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Improving the Efficiency and Effectiveness of Spending on ICT in the Eastern Cape

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SECTOR: URBAN DEVELOPMENT & INFRASTRUCTURE

PROVINCE: EASTERN CAPE

Key Points

- Spending in the province has been relatively flat (averaging approx. R1.4 billion over the five-year period 2016/17 – 2020/21). This implies a decline in ICT spending in real terms over the period.
- ICT frameworks and policies are convoluted especially when SITA is involved bringing causing inefficiencies in the value chain of the ICT function
- Lack of alignment of ICT spending and strategic talk of 4IR and other such initiatives of departments
- ICT spending focused on core functions and little development and enhancement
- Evidence seems to suggest insource ICT services is cheaper than an outsourced approach.

Executive summary

The Eastern Cape Province spent about 1.4 percent of its total expenditure on ICT related costs. In 2016/17, ICT spending was R1.245 billion and decreased to R1.203 billion in 2020/21. A total of R6.512 billion over the last five years. Of the total spending of R6.511 billion, communication costs total R2.194 billion, which accounts for 33.7 percent over the five years. This was followed by SITA computer services at R1.546 billion (23.8 percent).

Over the five-year period, the Department of Education accounting for highest expenditure – at R2.514 billion, accounts for 38.6% of the provincial expenditure on ICT. This is followed by Health, at R1.042 billion accounts for 16.1%, and Office of the Premier, at R767.008 million accounts for 11.7%. The combined expenditure in Health and Education is R3.557 billion and accounts for 54.6%

The expenditure review aims to identify the major cost drivers of ICT and try to reduce these costs for the provincial government. In addition, and more importantly is to improve the efficiency of the ICT services provided by SITA and other service providers, where we would see improved support and efficiencies in core resolution time and availability of network. To this end, the review will look at the outsourcing or in-sourcing ICT services. We would also look at the issue of decentralising as opposed to centralising of the delivery of ICT services – or some combination of these.

The spending review highlights that:

- Within the Eastern Cape ICT is fragmented across the 14 departments with limited standards and an unequal investment in ICT Capital, Goods, Services and Personnel across departments
- Overall ICT expenditure is on a declining trend, as a result of budget cuts and specific department interventions to improve efficiencies, such as Health adopting inhouse systems and discontinuing expensive 3rd party solutions.
- The policy and practices around ICT governance are convoluted and cumbersome and need to be reviewed with an intention to streamline and better allocate functions within

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the processes of procurement and delivery of the ICT function across government and within departments.

It is recommended that the province implement a centralised approach for ICT service delivery as this appears to be cheaper when the internal capacity of the central unit is sufficiently capacitated.

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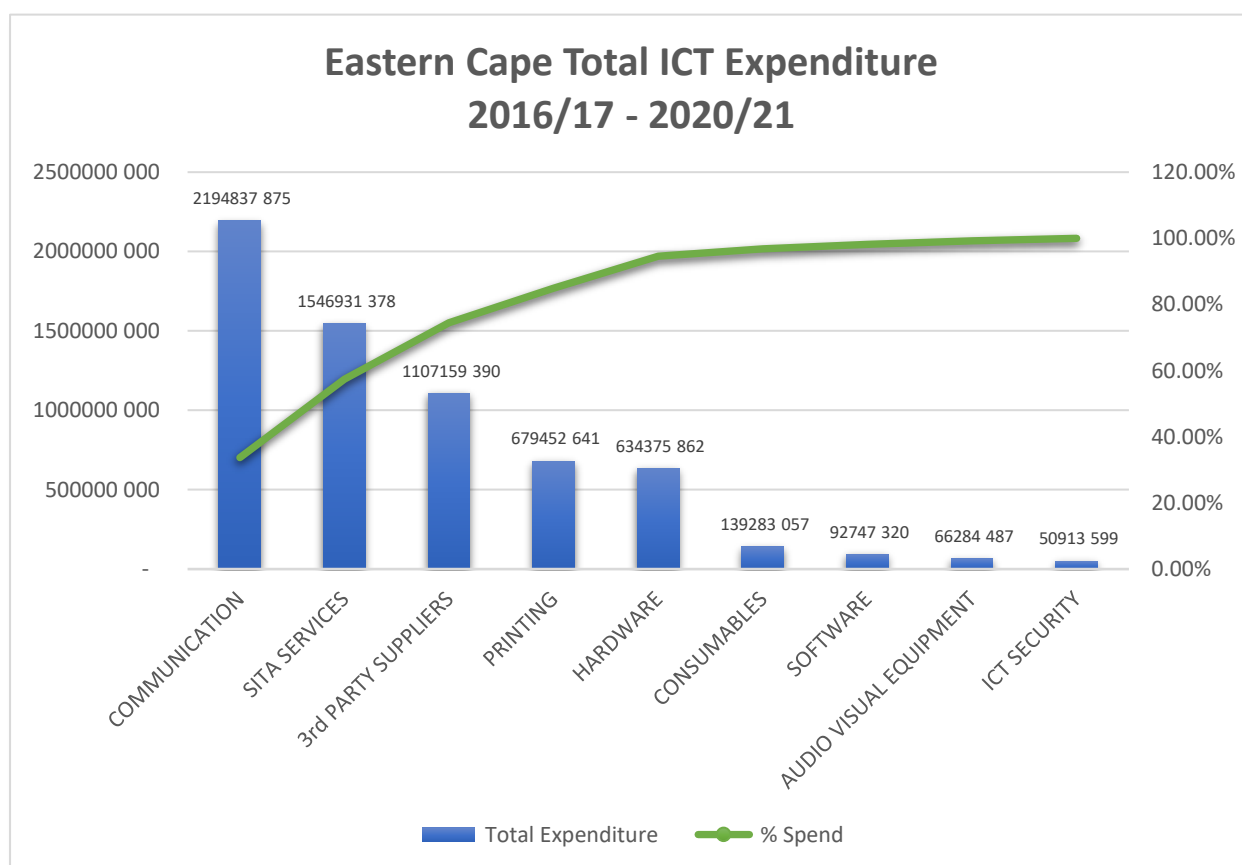
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1. Introduction

