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**DEPARTMENT OF TELECOMMUNICATIONS AND POSTAL SERVICES**

**NO. 307** **31 MARCH 2017**

# DRAFT INFORMATION AND COMMUNICATION TECHNOLOGY SMALL, MEDIUM AND MICRO-ENTERPRISE SUPPORT STRATEGY

## (DRAFT ICT SMME SUPPORT STRATEGY)

1. The Draft Information and Communication Technology Small, Medium and Micro-Enterprise Support Strategy is hereby published by the Minister of Telecommunications and Postal Services for general information and comments from interested persons.

2. Interested persons are hereby invited to furnish written comments within 30 calendar days from the date of this notice at any of the following addresses:

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| The Director-General, Department of Telecommunications & Postal Services; For Attention: Mr Charles Mabuza, Director: ICT Policy Implementation Monitoring & Evaluation |
| Deliver to: Block A3 First Floor , iParioli Office Park, 1166 Park Street, Hatfield, Pretoria |
| Post to: Private Bag X860, Pretoria, 0001 |
| Tel: 012 420 7744<br>Email: ictsmmestrategy@dtps.gov.za |

3. Please note that submissions received after the closing date may be disregarded.

**DR, SIYABONGA CYPRIAN CWELE, MP**
**MINISTER OF TELECOMMUNICATIONS & POSTAL SERVICES**
**DATE:** 30/3/2017

telecommunications & postal services
Department:
Telecommunications and Postal Services
REPUBLIC OF SOUTH AFRICA

# DRAFT ICT SMME SUPPORT STRATEGY

## *"Unlocking the potential of ICT SMMEs"*

## 29 MARCH 2017

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## 1. INTRODUCTION

The Small Medium and Micro Enterprise (SMME) sector has been identified as an important strategic sector in the overall policy objectives of the Government of South Africa and it is seen as a driver of change for inclusive economic growth, national development, employment creation and poverty reduction.

In developed countries, SMMEs contribute 60% of employment and 50% of the gross domestic product (GDP). In developing countries, the figures are just about 30% and 17%, respectively.[1] In 2014, China had an estimated 42 million SMMEs. These SMMEs contributed 69% to China's GDP. More importantly, China's SMMEs are said to account for 80% of jobs and contribute approximately 82% to tax[2].

The South African government recognises SMMEs as the backbone of the economy, as SMME employers account for 14% total employment and contribute 42% to the Gross Domestic Product (GDP)[3]. There is also an acknowledgement that SMMEs promote broad based equitable development and provide more opportunity for Women and Youth participation in the economic development of the country.

According to the National Development Plan, getting SA into a high-growth trajectory demands that the country fundamentally changes its game plan and places small businesses and cooperatives at the centre of our war against poverty, inequality and unemployment. Furthermore, the NDP envisages that the small business sector will create 90% of the expected 11 million jobs by 2030. Incorporated as one of the priorities of the 9 Point Plan is the need to unlock the potential of SMMEs, cooperatives and other rural enterprises, to contribute into the South African Economy. The Medium Term Expenditure Framework (MTEF) also highlights the important need of developing markets for SMMEs and supporting incubators for SMMEs.

With the globalisation trend, the SMME sector is not merely seen as a sector for "protection and promotion" but, more importantly as a driving force for "growth and development". Therefore, the Government of South Africa recognises that enhancing national and international competitiveness is fundamentally important for this sector to face the emerging challenges and develop SMEs as a thriving sector.

[1] Economic Opportunity Series. The Role of Information and Communication Technology Sector in Expanding Economic Opportunity, by William J Kramer, Beth Jenkins and Robert S. Katz. 2007.
[2] David Wang, Presentation at the National ICT SMME Workshop, Birchwood Hotel, Boksburg. 23-24 March 2015
[3] Small Medium and Micro Enterprises in South Africa, Report Commissioned by SEDA, 2016.

## 2. RATIONALE FOR DEVELOPING AN ICT SMME SUPPORT STRATEGY

In March 2015, the Department of Telecommunications and Postal Services (DTPS), in collaboration with the Department of Small Business Development (DSBD), hosted an ICT SMMEs Workshop. The aim of the workshop was to primarily engage the ICT SMME sector, to understand the nature of ICT SMMEs, the challenges they face as well as the kind of support they require to make them competitive and contribute to the country's priorities. In the main, the following issues were raised as hampering the development of ICT SMMEs.

*Highly concentrated ICT market*

The uncompetitive and highly concentrated structure of the ICT sector, largely dominated by a few major players, is a barrier to entry and growth of the ICT SMME sector. Moreover, high capital requirements for deploying infrastructure continues to limit involvement of small players in this segment of the ICT value chain.

Spectrum is an important enabler for entry and effective participation in the telecommunications sector. As outlined in the National ICT Integrated White Paper, the current model for spectrum allocation is not progressive as it further perpetuates dominance and is an inhibitor to potential entry of ICT small enterprises. It is estimated that over 400[4] companies have been licensed in the sector, however, high demand spectrum is held by few operators. At the 2015 ICT SMME Workshop, stakeholders proposed that new spectrum allocation mechanisms need to show auditable demonstration of SMME and Broad Based Back Economic Empowerment (B-BBEE) support as a pre-requisite for carriers/operators to qualify for 4G spectrum allocation process. This therefore calls for government to introduce strategic interventions to address transformation and the minimal participation by SMMEs in the sector.

The majority of South Africans use mobile broadband as their primary mode of connecting to the internet. More importantly, there has been a major shift from voice to data usage, driven by Over-the-Top services and increased smartphones and tablets penetration. However, unaffordable high prices and prohibitive costs to communicate especially on data, impacts negatively on the uptake and usage of ICTs by SMMEs. In its presentation to the Portfolio Committee on Telecommunications and Postal Services, the Department of Telecommunications and Postal Services (DTPS) indicated that operators with significant market power charge higher data rates. Therefore, there is an indication that ineffective competition exists in broadband markets, which necessitate regulations to ensure the reduction of data rates[5].

[4] National integrated ICT policy White Paper, 28 September 2016

[5] Department of Telecommunications and Postal Service's presentation to the Parliamentary Portfolio Committee on Telecommunications and Postal Services, 20 September 2016.

*Inhibiting policy and regulatory environment*

There is a call for government to review policy and regulation to build an enabling environment that provides ICT SMMEs access to sector specific incentives and funding instruments, and promotes research, development and technological innovation. During the ICT SMME Workshop (2015), Stakeholders alluded to the need for government to align policies and regulations to promote development of viable small businesses. The prevailing contradictions in the B-BBEE policy and National Small Business Act on the definition and threshold for SMMEs have been highlighted as a challenge. While the empowerment policies define SMMEs as enterprises with a turnover of less than R50 million a year, the National Small Business Act which also classifies SMMEs according to their sectors, set a threshold of R20 million for SMMEs operating in the ICT sector[6]. There is an urgent need to ensure alignment of these policies. The White Paper also identified the need to introduce enabling Intellectual Property mechanism such as the Utility Model, in order to enhance innovation and entrepreneurship development in the sector.

*Limited commercialisation of innovation*

Commercialisation is the process of turning an idea or innovation into a useful product or service. According to Ramika (2016) commercialization is at the intersection of innovation and entrepreneurship[7]. Research conducted by SiMODiSA found that one of the constraints hindering the growth of start-up and scale-up businesses in South Africa is limited commercialisation of innovation in universities. There is a lot of innovation that takes place in South Africa's Universities, however most of these inventions are not commercialized into useful products and services[8].

*SMME constraints in access to finance*

According to an OECD report (2004), SMMEs are by far the largest group of customers for commercial banks in any economy. However, loans extended to SMMEs are often limited to very short periods, thereby ruling out financing of any sizable investments. Moreover, due to high perceived risks in SMME loans, access to competitive interest rates may also be limited[9].

In most instances, the prerequisite for securing start-up capital is the presentation of bankable business plans/concepts. However, considering the low level of entrepreneurial competency, most aspiring entrepreneurs are unable to develop acceptable and viable business concepts. In

[6] Consultative meeting with Vodacom on programs and strategies for SMME Development, 19 July 2016.

[7] Ramika, B. Study on the Commercialization of University Innovation in South Africa, 2016.

[8] SiMODiSA identifies key challenges to SME development in SA, September 8, 2015. http://www.mynewsroom.co.za/simodisa-identifies-key-challenges-to-sme-development-in-sa/

[9] 2004 OECD Conference of Ministers Responsible for small and medium sized enterprises, Istanbul, Turkey, 3-5 June 2004.

addition, the need for collateral by private funders is considered a major barrier to enterprise development. One pertinent concern that is always raised by small enterprises, is the lack of an ICT sector specific funding mechanism and incentives.

The challenge of access to finance for ICT SMMEs is further worsened by the fact that funders do not seem to understand the sector itself. In most instances, ICT concepts may not produce tangible gadgets, but rather, software or an application, which is critical for the operation of hardware. However, because it is not a physical product (e.g., operating system) funders are hesitant to provide the required financial support. It becomes critical for Development Finance Institutions (DFIs) to consider different funding options for SMMEs in the ICT sector. According to SiMODiSA[10], South Africa is lagging behind, particularly in the area of early stage angel investors. Moreover, the country's Venture Capitalist (VC) market is still in its infancy.

The inability of SMMEs to provide relevant information due to lack of accounting records, inadequate financial statements or business plans make it difficult for creditors and investors to assess the creditworthiness of potential SMMEs proposals. According to Mr Bhengu (2015)[11], the Chairperson of the Portfolio Committee on Small Business Development, the use of intermediaries in the process of providing loans to SMMEs is also detrimental to the sector, considering that intermediaries can charge up to 35% in interest for loans.

*Limited market access for ICT SMMEs*

The inability to access markets for their goods and services continues to be amongst the top challenges faced by SMMEs in the ICT sector. It is argued that potential clients perceive small businesses as lacking the ability to deliver quality services and are unable to satisfy more than one critical project concurrently. Often, larger companies are preferred for their clout in the industry and name/brand recognition. Some ICT related services and products are highly regulated and service providers are expected to meet certain standards, in line with International Telecommunications Union (ITU) and South Africa Bureau of Standard requirements. It becomes critical that interventions to create awareness on issues of quality of standards and SABS requirements amongst SMMEs are implemented.

In one of its SMME provincial consultative sessions, the Portfolio Committee on Small Business Development was informed that current procurement policies favour big businesses to the detriment of small ones. In addition, the slow pace at which the issue of 30% set-aside for SMMEs is being dealt with continues to affect the sustainability of small businesses[12].

