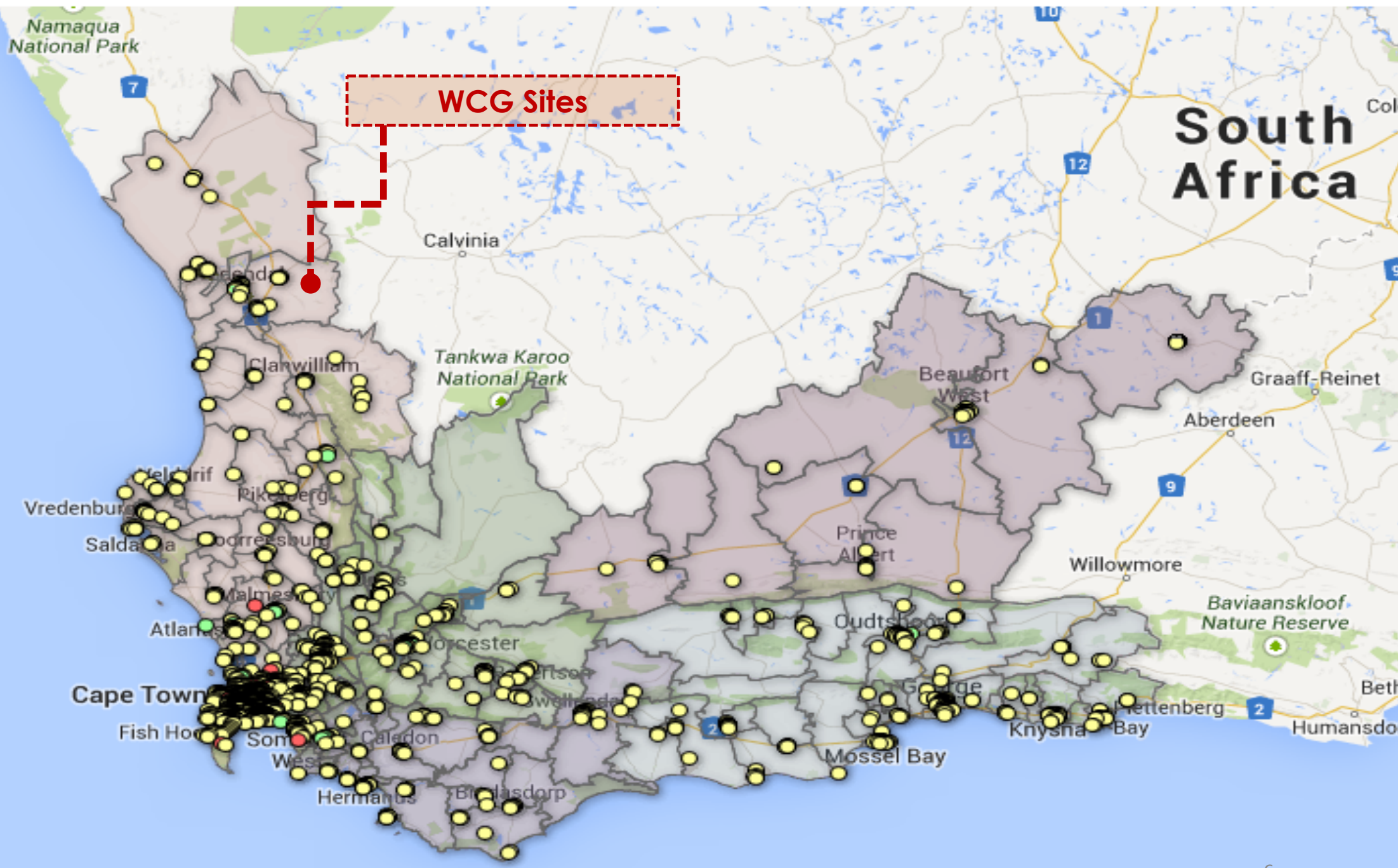
WC Broadband Strategic Framework



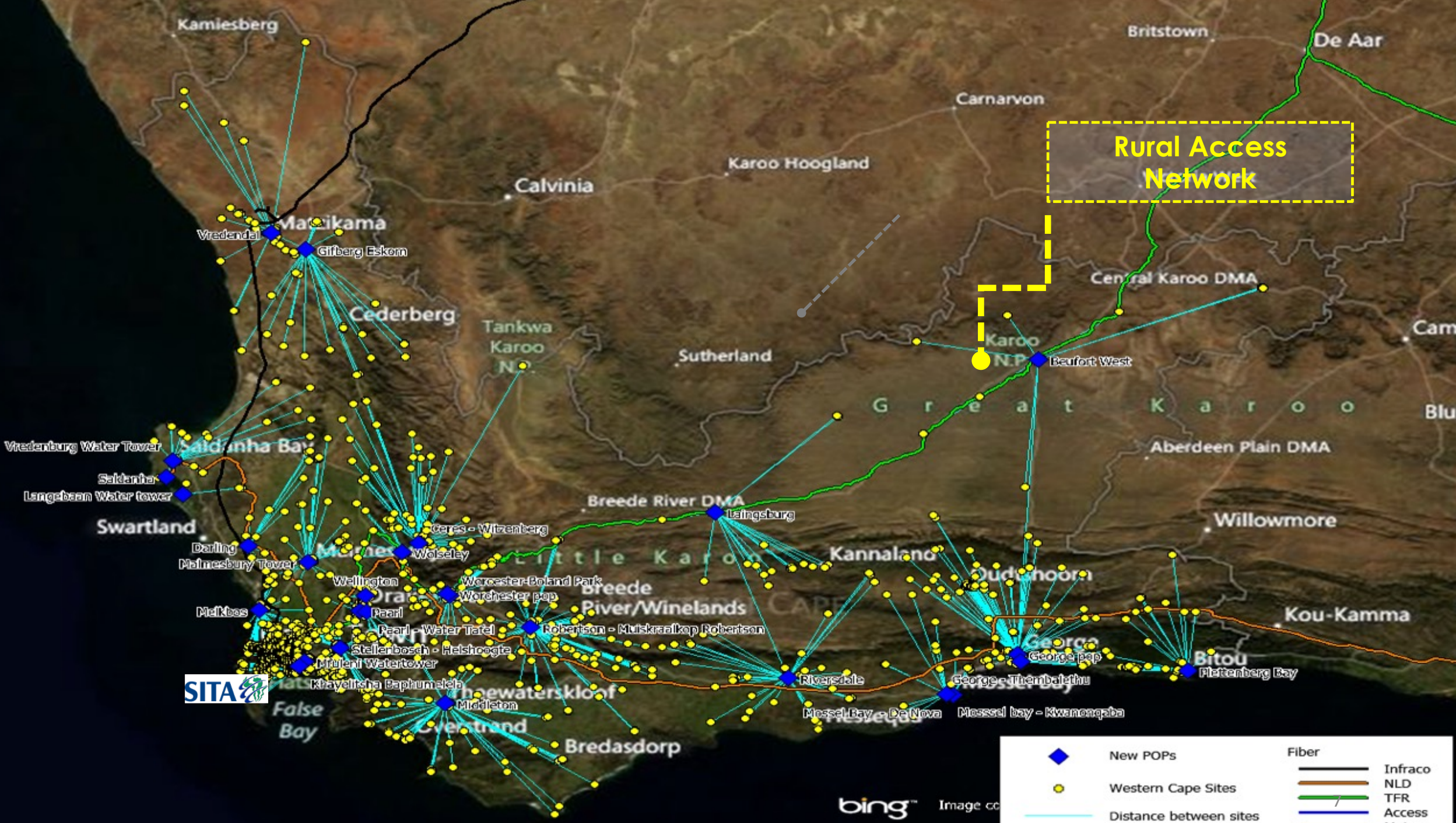


1964 WCG
Sites in total =
approximately:

- ✓ 1286 Schools
- ✓ 298 Healthcare facilities
- ✓ 444 Other Govt. offices



South Africa

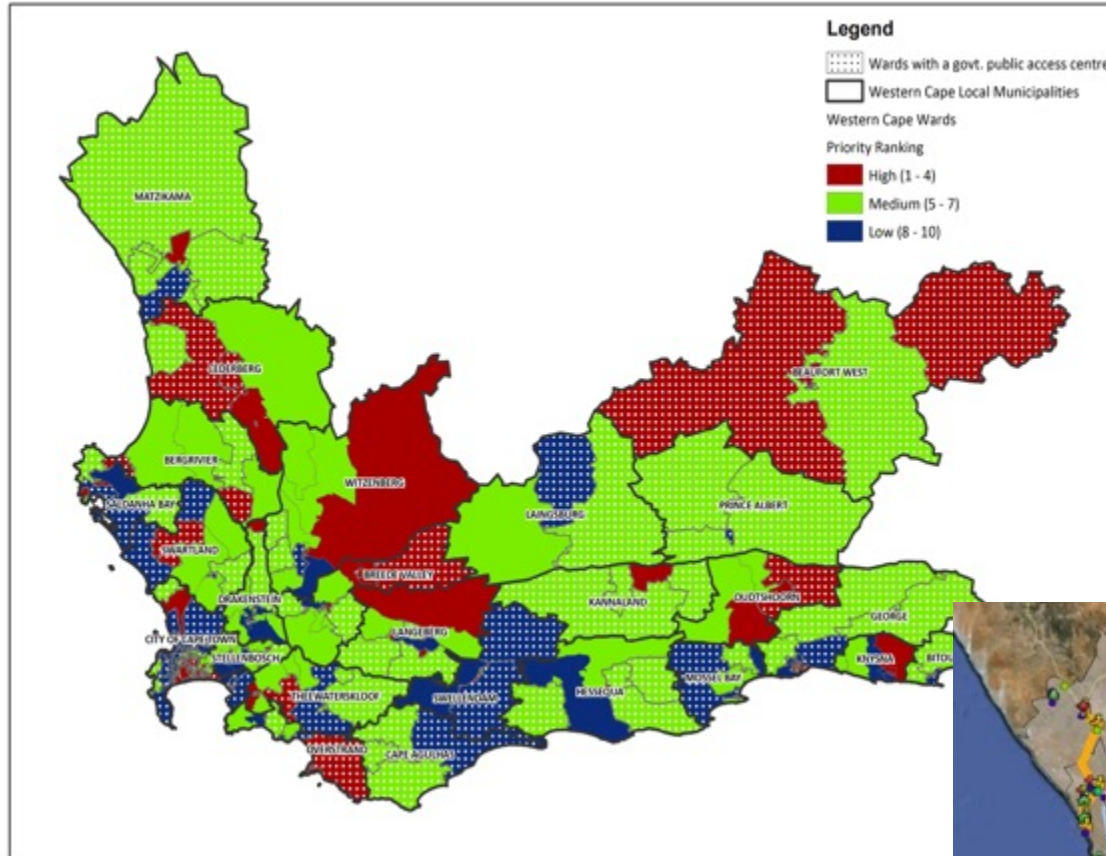


Rural Access Network



	New POPs		Fiber
	Western Cape Sites		Infraco
	Distance between sites		NLD
			TFR
			Access
			Metro