The Eastern Cape Province spends just around 1.4 percent of its total expenditure on ICT related costs. In 2016/17, ICT spending was R1.245 billion and decreased to R1.203 billion in 2020/21. A total of R6.512 billion over the last five years.

Of the total spending of R6.511 billion, communication costs total R2.194 billion, which accounts for 33.7 percent over the five years. This was followed by SITA computer services at R1.546 billion (23.8 percent). These computer services include mainframe time for PERSAL, BAS and LOGIS, as well as data lines, software licenses, and internet service charges. The province spent R1.107 billion (17%) on external service providers while R634.375 million (9.7 percent) was spent on contractors for maintenance and repairs to computer equipment and machinery. These four items together account for over 74 percent of the total ICT spend for the province for the five years.



1.1. Context

The Department of Education accounted for most of the spending over the last three years – 39.9 percent of total ICT spending. This was followed by the Department of Health at 22.9 per cent, and then 8.8 per cent spending by the Office of the Premier. The spending trends are

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understandable – as the Depts of Education and Health are large departments and together account for just of 76 per cent of the provincial expenditure for the last three years. It should further be noted that the Education IT expenditure is skewed by the large mobile contractual commitments made to Vodacom and Sizwe Africa. This in turn significantly overstates the scale of ICT expenditure in the province.

On the efficiency side, the province noted that since 1 July 2020, there were 25 days when the Internet, email and transversal services were down. These downtimes are an indication that there is a lack of efficiency and poor quality of ICT service provided to departments and within departments itself.

SITA provided a report to the Eastern Cape Government on the network service interruptions experienced for the last quarter of the 2020/21 financial year (ie. from 1 January 2021 to 31 March 2021). In terms of this report, SITA Bhisho and the East London switching centres experienced multiple failures of core links connecting to Cape Town the breakout point for the internet and the linkage to the services hosted in Centurion. These incidents resulted in Bhisho experiencing an average of 133.5 minutes downtime with 99.25% availability and 91.77% reachability over a period of 11 days measured. At the East London Switching Centre downtime averaged 149.9 minutes with 94.15% availability and 89.9% reachability.

In addition to monitoring network performance, ICT units in department monitors the implementation of ICT Governance Strategy within government, as well as the implementation of secured, reliable network, server and computing infrastructure.

1.2. Focus of spending review

The spending review focuses on departmental spending of ICT categories over the period 2016/17 – 2020/21. The review analyses the composition and trends seen through the provincial department spending on ICT. BAS data extracted from Vulindlela is the primary source of data and performance metrics are obtained from the individual ICT units with the departments. The spending review also assesses the ICT unit headcount and composition to determine fit for purpose. The historical analyse is used to attempt to develop a costing model which ICT units can use to evaluate project costs for insourcing or outsourcing, and total cost of ownership for ICT system projects.

1.3. Rationale for this spending review

The expenditure review aims to identify the major cost drivers of ICT and try to reduce these costs for the provincial government. In addition, and more importantly is to improve the efficiency of the ICT services provided by SITA and other service providers, where we would see improved support and efficiencies in core resolution time and availability of network. To this end, the review will look at the outsourcing or in-sourcing ICT services. We would also look at the issue of

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decentralising as opposed to centralising of the delivery of ICT services – or some combination of these.

There could also be poor utilisation of existing resources and in some cases duplication of effort. There could be over reliance on consultants and external systems and service providers.

2. Policy and institutional information

While the Office of the Premier coordinates the provision SITA services in the province, departments are also responsible for expenditure for their own software licences, airtime, and mobile data. The following services are currently centralised at OTP:

- (i) ICT Governance Monitoring
- (ii) Management of the Wide Area Network SLA with SITA
- (iii) Management of the Bhisho Campus Network (shared network by all government departments in Bhisho)
- (iv) Rollout of EC Developed, state owned common systems (e-Leave, e-Submission, e-Recruitment)
- (v) Management of the Provincial Broadband Project
- (vi) Development of the Provincial ICT Strategy

The following ICT related services are centralised at Provincial Treasury:

- (i) Financial Systems Support and Management
- (ii) Transversal ICT Audit Management

2.1. Understanding the policies, laws, regulations, and informal practices that govern the programme

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

- a. SITA Act (Act 88 of 1998) as amended by SITA Amendment (Act 38 of 2002)
- b. SITA General Regulations
- c. Electronic Communications Act (No. 36 of 2005)
- d. Cybercrimes Act (Act 19 of 2020)
- e. Protection of Personal Information Act (Act 4 of 2013)
- f. Promotion of Access to Information Act (Act 2 of 2000)
- g. Electronic Communication and Transactions Act (No. 25 of 2002)
- h. South Africa Connect: Creating Opportunities, Ensuring Inclusion South Africa's Broadband Policy 20 November 2013
- i. National Integrated ICT Policy White Paper, 2013
- j. Draft National Policy on Data and Cloud, 2021

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- k. Cabinet Memorandum 38a of 2000
- l. Government Wide Enterprise Architecture, 2010
- m. 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

The policy framework is not so clear. We have the SITA Act (No. 88 of 1998), as amended, that provides for the establishment of a company that will provide information technology, information systems and related services to, or on behalf of, participating departments and in regard to these services, act as an agent of the South African Government. The policy framework around the use of different technologies is not so clear. To what extent can departments use the latest technology developments like the use of cloud technologies and what is the relationship between SITA and the departments?

