GTAC Analyse Assess Activate
Strategic & Technical Advisory
National Treasury
REPUBLIC OF SOUTH AFRICA

2022

ICT expenditure review with a focus on SITA services

Assessing the effectiveness of a centralised ICT procurement system

ADVISOR: DANIEL MAKONI, MEHLELI MPOFU & ANTONY ALTBEKER

PUBLIC EXPENDITURE AND POLICY ANALYSIS

SAVINGS@WORK
GOVERNMENT SPENDING REVIEWS

Acknowledgements

Antony Altbeker: GTAC Long Term Advisor – Public Expenditure and Policy Analysis

Authors

Daniel Makoni: GTAC Long Term Advisor – Public Expenditure and Policy Analysis

Mehleli Mpofu GTAC Long Term Advisor – Organisational Development and Public Expenditure and Policy Analysis

Citation

Broadband connectivity in the Western Cape Government Facilities, Prepared for the Western Cape Provincial Government by Dumazile Tyali, 2022

Police IT Expediture: Evaluating the provision of ICT solutions in the police services, prepared for National Treasury by Veli Buti, 2021

Spending review of Review of the SAConnect Project, prepared for National Treasury by Motshegwe Keitumetse and Mokena Flavia, 2020

Spending review on ICT in Basic Education, prepared for National Treasury by Shaneel Ragoo, 2021

Spending review on SITA, prepared for National Treasury by Flavia Mokoene, 2020

Spending review on digital migration and STBs. Prepared for National Treasury by Nhlanhla Gamede, 2020

SITA procurement in KZN, Prepared for the KZN Provincial Treasury by Nomthi Mjuza, 2019

The impact of E-learning on matric performance in Gauteng, prepared for the Gauteng Provincial Treasury, by Ramusetha Shudufhadzo, 2019

Merge BAS and Logistical Information System oversight units operating in the Northern Cape Provincial, prepared for the Northern Cape Provincial Treasury, by Shiren Maclean, 2019

Disclaimer

in this report, the authors have endeavoured to use what they consider is the best information available at the date of publication.

1. KEY POINTS

This spending review explores if the original model of having a centralised stated owned IT agency is working or not. Whilst it does not seek to provide comprehensive answers to the strategic questions *"should SITA continue to exist?"* and *"if yes, how should its business and operating model change?"* the study seeks to provide answers to the following four high level questions which can inform further policy and strategic discussions.

1. How successful has SITA been in realizing the opportunities to leverage economies of scale across the public sector?
2. Where it provides services, has SITA actually created efficiencies by either lowering unit costs or facilitating access to below market rates?
3. From a financial perspective, how viable and sustainable is SITA as a Public Entity that is only funded from revenues generated from other government departments?
4. To what extent is government's ICT spending more toward servicing systems in place or more towards expansion of information systems?

The key findings and observation from the review are as follows:

1. Overall, there is a lack of alignment and planning of ICT projects and spending with programme objectives and engagement with SITA to enhance enterprise architecture objectives
2. Whilst government has spent up to R 97 billion on ICT over the 5-year period 2016/17 to 2020/21, annual expenditure in 2020/21 is 5% less than ICT expenditure in 2016/17 and it has increasingly been focused on core system maintenance and support activities, with little expenditure on to develop and digitize government services and functions to the general public.
3. Only 25% of governments total expenditure on ICT actually goes through SITA. This figure is a high 60% for mandatory SITA services and a low 18% for non-mandatory services. The significant expenditure leakage from SITA for mandatory services suggests that the full potential of maximising government's purchasing power is not being realised. In contrast, SITA's low market share amongst non-mandatory suggests that SITA's offering in this regard is not appealing to most departments or SITA does not have the capacity to extend its offering in this space.
4. SITA has been successful, to varying degrees, in consolidating government's spend on mandatory mainframe and data telecommunication services. However, SITA is hardly used for mandatory printing services (e.g., network printing), data processing, and voice telecommunications and there is also a relatively low utilisation for ICT security services and web hosting.
5. SITA's share of government's expenditure on mandatory services could be increased if provinces such as Gauteng and North West, and national departments such as the Police,

DIRCO, Transport, Communications, Rural Development and Land Reforms, and Agriculture, Forestry, and Fisheries, made greater use of SITA.

6. Where SITA has been providing services, SITA appears to have been more effective in generating efficiencies for the following ICT service: *software licenses, data processing, web hosting, and ICT security*. However, SITA has been less effective in generating efficiencies on the following services - *system and software development, telecommunication data, specialised computer services, mainframe time, and printing services.*
7. SITA is well placed to play an intermediary role on behalf of the whole of government especially amongst large suppliers. However, SITA pricing is inconsistent and sometimes opaque to departments.
8. SITA is a financially viable and sustainable entity. However, given its thin net accounting and cash margins of 1.6% and 4.8% respectively and its current cost structure, SITA is not in a position to pass on significant price reductions to its client despite of having gross accounting and cash margins of 32% and 35% respectively.

Taking cognisance of the above findings and observations, expenditure outcomes for government's ICT expenditure can be improved by:

1. Enforcing the central procurement of software licenses for big ticket spending.
2. Ensuring that the oversight and performance monitoring of SITA ensures that SITA:
    a. Submits a new service catalogue and pricing structure
    b. Avoids overcharging and provides right-sized services to department clients
    c. Adopts a consistent charging system across government
    d. Adapts its business to provide more value-add solutions and better planning of overall government ICT as per their mandate
    e. Improves its cost structure so that is in a position to reduce is gross margins and still be able to breakeven.
3. Implementing initiatives such as:
    a. Migrating all govt landlines to VoIP solutions
    b. Rolling out a single PABX system across government
    c. Implementing a policy where employees only have a landline or cell phone and not both.
    d. Running transversal contracts for print cartridges and software licensing.

    Savings from such initiatives are estimated to be at least R1.1 billion per annum.

2. Executive Summary

The establishment of SITA in 1999 was premised on an intuition that given prevailing technologies and the lack of relevant skills across government, centralizing the planning, procurement, implementation, management and maintenance of IT infrastructure and other transversal systems for all of government would generate efficiencies that could not be secured with a more decentralised system. In addition, by establishing SITA as a schedule 3A public entity there was a recognition that SITA should operate with political and administrative autonomy, outside of the Public Service, and not be directly dependent on transfers from the National Revenue Fund.

To ensure the success of this centralised state owned IT agency, the SITA Amendment Act of 2002 established SITA as a registered company fully owned by government with the mandate to (1) **improve service delivery to the public** through the provision of information technology, information systems and related services in a maintained information systems security environment to departments and public bodies; and (2) **promote the efficiency of departments and public bodies** through the use of information technology.

Through regulations published under the SITA Act it was made mandatory for government departments to procure the following ICT services from or through SITA: Private Telecoms Network, Transversal Data Processing, Disaster Recovery Plan, Transversal Systems, and Information Security. SITA was also mandated to (1) set Interoperability and Security Standards, and Information System Inventory Regulation, (2) develop government's IS Convergence Strategy Regulation and Research Plan Regulation, (3) certify ICT systems used across government, (4) support ICT procurement across government. SITA was also given the option to provide the services such as Department ICT Training, Department System Development, Department ICT Maintenance, Department Data Processing, Advisory Services, ICT Management Services, Provision of Authentication products, and ICT Research. However, it was not mandatory for government to procure these from SITA.

Therefore, this spending review, using available expenditure and related non-financial information, explores if the original model of having a centralised state-owned IT agency is working or not. Whilst the study does not seek to provide comprehensive answers to the strategic questions *"should SITA continue to exist?"* and *"if yes, how should its business and operating model change,"* the study seeks to provide answers to the following four high level questions which can inform further policy and strategic discussions.

1. How successful has SITA been in realizing the opportunities to leverage economies of scale across the public sector?
2. Where it provides services, has SITA actually created efficiencies by either lowering unit costs or facilitating access to below market rates?
3. From a financial perspective, how viable and sustainable is SITA as a Public Entity that is only funded from revenues generated from other government departments?

4. To what s government's ICT spending more toward servicing systems in place or more towards expansion of information systems?

The key findings from the review are as follows:

1. Whilst SITA is required to make a triannual submission to confirm its tariff dispensation for the next three years, SITA's tariff structures were last approved in 2008.
2. SITA is well placed to play an intermediary role on behalf of the whole of government especially amongst large suppliers. 17 suppliers out of a supplier base of over 600 suppliers account for 80% of SITA's expenditure on ICT related goods and services. These top suppliers are also large national or multinational firms.
3. Based on an assessment of SITA's Annual Financial Statement over the 6-year period 2015/16 to 2020/21 it can be concluded that SITA is a financially viable and sustainable entity. However, whilst SITA's gross accounting and cash margins in 2020/21 were as high as 32% and 35% of its income, given its current cost structure SITA may not be in a position to pass on significant price reductions to its client as its net accounting and cash margins were a low 1.6% and 4.8% respectively.
4. Over the five-year period 2016/17 to 2021/22 expenditure on ICT across provincial and national government amounted to R97.5 billion and constituted 5% of government's total expenditure of R1.8 trillion, less transfers, subsidies, and expenditure on compensation of employees.
5. National departments accounted for 55% of the total expenditure and the provincial governments account for the remainder. Amongst the provinces, the largest spenders on ICT are Western Cape (8,9%) and Gauteng (10%), followed by the Eastern Cape (6,7%) and KwaZulu Natal (6.8%). Western Cape, Gauteng, and Eastern Cape remain as top spenders even after normalising ICT expenditure – based on the number of staff employed within each province.
6. 95% of the expenditure on ICT services is on nine services – *voice telecommunication, system and software development, printing services, software licenses, desk computing, and specialised computer services, data telecommunications, data storage and mainframe time.*
7. SITA has been successful, to varying degrees, in consolidating government's spend on mandatory mainframe and data telecommunication services. However, SITA is hardly used for mandatory printing services (e.g., network printing), data processing, and voice telecommunications and there is also a relatively low utilisation for ICT security services and web hosting.
8. Generally, SITA has not been effective in realising economies of scale within non-mandatory ICT services and government departments prefer to use alternative suppliers to SITA for non-mandatory services.
9. SITA has been relatively successful in creating opportunities to leverage economies of scale for provincial expenditure on mandatory services. These opportunities will be significantly

larger if provinces such as Gauteng and North West made greater use of SITA for mandatory services.

10. Whilst SITA has been successful in consolidating 57% of national government's expenditure on mandatory ICT services, this ratio would be higher if higher spenders on mandatory ICT services such as Police, DIRCO, Transport, Communications, Rural Development and Land Reforms, and Agriculture, Forestry, and Fisheries, made greater use of SITA.
11. At an aggregate level, more efficiencies have been generated on expenditure that does not go through SITA than on expenditure that goes through SITA. Non-SITA spending shows a slightly larger decline (-1.1%) per annum compared to (-0.5%) for SITA spending.
12. However, at an ICT service level, SITA has been more effective in generating efficiencies for the following ICT service: *software licenses, data processing, web hosting, and ICT security*. SITA has been less effective in generating efficiencies on the following services – *system and software development, telecommunication data, specialised computer services, mainframe time, and printing services.*
13. Comparing the utilization of SITA services within departments, more services are procured by functional units providing service delivery at R14,1 billion and administrative spending at R10,2 billion over the period 2016/17 to 2020/21. However, the administrative utilisation of SITA services has been growing at a rapid rate of 22.4% per annum compared to a decline of 9.4% per annum for line functions. This implies crowding out of spending for expanding the use of SITA for service delivery and an increase in administrative costs of running existing ICT services.

In addition to the above findings made in this review, earlier ICT related spending reviews also made the following generalisable findings and observations.

1. SITA pricing is inconsistent and sometimes opaque to departments. Generally, the costs of utilising SITA are higher than when procuring through non-SITA channels, especially when minimal oversight is applied to SITA procurement processes on behalf of government entities.
2. There is considerable leakage of ICT spend which could likely be channelled through SITA as the regulations and enforcement thereof around SITA procurement are convoluted and unclear. This is despite there being mandatory services and non-mandatory services which should be provided for by SITA.
3. ICT spending trends are flat and ICT expenditure focuses more on core system maintenance and support activities, with little to develop and digitize government services and functions to the general public.
4. Broadband spending highlights a lack of consolidation of purchasing with multiple programmes and departments buying the same thing through SITA but not utilising economies of scale.
5. Poor planning and coordination of large-scale projects hampers the rollout and use of ICT by departments and in some cases citizens who should be using the technology.

6. Overall, there is a lack of alignment and planning of ICT projects and spending with programme objectives and engagement with SITA to enhance enterprise architecture objectives

Taking cognisance of the above findings and observations the following implications for savings and better expenditure management are highlighted:

1. Enforcing the central procurement of software licenses for big ticket spending will ensure that efficiencies from leveraging economies of scale and government's purchasing power are achieved. For example, operating system and office software licenses, largely procured from Microsoft.
2. The oversight and performance monitoring of SITA must ensure that SITA:
    a. Submits a new service catalogue and pricing structure
    b. Avoids overcharging and provide right sized services
    c. Adopts consistent pricing across government
    d. Adapts its business to provide more value-add solutions and better planning of overall government ICT as per their mandate.
    e. Improves its cost structure so that it is able to reduce is gross margins and still be able to breakeven.
3. The role of SITA includes initiatives to reduce connectivity costs to government through revised competitive bidding processes and connectivity models at national and provincial levels. This should result in a steady cost reduction per megabit per second, and improved service availability. Considering this, the role of SITA and performance against what their mandate requires needs to be thoroughly reviewed, to strengthen accountability and identify gaps for improvement.
4. Savings on migrating all government landlines to VoIP solutions could result in savings of up to R1.1 billion per annum. This is based on an average spend of R1.9 billion per annum on landlines and fax and a 60% savings achieved in the Eastern Cape from such a switch. Such savings could also be enhanced by (1) rolling out a single PABX system across government so that government departments can make free calls to departments on the same government network, (2) implementing a policy where employees only have a landline or cell phone and not both. IP routing allows landline/ extensions to go to cell phone.
5. Whilst printing costs have drastically reduced from R2.3 billion in 2016/17 to R1.4 billion in 2020/21, running transversal contract for print cartridges could provide savings. However, this could impact the involvement of SMMEs in this value chain.

TABLE OF CONTENTS

List of tables and figures

List of figures

3. Introduction

3.1. Rational of the spending review (Problem Statement)

The establishment of SITA in 1999 was premised on an intuition that given prevailing technologies and the lack of relevant skills across government, centralising the planning, procurement, implementation, management and maintenance of IT infrastructure and other transversal systems for all of government would generate efficiencies that could not be secured with a more decentralised system. These efficiencies might be derived from a number of distinct dynamics, including:

- Maximising government's purchasing power.
- Ensuring interoperability of systems.
- Reducing repeat payment in programme design as programmers are familiar with underlying systems.
- Reducing the competition for talent across government agencies.