Public access Wi-Fi



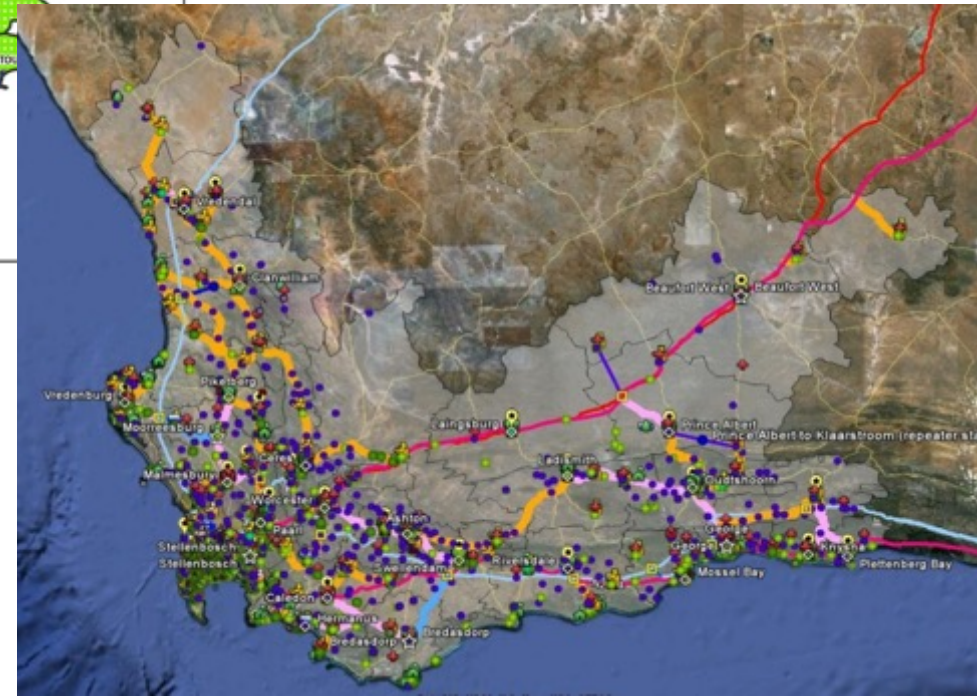
Profile of internet penetration in WC

Red = very poor access

Green = medium access

Blue = high accessibility

Public access Wi-Fi hotspot overlay



The WC Digital Economy Journey

WC Broadband Strategic Framework 2011 - 2030

Phase 1: Early Implementation focus 2011 - 2017

Government Access

Limited Citizen Access

Next Phase: Digital Opportunities Implementation Plan 2017 – 2025

Government Usage
(Digital Government by Cel)