The above needs to be read in conjunction with Cabinet Memorandum 38a, of 2000, which outlines the role of ICT management within government after the establishment of SITA. The focus and emphasis is on ICT management and coordination within the department with SITA providing the technical elements.

This was then supported by the development of the Government Wide Enterprise Architecture in 2010 which called for clear ICT Strategic Planning and Architecting aligned with the Strategic Plan and APP of the department. This was to ensure that ICT is not managed operationally and in a vacuum but rather taking its correct role, as a strategic enabler of government.

This was then reinforced and further formalised through the adoption of COBIT5 through the promulgation of the Corporate Governance of ICT Policy Framework (CGICTPF) in 2012 by the Minister for DPSA.

The CGICTPF has now formalised the fact that Executive Authorities, Administrative Authorities and Management Teams are all responsible and accountable for the corporate governance of ICT

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and that ICT must only be deployed and implemented in a manner that supports the strategic direction of the department.

This should have resulted in a substantial transformation in how ICT is budgeted for, managed and overseen but it appears that several departments have merely implemented the structures and documentation required to comply with no substantial change in the role and impact of ICT. This is underpinned by a shortage of ICT Professionals across all 14 departments in the province and an overreliance on consultants and paid for software solutions.

Of further concern are delays in the finalisation and implementation of key national policy guidelines re the use of Cloud and the finalisation of an overarching ICT Policy framework for the entire public service.

The delivery of ICT services could be through centralising this function at the Office of the Premier or whether ICT services are totally insourced or outsourced – or a combination of these, in order to improve the level of efficiency of ICT services that are provided and to determine any costs savings that could be realised from a change in the service delivery model.

Some key insights

- National Development Plan (NDP): ICT access for all is a key enabler towards the development of a capable state and the creation of opportunities for all South Africans.
- Governance of ICT Policy Framework: Policy framework established to ensure that clear governance of ICT exists at all levels. The G&A Cluster is the overarching ICT Governance Steering Committee for the Eastern Cape. A further key element is ensuring that ICT investment is aligned with the strategic plans of government.
- GWEA - Government Wide Enterprise Architecture: All ICT Expenditure should be formally aligned with the ICT architectural plans of the Eastern Cape to ensure that ICT expenditure has value, is informed and brings about lasting change.

2.2. Programme beneficiaries

If ICT is implemented effectively, public service and government as a whole will benefit directly, and the country will benefit in terms of improved government services. Furthermore, the ICT spending will also act as a key driver in nurturing and prompting economic growth.

The citizens of the Eastern Cape will also benefit – in terms of receiving their services quicker and also improved level of services. For example, payments at hospitals can be made electronically,

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medicine dispensation, vehicle licences and drivers licences delivered in a shorter time-period and there will be a reduction in the waiting time in queues.

Payments and administration in departments will be quicker so that service providers are paid timeously.

The benefits can be summarised as follows:

- Public Service will be in a better position to improve delivery on its strategic outcomes
- Departments will improve on their achievement of public service-wide and departmental strategic goals
- General public will receive improved effective public services through ICT-enabled access to government information and services, as well as the improvement in the quality of these services
- Businesses will benefit from improved ICT enablement of businesses
- Continuous improvement of business and ICT alignment
- Government will improve its stakeholder relations and improved communication with the general public
- Improved trust between ICT, the business and citizens
- Lower costs
- Increased alignment of investment and allocation of government funding towards strategic goals
- Improved return on ICT-enabled investment
- ICT risks managed in line with the priorities and appetite of the public service and the department
- Improved management of information
- ICT pro-actively recognises opportunities and guides departments and the Public Service in timeous adoption of appropriate technology.

2.3. Establish who is involved in the design and implementation of the programme

Table 1: Stakeholder Communication Plan:

<u>Stakeholder Group:</u>	<u>Purpose:</u>	<u>Format / Medium:</u>	<u>Timing:</u>
PGITOC (ICT Governance)	Rationale for Review	PGITOC Meeting	Once Off
	Project Input	PGITOC Meeting	Once Off

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Operational Committee)	Project Outcomes Reporting	PGITOC Meeting	Once Off (end of project)
G&A Cluster (EC ICT Governance Strategic Committee)	Rationale for Review	G&A Meeting	Once Off
	Project Input	G&A Meeting	Once Off
	Project Outcomes Reporting	G&A Meeting	Once Off (end of project)
Departmental ICT Steering Committees / CFO's	Rationale for Review	ICT Steering Committee Meeting	Once Off
	Project Input	ICT Steering Committee Meeting	Once Off
	Project Outcomes Reporting	ICT Steering Committee Meeting	Once Off (end of project)
Provincial CIO	Rationale for Review	Project Meeting	Once Off
	Project Input	Project Meeting	Once Off
	Project Outcomes Reporting	Project Meeting	Once Off (end of project)
Budget Office	Impact of Review	Meeting	Once Off
SCMO	Impact of Change	Email / Teleconference	Once Off