To this end, SITA's vision and mission respectively are *"to be the lead ICT agency to enable the public sector to deliver"* and *"to render an efficient and value-added ICT service to the public sector in a secure, cost-effective and integrated manner, contributing to citizen convenience."*

In addition, by establishing SITA as a schedule 3A public entity there was a recognition that SITA should operate with political and administrative autonomy, outside of the Public Service. Further whilst not directly dependent on transfers from the National Revenue Fund, it is dependent on charges to other government departments and is not expected to be a full-blown government business enterprise tasked with raising its own revenues and raising loans to fund its own capital requirements. The implications of this are that the revenues it raises for its services should sufficiently cover its costs and allow it to generate a sufficient surplus to meet it maintenance and upgrade requirements.

Two decades later, there are concerns that, far from being a source of efficiency, SITA adds to the cost and reduces the efficiency of IT-spend in government. Additionally, the centralising of IT-functions also centralised the risk and increased the systemic costs of any failure by SITA to achieve the efficiencies that centralisation was supposed to deliver.

3.2. Key research questions

This spending review explores how available expenditure and related non-financial information can help establish if the original model of having a centralised stated owned IT agency is working or not. Whilst the study does not seek to provide comprehensive answers to the strategic questions *"should SITA continue to exist?"* and *"if yes, how should its business and operating model change,"* the study seeks to provide answers to the following four high level questions which can inform further policy and strategic discussions.

5. How successful has SITA been in realising the opportunities to leverage economies of scale across the public sector?

6. Where it provides services, has SITA actually created efficiencies by either lowering unit costs or facilitating access to below market rates?
7. From a financial perspective, how viable and sustainable is SITA as a Public Entity that is only funded from revenues generated from other government departments?
8. Do SITA's procurement outcomes imply that SITA is efficient in leveraging economies of scale for government?

The related sub-questions to the above questions are shown in the table below.

Table 1: Key research questions addressed in spending review

Key question	Related answering questions
1. How successful has SITA been in creating the opportunities to leverage economies of scale across the public sector?	a. What share of government or department ICT spend is actually channelled through SITA? *(i.e., a low share of suggests that departments have competitive alternatives to SITA and/or there are insufficient controls preventing the use of other service providers to SITA)* *b.* What is the profile of the supplier base that SITA is managing for government?
2. Where it provides services, has SITA actually created efficiencies by either lowering unit costs or facilitating access to below market rates?	a. What does a comparison of departmental expenditure on printing, airtime, data, and mainframe access suggest about the efficiencies generated in the system?
3. From a financial perspective, how viable and sustainable is SITA as Public Entity that is only funded from revenues generated from other government departments?	a. How dependent is SITA on the fiscus for additional funding either than revenues generated from its services? b. What levels of surplus / deficit are generated by SITA and what does this imply about its ability to pass on additional savings to government?

In addition to interrogating the overall effectiveness of the SITA model, the spending review also assesses if government's ICT spending is more toward servicing systems in place or more towards expansion of information systems and highlights the learnings from other spending reviews on ICT, on how government departments or provinces can improve the management of their ICT expenditure. These learnings and the findings from this review are used to inform the implications for savings and the recommended actions.

3.3. Structure of report

In light of the above problem statement and the key research questions addressed by this spending review, the subsequent sections of this report are as follows:

- Section 4 summarises the key learnings from previous spending reviews with respect to the research questions stated above and ICT expenditure in general.

- Section 5 summarises the policy and institutional framework that SITA operates under. It also compares this to the institutional framework that is used in the United Kingdom.
- Section 6 provides an analysis of SITA's financial and non-financial performance. The former provides an indication of SITA's financial viability and sustainability under the current institutional framework and ICT expenditure levels. The latter provides an indication of the extent to which SITA's performance could be enabling service delivery across government.
- Section 7 profiles the overall expenditure on ICT across government.
- Section 8 address the high-level question with regards to the effectiveness of SITA in realising the opportunities to leverage economies of scale across the public sector.
- Section 9 addresses the effectiveness of SITA in creating efficiencies for government for the services that it provides.
- Section 10 compares SITA expenditure by administrative units and line functions programmes for service delivery i.e., system maintenance and servicing vs. expenditure in new investments.
- Section 11 consolidates the implications for savings and / or improvements to ICT expenditure management that are implied in the earlier sections of the report

4. Key Learnings from Previous ICT Related Spending Reviews

Over the last 2-3 years GTAC has facilitated the completion of the following ICT related spending reviews by Provincial and National Treasury officials.

Table 2: Complete ICT Related Spending Reviews

Topic	Province	Authors
Broadband connectivity in the Western Cape Government Facilities	Western Cape	Dumazile Tyali, Nicolette van Wyk, Carmen Maharaj, John Ford
Police IT Expenditure: Evaluating the provision of ICT solutions in the police services	National	Velisubuhle Buti
Spending review of Review of the SAConnect Project - NT 2020	National	Motshegwe Keitumetse and Flavia Mokena
ICT in Basic Education	National	Shaneel Ragoo
SITA	National	Flavia Mokoena
Digital migration and STBs	National	Nhlanhla Gamede
SITA procurement in KZN	KwaZulu Natal	Nomthi Mjuza
The impact of E-learning on matric performance in Gauteng	Gauteng	Ramusetha Shudufhadzo
Merge BAS and Logistical Information System oversight units operating in the Northern Cape Provincial	Northern Cape	Shireen Maclean
Improving the efficiency and effectiveness of spending on ICT in the Eastern Cape	Eastern Cape	Nadrajh Govender, Zizipho Nabe, James Rautenbach , Lungisa Duna, Hlomela Putini and Morne Rhode

The key takeaways from some of these spending reviews are summarised below. Detailed summaries are also included in the annexures.

- Broadband spending highlights a lack of consolidation of purchasing with multiple programmes and departments buying the same thing through SITA but not utilising economies of scale.
- Poor planning and coordination of large-scale projects hampers the rollout and use of ICT by departments, and in some cases citizens, who should be using the technology.
- SITA pricing is inconsistent and sometimes opaque to departments. Generally, the costs of utilising SITA are higher than non-SITA channels, especially when minimal oversight is applied to SITA procurement processes on behalf of government entities.
- There is considerable leakage of ICT spend which could likely be channelled through SITA as the regulations and enforcement thereof around SITA procurement are convoluted and unclear. This is despite there being mandatory services and non-mandatory services which should be provided for by SITA.
- Overall, there is a lack of alignment and planning of ICT projects and spending with programme objectives and engagement with SITA to enhance enterprise architecture objectives
- ICT spending trends are flat and ICT expenditure is focusing more on core system maintenance and support activities, with little to develop and digitise government services and functions to the general public.

5. Policy and Institution Information

SITA operations are guided by the SITA Act and its associated regulations. The agency also uses the Government Wide Enterprise Architecture (GWEA) framework to address inconsistences and misalignment of plans. SITA charges are governed by tariffs agreed to with National Treasury and the DPSA. These tariffs should be reviewed every 36 months.

5.1. SITA Act and related regulations

The SITA Amendment Act of 2002 was enacted to amend the SITA Act 88 of 1998, the act established the agency as a registered company fully owned by government with the Minister of Public Service Administration appointed as the shareholder minister on behalf the government. The Act allows the agency to establish subsidiary companies to achieve its objectives. The agency can transfer the shares of its subsidiary companies on the approval of the cabinet. The Act states that the assets that were initially transferred to the agency when agency was being created remain assets of the agency, the assets are used by departments but being owned by the agency until there is termination of the agreement between the agency and respective department.

The mandate of SITA as stated in the Act is twofold:

1. **to improve service delivery to the public** through the provision of information technology, information systems and related services in a maintained information systems security environment to departments and public bodies; and
2. **to promote the efficiency of departments and public bodies** through the use of information technology.

SITA is intended to be a self-funded and financially sustainable public entity. The SITA Act, however, makes provision for negotiation on this underlying principle for the achievement of the overarching government goals.

The SITA Regulations[1] of 2000 amongst other things provide for the following:

1. The publication of a list of mandatory services that must be provide by SITA as well as a list of non-mandatory services that may be provided by SITA.
2. The role and workings of the Government Information Technology Officer's Council (GITO) in the setting and implementation of ICT standards. The Government Wide Enterprise Architecture (GWEA) used in this regard is included as annexure 2 to this report.
3. The certification of goods and services acquired by departments
4. The submission of SITA's business plan to the shareholder minister and the GITO
5. The submission of any research conducted by the agency to GITO and the minister to prevent the duplication of research conducted by departments
6. The undertaking of competitive bidding for products or services that do not require authentication if there are more than one authentication service provider
7. The conclusion of business level agreement between SITA and departments on the condition that business level agreement is co-signed by the head of that department and those services render must be listed on the appendix to the business level agreement.
8. The objectives to be met when the agency is procuring goods and services on behalf of departments. These include, but are not limited to, the agency is leveraging economies of scale, the procurement resulting in value addition, the information systems being interoperable, the stimulation of South Africa's information technology industry with the emphasis on black economic empowerment and stimulating competitive bidding.
9. Departments having the final say when contracts for optional services, specific to the department, are being awarded.
10. Departments, when necessary, to submit reports to the relevant treasury, DPSA, and SITA on why they have not used SITA to procure services listed as mandatory.

The list of mandatory and non-mandatory services is provided in table 3 below:

[1] SITA regulations, Government Gazette, Vol. 483 Pretoria 23 September 2005

Table 3: SITA Mandatory and Non-Mandatory Services

SITA Must Provide (mandatory)	SITA May Provide (non-mandatory)
• Private Telecoms Network • Transversal Data Processing • Disaster Recovery Plan • Standards (Interoperability & Security) • IS Convergence Strategy Regulation • Research Plan Regulation • Transversal System • Information System Security • Procurement • Certify against Standards • Information System Inventory Regulation	• Department ICT Training • Department System Development • Department ICT Maintenance • Department Data Processing • Advisory Services • ICT Management Services • Authentication products • ICT Research

Permissible reasons for not using SITA for mandatory services provided for in the regulations include:

1. The procurement of goods and services that are used in a foreign country are acquired by the Department of Foreign Affairs,
2. Goods and services which constitute defence material fall under the Armament of South Africa Limited Act,
3. the South African Police services Commissioner and Director-General to acquire goods and services directly from the supplier instead of the agency, under emergency or when urgent
4. Any department may procure goods and services the department has to record for audit purposes and in the event of public-private partnership the Public Finance Management Act prevails over the regulations.

5.2. SITA Submissions

SITA must submit tariff proposals and their catalogue of services for approval by the DPSA every three 3years. This has not happened in a long time. The submission is made by SITA to the Director-General of the DPSA., The reference was SITA costs recovery tariffs for infrastructure and labour services for the three-year period from 2008 to 2011, and the purpose of the submission was to get an approval for the rate for the recovery of services rendered by SITA. The agency submission to the National Treasury via the DPSA was for 36 months, as stated in the SITA Act. The submission was that there be an increase in rates, based on assumptions of growth and inflation, founded on MTEF projections 6.5% in 2009, 5.5% in 2010 and 5% in 2011. The submission also gave a further insight into the tariff increase which was benchmarked against public entity corporations which projected a 6.4% increase in 2007/08 period, and the consumer price index annual change of 5.1%.

An increase in rates of Networks by 5.5% and 5% in proceeding years, respectively. The submission requested increasing of BAS processors for the mainframes in Centurion. This resulted in an increase in costs of 27.1%, while increasing the processing capacity of those mainframes by 368% as compared to non-BAS applications. The submission requested IBM ADABAS (Adaptable Database System) and neutral applications, which were expected to increase the rates by 5.5% and 5% in 2009/10 and

2010/11, respectively. For printing services, a number of elements where not factored in the pre-rate of the submission and these factors were post processing and they included, sorting, wrapping, and strapping. These costs added up to 75% of the fixed cost of printing. The request for increase in printing tariffs was an increase of 6%. Finally, a 15% increase for the rates of UNISYS IX each year on the basis that the environment has been previous running at a loss 47% so the increase would compensate for those losses which were incurred.

5.3. Other Policies, Laws, Regulations, and Informal Practices (ICT)

The Acts / Policies listed below provide an overview of the key legal framework that governs ICT in the South African Public Service:

a) Electronic Communications Act (No. 36 of 2005)
b) Cybercrimes Act (Act 19 of 2020)
c) Protection of Personal Information Act (Act 4 of 2013)
d) Promotion of Access to Information Act (Act 2 of 2000)
e) Electronic Communication and Transactions Act (No. 25 of 2002)
f) South Africa Connect: Creating Opportunities, Ensuring Inclusion South Africa's Broadband Policy 20 November 2013
    i. National Integrated ICT Policy White Paper, 2013
    ii. Draft National Policy on Data and Cloud, 2021
    iii. Cabinet Memorandum 38a of 2000
    iv. Government Wide Enterprise Architecture, 2010
    v. Corporate Governance of ICT Policy Framework, 2021

The following acts / policies support the use of ICT in the Public Sector:

a) National Development Plan, Our Future Make It Work, 2012
b) Public Finance Management Act (No. 1 of 1999)
c) National Treasury Regulations
d) Companies Act (No. 71 of 2008)
e) National Key Points Act (No. 102 of 1980), as amended by National Key Points Amendment Act (No. 47 of 1985)
f) Public Service Act (No. 103 of 1994), as amended by Public Service (Amendment) Act (No. 30 of 2007)
g) Preferential Procurement Policy Framework Act (No. 5 of 2000),
h) Public Administration Management Act

5.4. Benchmarks

5.4.1. Comparison of South Africa (SA) and United Kingdom (UK) ICT Frameworks

It is worth comparing how ICT projects are governed and the decision framework(s) to fund and proceed with ICT projects employed in the UK, in comparison to South Africa. The objective is to assess whether an overall strategy can be implemented within the South African context as in the UK. Given the mandate and the central role SITA is supposed to play in the procurement and certification of ICT services/products within the public sector such an assessment is key to see how existing processes compare.

The table below provides a comparison of the prevailing ICT institutional framework in South Africa and the United Kingdom. The United Kingdom framework is based on the guidance on the digital and technology spend discussed in the following section.