Citizen/workforce
access, skills and
usage

Business usage

Outcomes and Goals for 2025

Western Cape is a leading
global digital hub

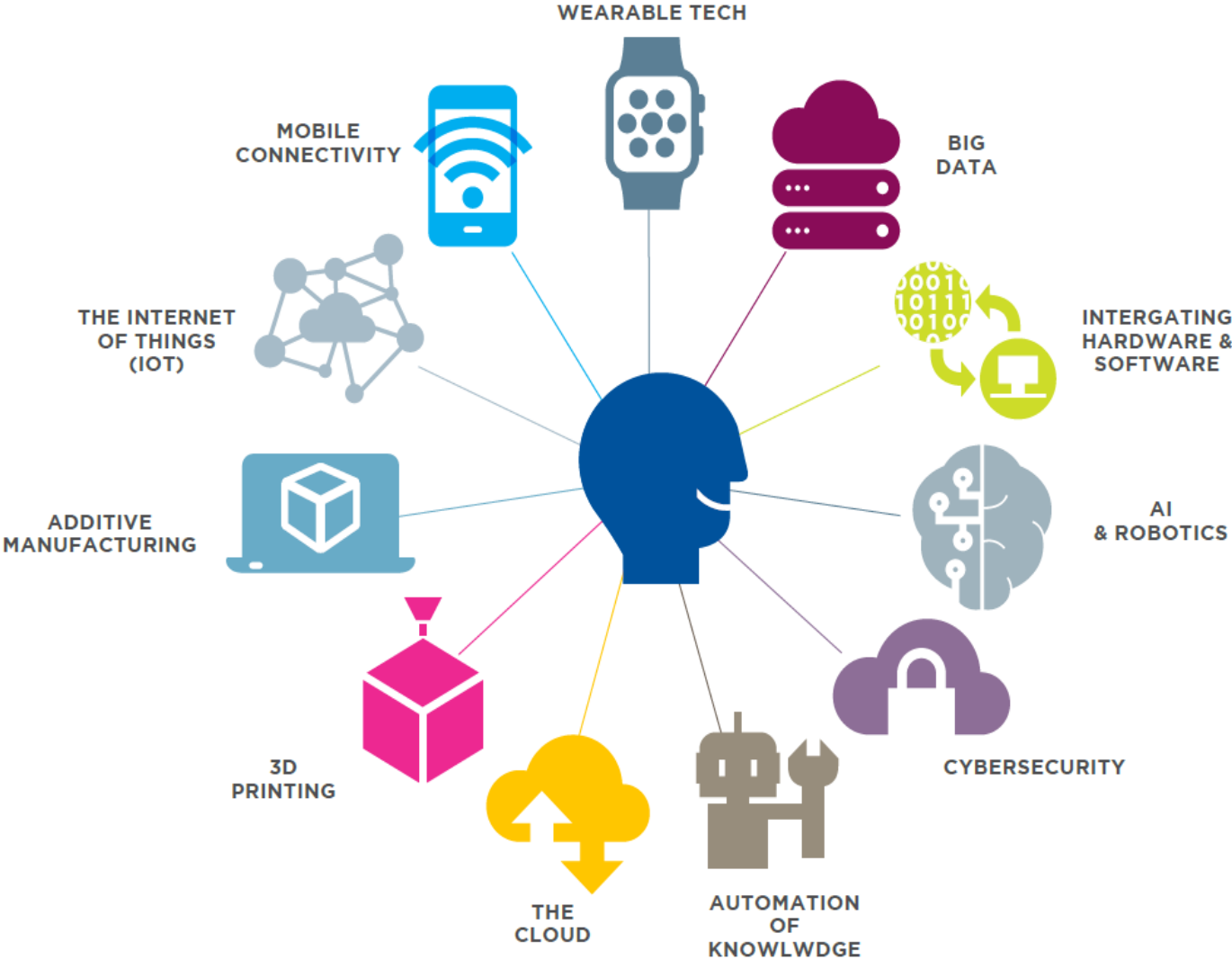
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graph TD; A[Western Cape is a leading global digital hub] --- B((80% of its citizens have internet connectivity)); A --- C((R10 billion investment into the Western Cape))
```

80% of its
citizens have
internet
connectivity

R10 billion
investment
into the
Western
Cape

Disruptive Technologies

4th industry = “cyber-physical systems,”



Informants: EY Study on 10 WC sectors

Digital Disruption Impact on sectors

- Tourism
- Financial & Business Services
- Retail & Wholesale
- Transport
- Agriculture
- Manufacturing
- Energy & Green Economy
- Construction
- Government (broadly+ Education & Health)
- SMMEs as a class of business

The future of Tourism

Tourism is one of the fastest growing sectors in the world, and this is certainly the case in Africa

LOCAL VIEW

The number of tourists visiting South Africa grew 14% in January 2017, on January 2016. This significant growth provides tremendous opportunity for the sector as a whole.

Tourism contributes R17 billion

To the WC economy, and has created 204 000 formal jobs in the region. 2014 figures

1 Tourism in Western Cape contributes for

GLOBAL VIEW

International tourist travel worldwide is projected to increase nearly 70% by 2030!

Contribution to GDP growth is expected to be 4.3% in the Western Cape

This growth spills over to other industries that are related, or rely on the tourism sector

Large forces driving growth in tourism around the world:

- Greater accessibility
- Travel is becoming cheaper, and apps are revolutionising the tourism business

The future of Tourism

Digital transformation and a proliferation of data are fundamentally changing relationships between tourism companies and their guests

Trends driving change within the sector

Self-service channels

The tourism sector provides a perfect example of the disruptive forces that digital channels and capabilities have enabled, and that is: customer empowerment.

Customers are involved

Digital devices, channels and capabilities enable organisations to track customer interests, personalise offers and connect people across the sector, anywhere, anytime. This has led to the rise of the 'DIY' (Do it yourself) traveller.

Mobile (and other digital device) booking is fast becoming one of the main channels for tourist bookings because it provides real-time pricing, puts the user in control to explore options and make decisions, and is instant and convenient.

Self-service channels have already penetrated the aviation industry which is an important participant in the tourism sector. Airports and airlines have established and established self-service platforms to drive efficiency of traveller transportation – online booking, self-service kiosks, and self-boarding services. This digital adoption enables quicker throughput of passengers and is the opportunity to grow scale, reduce process, and improve access to more people.