RACI Chart

Project Steps	PGITOC (ICT Governance Operational Committee)	G&A Cluster (EC ICT Governance Strategic Committee)	Departmental		Provincial CIO	Budget Office	SCMO
			ICT Steering Committees	CFO Office			

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Institutional Analysis	C	A	C	I	R, C	I	I
Process Mapping	C	A	C	I	R, C	I	I
Indicators	C	A, C	C	I	R, C	I	I
Expenditure Analysis	C	A, C	C	C	R, C	I	I
Cost Modelling	C	A	I	C	R, C	I	I
Report and Action Plan	C	A	I	I	R, C	I	I

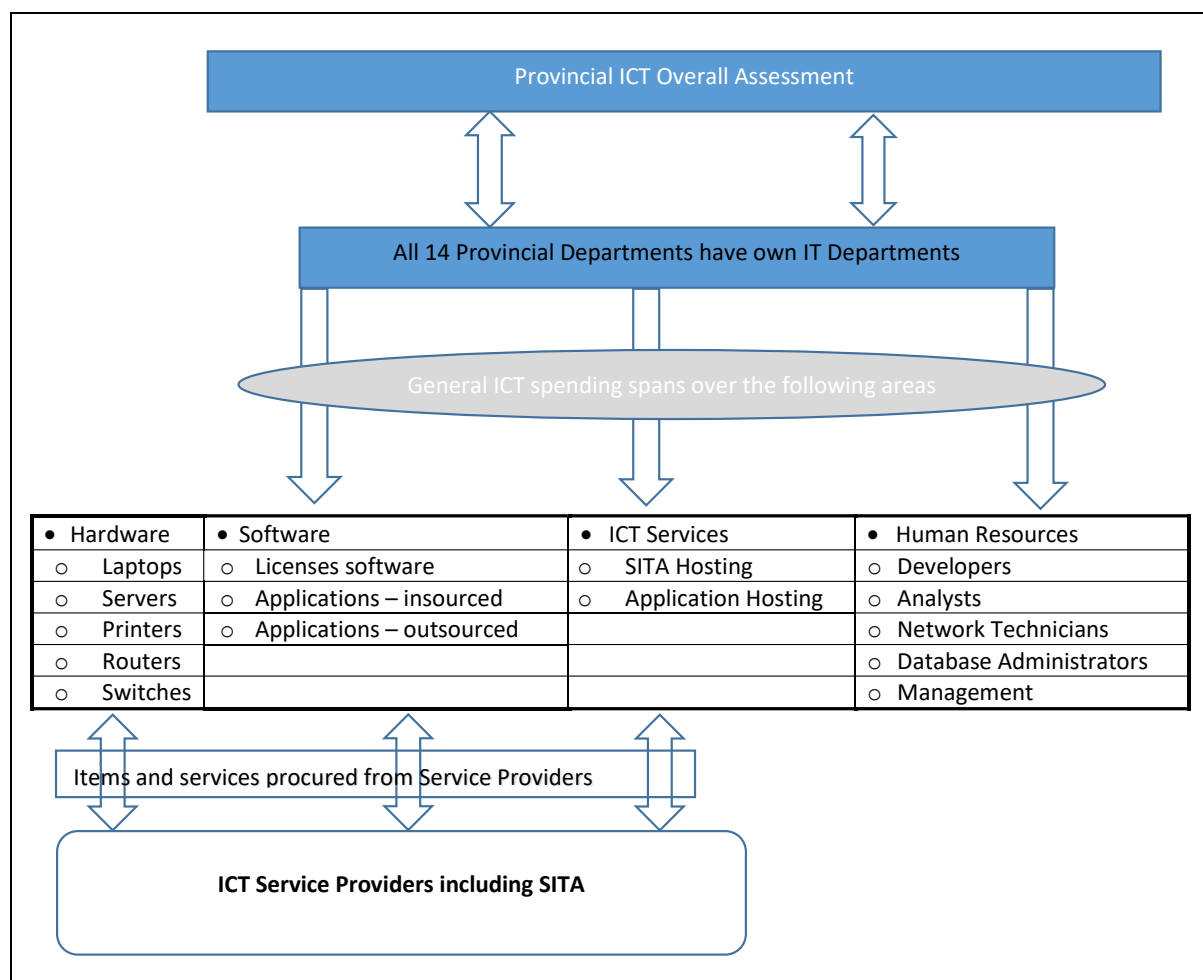
Key:

Key	
Responsible	Who is <i>responsible</i> for doing the actual work for the project task
Accountable	Who is <i>accountable</i> for the success of the task and is the decision-maker? Typically, the project manager
Consulted	Who needs to be <i>consulted</i> for details and additional info on requirements? Typically, the person (or team) to be consulted will be the subject matter expert.
Informed	Who needs to be kept <i>informed</i> of major updates? Typically, senior leadership.

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2.4. Governance and reporting practices within and between spheres



While SITA plays a key role in the management and delivery of ICT services, the province has different levels of reporting.