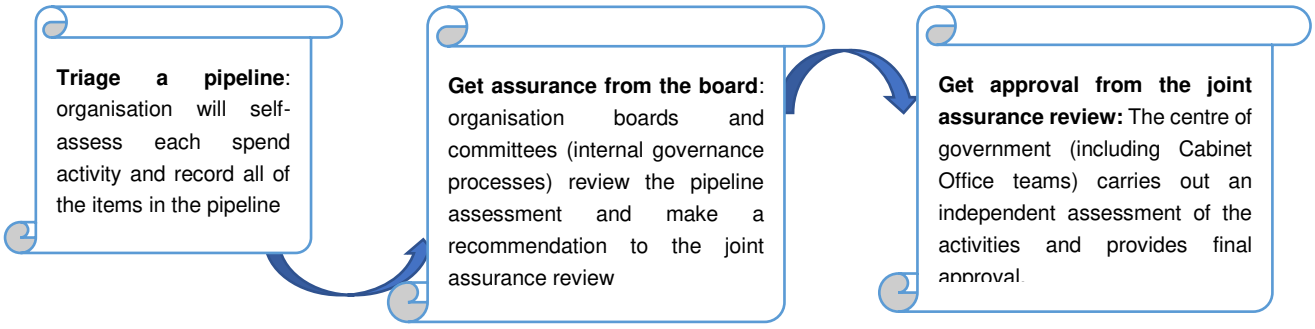
Table 4: Comparison of ICT Frameworks

SOUTH AFRICAN FRAMEWORK	UNITED KINGDOM FRAMEWORK
Lines of authority • A two layered framework with Corporate Governance of ICT Policy Framework (CGICTPF) and the Governance of ICT Framework (GICTF) • The GICTF is composed GITO, GITO council, SITA agency, DPSA • The CGICTPF consist of oversight of ministerial cluster on governance and administration, minister of PSA, DPSA, ICT branch in PSA, Department of Performance, Monitoring and Evaluation, GITO council and the AG. • Minister is notified of the decision made within 30 days.	Lines of Authority • Has a two layered framework with assurance board and joint assurance review. • Assurance board is comprised of senior organizational leaders with experience, CDDO senior advisors and representative from GCF. • Joint Assurance review is comprised of senior leader from, digital and technological function, organizational commercial functions, CDDO, GCF, other government departments, representatives from HM's treasury and infrastructure and projects. • Minister is notified of the of the decision made by the review committee within 10 days.
External Assurance • Achieved using SITA agency which does mandatory and non-mandatory services, including advising. • GITOC an interdepartmental forum to improve ICT services.	External Assurance • Achieved using government services like the Government Digital Services though the Senior Technical Advisor.
Financial Management • Any contracts exceed R10 million the contract must be registered with the National Industrial Participation program certificate. • Accounting authority and GITO council must award bid bids for mandatory services. • The bids subject to a process which include the Bids Evaluation Committee and Recommendations Committee. • Minister of Finance may determine the interval at which the reporting is made. The reporting may have all the information about supplies made.	Financial Management • When reviewing spending above GBP10 million a representative from government commercial function has to be present at board level. • An accounting officer may appoint an official at appropriate level to attend joint assurance review. • If the value of the activities exceeds GBP1 billion, then representative from HM's Treasury have attend the joint assurance review. • Joint assurance review meets every from the starting point to review pipeline • Reporting is made to the cabinet minister.
Proposed pipeline	Proposed pipeline

• The GWEA is used to address inconsistences and misalignment of all government department, and agencies. • GWEA is used by CIO/GITO and enterprise architecture practitioner to establish enterprise architecture capabilities. • The EA capabilities include the development of proposed interventions that form a roadmap of implementation projects.	• GDS spend control pipelines assessment criteria, this guidance has to followed with the help senior technology advisor. Is a minimum pipeline to comply with it follow the technological code of practice, asses each standard as assured, monitor or control, it also establishes resources' capabilities. • Used for engagement, governance and scrutiny as well as ensuring relevancy and collaboration.

5.4.2. Guidance on Digital and Technology Spend Control (UK)

In the UK, guidance on digital and technology spend controls process requires an organisation to maintain a pipeline that lists all digital and technology spend, assesses every line in the pipeline against the Central Digital and Data Office (CDDO) spend controls pipeline assessment criteria, agree on assurance assessment for every line in the pipeline, work with the Cabinet Office commercial, and digital and technology teams to review pipeline spend activity, provide appropriate approval routes and a process to re-evaluate spend. The assurance steps can be described in the diagram below.



The assurance framework requires that there is a digital and technology pipeline, there is no spending control on pipeline. It is mandatory, however, that any spending by non-BAU in excess of GBP100,000 for digital and GBP1,000,000 to be approved through the assurance board, if is also recommended that spending below these thresholds the process to be applied. The frame requires the same threshold to apply when spending towards Shared Services Centre like the enterprise resource planning systems. The purpose of setting up digital and technology pipeline is to spot any novel or contentious spends by categorisation during triage stage. The novel and contentious spends will include contracts extending existing contracts, hosting new contacts in 2 years and contacts in excess of GBP100 million.

To get approval for digital and technology spend involves: triage a pipeline of possible projects, getting assurance from the board and getting assurance from the joint assurance review. Triage a pipeline will involve when to add an activity to the pipeline, when the activity reaches the agreed point and when it changes significantly from previously assessed. The digital and spending activity should be identified as one of the monitored, assured, control and pending. The activities may be flagged to at this stage if, there is no agreed approach by the owner, there are historic concerns, a proposed automatic extension and lack transparency in procurement.

The second stage of assurance is getting assurance from the board, this board may be a sub-committee of the joint assurance board and existing governance board of there is senior organizational leader with skills, senior technology advisor, and CFG representative. The board reviews and recommends the decision from triage which will include accept and amend triage, review problematic items, agreeing action plan, review points of the plan and provide recommendation to the joint assurance review for validation and approval.

The final decision will be made by joint assurance review constituted with senior leaders from, digital and technology function, commercial function in the organization, CDDO, GCF, Other Government Departments, and a representative from HM's, treasury, infrastructure, and project authority. They should meet periodically on quarterly basis from the starting point of the activity.

When the Board marks an activity as "assured", the organisation can spend. An activity marked as "monitored" has to approved by the Board before spend, and an activity marked as "control" has to be approved by the Joint Assurance Review. The Minister will see the summary of pipeline reports which will include live activities, retired activities after contract awards, any changes in categorisation and next review dates.

6. Performance Analysis

The performance analysis section seeks to identify the performance and administration indicators that demonstrate the extent to which the current model of ICT procurement and delivery has been effective in:

- Creating a platform for government to maximise its purchasing power and creating efficiencies within its ICT spend.
- Delivering an ICT environment that supports government's service delivery objectives. Critical indicators in this regard include measures such as system uptime, extent of data stored and transmitted, and the number of applications or systems developed and supported

The analysis also includes an assessment of the financial viability and sustainability of SITA as a means to assess the risks of institutional failure as well as a means to assess the extent to which the institution can contribute to the overall efficiency of the system.

6.1. Extent of the platform to maximise government's purchasing power and creating system efficiencies

An assessment of the levels of concentration amongst SITA's supplier base and the nature of the firms who account for the bulk of its expenditure on its ICT related goods and services suggests that SITA been successful in building a platform to maximise government's purchasing power and possibly creating system efficiencies. 17 suppliers, out of a supplier base of over 600 suppliers, account for 80% of SITA's expenditure on ICT related goods and services. These top suppliers are large national or multinational firms and this high concentration of spend amongst them implies that SITA is well placed to play an intermediary role on behalf of the whole of government, especially amongst large suppliers.

This is assuming that competitive bidding and non-collusive activities are integral to the SITA procurement processes.

Table 5: Concentration of SITA's supplier base

Supplier	Expenditure per supplier in 2020/21	Share of total 2020/21 expenditure	Cum. Share of 2020/21 total expenditure
Altron Nexus (Pty) Ltd	366 646 182.2	13.1%	13.1%
Telkom SA Soc Limited	252 860 339.0	9.0%	22.1%
IBM South Africa (Pty) Ltd	232 763 492.7	8.3%	30.4%
Liquid Telecommunications South Africa (Pty) Ltd	228 729 650.8	8.1%	38.5%
Oracle Corporation SA (Pty) Ltd	194 324 102.9	6.9%	45.4%
Gijima Holdings (Pty) Ltd	122 292 530.0	4.4%	49.8%
Micro Focus Software (Ireland) Ltd	98 677 732.9	3.5%	53.3%
Khauleza IT Solutions (Pty) Ltd	95 110 181.7	3.4%	56.7%
Software AG South Africa	86 834 665.7	3.1%	59.8%
Intenda (Pty) Ltd	75 754 280.1	2.7%	62.5%
Broadband Infra Co Soc Ltd	67 299 737.2	2.4%	64.9%
Microsoft Sa (Pty) Ltd	62 659 766.5	2.2%	67.1%
Xon Systems (Pty) Ltd	58 214 488.2	2.1%	69.2%
Business Connexion (Pty) Ltd	54 833 076.9	2.0%	71.1%
Gartner South Africa (Pty) Ltd	46 724 630.0	1.7%	72.8%
Dell Computer (Pty) Ltd	46 578 397.4	1.7%	74.5%
CA Southern Africa (Pty) Ltd	42 981 447.3	1.5%	76.0%
Cisco Technology and Services SA	35 364 170.4	1.3%	77.2%
Sizwe Africa IT Group (Pty) Ltd	30 885 534.6	1.1%	78.3%
CA Europe Sarl	27 864 950.4	1.0%	79.3%
Global Command and Control Technologies (Pty) Ltd	26 035 621.8	0.9%	80.3%
Subtotal	**2 253 434 978.7**	**80.3%**	
Other 610 Suppliers	*553 895 310.3*	*19.7%*	*100.0%*
Total	**2 807 330 289.07**	**100.0%**	

Source: SITA Expenditure Information

6.2. SITA's financial viability and sustainability under current institutional framework and ICT expenditure levels

Based on an assessment of SITA's Annual Financial Statement over the 6-year period, 2015/16 to 2020/21, it appears that SITA is a financially viable and sustainable entity. However, whilst SITA's gross accounting and cash margins in 2020/21 were as high as 32% and 35% of its income, given its current cost structure SITA may not be in a position to pass on significant price reductions to its client as net accounting and cash margins are a low 1.6% and 4.8% respectively.

Indicators that support the above assertion are as follows:

1. SITA has generated a cumulative accounting surplus after tax over the 6-year period of R347 million compared to a revenue of R33 billion (i.e., a net accounting profit margin of 1.05%).

Table 6: Overview of SITA's cumulative financial performance (2015/16 to 2020/21)

Financial performance indicator	Cumulative performance (Rands)	Profit Margin (i.e., as % of revenues)
Revenue	32 992 049	100.0%
Cost of sales	-25 561 621	-77.5%
Gross surplus	7 430 428	**22.5%**
Other income	147 030	0.4%
Operating expenses	-7 184 209	-21.8%
Surplus/(Deficit) from operating activities	393 249	**1.2%**
Finance income	670 702	2.0%
Finance expenses	-214 140	-0.6%
Surplus/(Deficit) before income tax	849 811	**2.6%**
Income tax	-502 406	-1.5%
Surplus/(Deficit) for the year attributable to the shareholder	347 405	**1.1%**

1. Over the same period, SITA has generated a cumulative cash surplus (i.e., excluding non-cash items from the accounting surplus) of R 1.15 billion (i.e., net cash margin of 4.5%). The cash gross margins are actually significantly higher as the reported cost of sales includes the bulk of SITA's depreciation and amortisation charges.

Table 7: Cumulative cash surpluses and deficits (2015/16 to 2020/21)

Financial Indicator	Cumulative performance (Rands)	Profit Margin (i.e., as % of revenues)
Cash surplus/(deficit) from operating activities (i.e., other finance income and expenses, and income tax)	1 544 019	4.7%
Cash surplus/(deficit) before income tax	2 000 581	6.1%
Cash surplus/(deficit) after tax	1 498 175	4.5%

2. A comparison of SITA's revenue sources and associated cost of sales shows that SITA's gross margins have increased from 18% of total income in 2016/17 to 32% in 2020/21. Excluding the depreciation and amortisation included in the cost of sales, the cash gross margin increases to 35% in 2020/21.

Table 8: Gross margins for SITA's agency and services revenues

Composition of total income	2016 Restated	2017 Restated	2018 Restated	2019 Audited	2020 Restated	2021 Audited
Agency Revenue (i.e., revenue earned mainly as a result of procurement-related transactions)	1 338 204	1 483 253	1 432 860	984 462	693 673	773 214
Services Revenue (i.e., revenues earned mainly from the provision of ICT and ICT related services rendered to clients	4 120 399	4 197 540	4 405 094	4 193 827	4 428 261	4 994 558
Other Income	57 419	32 755	9 837	14 901	48 608	15 566
Total Income	**5 516 022**	**5 713 548**	**5 847 791**	**5 193 190**	**5 170 542**	**5 783 338**
Composition of cost of sales						
Agency Cost of Sales	1 243 532	1 454 738	1 302 670	1 006 479	683 253	682 147
Service Cost of Sales		3 207 144	3 234 411	3 062 819	2 974 815	3 242 832
Total Cost of sales	**1 243 532**	**4 661 882**	**4 537 081**	**4 069 298**	**3 658 068**	**3 924 979**
Depreciation and amortisation included in total cost of sales	**-**	**-**	**166 238**	**172 131**	**144 877**	**141 424**
Resultant Gross Margins						
Agency Revenue	*7%*	*2%*	*9%*	*-2%*	*2%*	*12%*
Services Revenue		*24%*	*27%*	*27%*	*33%*	*35%*
All sales	***77%***	***18%***	***22%***	***22%***	***29%***	***32%***
All sales exc. Depreciation and amortisation	***n/a***	***n/a***	***25%***	***25%***	***32%***	***35%***

3. On a year-on-year basis, SITA recorded an accounting deficit in only 2 of the 6 years under review, and it has only generated a cash deficit in 2015/16. Its cost of sales in 2015/16 where significantly higher than in any other years resulting in a very weak gross surplus in that financial year.