Organisations are able to extend their involvement in customers' lives by regularly tracking their activity and communication with them, expanding the opportunities to provide further services and build customer relationships.

Be-locals of business operations

These direct channels also benefit tourism organisations in helping to predict preferences, tailor and financial metrics, enabling them to plan more efficiently and make better business decisions.

Companies are able to create strategic and operational dashboards to monitor customer feedback, receiving current & future financial indicators using predictive software.

Large sales forces are becoming less relevant as providers advertise information & engage with stakeholders/the market remotely on digital platforms, and users/customers self-serve themselves. It is a different set of skills that is needed with this shifting focus from physical to digital channels.

Rise of ratings & changing spheres of influence

People are now able to share their experiences and opinions instantly and widely, and this power is increasingly able to drive the success or failure of a service provider, if not managed well. Ratings and reviews are raising the bar of service levels and raising organisations on their toes.

Purchase drivers are no longer predominantly price or amenity based, but also rating and review based. Customers are able to share their experiences on on-trip ratings & reviews platforms which provide other customers with information they otherwise wouldn't have had access to in assessing options.

People are able to share authentic reviews voluntarily. And the more people share these reviews, the more concrete the ratings become, producing a network effect that grows in value as the number of users do.

Customers are placing such high value on other customers' views that these become the factors driving purchase decisions, overriding price.

Impact of digital trends on organisations

The areas of focus for organisations that need to drive strategic decisions in order to stay relevant & drive competitive advantage

The trends driving transformation in the sector have an impact across various areas of business, to a varying extent. It is important to understand where digital solutions are driving change and how significant a transformation they are driving in order to understand how best to respond. Disruptive impacts are framed within the following areas as they are key pillars of all businesses: Customer experience & value propositions, product enhancement, organisational forms & collaborative ecosystems.