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**10** SiMODiSA identifies key challenges to SME development in SA, September 8, 2015. http://www.mynewsroom.co.za/simodisa-identifies-key-challenges-to-sme-development-in-sa/

11 ICT SMMEs Workshop 23-24 March 2015 Report: "Unlocking the potential of ICTs SMMEs", Birchwood Hotel, Boksburg, Johannesburg

12 ICT SMMEs Workshop 23-24 March 2015 Report: "Unlocking the potential of ICTs SMMEs", Birchwood Hotel, Boksburg, Johannesburg

Small businesses continue to raise the lack of compliance to the 30 day payment window for SMMEs by government as a major challenge. Business owners, including small enterprises who supply the government with goods and services, struggle to get paid timeously. A post-Cabinet statement of 15 April 2015 provides a comparative assessment of National Departments between January 2013 to October 2013 and January 2014 to October 2014. It shows a 39% improvement on the average number of invoices paid within 30 days and a 32% improvement on the number of average invoices that were paid after the 30 days. However, more efforts are needed to ensure timeous processing of payments for small businesses. In April 2015, Cabinet approved the establishment of a special unit that will be tasked with assisting national and provincial departments with making payment to businesses within 30 days of receiving an invoice[13].

The inability or limited capabilities of SMMEs to effectively respond to tender bids has been raised as one of the challenges, requiring intervention. This has dire effects on the sustainability of small business, considering that access to markets is critical for their survival.

Most SMMEs do not have a website and this disadvantages them against their competitors, limiting their market scope. Online presence is an effective marketing tool to improve business operation which in turn enhances competition, increases profitability and sustainability. Today's customers are more likely to look up a business on social media or Google. The more small businesses are online, the more customers they will be able to reach.

*Skewed deployment of infrastructure*

The skewed deployment of duplicated infrastructure, favoring urban areas to the detriment of rural areas, impacts negatively on the development of rural ICT SMMEs. According to the latest study by SEDA (2016)14 lack of access to physical infrastructure is a key obstacle to business growth and significantly increases the cost of doing business. The study further states that ease of access to communication infrastructure, utilities and transport, land or space at affordable prices can be instrumental to supporting new businesses. It then becomes critical for infrastructure services to reach all segments of society- such as the poorest areas and rural areas, if government is to enable SMMEs of different sizes and from all areas to participate in the economy.

The roll-out or extension of robust and reliable broadband infrastructure is critical, for government to unlock the potential of ICT SMMEs, including rural women entrepreneurs. As indicated above, infrastructure roll-out has focussed mainly in urban areas and cities, to the detriment of small towns and rural communities. In addition, ICT incubation hubs, a critical enabler for ICT SMMEs, only exist in large economic agglomeration provinces such as

[13] Statement on Cabinet Meeting of 15 April 2015.
[14] The Small, Medium and Micro Sector of South Africa: Research Commissioned by the Small Enterprise Development Agency: Bureau for Economic Research, January 2016.

Gauteng, KwaZulu Natal and Western Cape, where a lot of industrialisation takes place and none in Mpumalanga, Limpopo, Northern Cape and North West Province, for example.
Other critical challenges that need to be addressed to enhance the growth of ICT SMMEs include:

- Lack of appropriate incentive schemes to encourage university researchers to go beyond the R&D phase to realise a higher nett innovation output from the higher education sector and the ultimate commercialisation of innovation.
- Lack of a central comprehensive database for ICT SMMEs, which disempowers government from developing evidence based policies and interventions for the sector.
- Lack of appropriate skills and entrepreneurial capabilities, critical for effective management of small enterprises by entrepreneurs;
- Non-existence of a Coordination and Integration mechanism to drive and monitor ICT SMME related programmes and interventions.

Given the nature of this sector and the challenges faced, it is important to have government led interventions and support mechanisms to upgrade and strengthen this sector to meet the expectations of the country. This strategy aims to unlock the potential of ICT SMMEs, innovators, entrepreneurs, and start-ups in contributing to the growth and development of the sector. This will be achieved through strategic partnerships with existing actors to provide a support network that brings together entrepreneurship support agencies, innovators, regulatory agencies, academia, financiers and established companies.

This strategy is two pronged: (i) addressing barriers to the development and growth of ICT specific SMMEs and (ii) increasing the levels of uptake/diffusion and usage of ICTs by SMMEs across economic sectors.

## 3. VISION OF THE STRATEGY

The vision of the ICT SMME Strategy is to create a substantial number of internationally competitive, dynamic, innovative, technologically driven sustainable ICT SMMEs that significantly contribute to the country's developmental priorities.

## 4. STRATEGIC GOAL

To unlock the business opportunities and create an enabling business and administrative environment for SMMEs in the ICT sector to thrive and advance into successful and sustainable entities.

## 5. OBJECTIVES OF THE STRATEGY

The Strategy will support start-up ICT Small, Medium and Micro enterprises, strengthen existing enterprises and extend support programmes to potentially viable SMMEs. The objectives of the strategy are to:

i. Facilitate development and accelerated entry of SMMEs (and particularly youth and women entrepreneurs) in the ICT sector;

ii. Increase the levels of uptake and usage of ICTs by SMMEs, across sectors;

iii. Establish a coordinated and integrated planning mechanism for development of ICT SMMEs and increasing uptake and usage of ICTs

## 6. DEFINITION OF SMMEs

The term SMMEs is used to denote Small, Micro and Medium enterprises. Different countries use different definitions for SMMEs based on their level of development. However, the commonly used measures are total number of employees and annual turnover. In the South African context, the Small Business Development Act of 1996, defines SMMEs based on the number of employees and annual turnover.

The official definition of an SMME is provided in Section 1 of the National Small Business Act of 1996 as amended by the National Small Business Amendment Acts of 2003 and 2004 (NSB Act). It defines “small business” as:

*“ … a separate and distinct business entity, including co-operative enterprises and Non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub sector of the economy mentioned in Column I of the Schedule... ”.*

The Act further classifies SMMEs into 5 categories as follows:

a) *Survivalist enterprises* - operate in the informal sector of the economy. These SMMEs mainly comprise unemployed persons. The income they generate is usually below the poverty line, enabling them to provide for their families, little capital invested and not much assets. In most cases survivalists have no formal training and have very small opportunities for growing their enterprises.
b) *Micro enterprises* – These employ between one to five employees, usually the owner and family members. They are usually informal enterprises, with no license, no formal business premises, and no compliance to labour legislation. These enterprises also have an annual turnover which is below the VAT registration threshold of R300, 000. The owners have some basic business skills and training. Moreover, they have potential to make the transition to a viable formal small business.

c) *Very small enterprise* – They are part of the formal economy and tend to use technology. This type of enterprises has less than 10 paid employees, including self-employed artisans (e.g., electricians, plumbers) and professionals.
d) *Small enterprises* employ less than 100 employees. They are more established than very small enterprises, formal, registered, and have fixed business premises. This type is usually owner managed, but have a more complex management structure.
e) *Medium enterprises* - have up to 100 employees, owner managed, but decentralised management structure with divisions of labour. They also operate from fixed premises with all formal requirements.

## 6.1 What is an ICT SMME?

There is currently no formal definition of what an ICT SMME is. However, the 5 categories outlined in the National Small Business Act, also applies to ICT SMMEs, the difference being that: *ICT SMMEs are SMMEs that are operating within the ICT sector, either as ICT service providers, software and content developers or electronics and hardware manufacturers.*

## 7. OVERVIEW OF THE CURRENT POSITION OF ICT SMMEs AND UPTAKE OF ICTs ACROSS SECTORS IN SOUTH AFRICA

### 7.1 STRUCTURE OF THE ICT SMME SECTOR (INDICATORS)

According to the latest research conducted by SEDA (January 2016), there are 2 251 821 SMMEs, 667 433 are operating in the formal sector and 1 497 860 in the informal sector. The SMME sector is also said to account for 14 % of total employment. Of significant importance is that the general SMME sector's percentage contribution to South Africa's Gross Domestic Product (GDP) is 42%.

Interestingly, black owned formal SMMEs account for 34% (226 927) of the total formal SMMEs. The study also found that there is a substantial distinction between the formal and informal sectors. The formal sector tends to be more educated, white, situated in Gauteng and the Western Cape, with a higher income generation. The informal sector on the other hand, provides most jobs, especially in rural provinces.

**Table 1: Key SMME indicators**

| Key Indicators | 2015 Quarter2 |
|---|---|
| Number of SMMEs | 2 251 821 |
| Number of formal SMMEs | 667 433 |
| Number of informal SMMEs | 1 497 860 |
| SMME owners as a percentage of employment | 14% |
| % contribution to GDP | 42% |
| % Black owned formal SMMEs | 34% |

*Source: SEDA/BER, 2016*

***Sectoral analysis***

A sectoral analysis of the SMME sector shows that most (944 500) operate in the domestic trade (wholesale and retail) and accommodation sector of the economy, followed by the community, social and personal services sector. The transport and communications sector, which also encompasses ICT/Communications related economic activities has 133 134 SMMEs. Of these, 56 620 (42.5%) are formal enterprises and 76 514 (57.5%) are informal establishments.

The structure and size of the ICT SMME sector in South Africa cannot be effectively determined, considering the lack of reliable data. Moreover, the grouping together of the transport and communications sub-sectors makes it impossible to determine the exact number of ICT SMMEs operating in the South Africa economy. As such, continuous engagement with Statistics South Africa (StatsSA) is critical to ensure segregation of these figures in the future.

Data published by the Media, Information and Communication Technologies Sector Education and Training Authority (MICT Seta) in its Sector Skills Plan suggests approximately 15 000+ SMMEs in their sector.

## 7.2 ICT DIFFUSION BY SMMEs ACROSS ECONOMIC SECTORS

ICTs increase efficiency, provide access to new markets or services, create new opportunities for income generation, improve governance and give poor people a voice. Effective access to ICTs, particularly the internet and mobile networks can allow impoverished people around the world to access banking, medical services, etc. Moreover, effective application of ICTs to business fosters growth, development and competitiveness. The number of SMMEs using ICT tools in their enterprises has risen considerably, indicated by the penetration of mobile phones. The use of emerging technologies such as WhatsApp, facebook and other social media has been phenomenal.

Very few companies are undertaking surveys in the SMME space. So far, World Wide Worx is one prominent company that has undertaken surveys to determine uptake and usage of ICTs by SMMEs. World Wide Worx's Survey conducted in January 2012, found that there is a strong relationship between being online and being competitive, profitable and sustainable. The results revealed that 79% of SMMEs with a website reported profitability, whereas only 59% of SMMEs without a website reported the same.[15]

In 2015, the company further conducted a survey to determine the levels of uptake of Cloud computing by small enterprises in South Africa. It found that the number of SMMEs using cloud services in 2015 jumped by 10% up to 39% from 2014[16]. 47% of SMMEs said that they made use of online backups, while 37% utilised online accounting, 27% used an online project management service and 25% had an online customer relationship management (CRM) solution. However, the Survey also found that there is disconnect between what SMMEs consider to be cloud services and the actual cloud based services that many of them are using, indicating that there is lack of understanding about what the cloud really is and what services form part of it.