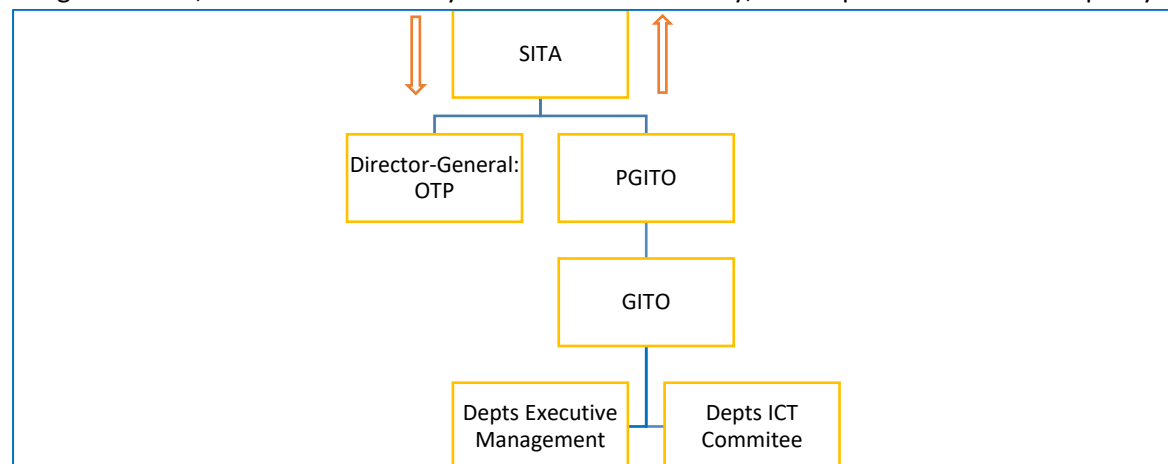
There is Provincial GITO Council – made up of department’s GITO that meets on a monthly basis. The role of the PGITO is to ensure that there is alignment the provinces information management systems and information technology strategy with the provincial-wide strategic direction. While each departments GITO will ensure that there is alignment of management plans and business processes of the department.

SITA will report to the Provincial Director-General on the network availability in terms of the service level agreement where OTP has signed with SITA on the provision of the ICT services. There is a provincial GITO Council that reports to the OTP and also to SITA. The PGITO comprises each department’s GITO. Each Department will have its own ICT Committees that report to the department’s Executive Management. See Map below.

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These structure are in place to ensure that the relevant ICT legislation, prescripts and policies are adhered to by individual departments. The monitoring of the compliance to the legislation, CGICT, ICT governance, ICT disaster recovery and business continuity, and implementation of ICT policy.



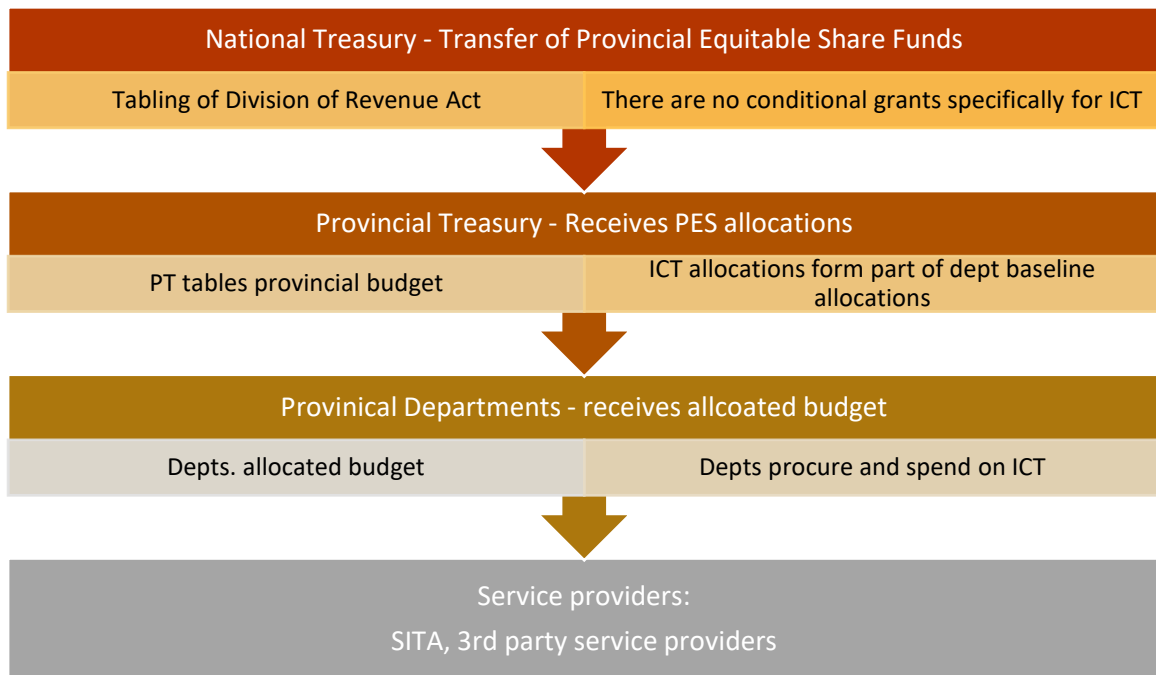
1. Map the flow of funds from different sources and institutions

National Treasury (NT) will table the Division of Revenue act annually that provides the provincial equitable share (PES) allocation for the EC. There are no specific conditional grants allocated for ICT expenditure. Once NT issues the final PES allocations, provinces will then prepare the provincial MTEF budget and allocations to each department and provinces have discretion on how much to allocate for ICT spending in departments.