All stakeholders across the tourism value chain need to understand how these areas of business are transforming in order to respond within their own business and remain competitive. Depending on a participant's role within the tourism value chain, a response might impact a core business capability and thus require significant focus and realisation, or just require understanding of the consequences and changes to the sector to keep abreast and support those who are being more deeply impacted.

Customer experience & value propositions

Customers expect to be able to book services at anytime, from anywhere around the world.

Organisations and marketers need to understand the behaviours and preferences of customers and do their best to meet these demands in order to stay competitive.

Product enhancement

Organisations need to become user-centric and this requires a strong focus on the design of online booking experiences. Web and mobile design needs to be a key focus of providers in creating a vibrant, understandable, seamless and engaging digital experience. Providers that manage their own bookings online, have less need for tour operators and concierge services. The emphasis on service offerings is

Tourism disruption horizon

The adoption of digital solutions is pervasive within the local market and driving growth and transformation of most of the organisations within it

The uptake of digital platforms has been incredibly fast in the tourism sector the world over, but the growth in the Western Cape has been exceptional.

Challenges for sector growth within the Western Cape, and South Africa more broadly that may hinder further digital transformation and growth in the sector:

- Accessibility - strict visa requirements
- No clear, unified brand - like the incredible India campaign
- Unreliable connectivity for travellers
- Infrastructure for hosts - access to broadband for business
- Safety concerns
- Global benchmarking of experiences creates high standards for local providers to meet which can be costly

Improvement to some of these areas that represent challenges for organisations within the Western Cape - particularly infrastructure, would enable organisations to catch up with developed markets.

The adoption of certain digital capabilities by business and/or Government could address some of these challenges, such as the employment of digital visas and passports to simplify travel for international tourists.

Digital maturity comparison of the sector across global markets

The transformative impacts already felt in the sector locally places the Western Cape Tourism sector in a more competitive position compared to other emerging markets. Developed markets are still relatively more mature given the extent of their digital infrastructure and the fact that this is where platforms such as TripAdvisor and Expedia, are emerging from.

Future outlook