It becomes critical for government to prioritise issues pertaining to the diffusion of ICTs by small enterprises. With the 4th Industrial Revolution at our doorsteps, South African enterprises would need to quickly adapt to change, or they will miss out on opportunities brought by these changes.

This strategy will also propose strategic interventions to further increase the level of uptake and usage of ICTs by SMMEs across the range of all sectors of the economy.

[15] https://bizconnect.standardbank.co.za/sector-news/general-business/em1-bringing-smes-online.aspx

[16] World Wide Worx: SME Survey 2015

## 7.3 POLICY AND REGULATORY ENVIRONMENT

Since 1994, the development of the SMME sector has been an important focus for the South African government. The sector has been identified as a vehicle to improve employment and living standards of individuals who have been denied access to opportunity under the apartheid government. Numerous policy and legal factors can erode the capacity of SMMEs to create employment opportunities, foster innovation, sustain themselves and produce wealth. Even when the policy and legal instruments themselves are supportive of SMMEs, their enforcement and implementation may be inadequate or inefficient, thus defeating the purpose they were enacted for.

### 7.3.1 GENERAL SMALL BUSINESS POLICY AND LEGISLATION

It is generally acknowledged that South Africa has sound policies, with the potential to unleash or accelerate economic development. Amongst the policy, regulatory and other interventions put in place to support small business development are the following:

**National Strategy for the Development and Promotion of Small Business**

Post-apartheid, government developed the National Strategy for Development and Promotion of Small Business, after the publishing of the White Paper on the National Strategy for Development and Promotion of Small Business in 1995. A year later, the National Small Business Act was passed by Parliament, which provided for the institutions to implement this strategy. These policy and legislative interventions were introduced to address the imbalances created by the developmental agenda of the apartheid regime.

**Small Business Development Act**

The National Small Business Act of 1996 was enacted to provide for the establishment of the National Small Business Council and the Ntsika Enterprise Promotion Agency - now SEDA[17] - to provide guidelines for organs of state to promote the development of small business. SEDA provides SMMEs with non-financial support. Its work is carried out in line with the Integrated Small Enterprise Development Strategy, which aims to achieve the following goals:

- Strengthen support for SMMEs' access to finance.
- Create an enabling regulatory environment.
- Expand market opportunities for specific categories of small enterprises.
- Localise small business support through a grid of SEDA-coordinated information and advice access points.

Among the institutions that provide support to SMMEs, (including support for ICT SMMEs) is the Small Enterprise Finance Agency, commonly known as Sefa. Sefa was established in April

[17] Small Enterprise Development Agency

2012 as a result of the merger of the South African Micro Apex Fund, Khula Enterprise Finance Ltd and the small business activities of IDC. Sefa's mandate is to foster the establishment, survival and growth of SMMEs and contribute towards poverty alleviation and job creation.

Sefa provides access to finance to survivalist, micro, small and medium businesses throughout South Africa. The organisation delivers wholesale and direct lending, provides credit guarantees to SMMEs, supports the institutional strengthening of Financial Intermediaries, and creates strategic partnerships with a range of institutions for sustainable SMME development and support. Furthermore, Sefa monitors the effectiveness and impact of financing, credit guarantees and capacity development activities.

*Cooperatives Act*

The Electronic Communications Act requires the Department to support the development of cooperatives. South African cooperatives are governed through the Cooperatives Act of 2005. The Act aims to create a legal and institutional framework that encourages the registration and development of cooperative enterprises and increased support for cooperatives from government agencies. The Act promote the ideals of self-help and social responsibility through the cooperative model. In countries like Italy and the United Kingdom, cooperatives have improved the sustainability of community enterprises and opened the economy to disadvantaged and vulnerable social groups[18].

*National Empowerment Fund*

The National Empowerment Fund (NEF) was established in 1998 and effectively operationalised 2004. The NEF provides funding to black-owned businesses, both SMMEs and large enterprises. Research shows that from 2003 to 2010 a total of 457 million rand out of 1.5 billion rand spent was allocated to small enterprises.

*Establishment of a New Ministry of Small Business*

In 2014, the President established the Department of Small Business Development (DSBD) as part of demonstrating government's commitment to place the economy and job creation at centre stage. The Department was established to enable government to unlock economic opportunities and thus achieve inclusive economic growth and sustainable employment, particularly for women, youth and people with disabilities. It provides oversight to small business development agencies such as SEDA and Sefa. Furthermore, it coordinates government's small business development agenda, across all departments.

[18] Sangonet, http://www.ngopulse.org/article/cooperatives-and-nonprofit-sector-south-africa

In addition, DSBD has targeted projects and programmes that are being rolled out and they include:

- The Black Business Supplier Programme - introduced in 2002 to address the constraints that many black-owned small enterprises faced in participating in the mainstream economy;
- Cooperative Incentive Scheme (CIS) whose objective is to improve the viability and competitiveness of co-operative enterprises by lowering the cost of doing business through an incentive that supports Broad-Based Black Economic Empowerment; and,
- Enterprise incubation programme which supports the establishment of new incubators and for the growth and expansion of existing incubators.

*Broad-Based Black Economic Empowerment*

The issues of Broad-Based Black Economic Empowerment (B-BBEE) and transformation in general have been placed high on the agenda of the government. B-BBEE aims to ensure that the economy is structured and transformed to enable the meaningful participation of the majority of its citizens and to further create capacity within the broader economic landscape at all levels through skills development, employment equity, socio economic development, preferential procurement, enterprise development (especially small and medium enterprises), promoting the entry of black entrepreneurs into the mainstream of economic activity, and the advancement of co-operatives.

The amended BEE Codes of Good Practice, which became effective on 1 May 2015 have made it easy for business owners with a turnover of under R10 million (a category for which most SMMEs fall under) to obtain BEE certification. These amended codes are small business friendly, as they minimize compliance costs for them. ICT SMMEs will also benefit from this development.

The establishment of the B-BBEE ICT Sector Council in September 2015, followed by the launch of the Amended B-BBEE ICT Sector Code in November 2016 will further strengthen the focus on transformation of businesses in the sector. Every enterprise falling within the Sector is obliged to implement the principles of transformation in respect of Preferential Procurement and Supplier Development. Considerable emphasis is placed on Small (QSE) and Micro (EME) enterprises within the ICT supply chain. Code AICT400 lists several general principles, including:

- To actively support procurement from Black Owned QSEs and EMEs by identifying opportunities to increase procurement from local ICT suppliers to support employment creation.
- To support procurement from Black Owned and Black Women-Owned businesses to increase the participation of these businesses in the ICT Sector.
- To promote the use of Black Owned Professional Service Providers and entrepreneurs as suppliers in the ICT Sector.

- Measured Entities receive recognition for any Enterprise and Supplier Development Contributions that are quantifiable as a monetary value using a Standard Valuation Method.
- Measured Entities are encouraged to align their Enterprise and Supplier Development initiatives with the designated sectors of government's localisation and valued adding programmes.
- Measured Entities are encouraged to align their Enterprise and Supplier Development initiatives with their supply chain requirements thereby linking Enterprise and Supplier Development with Preferential Procurement.
- Qualifying Enterprise and Supplier Development Contributions of an ICT Measured Entity are recognisable on an annual basis.
- Measured Entities are encouraged to develop and implement an Enterprise Development and Supplier Development plan for Qualifying Beneficiaries.

Multinational companies that cannot have local ownership are encouraged to use the Equity Equivalent Investment Programme (EEP) to invest in sustainable enterprise development to increase black ownership of the economy in South Africa.[19]

*Preferential Procurement Policy: 30% Set-Aside for SMMEs*

In February 2015, President Zuma, announced that government would set aside 30% of certain state procurement for small enterprises[20]. The objective is to address the assertion that small and medium enterprises (SMEs) and cooperatives often fail due to a lack of business opportunities in both the public and private sectors.

In order to accelerate the realisation of this critical commitment, the National Treasury is currently engaging with the Department of Small Business Development to craft a suitable practice note governing set-asides for SMMEs. This will go a long way in enhancing the cultivation of viable and sustainable Small businesses in South Africa.

### 7.3.2 ICT SPECIFIC POLICY AND LEGISLATIONS

*National Integrated ICT Policy White Paper*

The main purpose of the National Integrated ICT Policy White Paper is to unlock the potential of ICTs to eliminate poverty and reduce inequality in the country by 2030. One of the interventions of the White Paper is to tackle digital exclusion by supporting interventions that boost the manufacturing and Software development sectors and facilitate growth in SMMEs in the ICT sector.

[19] Guidelines: Equity Equivalents Programme for Multinationals
[20] President Jacob Zuma, 2015 State of the Nation Address

Section 10.6.1 of the policy (Building a digital economy and e-commerce) further speaks about promoting small and micro enterprises through:

- Raising awareness of the benefits of ICTs;
- Building digital and IT Skills and;
- Encouraging the development of local software that give SMMEs access to software without incurring high capital costs.

The White Paper further outlines a number of targeted of support interventions for the ICT SMME sector. The Policy suggests several noble mechanisms such as the deployment of incubation hubs and ICT centres for SMMEs, creating an enabling intellectually property environment that enables SMMEs to thrive. The proposed Wireless Open Access Network, does not only facilitate sharing of infrastructure, but will provide SMMEs access to critical infrastructure. Moreover, the new spectrum regime contained in the policy offers massive benefits for SMMEs, as it prioritises sectors that have been excluded. Lastly, the application of the "use it or lose principle" has been modified to suit the challenges faced by small enterprises in the sector.

*Broadband Policy*[21]

The objective of the policy is to facilitate the provision of affordable, accessible, universal access to Broadband infrastructure for citizens, businesses, communities and the three spheres of Government, stimulate the usage of Broadband services in order to promote economic development and, act as an enabler for further social benefits. The policy also aims to stimulate the growth of SMMEs and cooperatives, thereby reducing the barriers to entry and access to markets. It presents immense opportunities for ICT SMMEs in the roll-out of the broadband infrastructure. It further proposes the development of innovative funding mechanisms, which extend sources of funding, rather than reliance on contributions by operators.

*Electronic Communications Act and Electronic Communications and Transactions Act*

The Electronic Communications Act provides for the regulation of electronic communications in the country. It promotes and facilitates the convergence of technology and universal provision of ICT services to all. Objective 2(p) of the Act mandates government, through the Department of Telecommunications and Postal Services, *"to develop SMMEs and cooperatives"* in the ICT sector.

Similarly, the Electronic Communications and Transactions Act's objects are to enable and facilitate electronic communications and transactions in the public interest, including to promote SMMEs within the electronic transactions environment (objective 2(1)(p).

[21] Broadband Policy for South Africa. Government Gazette Vol.541, No.33377, dated 13 July 2010.