Departments in turn will allocate funding from its baseline to ICT based on the individual department's needs and existing commitments. Departments will pay SITA for services provide by the agency and to service providers where services are procured directly.

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Note that while OTP is central in coordinating the ICT services with SITA, departments do not directly pay OTP any funds – departments instead makes payments to SITA directly for services rendered to the department and to other the service provider form who services were procured.

Note that expenditure of most ICT services will be allocated to the Administration Programme, however, there are instances where ICT costs will be paid on other programmes – due to its nature for that specific programme. Basically, we may have ICT that is funded in non-ICT programmes.

2. Identify the potential for savings and efficiency improvements from examining the institutional design, programme duplication and policy shifts

The following general process is followed by departments when ICT service is required (those that are provided by SITA):

- Department identifies need for ICT
- Department submits request to SITA
- SITA will request departments to indicate the allocated budget without necessary indicating what the service will cost
- SITA will analyse request
- SITA will follow its own procurement process – which includes using panel of already appointed service providers and going out to market as well as if the services are not available through the panel.
- Service provider appointed to SITA and not to the Department

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- Service provider provides service to the Department
- Department will pay for service to SITA
- SITA then pays service provider

The following general process is followed by departments when ICT service is required (those that are **not** provided by SITA):

- When an end user in any programme needs equipment they write to ICT Management to procure the required equipment.
- The ICT Management would liaise with departmental Supply Chain Management Unit (SCM Unit) for them to solicit quotations from SITA or any suitable supplier or service provider.
- The SCM Unit would evaluate and give quotations to ICT Management with the accompanying memorandum stating the selected supplier for placing an order.
- ICT Management would create a requisition on LOGIS and take it to SCM Unit for them to place an order on the system and forward it to the selected supplier. The SCM Unit Asset Management official receives the asset from the supplier for purposes of updating the Asset Register. The ICT Management official would then configure the ICT equipment for end user.
- In instances where the ICT Management official need to procure equipment for the purposes of maintaining Local Area Network (LAN) or any reason. They write a business case with the accompanying memorandum to the HoD via their Programme Manager the DDG: Corporate Management. Once they obtain the approval to procure, they will design a specification with the assistance of Demand Management officials in SCM Unit.
- Upon successful designing of the specification by ICT Management, SCM Unit convenes the bid specification committee meeting for presentation of the specification. The bid specification committee members would then make the necessary inputs to the document.
- The bid is advertised subsequent to the signing of specification by the chairperson of the bid specification committee and the Accounting Officer who is the Head of Department in Provincial Treasury.
- The bid evaluation committee sits to evaluate bids for recommending to the bid adjudication committee.
- The bid adjudication committee recommends the successful bidder to the Accounting Officer who signs the letter of award.
- Officials who are responsible for LAN in ICT are also doing procurement of ICT as mentioned above. This is a limitation as these officials are responsible for LAN.
- The current procurement is not linked to ICT Strategy, in future ICT Management would link the procurement to the ICT Strategy that is being developed.
- Furthermore, SITA will be used to evaluate all bids instead of departmental bid evaluation committee.

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3. Demonstrate how inputs are converted into activities, outputs, outcomes, and impacts in a logical framework

There are two areas of impact that we want to see in ICT services:

- Cost reduction
- Improvement in efficiency of ICT services

The proposed LogFrames below provide examples of how these two areas of impact can be institutionalised within OTP and DOH (a major consumer of ICT).

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Figure 1: Proposed LOGFRAME for OTP ICT

IMPACT		Improved quality life in the province		
Indicator		Government delivering to services to citizens		
Frequency		Every five-year		
Source of data		Annual Reports, General Elections, Stats SA surveys, Stats SA Census reports		
INTERMEDIATE OUTCOME				
Indicator				
Frequency				
Source of data				
IMMEDIATE OUTCOME		Seamless connectivity / Efficient ICT Expenditure		
Indicator		Expenditure on ICT data	Improved Government services	Improved service delivery
Frequency		Annually	Annually	Monthly
Source of data		BAS	Annual Reports	Revenue reports (IYM, BAS)
FINAL OUTPUT				
Indicator				
Frequency				
Source of data				
INTERMEDIATE OUTPUTS		Stable and reliable networks		Connected government sites
Indicator		ICT expenditure in line mandate of the Legislature	Network uptime and available systems	Nr of government sites connected to the broadband
Frequency		Annually	Annually	Annually
Source of data		ICT Systems Project Portfolio	Network Reports	Broadband roll out Project
ACTIVITIES	2	Analyse and quantify the policy change on IT expenditure		Connect government sites to broadband
Indicator		Analysis Report		
Frequency		Annually		
Source of data		BAS Reports		
ACTIVITIES	1	Obtain and analyse IT expenditure	Staff will maintain the ICT networks	Connect all government sites
Indicator		BAS Expenditure Report	Network downtime	Turnaround time to resolve requests
Frequency		Annually	Monthly	Monthly
Source of data		BAS Reports	Reports on the network downtime	Reports on the network downtime /
INPUTS (multiple)		Personnel	ICT Network Technology	Roll out of Broadband
Indicator		Availability of Skilled Personnel	Availability of resources (Finances)	Availability of resources (Finances)
Frequency		Annually	Annually	Annually
Source of data		Persal Report	BAS Reports	BAS Reports
Programme elements (who & what)		Personnel to install equipment and to / manage and maintain the ICT networks and systems	Personnel to support and maintain networks	Personnel to support and maintain key systems
Responsibility		OTP	OTP	OTP