Hypothesis-driven narrative describing a 'day in the life' in the future of the sector to bring to life the impact of digital on the practical activities and opportunities in the sector

EXPERIENCE OF A TOURIST VISITING THE WESTERN CAPE

Duff from Germany wants to plan a holiday to the Western Cape because he thinks he will find him about the quality of the wine and culinary experience on offer.

Duff goes online to research the area. On travel sites he is able to see that wine availability and make booking inquiries at his chosen restaurants on his phone.

Having organised his trip, Duff sends his travel agent in Germany. It's time for Duff to get on his mobile phone and later to see himself through customs using the self-service passport readers at the airport.

and relay the meaning of foreign language words and hear him for each, via earphones. He decides to book meals at certain restaurants ahead of time and compare restaurant ratings and comments made by other travellers. He notices contact with people who have similar interests to him through location based social search results apps that facilitate communication between travellers in an interesting way. The profile he shared his local needs platform to connect him with people who have similar interests, and are geographically mutually close to him.

During his stay, Duff is able to navigate around the region using mapping apps and search for experiences on local and global sites. He decides which experiences he wants to engage in. He is able to do this digitally without having to engage a tour operator.

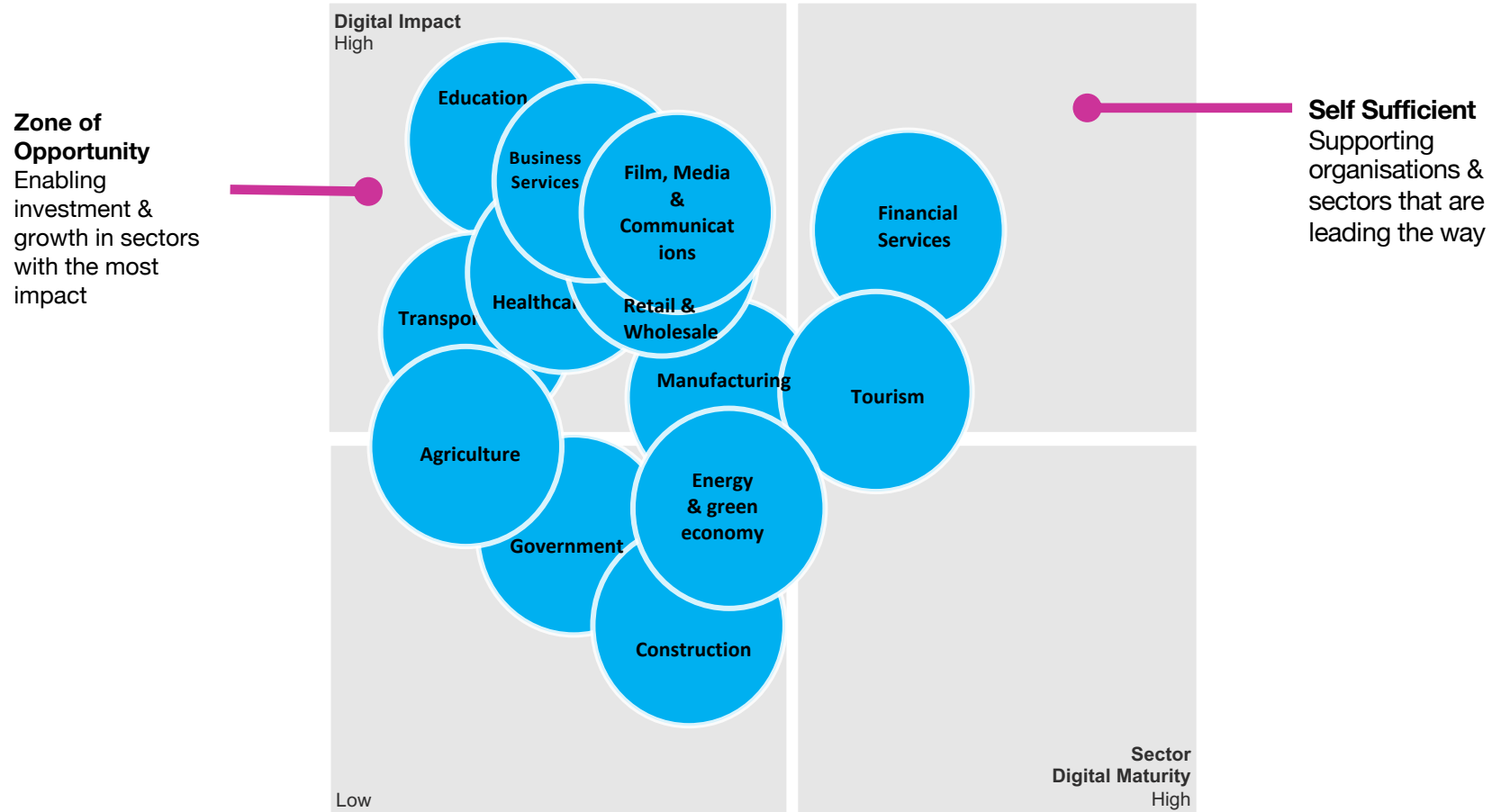
Duff wants to meet up with some locals to experience and to fully immerse himself in the local culture. He makes contact with people who have similar interests to him through location based social search results apps that facilitate communication between travellers in an interesting way. The profile he shared his local needs platform to connect him with people who have similar interests, and are geographically mutually close to him.

He himself rates and comments on his experiences to share his views with other visitors. He shares photos and videos of his experiences on social media. Duff and his travel agent are recognised without him needing to log in.

Duff lands at Cape Town International airport and is able to immediately check a taxi via an app on his mobile to his Airbnb. Payment for the taxi service doesn't require him to have local currency on him but rather is automatically charged to his linked account in Germany.

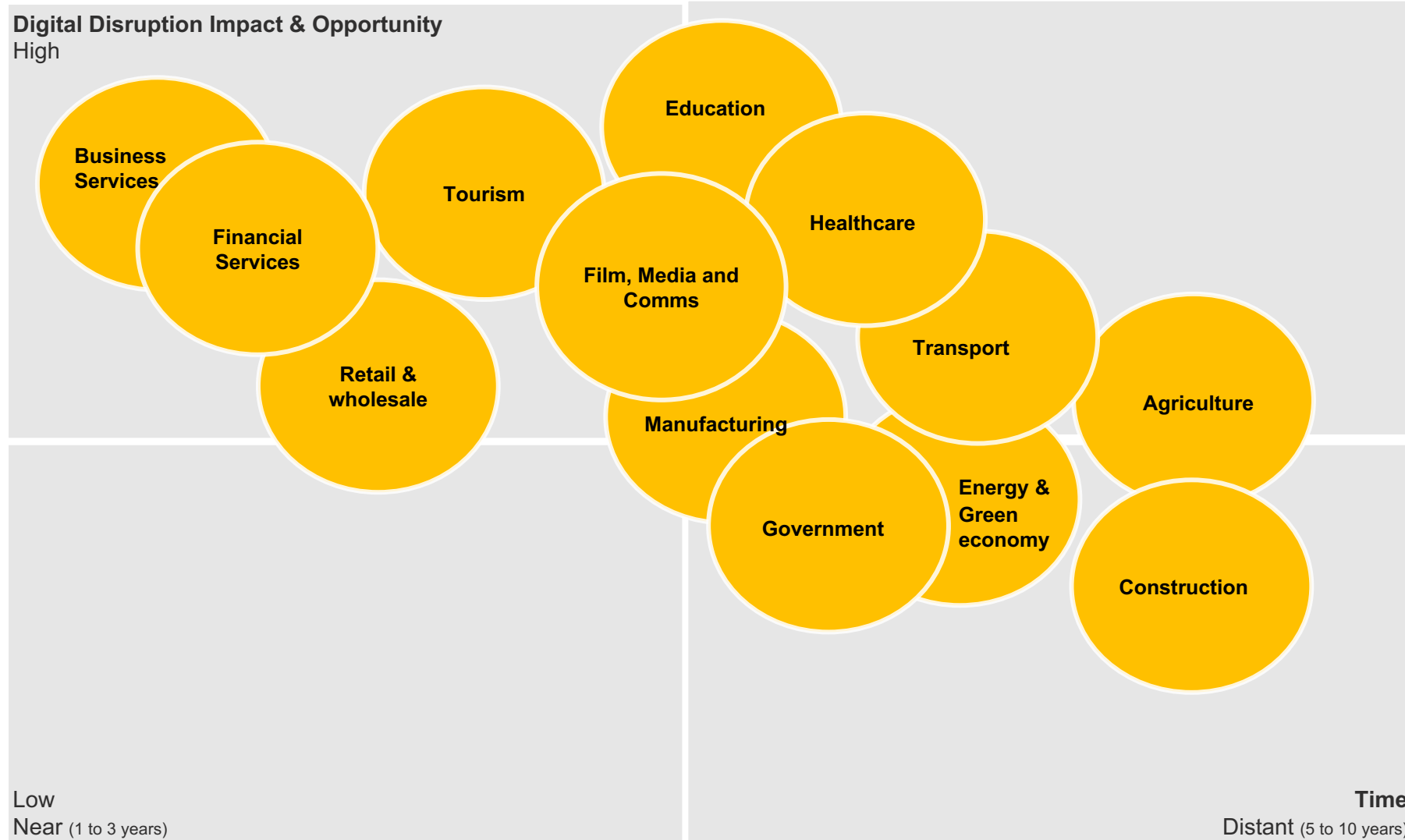
Potential of Digital Opportunity

Relative mapping and clustering of sectors

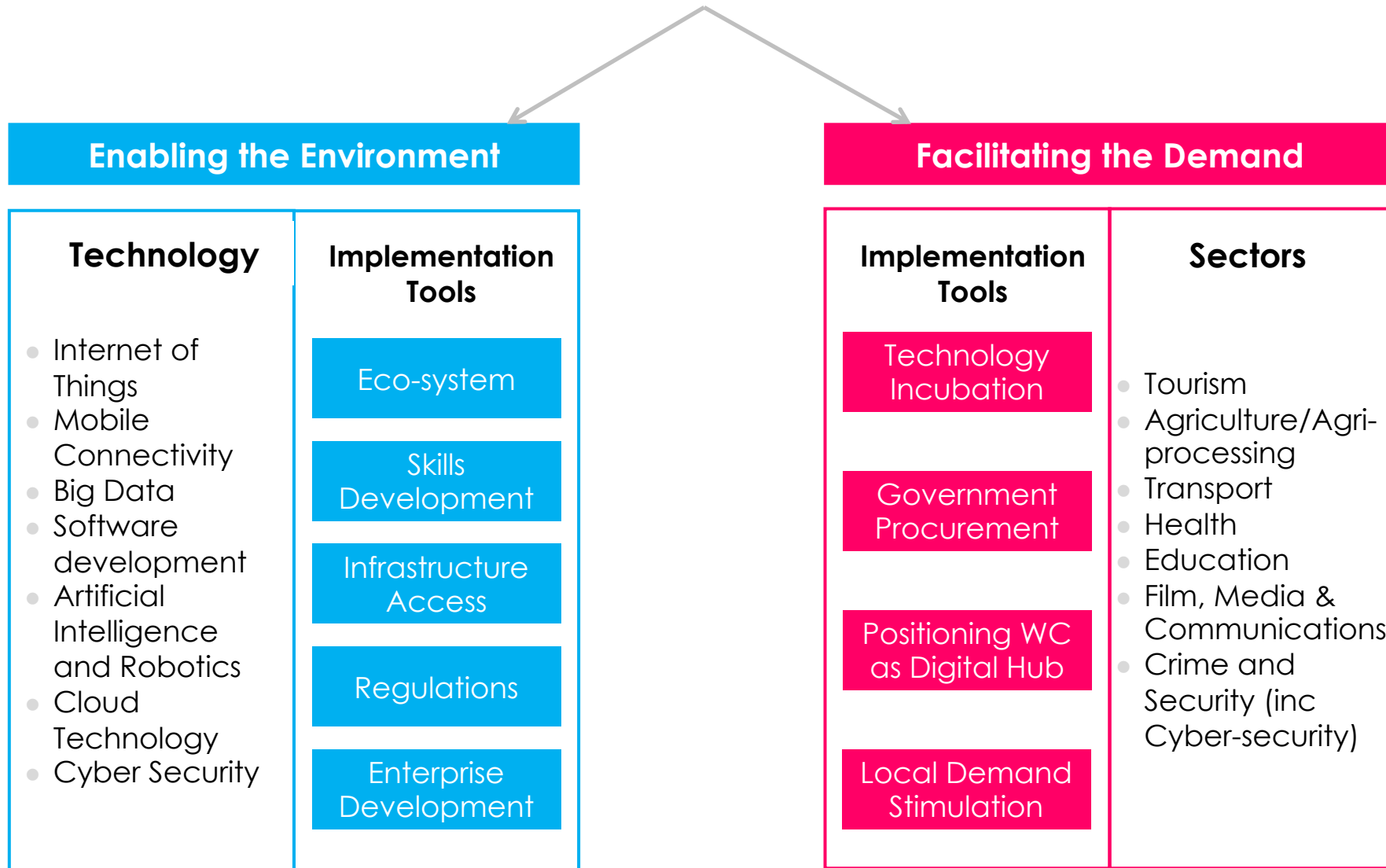


Sector Impact Roadmap

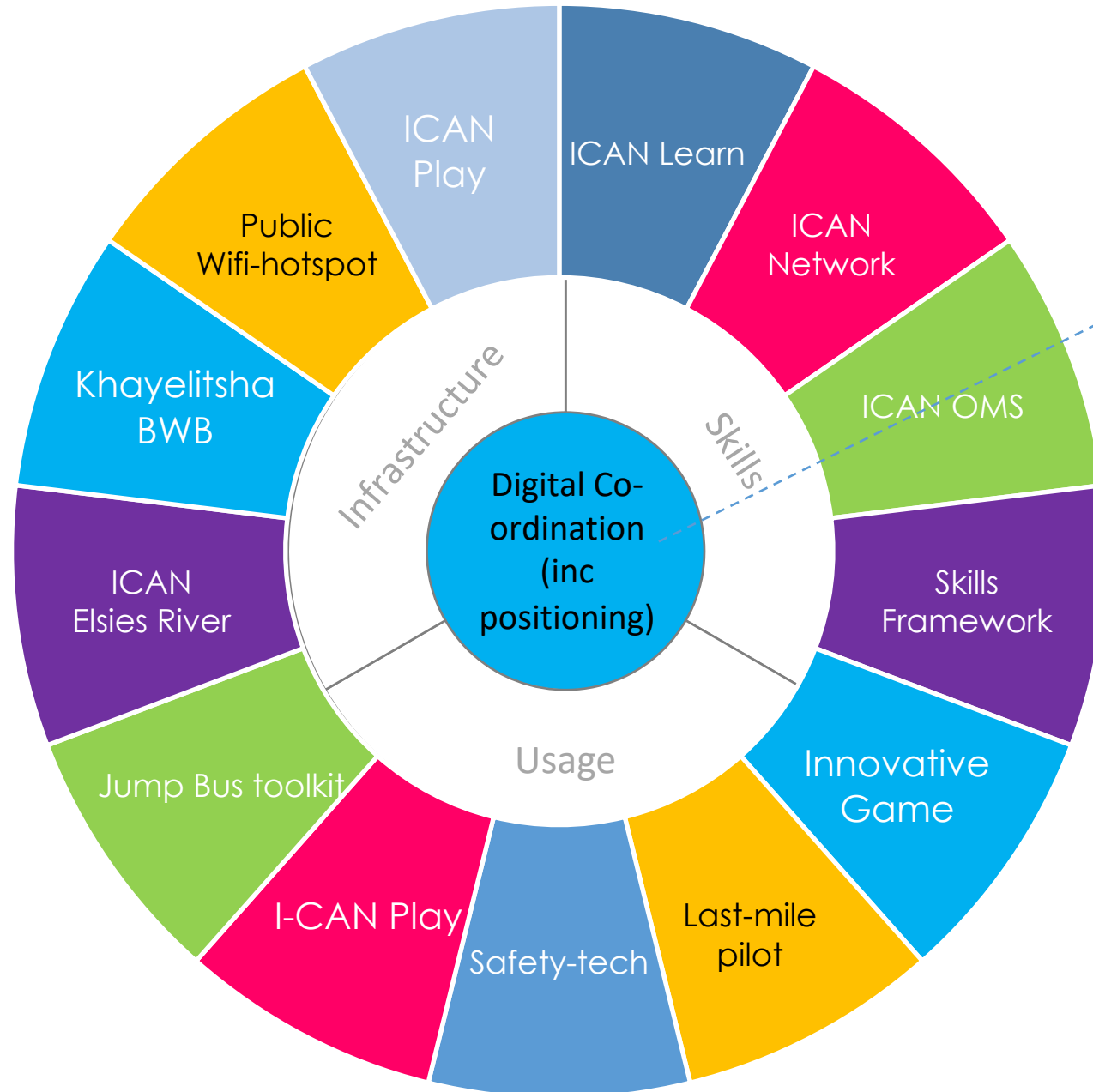
The Relative pace of disruption is accelerating and affecting sectors on different time horizons



Digital Opportunities Implementation Framework



Portfolio of Current Digital Economy Projects