*Call Termination Regulations*

In September 2014, ICASA introduced new call termination rates. Call termination rates are the rates a telecommunications operator charges for carrying another operator's calls. The final termination rates are asymmetric rates, and as such allow the smaller operators to charge their larger competitors a higher price for termination while the small operators pay a lesser fee for termination. To qualify for asymmetry, the operator must have less than 20% share of terminated minutes in either the fixed or mobile market. Cell C and Telkom Mobile benefit from this arrangement in line with the objectives of increasing competition in the sector through supporting their growth. This regulatory intervention has the potential to benefit possible new and smaller entrants in the telecommunications market.

Other regulations within telecommunications include the economic regulation framework, facilities leasing, handset subsidies, interconnection and numbering plan. These policies and regulations have enabled the telecommunications sector to grow, though larger operators have benefitted the most. With the approval of the National Integrated ICT Policy White paper, it is believed that more interventions to be introduced will benefit smaller players in the industry.

*Department of Science and Technology and Trade and Industry*

The Department of Science and Technology (DST) is concerned with the promotion and enhancement of technological advancement and capability of the country with emphasis on development of scientific innovation and research. The Department established The Technology Innovation Agency (TIA) and its mandate is to provide funds for innovative activities, including supporting potential ICT entrepreneurs and innovators. Other than providing incentives for small enterprise development, the Department of Trade and Industry has put in place programmes such as:

- The Support Programme for Industrial Innovation (SPII) is designed to promote technology development in South Africa's industry, through the provision of financial assistance for the development of innovative products and/or processes,
- The Technology and Human Resources for Industry Programme (THRIP) is a flagship research and development programme of the dti and the National Research Fund (NRF),
- National Industrial Policy Framework (NIPF), which provides strategic direction to the economy with respect to industrial development.

*Intellectual Property and Entrepreneurship Development.*

In in withe the recommendations of the national Integrated ICT policy White Paper, the Department of Trade and Industry is finalising an Intellectual Property Policy which will incorporate IT models that promote entrepreneurship and ICT small enterprise development. Amongst the models to be considered in the Utility Model. In the utility model, IP protection is granted for incremental improvements, since it is assumed that the invention might have existed before and, it is less costly compared to filing a full patent.

## 8. ANALYSIS OF THE ICT SECTOR VALUE CHAIN: IDENTIFYING CHALLENGES AND OPPORTUNITIES FOR SMMEs

A thorough assessment of the ICT Industry Value chain is critical if government is to be able to identify possible opportunities and devise appropriate policy and programme interventions to develop the ICT SMME sector. An ICT value chain is the sequence of production, or value adding activities leading to and supporting end users of a particular product[22]. It is, in other words, the chain of activities required to bring a product from its conception to its final consumption. The ICTs can be disaggregated into ICT producing activities and ICT using activities. It is important to address both with a view to establishing their significance and draw policy implications on each of the two categories.

### 8.1 ICT SECTOR VALUE CHAIN ANALYSIS

The analysis of the value chain for "ICT" must be examined by sub-sector, due to the significant differences between them. In the following sections, we describe the elements that comprise the ICT industry.

Numbers describing the size and shape of the Telecommunications and IT sub-sectors are drawn from the MICT SETA Sector Skills Plan 2016 to 2021 (MICT SETA, 2015), The ICASA Report on the State of the South African ICT Sector 2016 (BMI-Techknowledge, 2016) and other sources as identified.

It must be noted that policy and regulation interventions are not clearly delineated by sub-sector, mainly due to overlapping responsibilities of some of the stakeholders. For example, the MICT SETA identifies Advertising, Film & Electronic Media, Electronics, Information Technology and Telecommunications as its sub-sectors. ICASA regulates the communications, broadcasting and postal services sub-sectors. DTI drives industrial policy and influences the film and electronics industries through its incentive programmes. DoC's scope includes development of media and control over the SABC, a major player in the film and electronic media sector. DTPS is responsible for National ICT Policy, the scope of which includes computing, information technology, and telecommunications technology and the Internet.

(Broadcasting sector) are reflected in the analysis of opportunities in the ICT Value Chain later in the Strategy. For the purposes of this analysis, taking into consideration the mandate of the Department of Telecommunications and Postal Services, the focus is on telecommunications and information technology, though aspects of the Audio-Visual.

[22] McCormick & Onjala, Methodology for Value Chain Analysis in ICT Industry: Framework for the Study of Africa. 2007

### 8.1.1 TELECOMMUNICATIONS

MICT SETA (MICT SETA, 2015) identified 2 022 telecommunications employers in 2015, of which 45 were “large” (150+ employees), 82 “medium” (50-149 employees) and 1895 “small” (<50 employees). Although it is tempting to break this down into mobile, fixed line and Internet categories, many of the companies are engaged in all the activities.

MICT SETA reports employee numbers as 38 171 in electronics, 141 670 in ICT and 58 646 in telecommunications. Quoting StatsSA, ICASA (BMI-Techknowledge, 2016) says 103 317 people were employed in the telecommunications sector in Q3, 2015. However, later in the same report (page 17), ICASA states that only 30 519 people were employed in the telecommunications sector as at 30 September 2015 (of which 37% are female). As we write this, we have not had the opportunity to examine these variances.

Statistics South Africa (StatsSA) (Statistics South Africa, 2015) quantifies the 2012 domestic output of telecommunications services at R160, 784 billion, with compensation of employees at R18, 677 billion. Contribution to GDP is indicated as R64, 8 billion (2% of GDP).

The major elements comprising the current structure of the telecommunications sub-sector are indicated below, with examples of companies and other entities operating or influencing the sub-sector.

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#### 8.1.1.1 INFRASTRUCTURE

This segment of the sector, mainly relates to *fibre*, *copper*, *wireless* and *satellite*. Most of the original copper wire infrastructure was installed by Telkom. All of the major telecommunications operators have invested in fibre and wireless infrastructure. There are specialist infrastructure providers, many laying fibre-optic cables for use by other entities, such as FibreCo, Dark Fibre Africa and Broadband Infraco. These links are extended beyond South Africa’s borders by submarine cable operators, such as SEACOM, EASSy and WACS. There are several companies offering satellite links capable of handling Internet, data, LAN and voice/fax communications. Examples: Satcomms, Q-Kon and Radio Holland

***Multinational, international, national, local operators***: using their own or others' infrastructure, telecommunications operators provide the services that enable users to connect to the networks. The scale of operations may be global or local, with interconnection agreements to allow users to reach as far as they wish.

Most successful telecommunications companies operate at a large scale, to spread the capital and operating costs across the largest number of users. At multinational level, Vodacom (Vodafone) is a prime example. Internationally, MTN has a presence across Africa and the Middle East. Nationally, Cell-C, Telkom and Neotel are well known, with an increasing visibility from newer operators like Vox Telecom.

Attempts to create smaller operators to provide services in under-serviced areas have failed, largely due to the disproportionate amount of investment and working capital required in the face of small revenues.

#### 8.1.1.2 WHOLESALE VS RETAIL

Although the big national/multinational operators generally provide the full range of components of the service, from core infrastructure to consumer connections, there is a growing trend to separate the wholesale network service from the consumer (retail) services. This is seen in Telkom's Openserv and in the National ICT Policy's Wireless Open Access Network proposal. This is really the next step in the logical development of networks, where interconnection and roaming agreements avoided unnecessary duplication of cables and towers.

The retail telecommunications market reaches the consumers and provides the devices (handsets and other equipment), connections to one or more service providers, and the applications (apps) that add functionality to the service. Retail products and services are marketed direct from the major network operators, through specialist and general retail stores, through Internet cafes and on-line. There are many SMMEs operating in the retail market.

In addition to the voice/data services offered by the network operators, there are specialist Internet Service Providers (ISPs) and Wireless Internet Service Providers (WISPs). These companies focus on data connections using Internet Protocol (IP) across connections often supplied by a network operator (such as an ADSL line from Telkom). The WISP provides short range wireless connection to a base station which will have a broadband connection to a fixed line network. Typically, these ISPs provide web hosting and email services. Many, if not most, WISPs fall into the SMME category.

There are approximately 200 WISPs[23] operating across South Africa (according to the Wireless Access Providers Association – WAPA), serving 300 000 clients. A common requirement for all service providers selling to end users is an ***effective billing system***. The system must identify the device, its location, the type of connection, the service used and the amount of data and/or time

[23] Johannesburg Centre for Software Engineering: ICT Value Chain Analysis Report, 2016

consumed. It must also be capable of identifying time and location based special pricing packages.

To operate in this arena requires familiarity with local and international laws and regulations. The licensing of operators is essential to maintain orderly use of spectrum and maintenance of required standards for connectivity. Operators need to invest heavily in compliance with legislation intended to combat crime and to protect privacy.

South Africa must have the international links, whether they be cable or wireless and must also ensure the internal networks are compatible with international standards. In particular, allocation of radio frequency spectrum must be compatible with international norms to support mobility of users and to prevent interference with signals.

### 8.1.2 INFORMATION TECHNOLOGY

MICT SETA (MICT SETA, 2015) state that South Africa has a mature IT sector, with many international enterprises operating subsidiaries in the country. The same report, estimate that in 2014 the country spent over R100 billion on IT. It indicate that there are (according to SARS) over 11 000 IT employers, 96% with less than 50 employees, and a further 2 800 electronics employers, with over 90% in the small category.

MICT SETA reports 2015 employee numbers as 38 171 in electronics, 141 670 in IT and 58 646 in telecommunications. Based on information from StatsSA, ICASA, the BMI-Techknowledge, 2016 report shows that in quarter 3 of 2015, 120 055 people were employed in the computer software and services sub-sector, 17 710 in the maintenance and repair of ICT equipment and 13 065 in ICT manufacturing[24].

Below is the outline of the current structure of the IT sub-sectors:

#### 8.1.2.1 HARDWARE, INCLUDING COMPONENTS AND DEVICES – THE ELECTRONICS SUB-SECTOR

The vast majority of IT hardware sold in South Africa is imported. Economies of scale achieved in overseas factories are difficult to replicate in a lower volume market with different labour force dynamics. Local assembly of imported components has produced TV sets and laptop computers. Specialisation in set-top boxes, avionics and vehicle electronics has created sustainable businesses.

[24] Johannesburg Centre for Software Engineering: ICT Value Chain Analysis Report, 2016

### 8.1.2.2 SOFTWARE (INCLUDING OPERATING SYSTEMS AND TYPES OF SOFTWARE VENDOR)

Operating systems such as Windows, iOS/OSx and Android dominate the market (Microsoft, Apple and Google, respectively). Linux, in various flavours such as Ubuntu, is Open Source and offers lower operating costs. Application software may be off the shelf or bespoke.