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Figure 2: Proposed DoH ICT LOGFRAME

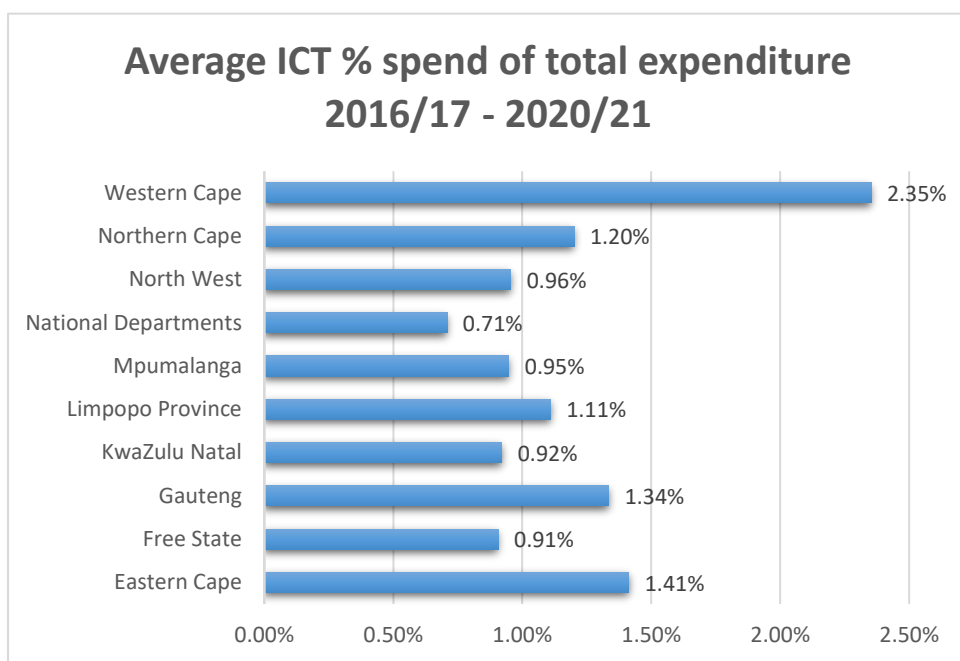
IMPACT		General public will receive improved Health Care through ICT-enabled access to government information and services, as well as the improvement in the quality of these services		
Indicator		Healthy citizens, with increased life expectancy		
Frequency		Every five-year		
Source of data		Annual Reports, Citizens Survey		
INTERMEDIATE OUTCOME				
Indicator				
Frequency				
Source of data				
IMMEDIATE OUTCOME		Seamless connectivity / Efficient ICT Expenditure	Departments will improve on their achievement of public service-wide and departmental strategic goals	
Indicator		Expenditure on ICT data	Improved Government services	Improved revenue collection
Frequency		Annually	Annually	Monthly
Source of data		BAS	Annual Reports	Revenue reports (IYM, BAS)
FINAL OUTPUT		Report on Electronic Data Costs		
Indicator		Report on Electronic Data Costs		
Frequency		Annually		
Source of data		BAS		
INTERMEDIATE OUTPUTS		Ability to transact in all applications in all health institutions across the province to eradicate manual processing / Efficient ICT Expenditure	Improve revenue collection at DoH, decrease waiting time of patients	Improved data management for Health (patient data)
Indicator		Network uptime	Revenue collection targets met	Valid, Accurate and Complete data
Frequency		Annually	Annually	Annually
Source of data		DHIS / HMS2 / Financial Systems	BAS reports on revenue, IYM and Expenditure reports / HMS2	Division of Revenue Act, Provincial Equitable share
ACTIVITIES	2	Analyse and quantify the policy change on IT expenditure		Systems e.g. HMS2 developed by government for government resulting in key savings for the department
Indicator		Analysis Report		
Frequency		Annually		
Source of data		BAS Reports		
ACTIVITIES	1	Obtain and analyse IT expenditure	Staff will maintain the ICT networks	Staff will develop, install and update ICT software, ICT equipment and machinery
Indicator		BAS Expenditure Report	Network downtime	Turnaround time to resolve requests
Frequency		Annually	Monthly	Monthly
Source of data		BAS Reports	Reports on the network downtime	Key DoH Systems e.g. HMS2
INPUTS (multiple)		Personnel	ICT Network Technology	ICT Software, Equipment and Machinery
Indicator		Availability of Skilled Personnel	Availability of resources (Finances)	Availability of resources (Finances)
Frequency		Annually	Annually	Annually
Source of data		Persal Report	BAS Reports	BAS Reports
Programme elements (who & what)		Personnel to install equipment and to / manage and maintain the ICT networks	Personnel to respond to user requests to resolve ICT problems Enhance connectivity	Key skilled personnel to support and develop software. Relevant software and equipment is acquired and internally developed
Responsibility		DOH	DOH	DOH