1. WCG Transversal Thought Digital Leadership programme
2. Awareness, Communications and Advocacy on digital adoption
3. Research
4. Digital DEDAT – internal planning



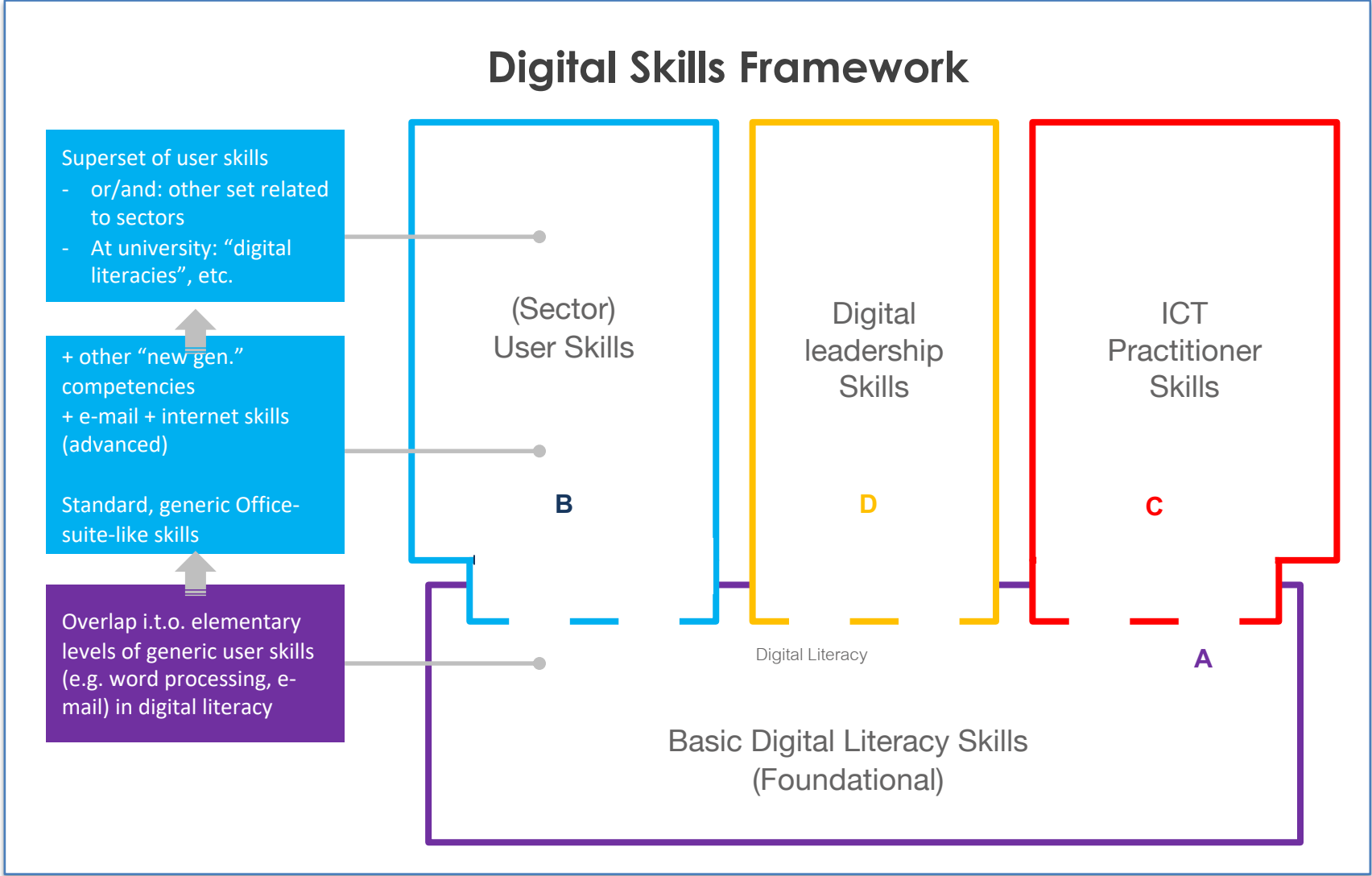
**Western Cape
Government**
Economic Development
and Tourism

ENABLING ENVIRONMENT

Digital Economy Skills Requirements

Importance of Digital Skills

90% of jobs in developed world require some form of digital skills



Disruptive Technologies

Internet of Things
Big Data
Mobile Connectivity
Software Development
AI & Robotics
Additive Manufacturing
& 3D printing
Cyber-security
Cloud Technology
New hardware
Virtual Reality,
Augmented Reality,
visualisation
Cryptocurrency



common **Skills** required across
technologies

Engineering & Hardware

Electrical engineering
Mechanical engineering
Network programming & management
Systems engineering

Analytics

Data science, analytics,
information management
Business Analysts

Digital Skills

social media marketing,
e-commerce, web-
design,
online content: blogging,
web-design
UX, UI

Software Programming & Coding

Java,
PHP,
Python,
Hadoop,
C+,
openJobs,
ruby on rails,
rust,
elixir,
Go, etc

Cyber Security

Application,
Data,
Server,
Network security,
Encryption

Mobile application environment

Android,
iOs,
Windows

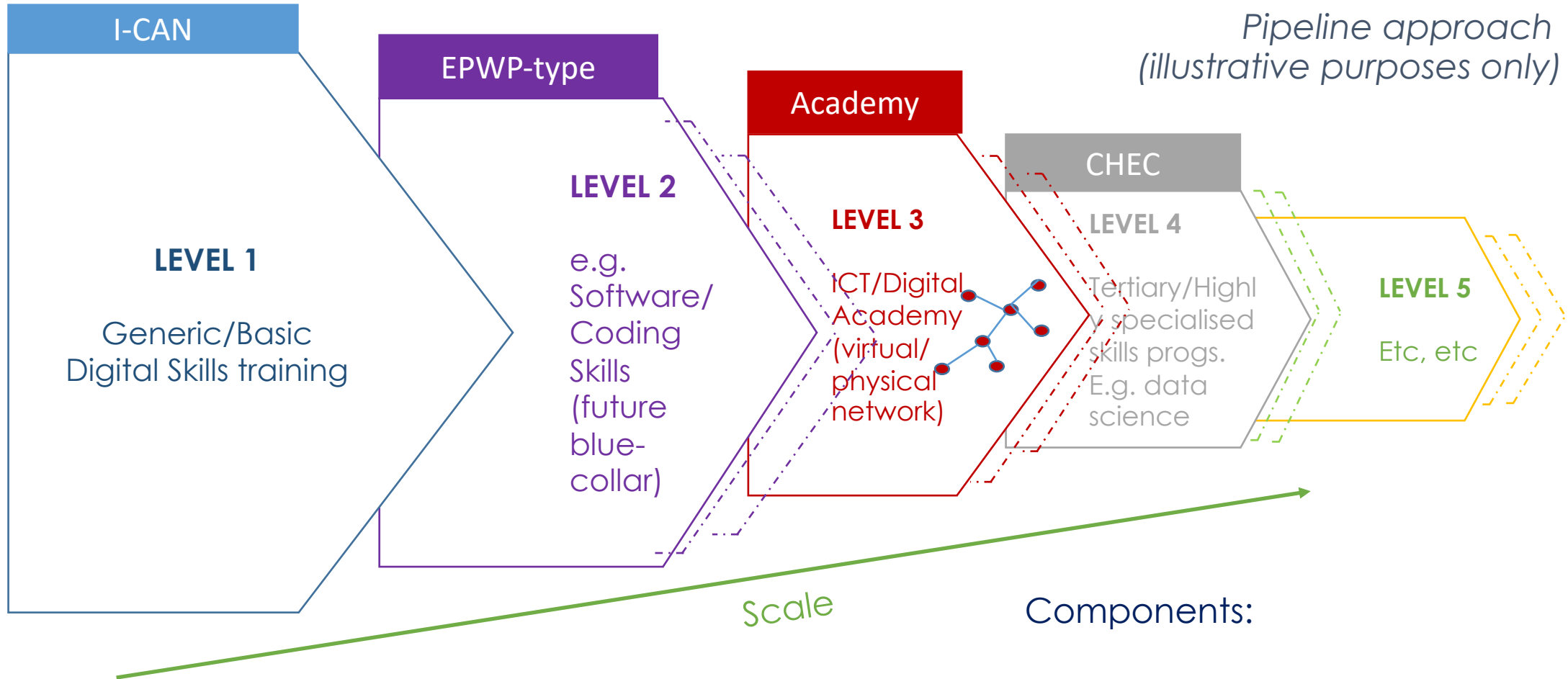
Basic Digital Skills & Literacy

desktop
mobile

Soft Skills

Complex problem
solving
team work,
Creativity
adaptability,
agility

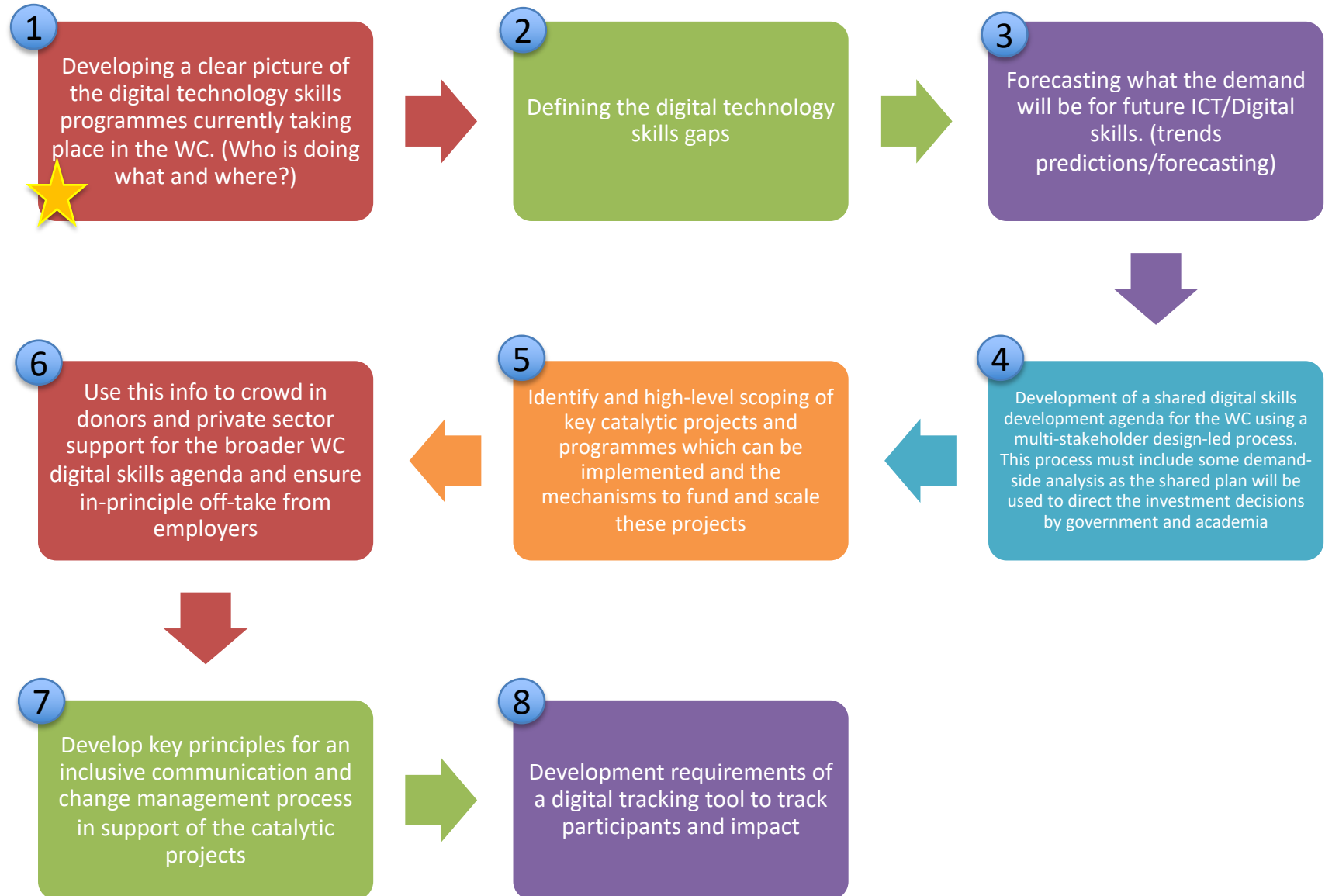
WC Shared Agenda for Digital Skills



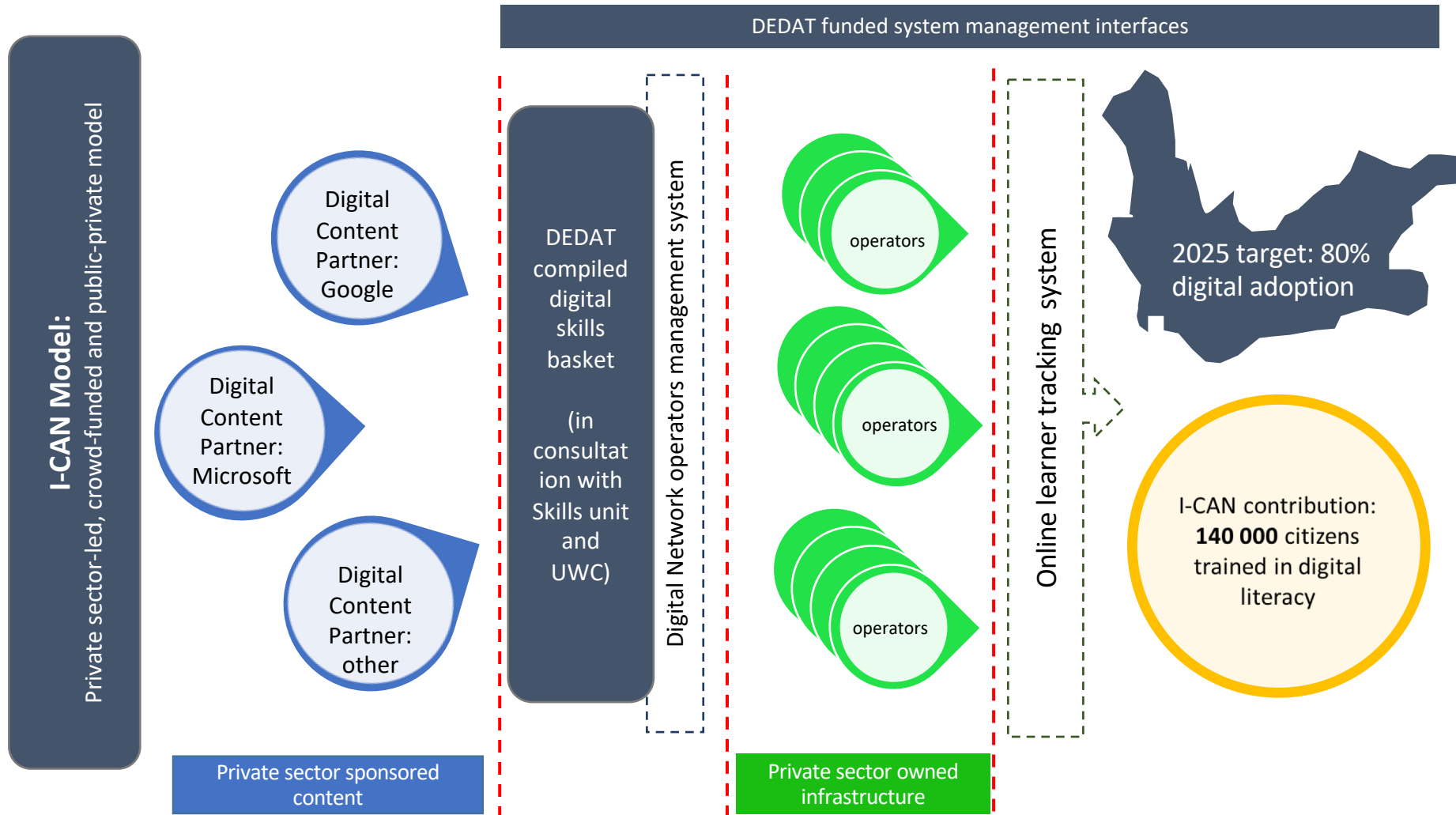
Components:

- 🧠 Mapping all current MICT Seta digital training institutions
- 🧠 Development of the shared agenda

WC Digital Skills Shared Agenda



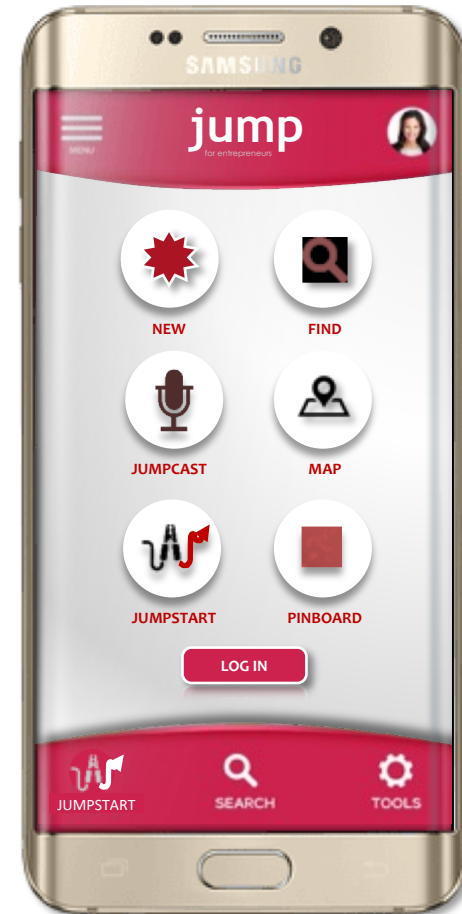
ICAN Learn Model



JUMP (tech-enabled business support)

jump
for
entrepreneurs

Piloting a mobile-first, new way to access, support and engage with the SMME segment



Sept 2018

WHAT'S KEEPING ENTREPRENEURS AWAKE?

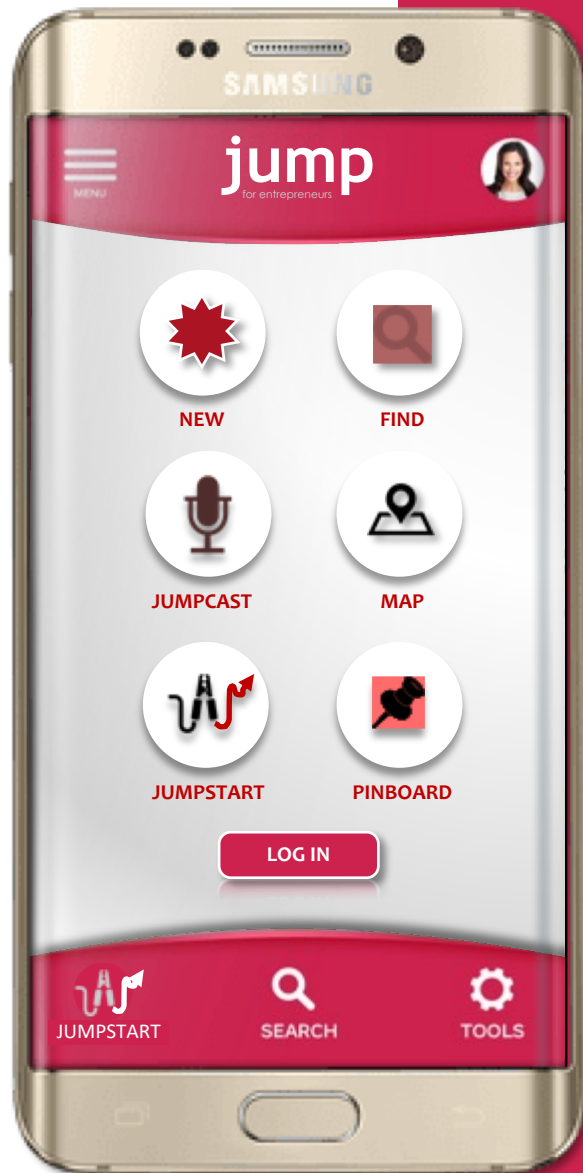
- Access to **Finance**
- Access to **Opportunities**
- Access to **Training**
- Access to **Markets**
- **Cost of Doing Business**
- **Ease** of Doing Business
- **Support**
- **Infrastructure**

OUR SOLUTION

Digital Business Support Platform is a virtual representation of the **SMME ecosystem** and **support environment**.

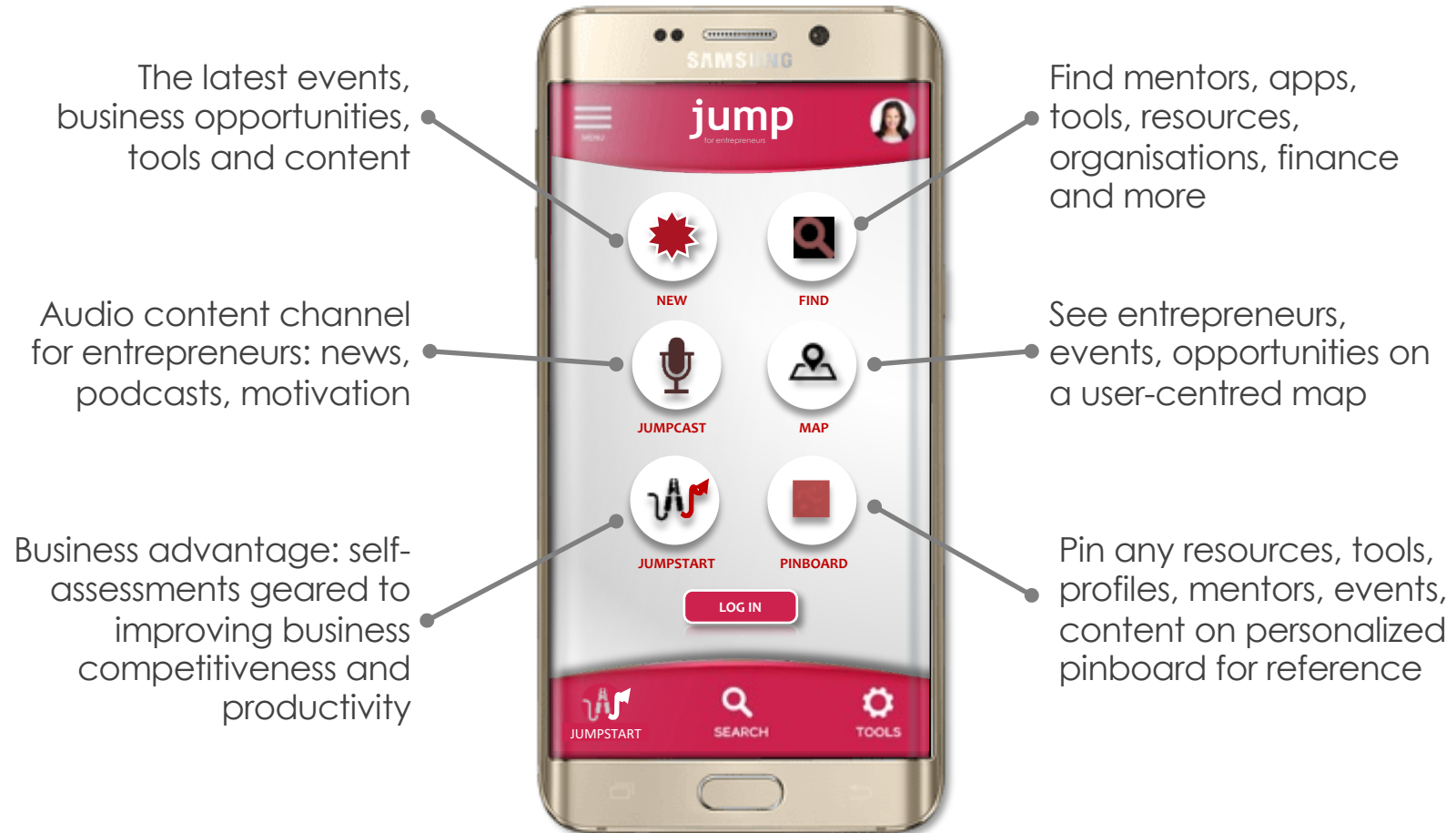
The platform provides **access to digital tools, applications, services and training**, and linking them to **physical support networks**."





Pilot in the Western Cape with its 230,000+ SMMEs (2018-19).

Expand nationally with private and public sector partners (2019 >)





**Western Cape
Government**
Economic Development
and Tourism

USAGE / DEMAND STIMULATION

Greater Cape Town Tech Ecosystem

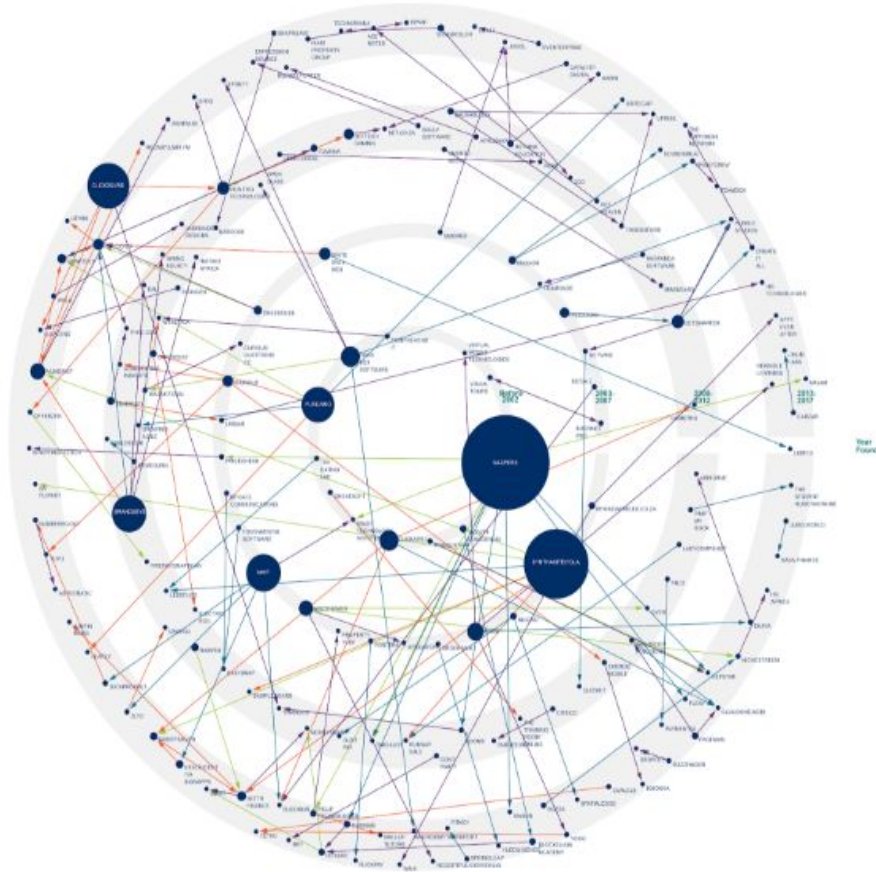