Table 9: SITA's year on year financial performance (2015/16 to 2020/21)

	2016 Restated	2017 Restated	2018 Restated	2019 Audited	2020 Restated	2021 Audited
Revenue	5 458 603	5 680 793	5 758 712	5 027 325	5 237 759	5 828 857
Cost of sales	-4 710 313	-4 661 882	-4 537 081	-4 069 298	-3 658 068	-3 924 979
Gross surplus	**748 290**	**1 018 911**	**1 221 631**	**958 027**	**1 579 691**	**1 903 878**
Other income	57 419	38 345	32 755	18 511	0	0
Operating expenses	-1 139 152	-954 839	-1 040 302	-1 216 987	-1 336 270	-1 496 659
Surplus/(Deficit) from operating activities	**-333 443**	**102 417**	**214 084**	**-240 449**	**243 421**	**407 219**
Finance income	169 475	192 273	151 780	157 174	0	0
Finance expenses	-43 987	-49 678	-55 336	-53 742	-2 221	-9 176
Surplus/(Deficit) before income tax	**-207 955**	**245 012**	**310 528**	**-137 017**	**241 200**	**398 043**
Income tax	50 686	-84 172	-83 649	35 509	-117 635	-303 145
Surplus/(Deficit) for the year attributable to shareholder	**-157 269**	**160 840**	**226 879**	**-101 508**	**123 565**	**94 898**
Net accounting Margin	***-2.9%***	***2.8%***	***3.9%***	***-2.0%***	***2.4%***	***1.6%***
Cash surplus/(deficit) from operating activities (i.e., other finance income and expenses, and income tax)	-294 273	288 441	446 399	109 209	401 335	592 908
Cash surplus/(deficit) before income tax	-168 785	431 036	542 843	212 641	399 114	583 732
Cash surplus/(deficit) after tax	-118 099	346 864	459 194	248 150	281 479	280 587
Net cash margin	*-2.2%*	*6.1%*	*8.0%*	*4.9%*	*5.4%*	*4.8%*

4. SITA's sources of income have primarily been from the services that it renders to its clients, and it has not received any allocations from the fiscus over the 6 years under review. Over this period, SITA has been able to fully recover the direct and indirect costs of the services it renders.

Table 10: Composition of SITA's revenues (2015/16 to 2020/21)

Revenue stream	2016 Restated	2017 Restated	2018 Restated	2019 Audited	2020 Restated	2021 Audited
Agency Revenue (i.e., revenue earned mainly as a result of procurement-related transactions)	1 338 204	1 483 253	1 432 860	984 462	693 673	773 214
Services Revenue (i.e., revenues earned mainly from the provision of ICT and ICT related services rendered to clients	4 120 399	4 197 540	4 405 094	4 193 827	4 428 261	4 994 558
Other Income	57 419	32 755	9 837	14 901	48 608	15 566
Total	**5 516 022**	**5 713 548**	**5 847 791**	**5 193 190**	**5 170 542**	**5 783 338**

5. From a liquidity and solvency perspective SITA's current assets have consistently been more than twice its current liabilities. Similarly for a solvency perspective, SITA's total debt (i.e., current and long-term debt) has consistently been significantly less than its assets and less, even than its equity.

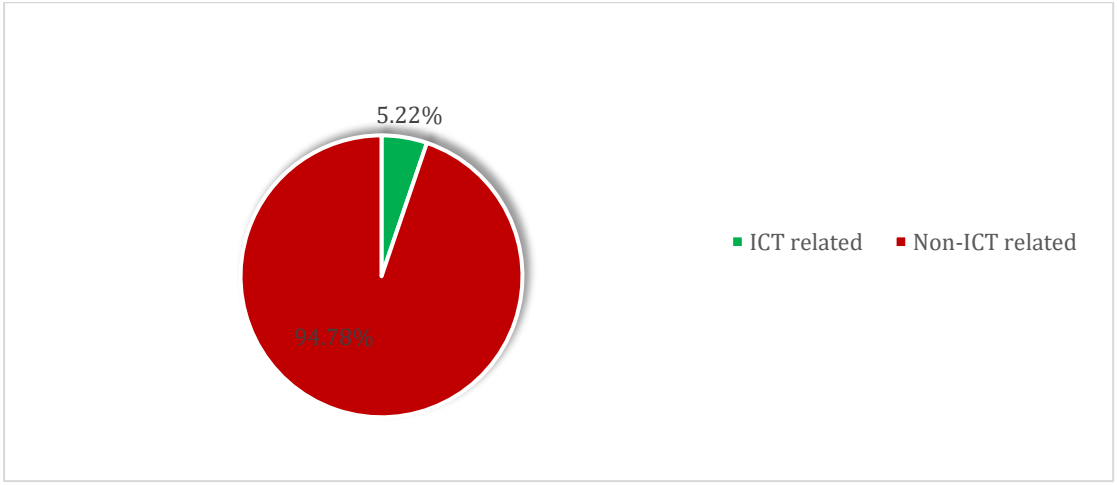
Table 11: Assessment of SITA's liquidity and solvency (2015/16 to 2020/21)

	2016 Restated	2017 Restated	2018 Restated	2019 Audited	2020 Restated	2021 Audited
Non-current assets	1 249 749	1 377 260	1 208 719	1 150 198	1 675 761	1 634 011
Current assets	2 542 431	2 539 270	2 940 356	3 282 315	3 013 353	3 563 438
Total assets	**3 792 180**	**3 916 530**	**4 149 075**	**4 432 513**	**4 689 114**	**5 197 449**
Net assets (Equity)	2 573 647	2 734 487	2 961 365	2 859 857	3 395 634	3 490 530
Non-current liabilities	122 628	114 302	97 677	69 198	168 632	348 702
Current liabilities	1 095 905	1 067 741	1 090 033	1 503 458	1 124 848	1 358 217
Total Liabilities and Net Assets	**3 792 180**	**3 916 530**	**4 149 075**	**4 432 513**	**4 689 114**	**5 197 449**
Liquidity Ratio	**2.32**	**2.38**	**2.70**	**2.18**	**2.68**	**2.62**
Debt: Equity Ratio	**47.3%**	**43.2%**	**40.1%**	**55.0%**	**38.1%**	**48.9%**

7. Overall Trend in Aggregate Expenditure

Over the six-year period, 2016/17 to 2021/22, expenditure on ICT across provincial and national government amounted to R97.5 billion and constituted 5% of government's total expenditure - less transfers, subsidies, and expenditure on compensation of employees, which totalled R1.8 trillion over the period.

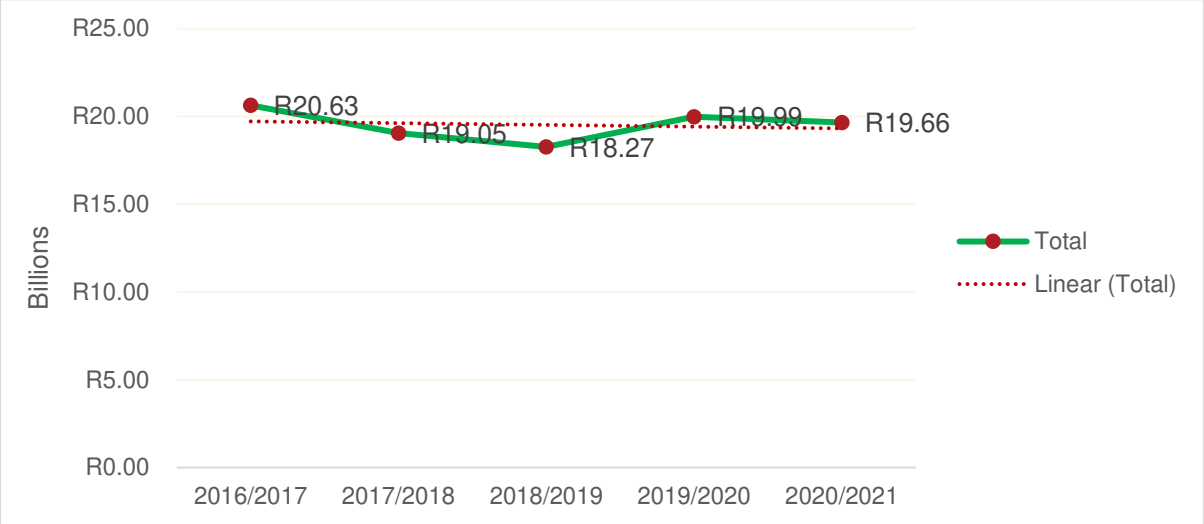
Figure 1: ICT Spend Proportion



Source: BAS Analysis

In terms of growth in expenditure level, annual expenditure in 2020/21 was only 95% of the annual expenditure on ICT in 2016/17. Whilst this may indicate significant cost control compared to the 2016/17 baseline, over the 3-year period 2018/19 to 2020/21 annual expenditure on ICT increased by an average of 3.3% per annum.

Figure 2: ICT Expenditure Trends (2016/17 – 2020/21)



Source: BAS Analysis

7.1. Expenditure on ICT by province

National departments accounted for 55% of the total expenditure with the provincial governments accounting for the remainder. The table below illustrates that amongst the provinces, the largest spenders on ICT are Western Cape and Gauteng, followed by the Eastern Cape and KwaZulu Natal. Western Cape, Gauteng, and Eastern Cape remain as top spenders even after normalising ICT expenditure, based on the number of staff employed within each province. It is noteworthy that SITA seems to be primarily servicing National and Provincial government departments with little penetration of the local government and state-owned public sector entities at any sphere (national, provincial, local).

Table 12: Distribution of ICT expenditure across national and provincial governments

Province	Percentage of total	Total ICT Spend 2016/17 to 2020/21 (R Billion)	Total ICT Spend per FTE 2016/17 to 2020/21 (Rand per FTE)
National Departments	55%	54.15	156 191
Eastern Cape	7%	6.51	50 592
Free State	2%	1.92	32 817
Gauteng	10%	9.72	57 091
KwaZulu Natal	7%	6.62	34 651
Limpopo Province	4%	3.87	34 839
Mpumalanga	3%	2.62	36 326
North West	2%	2.24	36 283
Northern Cape	1%	1.21	49 300

Western Cape	9%	8.72	103 179
Grand Total	**100%**	**97.60**	78 111

Source: BAS Analysis

Although national government has a much higher spend per FTE, it is highlighted that some national departments' ICT spend is primarily driven by the number of citizens, rather than the number of staff. This is most prominent in the Justice and Protection Services (JCPS) sector.

Amongst national departments, the JCPS and Administration clusters account for 81% of the total expenditure. These clusters include SAPS, Justices and Constitutional Development, Correctional Services, Home Affairs and National Treasury. These four departments alone account for 73% of the total ICT expenditure by National Departments.

Table 13 National Department ICT Expenditure by Cluster

Cluster	Total ICT Exp.	Share of Total	Cumulative Share
JCPS	27 713 001 282	51.2%	51%
Administration	16 126 478 023	29.8%	81%
Economic	5 242 703 759	9.7%	91%
Education and Labour	2 827 466 926	5.2%	96%
Urban development	1 180 708 359	2.2%	98%
Health and social development	1 062 526 510	2.0%	100%
Grand Total	**54 152 884 859**		

Source: BAS Analysis

7.2. Expenditure on ICT by services.

Over 80% of the expenditure on ICT services is on seven services - *voice telecommunication, system and software development, printing services, software licenses, desk computing, and specialised computer services, and data telecommunications*. Two other significant services, which if added to this list will increase the share of the total expenditure to over 95%, are data storage and mainframe time.

Table 14: Profile of ICT Expenditure by ICT Services

ICT Services	Total ICT Exp 2016/17 to 2020/21 (R Billion)	Share of total	Cum. Share of Total
Telecommunication- Voice	16.65	17.1%	17.1%
System and Software Development	12.84	13.2%	30.2%
Software Licenses	12.11	12.4%	42.6%
Printing Services	11.44	11.7%	54.3%
Desk Computing	10.90	11.2%	65.5%
Specialised Computer Services	10.20	10.5%	76.0%
Telecommunication- Data	8.33	8.5%	84.5%
Data Storage	7.21	7.4%	91.9%
Mainframe Time	4.00	4.1%	96.0%
ICT Security	1.66	1.7%	97.7%
Software Assets	1.08	1.1%	98.8%

Web Hosting: Internet, Intranet	1.02	1.0%	99.8%
Help Desk	0.15	0.2%	100.0%
Grand Total	**97.60**	**100.0%**	

Source: BAS Analysis

In terms of growth, amongst the top nine ICT services mentioned above, there has been significant growth in expenditure on specialised computer services and software licenses. There has also been high growth in areas related to web hosting and help desk, although off a very a low base.

Table 15 Growth in ICT expenditure by ICT service

ICT Services	2016/17 Total ICT Exp	2020/21 Total ICT Exp	CAGR (2016/17 to 2020/21)
Telecommunication- Voice	3 629 819 567	3 227 201 256	-2.9%
Specialised Computer Services	1 622 312 153	2 747 035 331	14.1%
Software Licenses	2 172 127 019	2 725 475 647	6%
Desk Computing	2 324 657 617	2 589 251 621	2.7%
System and Software Development	3 042 315 599	2 294 746 039	-6.8%
Telecommunication- Data	1 469 556 354	1 770 929 671	4.8%
Printing Services	2 640 946 270	1 362 206 095	-15.3%
Data Storage	2 216 443 870	1 078 272 384	-16.5%
Mainframe Time	716 644 142	816 642 411	3.3%
Web Hosting: Internet, Intranet	178 845 516	376 558 531	20.5%
Software Assets	496 296 609	366 452 362	-7.3%
ICT Security	92 091 563	257 330 466	29.3%
Help Desk	31 534 994	48 085 734	11.1%
Total Exp	**20 633 591 273**	**19 660 187 548**	**-1.2%**

Source: BAS Analysis

The most significant expenditure categories within each of the above top nine ICT services are shown in the table below. This list consists of up to 29 expenditure categories. Collectively these categories account for 90% of the total expenditure on ICT. At a category level, significant growth in annual expenditure has occurred for airtime and data, software licences, other 3rd party software licences, machinery and equipment under desk computing, tablet PCs, and SITA specialised computer services.

Table 16: Top Expenditure Categories within the top 7 ICT services

ICT Service	ICT Commodity	Total Exp 2016/17 (Rands)	Total Exp. 2020/21 (Rands)	Share of Total exp. 2020/21	CAGR (2016/17 to 2020/21)
Telecommunication- Voice	Telephony and faxes	2 183 438 517	1 612 709 092	8.2%	-7.3%
	Airtime and Data	686 477 350	1 079 053 088	5.5%	12.0%
	Audio visual equipment and consumables	249 335 144	218 027 247	1.1%	-3.3%
System and Software Development	Operational support	1 509 880 895	1 132 213 004	5.8%	-6.9%
	System maintenance	388 367 824	462 708 574	2.4%	4.5%
	Software licence	78 706 639	365 876 350	1.9%	46.8%
	System development	751 211 792	5 923 462	0.0%	-70.2%
SOFTWARE LICENSES	Operating system software	1 613 477 602	1 775 901 356	9.0%	2.4%
	Office suite software	654 639 454	319 434 362	1.6%	-16.4%
	Other 3rd party software licences	49 411 959	434 615 030	2.2%	72.2%
	Utility software	91 792 015	268 681 604	1.4%	30.8%
PRINTING SERVICES	Government printers	1 529 123 482	672 399 127	3.4%	-18.6%
	Printing cartridges	643 403 487	428 349 525	2.2%	-9.7%
	Printing paper	205 250 145	162 467 227	0.8%	-5.7%
DESK COMPUTING	Contractors	651 672 127	555 317 546	2.8%	-3.9%
	Other machinery and equipment	154 267 097	690 890 695	3.5%	45.5%
	Laptops	520 161 487	708 843 250	3.6%	8.0%
	Desktop computers	337 912 691	197 435 794	1.0%	-12.6%
	Tablet PC	55 844 875	390 017 376	2.0%	62.6%
SPECIALISED COMPUTER SERVICES	Specialised computer services	1 107 570 250	1 436 153 809	7.3%	6.7%
	SITA SERVICES	514 741 903	1 310 881 522	6.7%	26.3%
TELECOMMUNICATION- DATA	Data lines	1 452 503 387	1 763 364 231	9.0%	5.0%
Data storage	Information services	1 744 274 948	784 246 260	4.0%	-18.1%
	Server/Mainframe	472 168 922	293 941 172	1.5%	-11.2%
Mainframe Time	SITA	315 357 341	398 054 556	2.0%	6.0%
	PERSAL	137 654 134	156 947 663	0.8%	3.3%
	BAS	145 050 670	130 744 498	0.7%	-2.6%
	PMM (IFMS)	47 225 603	65 495 680	0.3%	8.5%
	LOGIS	40 756 466	40 397 486	0.2%	-0.2%

Source: BAS Analysis

Lastly, as shown in the table below, there are significant variations in the profile of ICT expenditure across national and provincial departments. Key outliers at a provincial level are the proportions spent on system and software development and software licenses by Gauteng, and the proportions spent on specialised computer services and voice telecommunications in the Western Cape.