(i) Off the shelf software, such as office support, finance & accounting, payroll and human resources, is purchased "in a box" and included a licence fee for its use and future updates.
(ii) Customised off the shelf software, on the other hand, is usually acquired by larger enterprises which adapt the standard software to suit their particular needs and to integrate it with other systems. Vendors include SAP, Oracle, Microsoft, among others.
(iii) Bespoke software describes applications written to meet the requirements of a specific user and not available in the same form for other users. Independent software vendors may generate bespoke solutions for particular clients. Internal software development teams will create specific solutions to meet an enterprise's needs, such as within a bank or mining house.

The current approaches to financing the ICT sector do not include non-infrastructure, yet important aspects of the ICT value chain, such as software and applications, are critical for South Africa to achieve a knowledge economy. This challenge has been highlighted in the National integrated ICT Policy White Paper (2016), which states that funding interventions in the ICT sector should not be confined to hard infrastructure, but should be all encompassing to promote competitiveness throughout the ICT value chain. Therefore strategies to address this pertinent issue are critical, if the local software and applications market is to thrive.

### 8.1.2.3 DATA CENTRES, INCLUDING THE INTERNET AND THE CLOUD

The rapid proliferation of broadband networks (at least in the urban areas) has led to a dramatic increase in the use of shared facilities. Not all of this is new technology – the principle has been in use for decades. However, the combination of Internet Protocol and high speed communications has created economies of scale not previously available.

Data centres are massive data storage and computing facilities in a secure environment. They can be located anywhere and can be dedicated to one user or shared by many users. Teraco is a South African example. Cloud computing or cloud services are just expressions used to describe the ability for a user to access data storage and computing applications located on equipment not on their premises (and often not in their country). Effectively, it is outsourcing some or all of the enterprise or individual computing needs to external resources on a pay-per-use basis.

The Internet provides the technology means for end users to interact with the data centres and with each other.

The White Paper raises concerns around the need to address the concentration of data centres in Gauteng, KwaZulu-Natal and Western Cape. It calls for the sector to encourage data centre distribution across the country, also encouraging the geographic distribution of specialised IT skills. It states that the ISP community substantially reflects past imbalances, and there is still a clear absence of players from previously disadvantaged backgrounds. This also requires government and industry to facilitate the participation of SMMEs, moving forward.

The Policy calls for government to further support new data centre entrants by utilising their services. In addition, the sector regulator will be directed to develop and implement strategies to widen participation in the ISP market, including collaborating with other government entities to increase demand for services offered by new entrants to the ISP market.

The global search market is largely dominated by Google, though other players with notable market share include Bing, Baidu and Yahoo. These search engines (with Baidu's exception) are popular in South Africa. There are also active topic and service-specific search engines e.g. booking.com and hotels.com. There are several South African search websites, but their market share is insignificant compared to global players.

In addition, the Internet browser market remains in the hands of international competitors, and South Africa does not play any active role in this area. Search engines normally generate revenue from indexing websites and paid-for ranking of websites and information.

#### 8.1.2.4 THE "APPS" ENVIRONMENT, INCLUDING GAMES AND GAMIFICATION

As with the growth in broadband networks, the proliferation of mobile devices has created a rapidly growing market for "apps" and games. The structure of the market enables a developer to create an application or game, package it for an operating system (or many operating systems) and sell it to end users (or give it away, supported by third party advertising). The Google Play Store and the Apple App Store are selling thousands of applications and games each day.

Businesses are adopting the apps and games route to develop end user interfaces to their enterprise systems. They are also examining the potential value of applying gamification principles to their business processes to achieve productivity gains and better user comprehension.

#### 8.1.2.5 INTEROPERABILITY AND CYBERSECURITY

The growing demand for users to access their enterprise systems from anywhere at any time via any device has increased the need for the various systems to be “interoperable”, i.e. capable of sharing data and accessing it from any platform. There is a similar increase in the number of connections to enterprise systems and in the flow of data between them and the users. There has always been a body of people willing and able to subvert the operation of computer systems for criminal or malicious purposes.

The networks and data centres, together with the end-use devices, create myriad opportunities for criminal and others to break in to systems for nefarious purposes. These factors have led to growth in the Cybersecurity industry, dealing with user identification and authentication, access control and malware prevention/eradication.

#### 8.1.2.6 IT PRODUCER ENTERPRISES AND IT USER ENTERPRISES

Information technology is pervasive. It is not a product that is produced by one enterprise and consumed by another. We can identify producer enterprises, i.e. companies that exist separately from their customers. They do make products and supply services that they sell externally, such as IBM, Microsoft and BCX.

We can also identify IT user enterprises that have no in-house ability to create or maintain IT products and services. They are entirely dependent on external suppliers for the technology they use. Most consumers and small businesses fall into this category. Many enterprises fall into a producer/user category, because they have internal resources that can create products and supply IT services. Most fintech companies are in this category, for example. This distinction is made to emphasise that the ICT Value Chain can exist within a non-ICT enterprise.

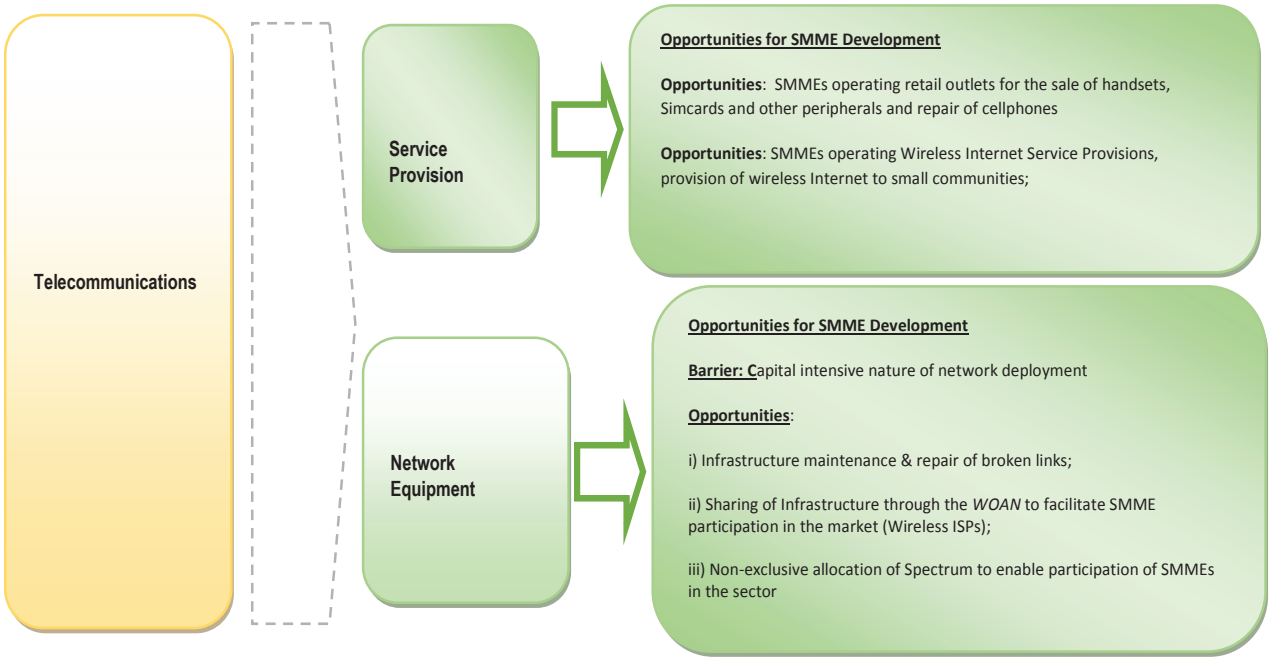
### 8.2 ICT VALUE CHAIN: OPPORTUNITIES AND CHALLENGES

This section will highlight the opportunities for SMME activity within the value chains discussed above. It will also identify the constraints inhibiting SMME involvement in the value chains, including policy and cost issues. This section forms the crux of the strategy, as it would inform the strategies to unlock the potential of SMMEs in the sector.

### 8.2.1 TELECOMMUNICATIONS

This value chain covers the provision of telecommunication services within a territory.

**FIGURE 1: Telecommunications Value Chain**




#### 8.2.1.1 NETWORK INFRASTRUCTURE

This sub-sector covers resources and inputs required to create the network infrastructure. This includes laying cables, building exchange points and wireless towers. It also includes signing agreements for access to satellite and submarine cable networks. Operators providing retail services will also need agreements for the purchase of user equipment and to set up a retail outlet environment. The White paper proposes a Wireless Open Access Network (WOAN), which presents opportunities for SMMEs to access existing infrastructure at regulated prices and immediately compete in the provision of services. Apart from enhanced competition downstream, the new policy enables small enterprises that could not venture into the highly capital intensive infrastructure layer of the market.

SMMEs will have the opportunity to set-up Wireless Internet Service Provision enterprises, they could also partner with big players in the process of laying of cables and installation of "last mile" connection. The estimated initial setup cost for a WISP is R250 000, excluding erection of a tower and customer installations.

#### 8.2.1.2 SERVICE PROVISION

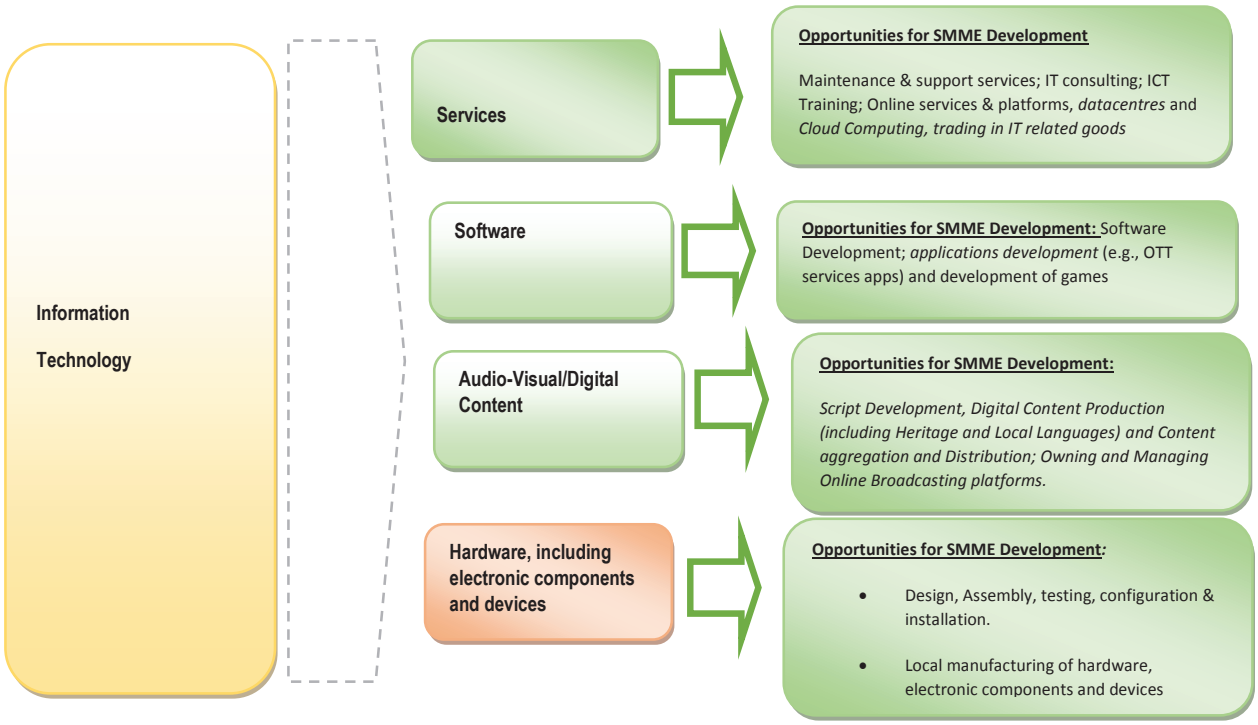
The output of this value chain is the provision of a telecommunications service to end-users with an acceptable Quality of Standard (QoS). The service scales from the individual user to the largest private or government enterprise and includes voice and data services. Users may contract directly with the operator or through a retail outlet or agency.