Visualization of the Entrepreneur Network among Software Firms in Greater Cape Town

Comparison: Size of circle reflects the number of connections of entrepreneurs in Greater Cape Town

Types of Connections:

- Investment
- Partnership
- Former colleague
- Founder

Note: Entrepreneurs are represented by their most prominent companies.

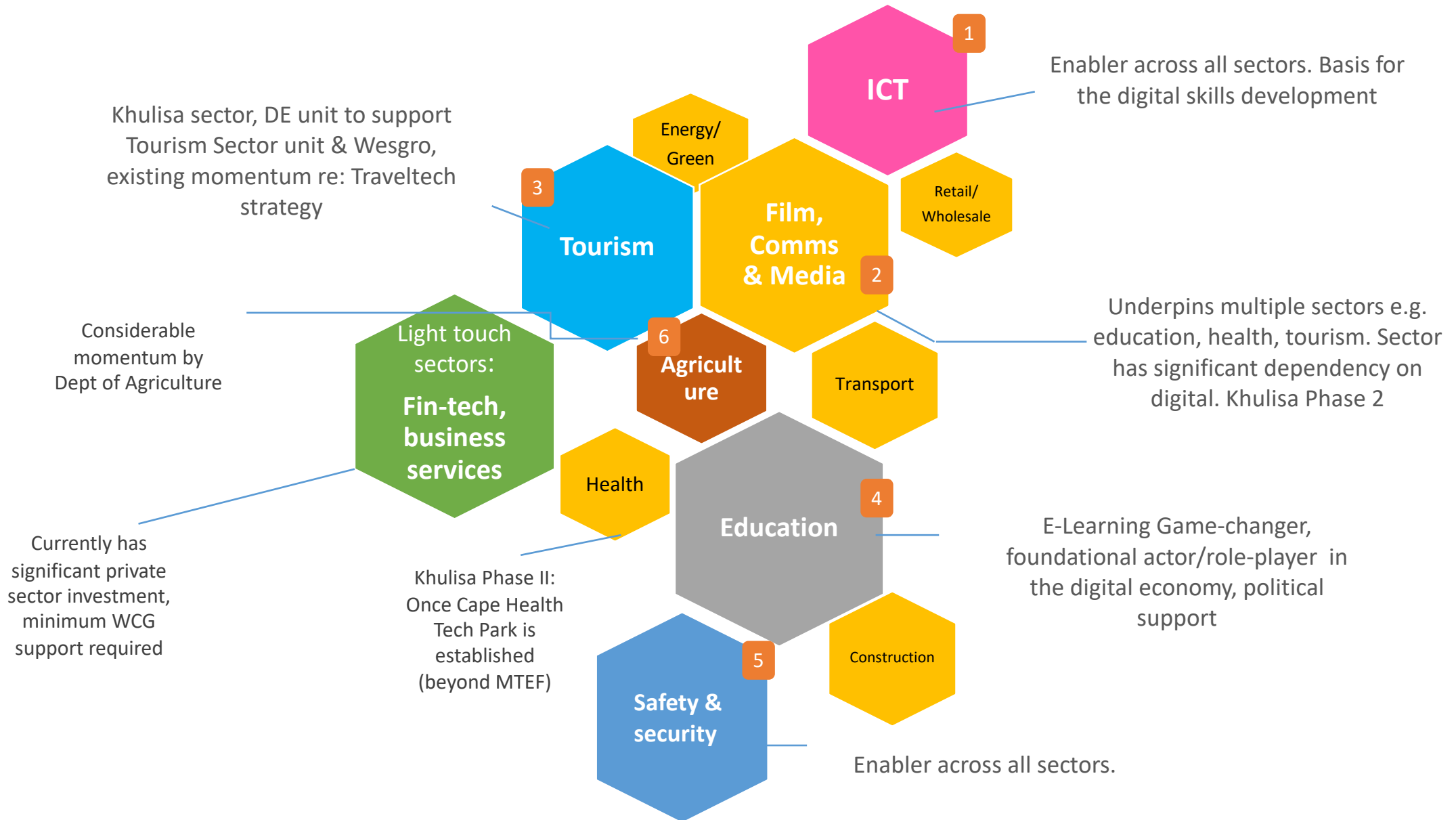


Results:

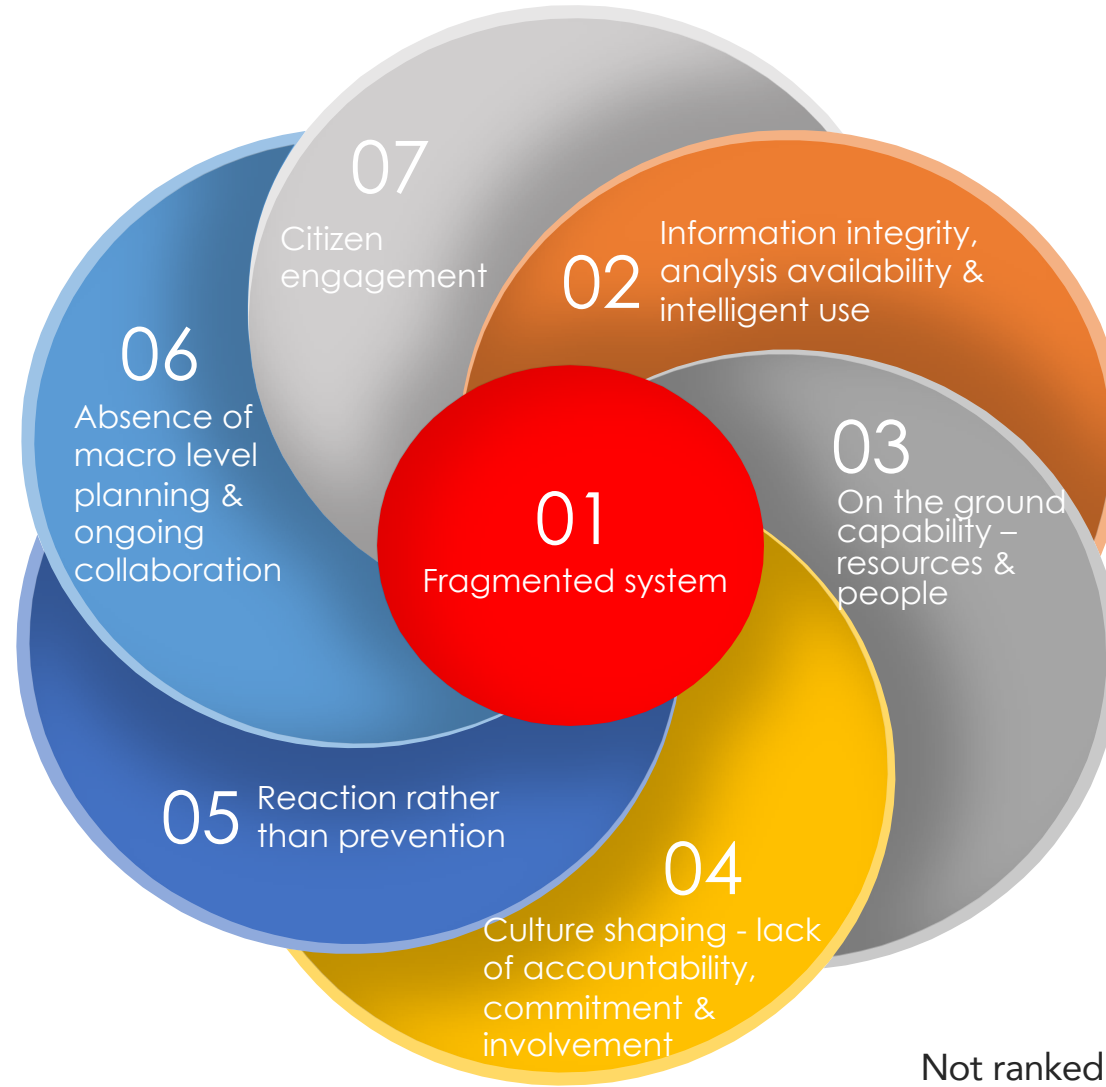
Cape Town/
Stellenbosch is the best
performing tech
ecosystem in sub-
Saharan Africa

DEDAT focus on the Ecosystem Support for “-tech”

sector choices – 7 year agenda











Safety-Tech Update



Not ranked in order of priority

Ed-Tech Project Update

Our 1st cohort: 8 companies, 5 countries, all education stages

 <p>Education stage: ECD</p>	EARLYBIRD South Africa Data analytics app for parents & ECD teachers to track child development	 <p>Education stage: K12</p>	MTABE Tanzania Offline search engine for students, powered by artificial intelligence
 <p>Education stage: K12</p>	ACCELERATED Ethiopia Continuous teacher mentoring and learning inputs for engaging classrooms	 <p>Education stage: University/Skills</p>	ZELDA South Africa Platform matching students to most suitable University places/funding & jobs
 <p>Education stage: K12</p>	M-SHULE Kenya Only adaptive learning platform for feature phones in Africa	 <p>Education stage: Skills</p>	UTHINI South Africa Language learning via chatbot & native speaker on whatsapp style platform
 <p>Education stage: K12</p>	SYAFUNDA South Africa Audio & video Maths & Science lessons focused on low income communities	 <p>Education stage: Skills</p>	YO' BOOKS South Sudan Putting books on low tech devices & distributing them in hard to reach areas

The programme has provides specialist incubation support including:

- 30 workshops (Strategy, Marketing, Sales, Lean, HR etc).
- Over 78 hours 1-on-1 mentoring.
- 12 weeks bespoke tech support
- Expert network and events (6 dinner speeches).
- 12 public showcase events
- Direct funding (R500,000 per company).

Key Achievements:

- Syafunda have won several multimillion rand contracts to provide their services in schools across SA.
- Mtabe are closing a deal with a major telco to provide their product to all customers in Tanzania and other markets.
- Uthini have signed up and started Zulu tutoring for 530 students at Wits medical school
- Zelda have successfully launched their alpha product and are testing in Cape Town schools. Won place at New York Ed-Tech week.
- M-Shule won 2nd in the Global Edtech Start-up Awards.

Some thoughts regarding universities

- Ripe for disruption – short, sharp, online
- How do we get more people learning? – cost and access
- Research agendas
- Entrepreneurial

Contact Us



Western Cape
Government

BETTER TOGETHER.

Olivia Dyers

Director: Digital Leadership

Tel: 021 483 9918 **Fax:**

Email: Olivia.Dyers@westerncape.gov.za

www.westerncape.gov.za