Table 17: Profile of expenditure by ICT services across different provinces

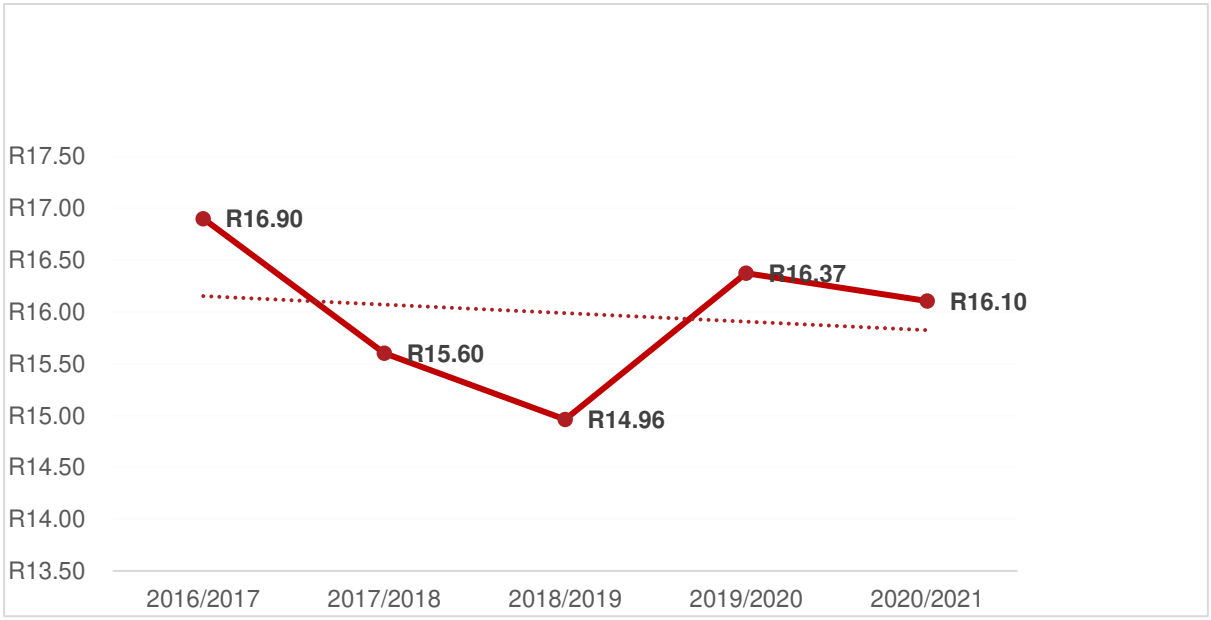
ICT SERVICES	ND	EC	FS	GP	KZN	LP	MP	NW	NC	WC	Total
Telecommunication-Voice	13.6%	31.3%	28.6%	15.4%	23.8%	27.4%	31.3%	36.6%	23.5%	7.0%	17.1%
System and Software Development	17.4%	3.1%	1.5%	21.6%	1.4%	2.5%	10.6%	10.0%	10.5%	3.2%	13.2%
Software Licenses	12.5%	10.6%	6.7%	20.8%	11.2%	8.6%	11.7%	9.4%	2.2%	10.2%	12.4%
Printing Services	13.2%	11.1%	16.5%	10.1%	6.4%	17.4%	11.3%	15.6%	11.6%	4.8%	11.7%
Desk Computing	11.2%	14.3%	12.7%	5.8%	9.3%	8.5%	9.2%	15.6%	15.6%	16.0%	11.2%
Specialised Computer Services	8.3%	4.3%	2.6%	11.1%	17.6%	4.4%	0.0%	0.2%	1.1%	33.7%	10.5%
Telecommunication-Data	10.3%	12.0%	11.8%	4.2%	5.8%	4.9%	10.3%	6.5%	9.3%	2.9%	8.5%
Data Storage	6.2%	9.2%	8.1%	4.8%	13.5%	20.8%	5.1%	3.5%	14.3%	6.6%	7.4%
Mainframe Time	5.0%	2.2%	5.9%	2.8%	5.4%	3.0%	3.5%	0.6%	3.8%	1.7%	4.1%
ICT Security	0.4%	0.3%	0.4%	0.3%	2.4%	0.9%	1.2%	1.3%	0.4%	12.8%	1.7%
Software Assets	0.8%	0.2%	4.3%	2.8%	1.1%	0.1%	2.4%	0.2%	3.5%	0.8%	1.1%
Web Hosting: Internet, Intranet	0.9%	1.4%	0.9%	0.5%	2.0%	1.4%	3.4%	0.5%	4.3%	0.3%	1.0%
Help Desk	0.2%	0.0%	0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
100% equals (R Billions)	**54.15**	**6.51**	**1.92**	**9.72**	**6.62**	**3.87**	**2.62**	**2.24**	**1.21**	**8.72**	**97.60**

Source: BAS Analysis

7.3. ICT per Capita

The analysis aims to determine the trend for ICT cost per capita. Though there are no norms to compare it is worth noting the declining trend even as the world in general makes more use of ICT services with innovations such as IoT (Internet of Things) and 4IR (Fourth Industrial Revolution)

Figure 3: ICT spend per Capita



8. SITA's effectiveness in realising opportunities to leverage economies of scales

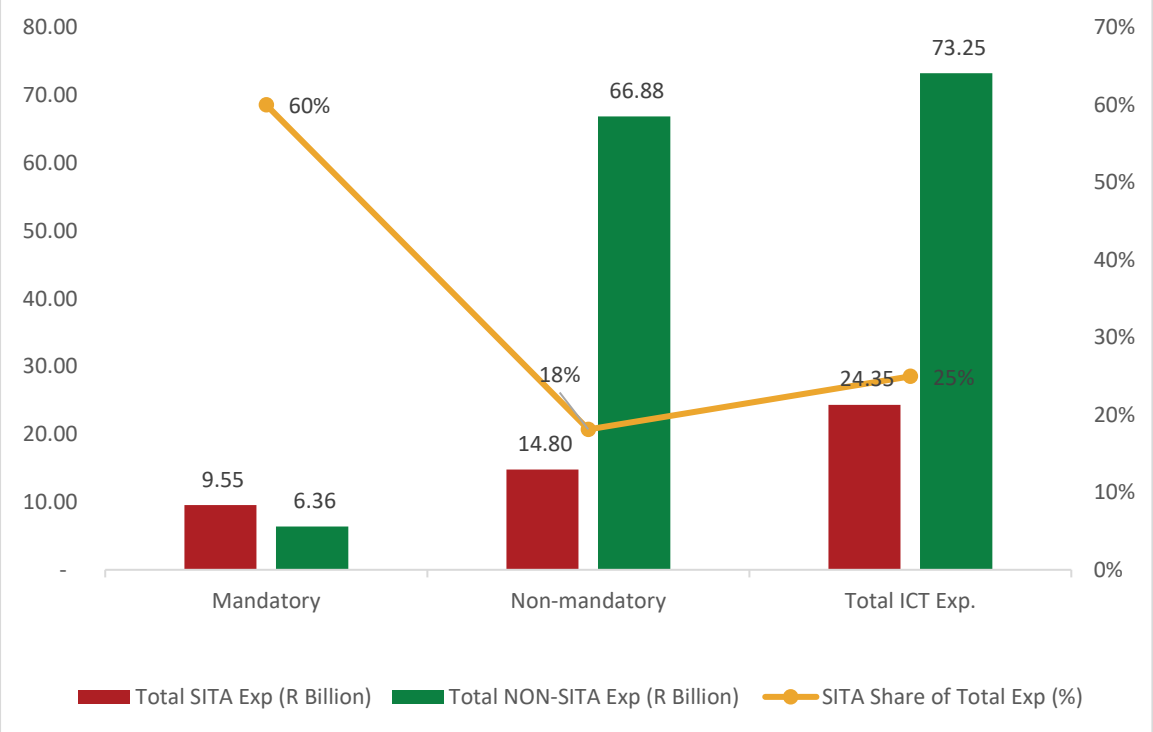
A key indicator of SITA's effectiveness in realising opportunities to leverage economies of scale across the public sector is the share of government's ICT spend that actually goes through SITA. A low share would suggest that departments are either not complying with the requirement to use SITA, where applicable, or that the departments have more competitive alternatives than SITA, whether because prices are lower, or services are higher from third parties.

A second indicator of SITA's effectiveness in realising economies of scale is the level of concentration amongst its supplier base and the nature of the firms who account for the bulk of the expenditure through SITA. The outcome of this analysis was discussed in the performance analysis section.

8.1. Share of government's ICT expenditure channelled through SITA – whole of government

Over the period 2016/17 to 2020/21, only 25% of government's total ICT expenditure has been channelled through SITA. The relatively low spend via SITA can be partially explained by a low utilisation of SITA for mandatory services and an even lower utilisation of SITA for non-mandatory services. Whilst the expenditure through SITA maybe relatively low, it is acknowledged that SITA may still play a significant role in the spend items that do not go through SITA, through its supplier accreditation services.

Figure 4: Utilisation of SITA for ICT Expenditure



Source: BAS Analysis

8.2. Assessing SITA effectiveness in realising economies of scale from the perspective of ICT services

8.2.1. SITA's effectiveness in realising economies of scale on mandatory ICT services

SITA has been successful, to varying degrees, in consolidating government's spend on mandatory mainframe and data telecommunication services. Its apparent success on help desk services is due to the fact that the help desk is solely for services provided by SITA. However, SITA is hardly used for mandatory printing services (e.g., network printing), data processing, and voice telecommunications. There is also a relatively low utilisation for ICT security services and web hosting.

Table 18: Effectiveness of SITA in realising economies of scale across mandatory ICT services

ICT Services	Total SITA Exp (2016/17 to 2020/21) (R Billion)	Total NON-SITA Exp. (2016/17 to 2020/21) (R Billion)	SITA Share of Total Exp.
Help Desk	0.153	-	100%
Mainframe Time	3.944	0.056	99%
Telecommunication- Data	4.856	3.382	59%
Web Hosting: Internet, Intranet	0.509	0.507	50%
ICT Security	0.087	0.208	29%
Telecommunication- Voice	-	0.341	0%
Data Processing	-	1.840	0%
Printing Services	-	0.030	0%
Grand Total	**9.547**	**6.364**	**60%**

Source: BAS Analysis

8.2.2. SITA's effectiveness in realising economies of scale within non-mandatory ICT services

Generally, SITA has not been effective in realising economies of scale within non-mandatory ICT services and government departments prefer to use alternative suppliers to SITA for non-mandatory services.

Table 19: Effectiveness of SITA in realising economies of scale across non-mandatory ICT services

ICT SERVICES	Total SITA Exp (2016/17 to 2020/21) (R Billion)	Total NON-SITA Exp. (2016/17 to 2020/21) (R Billion)	SITA Share of Total Exp.
System And Software Development	5.886	6.952	45.8%
Specialised Computer Services	4.108	6.096	40.3%
Data Processing	2.049	3.321	38.2%
Software Licenses	2.591	10.597	19.6%
Printing Services	0.168	11.242	1.5%
Telecommunication- Data	-	0.095	0.0%
Telecommunication- Voice	-	16.309	0.0%
Desk Computing	-	10.905	0.0%
ICT Security	-	1.368	0.0%
Grand Total	**14.802**	**66.884**	**18.1%**

Source: BAS Analysis

Whilst SITA has achieved significant market share for system and software development, specialised computer services and data processing, it does not account for more than 50% of the total expenditure on any of these services.

8.3. Assessing SITA effectiveness in realising economies of scale from the perspective of department's use of SITA

8.3.1. Utilisation of SITA by Provinces

Based on the share of the total provincial expenditure channelled through SITA, SITA has been relatively successful in creating opportunities to leverage economies of scale for provincial expenditure on mandatory services. These opportunities will be significantly larger if provinces such as Gauteng and North West made greater use of SITA for mandatory services. In particular, Gauteng is one of the largest spenders on ICT.

Table 20: Effectiveness of SITA in creating economies of scale within provincial expenditure on ICT

Province	Share of total expenditure directed through SITA		
	Mandatory ICT Services	Non-mandatory ICT Services	All ICT Services
Eastern Cape	90%	10%	24%
Free State	74%	7%	22%
Gauteng	26%	11%	13%
KwaZulu Natal	69%	28%	35%
Limpopo Province	86%	15%	23%
Mpumalanga	64%	8%	19%
North West	49%	6%	11%
Northern Cape	75%	5%	18%
Western Cape	63%	21%	24%
Grand Total	**65%**	**15%**	**22%**

Source: BAS Analysis

With respect to non-mandatory ICT services, SITA's market share is very low, indicating that SITA has not been effective in creating opportunities to leverage economies of scale within these services.

8.3.2. Utilisation of SITA by National Departments

Whilst SITA has been successful in consolidating 57% of national government's expenditure on mandatory ICT services, this ratio would be higher if higher spenders on mandatory ICT services such as Police, DIRCO, Transport, Communications, Rural Development and Land Reforms, and Agriculture, Forestry, and Fisheries, made greater use of SITA.