Therefore, SMMEs can provide value in the distribution channel by operating retail outlets for the sale of handsets and SIM cards. They can also operate WISPs, providing wireless Internet services to small communities. There is an ongoing requirement to maintain the infrastructure, repair broken links and replace end-user devices. Other opportunities are available to SMMEs with respect to this activity, through sub-contracting to the big operators and providing personal service to end-users.

### 8.2.2 INFORMATION TECHNOLOGY

In subsequent sections, sub-divisions of the IT sub-sector are identified. As with the telecommunications sector, opportunities and challenges are addressed based on those sub-divisions. Figure 2 below presents the structure of the IT sub-sector and reflect existing and new opportunities for SMMEs to take advantage of.

**FIGURE 2: Information Technology Value Chain**



#### 8.2.2.1 HARDWARE SUB-SECTOR (INCLUDING ELECTRONIC COMPONENTS AND DEVICES)

This sub-sector includes hardware and electronic components, devices and sub-assemblies sourced from suppliers. Most IT hardware components used in South Africa are imported. Components (such as integrated circuit chips) are seen as mass-produced commodities and economies of scale make it uneconomical to produce them locally. Components are sourced from international producers by local importers and local subsidiaries of multinational companies. Common components are imported in large quantities and held in local warehouses. Specialised components are imported in smaller quantities as required.

Local SMMEs can develop niche businesses around importing and supplying specialised components that are bought in numbers too small to be of interest to major suppliers. There is also scope to produce *special circuit boards or 3-D print* small quantities of specialised enclosures. However, through the provision of appropriate incentives, small ICT companies could be capacitated to manufacture affordable mobile devices and electronics components for distribution locally and in the African continent. Currently, South Africa imports the majority of hardware and various electronic products.

The local electronics component market is "tied up" by a small number of large distributors who have agreements with major international suppliers. *Financing and cash-flow are common inhibiting factors preventing SMMEs from entering this sub-sector.* Given appropriate support and incentives, SMMEs could effectively participate in the component space.

The design, assembly, testing and configuration and installation of hardware is typically done in South Africa by local subsidiaries of multi-nationals or by specialist local companies. South Africa has world-class design and assembly capability. *SMMEs with the correct level of high-end technical skills have always operated in this area* and more opportunities could be opened.

#### 8.2.2.2 DIGITAL CONTENT

The digital content sub-sector, presents a lot of opportunities for SMMEs, considering the proliferation of social media and planned migration to digital broadcasting. The majority of online content consumed by South Africans originates from America. It then becomes critical for government to provide entrepreneurs with the necessary tools and infrastructure to enable them to develop local content and aggregate it for distribution purposes, e.g., Digital Content Development Incubation Centres. The African region also presents an opportunity for distribution of content.

Government, through the Department of Communications, is in the process of developing an Audio-Visual (Broadcasting) and Digital Content Development Strategy to facilitate the development of entrepreneurs in this space. The objective is to enhance skills development in script writing/development, digital content production (including South Africa heritage content and local languages), content aggregation and distribution; owning and managing online

broadcasting platforms. All these are opportunities that are available for small players in the Audio-Visual and Digital Content market.[25]

### 8.2.2.3 SOFTWARE PRODUCTS – INCLUDING OPERATING SYSTEMS AND PACKAGES

According to the National integrated ICT Policy Green Paper (2014), software developers are in demand across the ICT and business sectors. Gartner, an international research group rated South Africa as one of its top 30-software development outsourcing destinations, alongside Israel, the Middle East, Australia and India[26].

Operating systems and packages are supplied either on DVD or USB disks or (more commonly nowadays) downloaded via the Internet. For complex software products a large number of configuration components are required to build an operating system or software package. Most operating systems are sourced from developers and companies outside of South Africa. Although there are some notable exceptions, most packaged software - particularly large packages - are produced abroad. The barrier to entry with respect to "packaged software" is very high. *There is very little scope for local SMMEs to become developers or distributors of packaged software*. The “exception” was Mark Shuttleworth’s Thawte Software, sold to Verisign (US). There are a number of Independent Software Vendors (ISVs) in South Africa which have successfully created “packaged software” for local and international clients.

Local SMMEs could take advantage of opportunities in software maintenance, support and upgrade services. Government also needs to support the development of local software, considering that the required skills are produced locally. As mentioned earlier, deploying critical infrastructure such as incubation hubs is key for the local software market to thrive.

### 8.2.2.4 GAMES AND APPS

Linked to the software development sub-sector of the value chain are games and applications. When developing both Apps and Games the most important input is to define requirements. In some cases there is a specific customer who specifies these requirements. In other cases Apps and Games are developed as innovative products that will need to be marketed and sold. Requirements analysis would almost always be done by the developer. There is huge scope for local SMMEs to become involved in developing Apps and Games that meet local needs and/or appeal to the South African and African markets. There are very few constraints and a very low barrier to entry. The only need is to have people available with the correct range of skills.

The software development lifecycle transforms requirements into software systems. The steps in the lifecycle include architecture, design, coding, testing and documentation. South Africa has world-class software development capabilities and SMMEs should build on this tradition and reputation with respect to App and Games development. Local "App Stores" are necessary to

[25] Draft South African Audio-Visual and Digital Content Development Strategy, 05 May 2015
[26] National Integrated ICT Policy Green Paper, 24 January 2014. Government Notice No: 37261

ensure that users can discover and download local Apps and Games. Having a local "App Store" would facilitate distribution of local SMME-developed content. The most popular "App Stores" are owned by Google, Apple and Microsoft. This control inhibits local participation in this critical distribution channel. Agreements must be reached with these international vendors to improve access by SMMEs to these channels. "Servicing" of Apps and Games is done via the Internet by making new versions available for download. The SMME responsible for developing the App or Game would be responsible for "servicing".

#### 8.2.2.5 DATA CENTRE AND CLOUD COMPUTING (EMERGING OPPORTUNITIES)

In this value chain the input can be seen as setting up the necessary infrastructure in South Africa. The "Telecommunications" value chain is closely associated with this one. Establishing data centres and the communications infrastructure to access them is the most important "input" in this value chain. There is scope for SMME involvement in setting up data centres and cloud computing facilities. Though these facilities are complex, capital intensive, SMMEs could partner with larger players in the sector, e.g., SITA.

Once the infrastructure has been set-up, there are a wide range of services and products available on top of the core infrastructure. SMMEs have tremendous opportunities to leverage cloud infrastructure to provide a range of specialised and niche offerings to both large and small customers. This is a new and emerging area of business, and SMMEs should develop innovative solutions and business models. As with any new business model, cloud computing is not well understood by potential customers. SMMEs wishing to operate in this area will need to work hard to sell new concepts to sceptical customers.

Well trained, highly motivated and suitably incentivised SMMEs can play a very positive role in the customer-facing activities of this Value chain. There is considerable scope for SMMEs to work together with larger players as part of the marketing and sales process. Possibilities of exploring potential opportunities that SITA can offer to SMMEs wishing to utilise the SITA data centres would also be explored through this strategy.

#### 8.2.2.6 INTEROPERABILITY AND CYBERSECURITY

This value chain covers the integration of IT systems - including databases - and ensuring adequate levels of cyber security. A typical example of this is the BankservAfrica system which supports the interoperability and security of transactions between South Africa's major banks. Inputs to this value chain are agreements around standards relating to aspects such as metadata, message structures and operational processes. There is very little scope for SMME involvement in this activity.

However, there is an ongoing requirement to maintain software, hardware and security infrastructure. Some niche consulting opportunities are available to SMMEs, with respect to this activity. This requires high levels of skills though.

### 8.2.3 OTHER BUSINESS OPPORTUNITIES, PARTICULARLY IN THE PUBLIC SECTOR

During the ICT Policy Review consultation process, stakeholders raised the importance of government being the first client for products and services developed or provided by SMMEs, considering the annual budget it uses to deliver support services to small business. This will instil confidence in other potential clients, especially private sector. As part of its responsibility of ensuring the realisation of an inclusive information society and achieving universal access, government has continued to roll-out infrastructure and ICT services in schools and other public facilities.

Therefore, the need to ensure continuous maintenance of this infrastructure as well as enabling teachers and nurses (and other government employees) to use ICTs deployed in their facilities cannot be overemphasised. This therefore presents an opportunity which ICT SMMEs could take advantage of. The prioritisation of small enterprises in the procurement of these services could be accelerate once the government policy of setting-aside 30% of its procurement to SMMEs has been approved. ICT SMMEs could, amongst others:

- Develop applications for use in the learning environment,
- Be contracted to deploy computers and other learning tools at schools and health centres,
- Provide continuous maintenance and support to computer labs and;
- Capacitate teachers and health workers to effectively use technology to deliver services.