Table 21: Effectiveness of SITA in creating economies of scale within mandatory ICT services used by National Departments

Department	Sum of Total ICT Exp. (2016/17-2020/21) (Rands)	Cum share of total exp. (2016/17-2020/21)	SITA Market share
Police	3 848 404 043	38%	46%
Home Affairs	1 196 932 552	49%	72%
Justice And Constitutional Development	966 389 932	59%	78%
Correctional Services	633 290 348	65%	87%
International Relations and Cooperation	515 796 699	70%	3%
Higher Education and Training	390 064 423	74%	98%
National Treasury	340 917 820	77%	76%
Transport	303 252 097	80%	6%
Communications and Digital Technologies	177 890 355	82%	21%
Statistics South Africa	167 753 042	84%	67%
Labour	146 987 877	85%	79%
Water and Sanitation	128 698 077	86%	90%
Basic Education	107 660 788	87%	90%
Rural Development and Land Reform	100 543 591	88%	24%
The Presidency	94 395 530	89%	86%
Agriculture Forestry and Fisheries	77 774 136	90%	20%
Other	1 016 326 203	100%	64%
Total	**10 213 077 511**		**57%**

Source: BAS Analysis

On the whole, SITA has only been involved in 20.7% of National Departments' expenditure on non-mandatory services. Of the 5 departments that account for 80% of this expenditure, SITA only has a significant involvement in the expenditure by Police. It is hardly involved in the expenditure by Home Affairs, National Treasury, Statistics SA, and it has relatively low involvement in the expenditure by Justice and Constitutional Development.

Table 22: Effectiveness of SITA in creating economies of scale within non-mandatory ICT services used by National Department

Department	Sum of Total ICT Exp. (2016/17-2020/21) (Rands)	Cum share of total exp. (2016/17-2020/21)	SITA Market share
Police	15 038 962 382	34%	44.3%
Home Affairs	8 717 281 114	54%	0.9%
Justice And Constitutional Development	5 506 360 340	67%	13.8%
National Treasury	2 272 936 110	72%	0.1%
Statistics South Africa	1 092 214 528	74%	2.3%
Rural Development and Land Reform	1 028 071 499	77%	14.9%
Correctional Services	923 687 868	79%	0.6%
Water and Sanitation	901 477 330	81%	1.5%
Labour	865 721 701	83%	5.9%
Health	683 571 314	84%	2.9%
Basic Education	510 316 832	85%	57.1%
International Relations and Cooperation	509 914 580	87%	7.6%
Environmental Affairs	504 215 529	88%	24.2%
Higher Education and Training	381 517 077	89%	9.5%
Agriculture Land Reform and Rural Development	345 774 451	89%	1.9%
Agriculture Forestry and Fisheries	329 568 381	90%	8.5%
Other	4 328 216 312	100%	18.8%
Total	**43 939 807 348**		20.7%

Source: BAS Analysis

9. SITA's effectiveness in creating efficiencies

9.1. SITA's effectiveness in creating efficiencies at an aggregate and ICT service level

An initial indication of SITA's effectiveness in creating savings for government is provided by comparing the rate of expenditure growth in expenditure through SITA to the expenditure growth for the non-SITA expenditure. The underlying assumption in this approach is that the aggregated demand for services has remained unchanged and any expenditure growth is a result of finding more cost-effective ways to meet the aggregated demand. This initial approach is complemented by an actual comparison of prices where such information was readily available.

Over the last 5 years there have been budgetary pressures resulting in cuts to good and services expenditure which includes the bulk of ICT expenditure. Given such pressures, the patterns of growth seen on specific items within ICT spending, signifies a significant effort by departments to grow spending when the overall trend is downwards.

Table 23: Compound Annual Growth Rate-ICT Services

ICT SERVICES	SITA Expenditure (Total)	SITA CAGR 2016/17 - 2020/21	Non-SITA Expenditure (Total)	Non-SITA CAGR 2016/17 - 2020/21
System and software development	R5 886 051 265.07	-3.57%	R6 952 362 718.81	-7.14%
Telecommunication – data	R4 855 511 362.43	5.04%	R3 476 705 840.77	2.02%
Specialized computer services	R4 108 114 274.86	20.56%	R6 095 963 726.80	5.33%
Mainframe time	R3 943 558 248.99	2.86%	R56 177 286.31	-18.29%
Software licenses	R2 590 848 407.09	-16.79%	R10 596 661 912.15	8.32%
Data processing	R2 049 476 920.14	-23.70%	R5 160 993 428.79	-8.56%
Web hosting: internet, intranet	R508 605 806.31	10.75%	R507 169 065.17	20.48%
Printing services	R167 966 895.99	9.57%	R11 271 405 526.91	-12.77%
Help desk	R152 513 083.12	8.80%	R0.00	
ICT security	R86 847 174.67	14.43%	R1 575 302 720.60	23.16%
Desk computing			R10 904 947 780.88	2.18%
Telecommunication – voice			R16 649 842 952.83	-2.32%
Grand Total	**R24 349 493 438.67**	**-0.53%**	**R73 247 532 960.02**	**-1.11%**

Source: BAS Analysis

At an aggregate level it will appear that SITA has been marginally less effective in generating efficiencies over the period under review. Non-SITA spending shows a slightly larger decline (-1.1%) per annum compared to (-0.5%) for SITA spending. Whilst some of these declines could be attributed to reductions in demand due to budget cuts, it appears to have been easier to reduce non-SITA expenditure than SITA expenditure as budgets been reduced, implying that SITA has generally been less effective in generating efficiencies. Though one can argue that mandatory services such as mainframe costs cannot be easily reduced, the counter would be the budgetary constraints are across the board and it would be the prerogative of SITA and departments to negotiate or take advantage of improved technology and pricing to generate efficiencies. The reductions in non-SITA expenditure have also been achieved against a significantly larger baseline.

However, at an ICT service level, expenditure management in terms of reducing or limiting expenditure growth appears to have been better on SITA expenditure compared to non-SITA expenditure for the following ICT service: *software licenses, data processing, web hosting, and ICT security*. This would imply that SITA is has been **more effective** in generating efficiencies for these services. In particular, ensuring that software licenses are purchased and managed through SITA may introduce efficiencies in this high growth category may lead to savings as there is anecdotal evidence of departments procuring more licensing than is required.

Expenditure management on non-SITA expenditure has been better for system and software development, telecommunication data, specialised computer services, mainframe time, and printing services. This would imply that SITA has been **less effective** in generating efficiencies for these services.

9.2. SITA's effectiveness in creating efficiencies with system and software development services

On the whole, SITA has been less effective in generating efficiencies for expenditure on system and software development. The exception to this has been for expenditure on system maintenance. Amongst the non-SITA expenditure, the high expenditure growth rate of 35% per annum on development related software licenses is of concern. This, coupled with the slower and smaller expenditure on system development highlights an increased tendency to favour the outsourcing of ICT solutions. Using SITA for this software licensing category may introduce efficiencies across government as there is anecdotal evidence of departments procuring more licensing than is required.

Table 24: Growth rates for system and software development expenditure categories

ICT SERVICES	SITA Expenditure (Total)	SITA CAGR 2016/17 - 2020/21	Non-SITA Expenditure (Total)	Non-SITA CAGR 2016/17 - 2020/21
Operational support	R4 758 716 065.33	-2.86%	R1 967 515 171.72	-14.75%
System maintenance	R793 753 702.84	-5.86%	R1 560 387 696.39	9.08%
System adviser	R169 830 785.10	14.84%	R463 695 662.03	-6.76%
System development	R125 564 797.80	-35.36%	R931 020 524.06	
System implementation	R15 135 789.78		R9 736 051.73	
Application training	R11 554 847.98	-100.00%	R73 249 933.29	-2.47%
Post implementation support	R11 495 276.24		R171 611 738.87	
Software development			R703 821 259.36	18.79%
Web design and development			R1 875 703.46	-100.00%
Software licence			R1 069 448 977.90	35.98%
Total	**R5 886 051 265.07**	**-3.57%**	**R6 952 362 718.81**	**-7.14%**

Source: BAS Analysis

9.3. SITA's effectiveness in creating efficiencies for telecommunications-data services

Expenditure on telecommunications data lines through SITA has increased by an average of 5% per annum compared to a 2.2% increase in expenditure on non-SITA expenditure. Therefore, SITA in this regard has demonstrated poor efficiencies given that market prices for data lines have fallen by almost 98% from 10 years ago, and 60% in the period under review. It should be noted that the bulk of the telecommunications data lines for non-SITA spending constitute mobile data, whose market prices have not declined in similar magnitude. Network WAN payments which are more reliant on external data lines are generally a non-SITA expense have fallen at a rate more in line with the decrease in market rate. Therefore, before looking at the actual delivery of the SITA network at a cost level, it appears to be overpriced.

Table 25: Growth rates for data telecommunications expenditure categories

ICT SERVICES	SITA Expenditure (Total)	SITA CAGR 2016/17 - 2020/21	Non-SITA Expenditure (Total)	Non-SITA CAGR 2016/17 - 2020/21
Data lines	R4 855 511 362.43	5.04%	R3 376 414 194.89	2.36%
Network WAN			R5 665 515.20	22.22%
Network LAN			R94 626 130.68	-21.39%
Total	**R4 855 511 362.43**	**5.04%**	**R3 476 705 840.77**	**2.02%**

Source: BAS Analysis

9.4. SITA's effectiveness in creating efficiencies for expenditure on software licenses

Notwithstanding the fact that departments could be opting to swap SITA provided services for non-SITA services, SITA appears to have been significantly better at managing expenditure on its software license categories compared to software license categories that are not been procured through SITA. In particular, there have been significant reductions in software licenses for operating systems, office suites and utilities which are potentially common across multiple departments. In contrast, non-SITA expenditure within these categories increased. In general, expenditure on non-SITA software licenses categories has also recorded significant expenditure growth with the exception of expenditure on security software and other software.

Table 26: Growth rates for software license expenditure categories

ICT SERVICES	SITA Expenditure (Rand)	SITA CAGR 2016/17 – 2020/21	Non-SITA Expenditure (Rand)	Non-SITA CAGR 2016/17 – 2020/21
Operating system software	1 641 022 971	-13.0%	7 080 817 850	7.3%
Other SITA software licences	393 986 989	-23.6%	0	
Office suite software	353 428 899	-24.1%	1 367 945 947	-10.5%
Utility software	172 690 387	-12.3%	912 900 696	27.2%
Development support	29 719 162	-31.5%	0	
Server and software licences			1 660	
Other 3rd party software licences			1 074 945 691	54.5%
Services and operating rights			4 358 833	
Software			12 242 456	-52.1%
Finance lease			16 106	
Security software			143 373 859	-100.0%
Patents and licences			58 813	
Total	**2 590 848 407**	**-16.8%**	**10 596 661 912**	**8.3%**

Source: BAS Analysis

9.5. SITA's effectiveness in creating efficiencies for specialised computer services

The Specialised Computer Services rendered by the SITA has been one the services that has been increasing significantly, with an average increase of 20% per year compared to a modest 5% per year

for non-SITA expenditure. SITA can be considered to be operating less efficiently - assuming that the significant increase is not demand driven. It is highlighted that SITA's key users of these services are Police, Home Affairs, and Justice.

Table 27: Growth rates for specialised computer services expenditure categories

ICT SERVICES	SITA Expenditure (Rand)	SITA CAGR 2016/17 - 2020/21	Non-SITA Expenditure (Rand)	Non-SITA CAGR 2016/17 - 2020/21
SITA SERVICES	4 108 114 275	20.6%	0	
Specialised computer services			6 095 963 727	5.3%
Total	**4 108 114 275**	**20.6%**	**6 095 963 727**	**5.3%**

Source: BAS Analysis

9.6. SITA's effectiveness in creating efficiencies for mainframe time services

Given the increased volume of processing activity as government service has expanded from a cost perspective SITA appears to present strong efficiencies in the context of mainframe computing. The spending trends on these systems has largely been flat with an overall total spend of R3,9 billion on SITA over the five years and an average annual growth rate of 2.8%. This is below the CPI growth rates over the same present indicating a decline in real terms on mainframe computing.

Table 28: Growth rates for mainframe expenditure categories

ICT SERVICES	SITA Expenditure (Rand)	SITA CAGR 2016/17 - 2020/21	Non-SITA Expenditure (Rand)	Non-SITA CAGR 2016/17 - 2020/21
SITA	1 774 406 759	4.8%	0	
PERSAL	803 696 088	2.7%	0	
BAS	690 536 662	-2.1%	0	
PMM (IFMS)	322 286 550	6.8%	0	
LOGIS	228 185 668	-0.2%	0	
EXAMS	84 402 309	3.5%	0	
FINEST	31 652 504	-3.5%	0	
JYP	4 103 548		0	
AGRIC DEBT	3 209 318	-2.2%	0	
BAUD	1 052 229	-100.0%	0	
BARNOWL	26 613	-100.0%	0	
External Service Provider			56 177 286	-18.3%
Mainframe Time	**3 943 558 249**	**2.9%**	**56 177 286**	**-18.3%**

9.7. SITA's effectiveness in creating efficiencies for data processing services

Notwithstanding the swapping of expenditure between SITA and non-SITA providers and/or the decline in demand for these services, SITA appears to be better are managing down expenditure on data processing services such as information services. Whilst departments have also reduced there

spend on servers and mainframes through non-SITA providers, SITA has not picked up any of this spend implying that SITA is likely inefficient in rendering this service.

Table 29: Growth rates for data processing expenditure categories

ICT SERVICES	SITA Expenditure (Rand)	SITA CAGR 2016/17 - 2020/21	Non-SITA Expenditure (Rand)	Non-SITA CAGR 2016/17 - 2020/21
Information services	2 049 391 968	-23.7%	3 321 249 443	-8.3%
Cloud space	84 952	-100.0%	0	
Server/Mainframe			1 839 743 986	-9.0%
Total	**2 049 476 920**	**-23.7%**	**5 160 993 429**	**-8.6%**

Source: BAS Analysis

9.8. SITA's effectiveness in creating efficiencies for web hosting, internet, and intranet services

SITA has been lagging behind non-SITA when it comes to internet services and hosting provided to departments. The spend over the period 2016/17-2020/21 is similar for both SITA and non-SITA at approximately R500 million each. However, the non-SITA spending is growing at 20% per annum in comparison to SITA spending, growing at 11% per year, implying that SITA has been more effective in creating efficiencies within these expenditure categories.

Table 30: Growth rates for web hosting, internet, and intranet services

ICT SERVICES	SITA Expenditure (Rand)	SITA CAGR 2016/17 – 2020/21	Non-SITA Expenditure (Rand)	Non-SITA CAGR 2016/17 – 2020/21
Internet service charges	508 605 806	10.7%	507 169 065	20.5%
Total	**508 605 806**	**10.7%**	**507 169 065**	**20.5%**

Source: BAS Analysis

9.9. SITA's effectiveness in creating efficiencies for desktop services

Though it is known that departments purchase desk computing through SITA and non-SITA, it seems that the capturing of data in BAS does not account for this. Thus, all desk computing is recorded as non-SITA spending despite SITA playing a significant role in assisting departments to procure desk computing. SITA produced a study paper[2] explaining why the cost of their desk computing was higher than consumer market prices. The total spending on desk computing was R10,9 billion, growing at 2% per year.

[2] Retail vs Contract, 2018, https://www.sita.co.za/sites/default/files/documents/Product_Certification/iTASRR37_Retail_vs_Contract.pdf

Table 31: Growth rates for mainframe expenditure categories

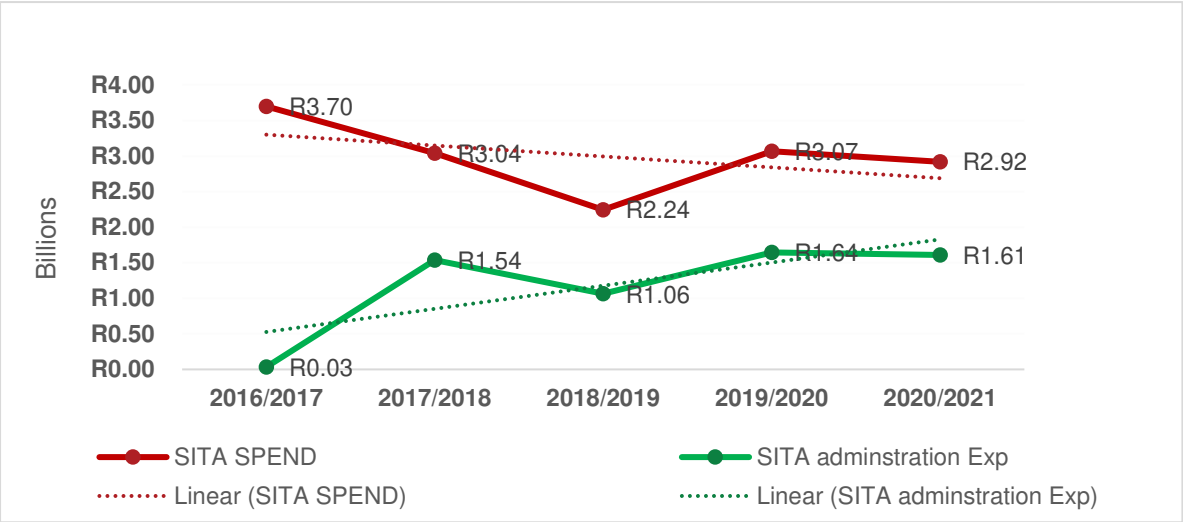
ICT SERVICES	SITA Expenditure (Rand)	SITA CAGR 2016/17 - 2020/21	Non-SITA Expenditure (Rand)	Non-SITA CAGR 2016/17 - 2020/21
Office furniture			41 556	
Stationery			0	
Other machinery and equipment			2 389 876 164	35.0%
Contractors			3 029 221 154	-3.1%
Computer peripherals			220 603 597	-3.8%
Desktop computers			1 889 739 394	-10.2%
Operating Leases - Non-infrastructure			163 300 824	
Domestic Equipment			147 565	-21.5%
School Durable Materials			103 664	
Furniture			385 267 441	-78.0%
Tablet PC			523 235 006	47.5%
Laptops			2 303 203 109	6.4%
Office equipment			208 308	-100.0%
Total			**10 904 947 781**	**2.2%**

10. Expenditure on system services versus investment in new capability

The analysis aims to establish whether the there was an improvement in SITA expenditure toward functional extension as compared to line (administration) expenditure of SITA goods and services. In general, administrative expenditure would signify core spending by department IT units on items such as mainframe processing, data lines and other mandatory services of SITA. Functional programmes would procure services of SITA that directly relate to the operation or development of systems in the line of service delivery.

10.1. SITA administrative vs. SITA programmatic spend within National departments

Figure 5: SITA Expenditure vs SITA Administrative Expenses



From the analysis it can observed that the SITA expenditure has been decreasing over the five-year period under review with lowest expenditure figures observed in 2018/2019. While the SITA expenditure trend has been decreasing the SITA administration expenditure has been increasing in period under review, this could be implying the most expenditure is towards the servicing of system in place as compared to introduction of new system of extension.

10.2. SITA administrative vs. SITA programmatic spend within provincial departments

At provincial government Western Cape had the highest spending towards SITA line expenditure with an amount of R1.8 billion followed by Gauteng, Eastern Cape and KwaZulu Natal with spending of R1 billion, R0.55 billion and R0.51 billion, respectively. On the other hand, KwaZulu Natal and Eastern Cape had the largest spending towards SITA administrative expenditure with a spending of R1.7 billion and R1 billion, respectively. In general, of the top four provincial government spenders, Western Cape and Gauteng were the provinces that indicated that they were embarking on expansion, as opposed to more spending towards administration.

Table 32:Compound Annual Growth Rate SITA administrative vs SITA line

Row Labels	SITA adminstration Exp	CAGR SITA admin	SITA Line Exp	CAGR SITA Line
Eastern Cape	R996 282 052	10.94%	R550 649 326	5.87%
Free State	R146 123 298	5.05%	R275 012 170	10.64%
Gauteng	R197 933 831	10.40%	R1 031 220 574	67.12%
KwaZulu Natal	R1 782 841 543	-6.12%	R511 352 868	-0.72%
Limpopo Province	R637 742 973	3.85%	R243 576 266	6.86%
Mpumalanga	R227 152 981	-0.35%	R265 936 459	-6.48%
North West	R25 311 590	4.19%	R219 539 448	5.02%
Northern Cape	R116 157 399	-8.38%	R99 595 309	2.38%
Western Cape	R188 232 022	1.43%	R1 866 643 372	9.09%
Grand Total	**R4 317 777 690**	**0.52%**	**R5 063 525 793**	**13.45%**

Notably the province that was showing regressing in line expenditures was Mpumalanga with a decline of 6%. Northern Cape has an indication that they are improving their efficiency as they had a decline of 8% in their administrative spending towards SITA expenditure.

Table 33: Compound Annual Growth Rate-ICT services level

Row Labels	SITA administration Exp	CAGR SITA admin	SITA Line Exp	CAGR SITA Line
Data processing	R720 984 231	-7.32%	R174 458 543	-4.90%
Desk computing				
Help desk	R19 194 286	3.79%	R1 409 175	-100.00%
ICT security	R8 736 231	-1.26%	R27 791 142	70.05%
Mainframe time	R496 327 159	2.94%	R742 142 761	0.29%
Printing services	R29 026 880	-9.82%	R78 824 772	22.82%
Software licenses	R1 043 004 848	-7.50%	R390 479 137	-17.97%
Specialised computer services	R716 088 209	-2.42%	R2 423 525 199	30.71%
System and software development	R69 989 087	-29.05%	R47 539 751	-12.54%
Telecommunication - data	R1 058 705 190	21.58%	R1 069 190 271	3.39%
Telecommunication - voice				
Web hosting: internet, intranet	R155 721 569	0.45%	R108 165 041	12.59%
Grand Total	**R4 317 777 690**	**0.52%**	**R5 063 525 793**	**13.45%**

The table above shows that generally provinces were having growth in line expenditure of approximately 13.5%, while administrative expenses were flat over the five-year period. The service

that provinces were increasingly demanding from SITA line expenditure was Specialised Computer Services which had CAGR of 30%, there were two provinces that were driving this growth of line expenditure in Specialized Computer Services which were Western Cape and Gauteng, together they had spending for this service of 93% of line expenditure of this service. While Telecommunications data service indicated that large portion was being spent towards line expenditure the CAGC indicate rather that administration expenditure had been outperforming line expenditure for this service for all provinces in aggregate. The analysis also indicates that Software licensing services had been experiencing decline in CAGR of 7% in administrative expenditure however this decline was being outperformed by line expenditure which had decline of 18% implying that there has been a decline of demand this service by provinces.

11. Implications for savings and / or improvements to ICT expenditure management

Taking cognisance of the above findings and observations the following implications for savings and better expenditure management are highlighted:

1. Enforcing the central procurement of software licenses for big ticket spending will ensure that efficiencies from leveraging economies of scale and government's purchasing power are achieved. For example, only R2.5 billion of the R13.2 billion spent on software license was through SITA over the period 2016/17 – 2020/21. Taking this into consideration, the following recommendations will improve savings and expenditure management:
    a. Spending on Office software averages R344 million per year, and it is estimated that R34.4 million or 10% annually could be saved by centralising this procurement over the medium term.
    b. Spending on Operating system software averages R1.74 billion per annum and R174 million or 10% per year could be saved by centralising this procurement over the medium term.
    c. The above centralisation, if done through a transversal contract managed by SITA, will also resolve issues around purchasing licenses that are not used.
2. Savings on migrating all govt landlines to VoIP solutions could result in savings of up to R1.1 billion per annum over the medium term. This is based on an average spend of R1.9 billion per annum on landlines and fax and a 60% savings achieved in the Eastern Cape from such a switch. Such savings could also be enhanced by (1) rolling out a single PABX system across government so that government departments can make free calls to departments on the same government network, (2) implementing a policy where employees only have a landline or cell phone and not both. IP routing allows landline/ extensions to go to cell phone.
3. The oversight and performance monitoring of SITA must ensure that SITA:

f. Submits a new service catalogue and pricing structure

g. Avoids overcharging and provide right sized services

h. Adopts a consistent charging across government

i. Adapts its business to provide more value-add solutions and better planning of over government ICT as per their mandate.

j. Improves its cost structure so that is in a position to reduce is gross margins and still be able to breakeven.

4. Whilst printing costs have drastically reduced from R2.3 billion in 2016/17 to R1.4 billion in 2020/21, running transversal contract for print cartridges could provide savings. However, this could impact the involvement of SMMEs in this value chain.

5. The role of SITA includes initiatives to reduce connectivity costs to government through revised competitive bidding processes and connectivity models at national and provincial levels. This should result in a steady cost reduction per megabit per second, and improved service availability. Considering this, the role of SITA and performance against what their mandate requires needs to be thoroughly reviewed, to strengthen accountability and identify gaps for improvement.

12.Annexure 1 – Selected Spending Review Summaries

12.1. Broadband Review Summary

In a review of Broadband spending review, authored by Dumazile Tyali et al. where the purpose of the study was to investigate the implementation of Broadband connectivity at WCG facilities and public Wi-Fi Hotspots. The investigation to Improved broadband infrastructure and improved citizens' access to the Internet through public Wi-Fi hotspots aids in closing the digital divide of access and usage of internet and accelerates digitisation efforts to cater for the changing needs and circumstances, e.g., in Health and Education. Their observations relating to SITA included to maximise value for money, the Broadband project delivery going forward (model, service requirements, implementation method) must consider principles and practices for enhanced planning and monitoring, improved procurement measures and streamlined management delivery of activities by both SITA and the service provider. Their recommendation was the role of SITA (advise on initiatives to reduce connectivity costs to government through revised competitive bidding processes and connectivity models, resulting in cost reductions per mbps and improved service availability) and performance against what their mandate requires needs to be thoroughly reviewed, to strengthen accountability and identify gaps for improvement. The action items were that Distinguish the services and structures to be provided by SITA and how this will be managed and tracked and determining whether the SITA service charge costed is a fair amount dependent on the sort of services provided. All the annual cost and efficiency reviews of the services to date that LIT provided to SITA (as per the bid), which includes recommendations for optimising services, should periodically be reviewed by Ce-I to better track and enhance performance and services provided. The benchmarking assessment being conducted through SITA to be obtained for consideration and to inform the Broadband costing for Broadband 2.0.

12.2. EC ICT Review Summary

The review on expenditure ICT in the Eastern Cape highlighted that ICT frameworks and policies are convoluted especially when SITA is involved causing inefficiencies in the value chain of the ICT function. The report also highlighted the multiple failure of the core link connecting to Cape Town. The review sort to address inefficiencies by services providers including SITA, another area of concern indicated by the review was in terms of the act as it did not clearly establish the relationship between SITA and respective departments. The recommendations related to SITA in this review where that there had to be utilisation of National Treasury and SITA Transversal Contracts to ensure economies of scale, value for money and cost containment, there was need to clarify the role of SITA and how procurement frameworks and processes are implemented to save departments time and money. It is not always clear how the service of SITA impacts departments in a positive way, as many instances of poor service (e.g., network downtime, higher than market costs) are reported by departments. As such the role of SITA to support ICT initiatives is not properly realised.

12.3. SAPS ICT and Accommodation Review Summary

The review of SAPS ICT highlighted that when it comes to management and utilisation of ICT systems , there was unclear monitoring of data by the SAPS TMS division, operational reliance on SAPS ICT systems that are unaddressed, there was mismatch between the cost incurred by SAPS towards record management and the record management in place that SAPS was lagging behind in terms of payments due to the fact that orders were submitted late hence SITA will not bill the department on time and systems were not designed to be operational when they are crisis like Covid-19.

The recommendations the problems of management and utilisation of ICT systems were that Given the several administrative posts and labour-intensive finding on the SAPS TMS division, the department needs to conduct an organisational restructuring with the aim of rationalising and performing ICT skills audit. To develop less complex ICT Applications such as MySAPS internally. To Review effectiveness and utilisation of systems such as OPAM. Finally, to Developing the following systems in-house: Provisioning Administration System, INTENDA, Circulation System, Registration System, E-Tel System, Second-Hand Goods Control System.