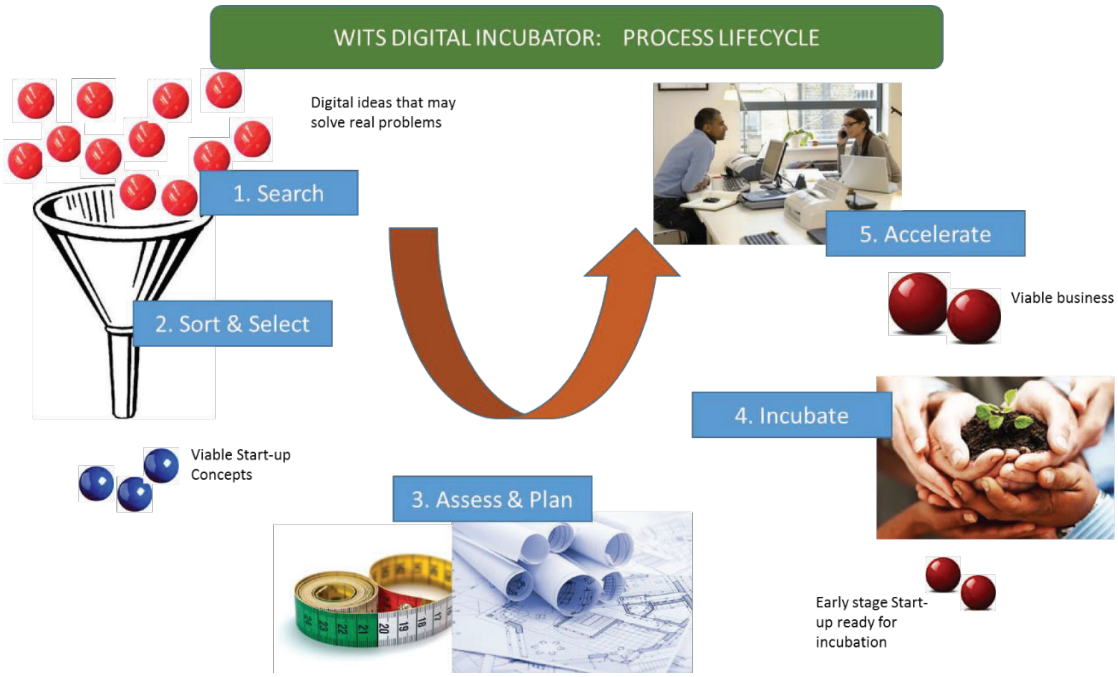
The analysis of the ICT Value chain has revealed both areas of opportunities and challenges for small businesses. It is evident from the discussion above that some upstream levels of the market, such as infrastructure deployment, have high barriers to entry, considering the capital intensive nature of some of the activities. However, there are opportunities for small enterprises in the service layer of the value chain, e.g., installation of some components, maintenance of the infrastructure, etc. Although most of the hardware used in South Africa is imported, there are prevailing opportunities in the areas of design, assembly, testing and configuration, requiring high end skills. Applications and gaming development, software development, datacentres (set costs are prohibitive, but there are opportunities in service and maintenance) and cloud computing based services seem to have low barriers to entry and as such, strategies to enhance SMMEs participation are required.

## 9. PROPOSED ICT SMME DEVELOPMENT SUPPORT STRATEGY

### 9.1 A MODEL FOR ICT SMME DEVELOPMENT

In this section we describe a generic model that aims to support the development of new enterprises. This model has been implemented at Wits University's Tshimologong Digital Innovation Precinct in Braamfontein, where the focus is on discovering innovative ideas and supporting some of them as they grow into new digital Start-up SMMEs.

The diagram below illustrates how Start-ups are found, developed and supported from ideation to business acceleration. It is worth noting that existing small enterprises seeking support may be able to "plug in" to the model at stage 3, subject to satisfying the assessment criteria.




In the following subsections each of the five steps in this model is described in more detail:

#### *Stage 1: Search*

The primary objective in the "search" phase is to identify digital solutions to real-world problems. The scope of both the solution and the problem is very broad. The solution may be a device, product or service. It may require the development of digital hardware, software, content or some combination of these. It may still be an idea or it may already have been turned into a prototype. The problem being addressed could come from any domain – ranging from health to education, from financial services (fintech) to entertainment, from mining to manufacture.

There are various ways in which the Search will be initiated. Challenges or calls for participation may be issued. Specific problem areas may be specified (e.g. “Find solutions to health-related issues”). A challenge may also focus on a specified solution type (e.g. “Develop a digital game”). In some cases the Search may be preceded with a “Learnathon”. This is an activity aimed at raising the level of skills within a target audience so as to better equip potential innovators with the ability to successfully enter the Search phase. The objectives of the Search can also be achieved by encouraging ad hoc submission of proposals.

Irrespective of how they are initiated all “digital solutions to real world problems” gathered in the Search phase will be evaluated using a common set of criteria. Based on these criteria those selected for further attention will then go forward to the next step of the process, namely “Sort and Select”.

### *Stage 2: Sort and Select*

All aspiring Founders presenting solutions during the Search that are then selected for entry into the “Sort and Select” phase will be offered training. This training will aim to assist the Founder in refining her/his solution and in preparing it for further development. The Founder will also be trained and mentored on how to prepare a “pitch” which will form the basis of the evaluation of the solution at the end of the Sort and Select process.

Lean Launchpad (developed by Stanford Professor Steve Blank) and the Business Model Canvas (developed by Alexander Osterwalder), or similar approaches, are the basis of the preferred methodology to be used for the training to be offered to the aspiring Founders. Central to these methods are the concepts of testing assumptions, customer discovery, pivoting and minimum viable products (MVPs).

Solutions developed during the training associated with the Sort and Select phase will be refined during “Hackathons”. Solutions will then be pitched to panels of judges and evaluated according to a common set of criteria at “Demo Days”. These common criteria will consider:

- The “value” of the solution in terms of originality, feasibility and the nature of the problem being solved;
- The Founder and the likelihood that she/he will be able to carry the solution forward;
- The business model;
- The likelihood that the solution will be carried forward into a successful start-up within a maximum of 1-year, given appropriate levels of support.

There may be several rounds of refinement, evaluation and selection during this phase.

### *Stage 3-4: Assess, Plan and Incubation*

Start-ups selected for incubation during the Sort and Select process described above will be assigned a mentor and brought into the incubation process. All incubates will have access to facilities and resources, including: space to work in an open-plan environment; bookable meeting rooms; internet access and private cloud storage; participation in community events together with other incubates.

The assigned mentor will also arrange for each Start-up to be taken through a number of "business readiness" assessments, focusing on technology, skills and business processes. The outcomes of these assessments will be used in tailoring the mentoring required by each Start-up.

### *Stage 5: Acceleration*

Once the Start-up has attracted some investment and/or has secured its first customer(s), the support required changes. It is then a small business and needs to receive advice on how to run a business. There is also a need for support in securing funding and finding more customers. The Tshimologong Precinct, and other similar facilities, can provide this type of support.

### *Ingredients for successful Incubators: Cluster Principle*

Successful technology/incubator hubs draw on a number of ingredients that combine to create a "critical mass" to sustain the hub's activities. These include:

- In the vicinity of a higher education institution, to access interns, ideas and instructors. More importantly, the location of in incubation facility within the boundaries of a higher education institution enhances is viability, considering that it is situated in a secure environment.
- Close to business districts for access to enterprises that will be the sources of customers, mentors and funding.
- In an area populated by and popular with young people, with social and entertainment venues.
- Good transport facilities – roads, rail and bus links; adequate parking. This would make it easy and convenient for potential technopreneurs to access the facility.
- Good communications infrastructure – high speed broadband and free WiFi.
- Access to funding sources – venture capital, angel investors, government grants and loans, banks.

Large cities can support several clusters, such as in Johannesburg – Maboneng, Tshimologong, 44 Stanley, etc. Location is important and lessons can be learned from existing hubs in Pretoria, Cape Town and Durban. This proposed model is adapted from the incubation model implemented by the Tshimologong Precinct. As of January 2017, the centre had 184 applications for membership to the Tshimologong Precinct from Start-ups, involving more than 390 people.

The incubation centre currently has 34 Start-ups at various stages of incubation. These start-ups are all in digital innovation, including applications development, Virtual Reality, games and hardware development (e.g. the Internet of Things)[27]. A similar model is applied by the Smart Exchange, one of the successful incubation facilities based in Durban. In rolling-out incubation hubs, government would need to partner with these existing hubs as well as institutions of higher learning.

## 9.2 STRATEGIES AND INTERVENTIONS TO SUPPORT THE ICT SMME DEVELOPMENT MODEL

Recognising the economic potential of ICTs for Small and Medium-Sized Enterprises (SMEs), they should be assisted in increasing their competitiveness by streamlining administrative procedures, facilitating their access to capital and enhancing their capacity to participate in ICT-related projects. This section of the document presents possible strategies to enhance the development of viable South Africa ICT SMMEs, whilst increasing the uptake and usage of ICTs by SMMEs across the board. The strategic interventions, are presented in alignment with the three objectives highlighted in Section 5 of the Strategy.

***STRATEGIC OBJECTIVE 1: FACILITATE DEVELOPMENT AND ACCELERATED ENTRY OF SMMEs (YOUTH AND WOMEN ENTREPRENEURS) IN THE ICT SECTORS***

***Challenge: Highly concentrated ICT market (Telecommunications sub-sector)***

***Strategic interventions:***

- Facilitate effective participation of ICT SMMEs in the establishment of the Wireless Open Access Network in line with the National Integrated ICT Policy White Paper;
- Facilitate effective entry and participation of SMMEs (including as MVNOs) in the Service provision layer of the market (elimination of barriers to entry).
- Enable establishment of youth/women owned and managed cell-phone repair shops across the provinces, prioritising rural areas. These shops will repair cell-phones and other gadgets. In addition, they will provide the following basic services: internet services; faxing services; laminating and binding services; typing and printing services; e.g. flyers, pamphlets; business cards; etc., Identification photos; scanning services, and retail in ICT accessories and air time;
- Enable the establishment of youth/women owned and managed District Internet Service Providers (DISPs). This will be realise through partnerships between public, private sector and academia.

[27] Information provided by Mr Adrian Schofield, Manager in the Applied Research Unit of the Johannesburg Centre for Software Engineering (Tshimologong Precinct), 30 January 2016.

***Challenge:*** ***Limited participation of SMMEs in the Information Technology sub-sector***

***Strategic intervention:***

- Broaden participation of SMMEs in data centres, search and navigation systems, cloud computing and digital content development segments of the ICT market;
- Develop support programmes to facilitate the development of software applications and digital content by SMMEs;

***Challenge:*** ***Limited access market***

***Strategic Intervention***

- Leverage on government (including SOCs) and Private sector procurement as a lever for ICT small business development;
- Ensure implementation of the 30% Set-aside for ICT SMMEs, including in the South Africa Connect Broadband Roll-out project;
- Work constantly with the ICT BEE Council to continuously monitor the implementation of the ICT Sector Code for development of ICT SMMEs;
- Continuous monitoring of the implementation of the 30 days payment policy of government, thus enhancing the viability of ICT SMMEs;
- Provide capacity building workshops to ICT SMMEs on tenders and bidding related processes.
- Provide networking platforms for ICT SMMEs and big business to:
    - Facilitate business linkages and showcasing of available business opportunities by ICT companies (MNOs), OEMs, business development agencies, etc.
    - Create awareness on existing support instruments in the public and private sector;
    - Enable information sharing.
- Work with relevant to market local ICT SMME goods and services abroad (including implementation of export readiness programme);
- Work with International Relations to ensure that local ICT SMMEs benefits from multilateral marketing platforms.