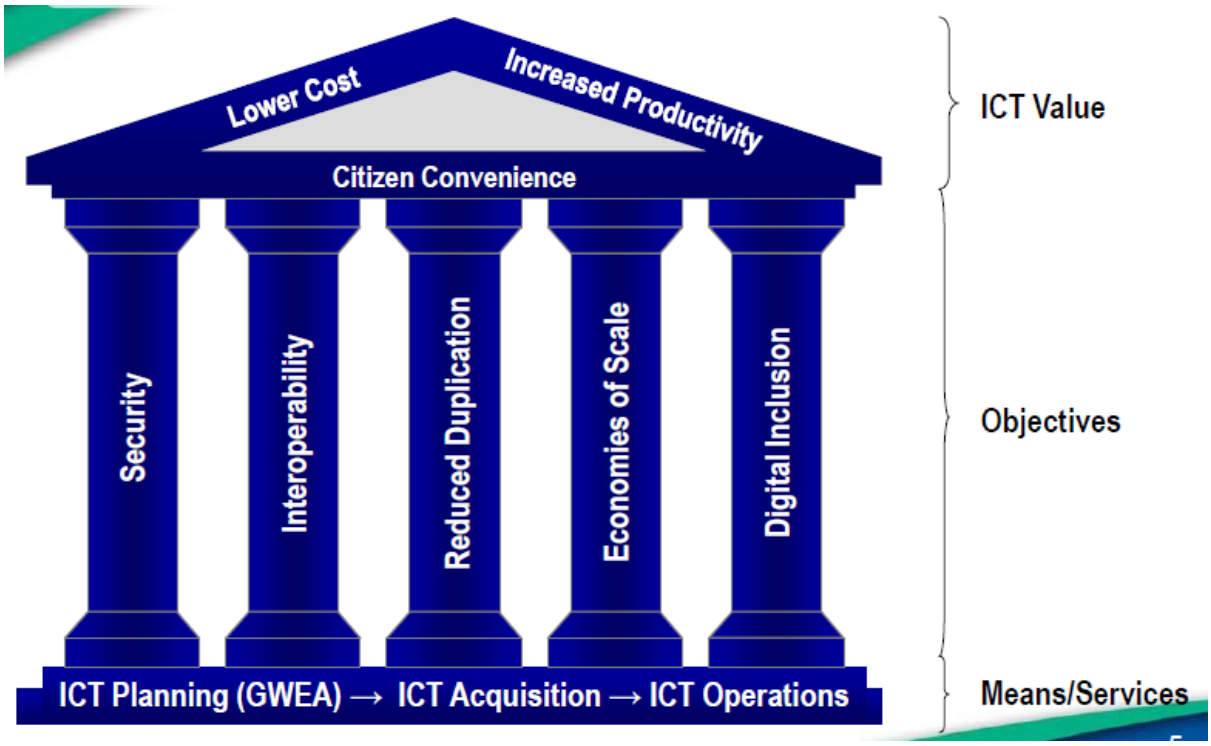
13. Annexure 2: The Government Wide Enterprise Architecture (GWEA) Framework

[3]The Government Wide Enterprise Architecture (GWEA) Framework is the minimum standard that all government departments and agencies are meant to use to prevent inconsistency and misalignment of ICT plans. The reasons the framework has been put in place are:

(1) to provide guidance to Government CIO/GITO, enterprise architecture practitioners to establish and manage an enterprise architecture capability; and
(2) provide guidance to the enterprise architecture capability on how to develop an enterprise architecture plan for a department/agency or programme of Government.

The framework is generic, can be applied in all spheres of government and is invaluable in the production of department/agency enterprise architecture plans that are fully aligned with the department/agency business plan, whilst observing the objectives and principles of the South African e-Government as defined in the ICT House of Values.

Figure 6: Government ICT House of values



Implementation of the framework is applicable to any organisation that executes an enterprise architecture planning programme for or on behalf of a department/agency of the Government of South Africa. When it comes to the executive management its aim is to motivate, to obtain key stakeholder commitment and investment to establish an effective enterprise architecture capability. For the enterprise architects it provides, guidance on how to develop enterprise architecture

[3] 2010 Government Information Technology Officer's Council (GITOC) of South Africa -publication

products/deliverables that form the building blocks of an enterprise architecture plan. As for the architects governing board it provides guidance on thee monitoring the enterprise architecture plan and to auditing and assessment boardy it gives guidance whether the enterprise architecture comply with legislation. The Framework defines the enterprise architecture as a generic process and can be applied to the entire government, a cluster of departments that share similar strategic outcomes or confine their performance to a regional constituency such as a province, a particular department national or provincial, or a policy owner for a particular set of transversal function/service areas of government.

To improve alignment, cooperation and reduce duplication of effort and investment among enterprise architecture programmes various models can be implemented which include the information systems reference model under which the transversal administration system systems are used in many departments for resource management such as finance resource management and human resource management. Core mission systems which are used to serve citizens and stakeholders and the common systems which are commonly used in all departments. The Technological Reference Model serves to inform the development of Technology Architecture in an enterprise architecture Programme, the model defines classes of technologies and aims at reducing duplications. The infrastructure is divided into application which are portals, middleware which are message brokering and quiring, database management which include data warehousing, computing platforms like operating systems, communication infrastructure like internet and system engineering like system development and modelling.

The framework defines the enterprise architect principle which are guides and rules, intended to be enduring and seldom amended, that are used to govern and guide the way in which an organization sets about fulfilling its mission. The principles are used to govern and guide enterprise architecture development and trade-off decisions. The framework defines the principles as business architecture principles which include, enterprise architecture should align with relevant legal framework, Public and Private collaboration has to improves public services, public service design should be customer centric, Operations are optimised and simplified, as well as Systems have to be designed to ensure Business Continuity. On the other hand, the principles are data architect principles which include that sensitive information should be secure, data should be shared to reduce duplication, data should be accessible and data definitions have to be consistent and meaningful. there are also application principles stated as common applications are shared across government, applications are independent of technology infrastructure and common applications are easy to use. The technology architect principle states that technological diversity is contained, and technology components are able to interoperate and exchange information. These principles provide guidelines of the translating the principles into enterprise architecture models

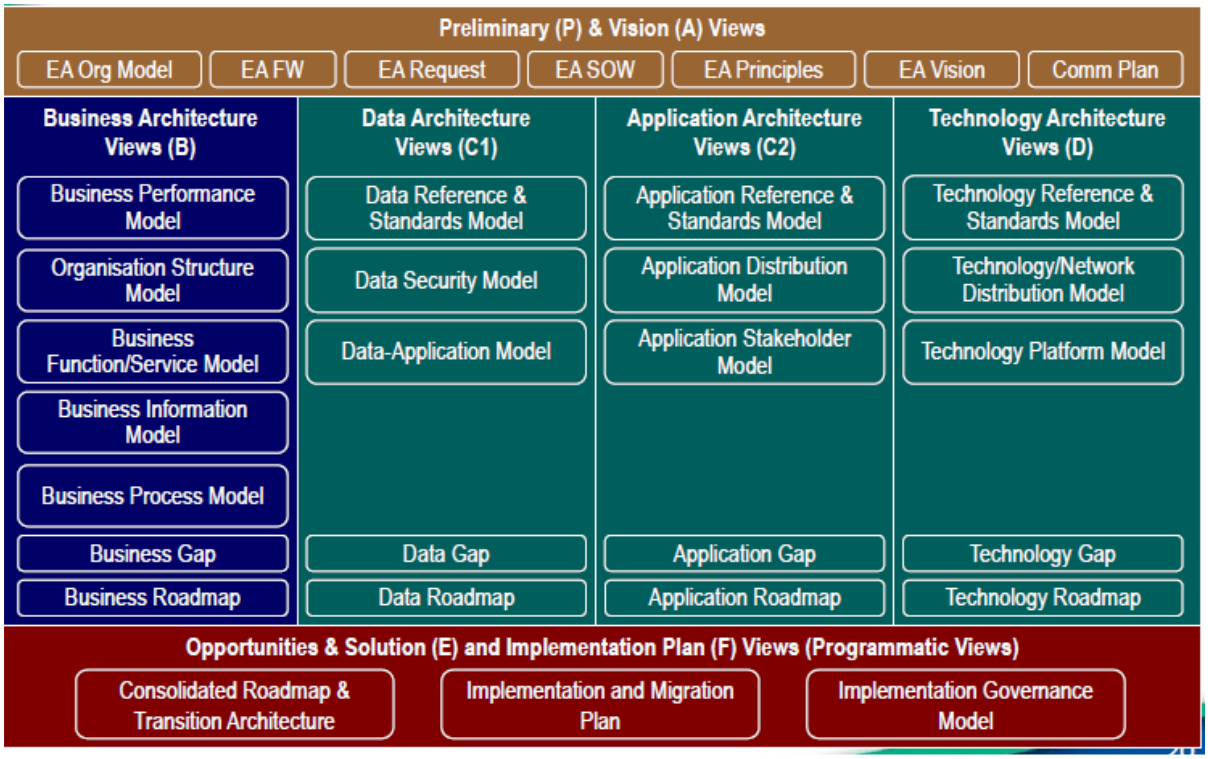


Figure 7: GWEA Model outputs

Under the business architectural model, the framework has a business performance model as a model that defines the relationships between objectives / imperatives as derived from Policy, Act, Regulation and requirements, and the responsible organisation to achieve the objectives, and the measures or key performance indicators (KPI) by which to measure achievements of such objectives. Its purpose is to inform stakeholders regarding the performance accountability in an enterprise. As part of the guidelines of model its objectives are informed by two drivers' regulatory requirements and custom requirements, departmental objectives that show clear line-of-sight to the strategic outcomes of Government, objectives should have a timeframe, the support objective of the department and the ICT objectives are aligned with practices like COBIT.

Organisational Structure Model is defined by the framework as functions/service performed by each organisational unit, the geographic location where these organisation unit reside, and the responsible authority (owner) of these organisation units, its purpose is to inform stakeholders regarding the accountability and responsibility towards the services that are routinely rendered by an enterprise whether they are internal service or external service; and the business footprint to inform capacity and network design. The guidelines of the model should make provision for process and service orientated organisational design, the must indicate responsibility and ownership of functions/services down to the level where a group of likewise services are rendered, the personnel structure for both virtual and natural lines and the model must include core functions that are particular to department and support function.

The framework defines Business function/service model as a core and support functions/services of the enterprise, the Information Systems that enable the function/service, and the roles of the actors

that participate. Its purpose is to inform stakeholders regarding the Service Catalogue of an enterprise, the degree of automation of each function/service, and the roles required to perform the function/service. The guidelines of the model require Services/functions are informed by the operating model which should be developed as part of Preliminary phase, The scope of ICT Services/Functions are informed by the services and functions inherent to the GITOC endorsed good practices, such as COBIT, the model should indicate whether a service is automated or manual and the model should include the provide and the consumer.

The Business Information Model is defined as a model that defines the Information asset requirement that are consumed and produced by each Business functions/services, including information exchange requirements with external business functions/services. Its purpose is to inform stakeholders regarding the data entity classes that the enterprise must manage through its life cycle. The guidelines for the model are that functions/services are informed by the Business Function/Service model, the aggregate of all inputs and outputs of respective functions/services information forms the basis to develop the Data Architecture models and the "outputs" is a good source to determine the KPI's or measures of every function in the enterprise.

Business process flow model is defined the business processes of the enterprise, in the form of events, activities, rules and responsibilities, its purpose is to inform stakeholders regarding the workflow (and information flow) that is needed to produce a product or render a service. The guidelines of the model are, the model to show how a service is rendered or a product is produced, Events and Activities should be informed by the Services in Business Function/Service Model, the model require that actors should be informed by Organisation Structure Model and the model should show interaction between departments where processes traverse across traditional organisational boundaries.

The data architect models derive from the data architect principles, the models that fall under this are the data reference and standard model which is defined as a model that defines the data classes and relationships, data definitions and interoperability standards used in the enterprise. Its purpose is to inform stakeholders regarding the data assets of an enterprise in a consistent manner that will enable re-use and data sharing. The guidelines of the model are, classes in the Data Reference Model (DRM) are informed by the major data classes as defined by Business Information Model, data definitions to be expressed in terms of data attributes, model should indicate which data classes are Master Data classes and Data Interoperability standards are informed by the MIOS and relevant recognised data schema standards.

The data security model which is defined as a model that defines the security classification of data classes and the roles in the organisation that need access thereto. Its purpose is to inform stakeholders regarding the security and responsibilities of the data assets in a department in order to improve data accountability. The guidelines for the model are, Data Classes are re-used from the Data Reference Model, actor Role should be re-used from the roles defined in the Organisation Structure Model, data classes and actors should be associated in two ways by responsibility regarding data classes and assigned access rights, as well as data classes should be attributed by a generic security classification.

The data application model as a model that the interaction between applications and data. Its purpose is to inform stakeholders regarding the affinity (or relationship) between data classes and applications in an enterprise that is needed to inform the development, integration, and deployment of software solutions. The guidelines of this model are, the model should include the interfaces to or sharing of data with external systems, the application in the model is re-used or informed by what is defined in the Application Reference Model, in particular the functional components of the application and the model should be used to prioritise solution development by observing the principle that applications that "Create" data should be developed and implemented before applications that "Read" data.

Under the architectural models, application reference model is defined as model that defines a portfolio of applications and its service/function decomposition. Its purpose is to inform stakeholders regarding the major kinds of applications (software) that are needed to automate or enable the functions/services of a department. The guidelines require that, the model conforms to the Application Vision and Application Architecture Principles, the Functions/Services of an application is informed by the Business Process Model and relevant industry accepted good practice and the Application classes in the model are derived from and/or informed by the Business Service/Function Model and should include both "support" and "core" type applications.

Application distribution model also, fall under the architectural model and is defined as a model that defines the applications, their locations, and the interfaces between applications. Its purpose is to inform stakeholders on how applications or application components are distributed across the footprint of the organisation and how they interface or integrate with each other and the environment. The guidelines for the model are, the model has to be coherent with Application Architecture Principles, the model must include interfaces within (intra) application components and to external systems (inter) and the applications is re-used or informed by Application Reference Model.

The final set of models under the enterprise architecture models are the technological architecture model models include the technological reference model which is defined as A model that defines the major classes of technology components/services and the interoperability standards associated thereto. Its purpose is to inform stakeholders regarding the major kinds of technologies and standards that are needed as a common infrastructure to enable the integration, execution, distribution, and management of Information management systems (data and applications) of an enterprise. The guidelines for the model are that the model domains of a department should be coherent with GWEA Technology Reference Model (TRM), Technology components should conform to the Technology Architecture Principles and Interoperability Standards inherent to the TRM must conform to the MIOS.

The technology distribution model defined as a model that defines the technologies in distinct locations/environments, its purpose is to define the distribution of technology components for a distributed operating environment that will reduce duplication and optimise the re-use of shared infrastructure whilst providing optimal access channels to information intensive services to the intended users. The guidelines for the model are, model should conform to Technology Architecture

Principles, model should include distribution patterns or technology configurations for the development, hosting, support and end-user operating environments and the model must include interfaces and connectivity to external infrastructure where appropriate.

The Technology platform model is defined as a model that defines the Technologies in relation to the different subsystems in a distributed computing or client-server configuration. Its purpose is to inform stakeholders regarding the redundancies and deficiencies of technology in an enterprise. The guidelines for the model are the System components are informed by Application and Data Architecture and the model should indicate n-tier system integration patterns.

The opportunities and solutions that suggested by the framework are that there has to be a consolidated architecture roadmap and transition architecture that will inform stakeholders regarding the major initiatives (or project) to be undertaken by the ICT function of and enterprise to address the deficiencies and redundancies as identified during the prior gap analysis. The frame work also lays out migration plan that implement a migration plan that will inform the stakeholders of the optimal ways (methods) as well as the necessary resources and sequence by which to implement the projects as identified during the previous phase as well as an implementation of governance model that inform the stakeholders of the governing structures and processes required ensure (govern) that the implementation of projects are done in accordance with the architecture plans.