***Challenge:*** ***Lack appropriate business, administrative skills and entrepreneurial capabilities***

***Strategic intervention***

- Develop the necessary capacity, to ensure participation of new small players in the data centre space;
- Facilitate training interventions for SMMEs in areas such financial and business management, software development, website development, domain name, etc.;
- Encourage differentiated and customised Business Development Support Services using tools such as Sub-sector approaches, and training of banking staff to enhance their understanding of the ICT sector and its services;

***Challenge:* Limited Access to funding instruments and incentives for ICT SMMEs**

***Strategic interventions:***

- Work with both private and public entities to facilitate funding in order facilitate the entry of SMMEs in the identified markets;
- Work with relevant government Departments to ascertain that within existing incentives, resources are set aside and tailored specifically to the needs of the ICT sector;
- Coordinate the inclusion of ICT SMMEs as beneficiaries in the Digital Development Fund;
- Encourage cooperation between SMMEs with venture capital investors.
- Encourage funding institutions to customise their products and services to address the specific needs of ICT SMMEs.

***Challenge:* Skewed deployment of appropriate infrastructure**

***Strategic interventions:***

- Work with government at provincial and local spheres to ensure ICT SMMEs access to strategic business sites at affordable rates;
- Coordinate the roll-out of ICT sector specific incubation hubs (in provinces and rural communities), in partnership with all relevant stakeholders, including academia and private sector.

***Challenge*: Inhibiting enabling policy and regulatory environment for SMMEs to thrive.**
***Strategic interventions:***

- Work with other relevant government departments to ensure alignment of general SMMEs policies with ICT sector specific policies and regulations (avoid conflicts and misalignments).
- Engage relevant government institutions with the objective to ensure the utility model system is incorporated into South Africa's Intellectual Property Policy to promote ICT entrepreneurs and protect domestic innovators;
- Coordinate (in partnership with relevant stakeholders) the roll-out of awareness campaigns to familiarise grassroots innovators with Intellectual Property issues;
- Coordinate the implementation of the Amended B-BBEE ICT Sector Code for benefit of ICT SMMEs both in government and private sector.

***Challenge*: Limited commercialization of innovation**
***Strategic interventions*:**

- Work with South Africa's Universities, Department of Science and Technology, the dti and other institutions to stimulate and intensify ICT entrepreneurship development and increase the rate of commercialisation;
- Coordinate the inclusion of ICT innovations in government incentives and other financial support to ensure that entrepreneurs are funded from conceptualisation stage to commercialisation of local products and services.

***STRATEGIC OBJECTIVE 2:*** ***TO INCREASE THE UPTAKE AND USAGE OF ICTs BY THE GENERAL SMME SECTOR.***

***Challenge*****: *Low of uptake and usage of ICT by SMMEs***
***Strategic interventions*****:**

- Coordinate the roll-out of demand-side interventions, especially capacity development programmes (including e-literacy and awareness campaigns) on the use of ICTs, in line with the National e-Strategy;
- Extend the market reach of SMMEs through promoting the development and uptake of web-related marketing platforms/national websites/business directories, supplemented by “meet the buyer” events;
- Coordinate the implementation of measures to increase the uptake and usage of open source software based applications by SMMEs across economic sectors.

***STRATEGIC OBJECTIVE 3:*** ***COORDINATED AND INTEGRATED PLANNING MECHANISM FOR DEVELOPMENT OF ICT SMMES AND INCREASING UPTAKE AND USAGE OF ICTS***

**Challenge:** ***Lack of a coordinated and integrated mechanism to drive and monitor the ICT SMME Sector***
***Strategic interventions*****:**

- Establishment and operationalisation of an ICT SMME Project Implementation Steering Committee to coordinate the implementation of the ICT SMME Support Strategy and its projects/programmes;
- Continuously participate in the National Inter-Departmental Small Business and Cooperatives Development Committee, National ICT Forum and any other provincial and local SMME coordinating structures;
- Development and operationalization of a central database for ICT SMMEs to enable evidence based policy making and effective monitoring of the ICT SMME Sector.

## 10. INSTITUTIONAL FRAMEWORK FOR IMPLEMENTATION OF THE STRATEGY

There is a need to strengthen partnerships between government, industry associations, market intermediaries, academia, civil society organizations, grassroots groups, who must all be able to play their roles effectively in the entrepreneurship development ecosystem. Complex, systematic challenges like expanding economic opportunities to SMMEs, present frustrating bottlenecks to unilateral actions, especially from government side. Even the best resourced efforts eventually run into limitations of scale at some point. Therefore, the implementation of this ICT SMME Support Strategy requires concerted efforts from all relevant stakeholders. Collaboration allows parties to share knowledge and information, pool scarce or diverse assets and resources, access new sources of innovation and create economies of scale. The public sector, or more exactly the government bodies, will act as partners with the private sector, i.e. with SMMEs, as well as with the organisations of civil society, all for the purpose of contributing to the development of the entrepreneurial sector, and consequently to the South African economy in general.

- **Coordination for the implementation of the Strategy**

It is important to have a single coordinating body responsible to coordinate and facilitate the implementation of the ICT SMME Support Strategy. The strategy has to combine and coordinate efforts of institutional structures that make or affect policy, the administration of policy and public support organisations. In this regard, the Industry-Growth Coordinating Mechanism as proposed in the National Integrate ICT Policy White Paper, to be convened by the Ministry of Telecommunications and Postal Services with other cluster Ministries including the Ministry of Science and Technology, Ministry of Trade and Industry, Ministry of Small Business Development, will be entrusted with the responsibility for coordination, facilitation and overseeing the implementation of the Strategy.

- **Establishment of an ICT SMME Programme/Project Implementation Steering Committee**

An ICT SMME Project/Programme Implementation Steering Committee will be established, co-chaired by officials from the Departments of Telecommunication and Postal Services and Small Business Development.

The Steering Committee will report to the ICT Industry Growth Coordinating Mechanism, a structure to be created to facilitate synergies across relevant Government departments and ensure bottlenecks are addressed, as provided for in the National Integrated ICT Policy White Paper. The White Paper stipulates that the coordinating body will be structured along the broad sub-sectors of the industry viz. ICT Manufacturing (including the electronics and related hardware sub-sectors), ICT software development (including applications development) and the ICT Services industry (providing maintenance, logistical support, data warehousing, network support etc.). This distinction is essential to ensure that interventions take cognisance of the

uniqueness of each and that targeted support programmes are developed accordingly, also prioritising opportunities for ICT SMME development across the value chain.

## 11. DEVELOPMENT OF SMALL MEDIUM AND MICRO ENTERPRISES – IMPLEMENTATION PLAN – FRAMEWORK ACTION PLAN FOR IMPLEMENTING THE STRATEGY

| PROPOSED INTERVENTIONS | BENEFICIARIES | IDENTIFIED PARTNERS | TIMEFRAMES |
|---|---|---|---|
| Leverage on government (including SoCs) and private procurement as a lever for ICT SMME Development (including Broadband Roll-out):<br><br>- Facilitate the establishment of ICT SMMEs, while giving access to existing ones.<br>- Facilitate development of manufacturing of affordable devices and components in Districts prioritised for Broadband roll-out<br>- Facilitate the establishment of local SMMEs to continuously providing support to the infrastructure | ICT SMMEs & Cooperatives | DTPS, DSBD, EDD, the dti and National Treasury; Small Enterprise Finance Agency (Sefa); National Empowerment Fund (NEF); Development Bank of Southern Africa; Small Business Development Agency (SEDA); Government and Private Sector Incubators; Private Sector | Medium-term |
| Facilitate the establishment of youth/and women owned and managed District Internet Service Providers (DISPs) | Youth and Women | DTPS, DSBD, EDD, the dti and National Treasury; Small Enterprise Finance Agency (Sefa); National Empowerment Fund (NEF); Development Bank of Southern Africa; Small Business Development Agency (SEDA); Government and Private Sector Incubators; Private Sector | Medium-term |
| Facilitate the establishment of youth/women owned and managed cell-phone repair shops (including provision of internet services; faxing services; retail in ICT accessories and air time, etc.). | Youth (prioritising women) | DTPS, DSBD, EDD, the dti and National Treasury; Small Enterprise Finance Agency (Sefa); National Empowerment Fund (NEF); Development Bank of Southern Africa; Small Business Development Agency (SEDA); Provical Government , Local Government, Incubators and Private sector. | Medium-term |

| | | | |
|---|---|---|---|
| Annual Public-Private Partnership Platform on ICT SMME development hosted:<br>- To create awareness on existing support instruments in the public and private sector;<br>- To provide Business linkages and showcasing of available business opportunities by ICT companies (MNOs), OEMs, business development agencies, etc.<br>- Information sharing | Youth owned and managed Small, Micro and Medium Enterprises | Mobile Network Operators; Banking Sector; OEMs; Government Business Development Support institutions; SEDA, Sefa, NEF, SITA, MICT-Seta, etc. | Short-term |
| Create an enabling policy environment for ICT SMMEs to enter and participate in the ICT Industry (through the Open Access Network) | ICT SMMEs | DTPS, MNOs, SMMEs, DFIs | Medium-term |
| Broaden participation of SMMEs in data centres, search/browse and navigation systems, software and digital content development | Youth, SMMEs & & Cooperatives | Mobile Network Operators; Banking Sector; OEMs; Government Business Development Support institutions; SEDA, Sefa, NEF, SITA, MICT-Seta, etc. | Medium-term |
| Development of a central online database and Portal for ICT SMMEs. The online platform will also provide::<br>- Information on government and private sector support programmes;<br>- Policies, legislation and regulations affecting SMMEs, etc.<br>- | ICT/SMMEs | DTPS Ikamva (e-Skills Institute), | Short-term |
| Training ICT SMMEs on business and financial management Skills, tendering processes (including project management) | ICT Entrepreneurs | DSBD, SEDA, Private Sector and Academia | Short – Medium-term |

| | | | |
|---|---|---|---|
| Training on website development and maintenance (including e-literacy skills). This will assist SMMEs with marketing of their products and, thus extend their market reach | ICT Entrepreneurs Entrepreneurs from other economic sectors (e.g. Agriculture, Tourism, etc.) | Ikamva (e-Skills Institute), DTPS, DSBD/SEDA/SEFA, National Treasury | Short to Medium-term |
| Facilitate the roll-out of ICT Incubation Centres in provinces lacking this type of infrastructure | Existing and potential ICT SMMEs | DTPS/DTI/Provinces/Municipalities and Telcos/Operators | Medium to Long-term |
| Training of potential and existing entrepreneurs on a variety of technical skills such, software development, applications, games, etc. | ICT Entrepreneurs | DTPS,JCSE,DST,TIA, .ZDNA and Incubations Hubs | Medium-term |