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3. Benchmarking

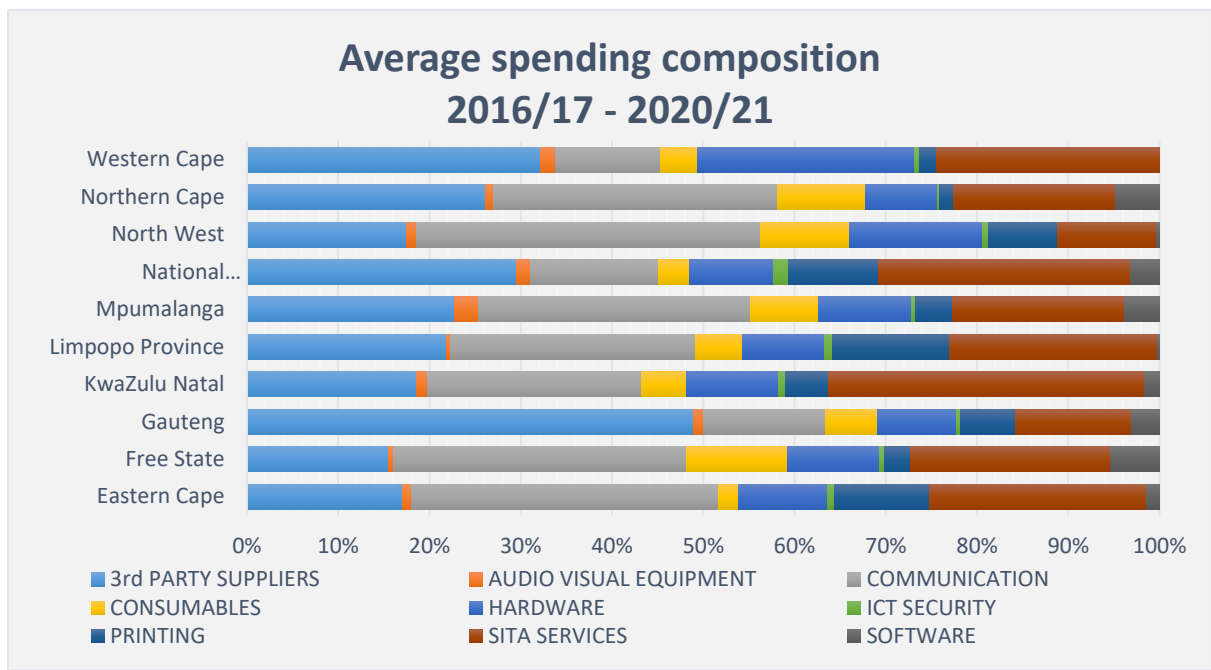
It is important to consider the Eastern Cape spending composition relative to the rest of the country to assist in determining whether there are notable differences, similarities that may indicate inefficient spending. The bar graph below shows that the Eastern Cape spent on average 1.41 percent of their total spending on ICT related items for the period 2016/17 – 2020/21. This is the second highest after the Western Cape which spent on average 2.35% over the same period. Thus, relative to the rest of the country the Eastern Cape spend more money on ICT.



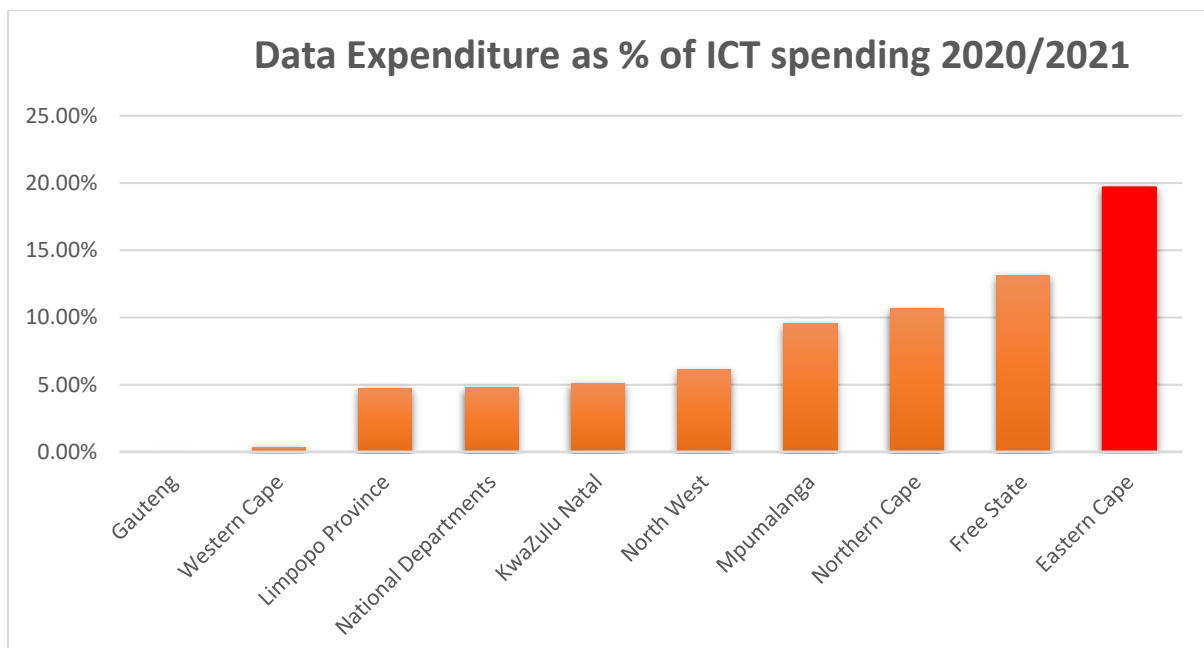
The stacked bar graph below highlights the variation in spending composition across the country. The consistently large spending categories in ICT are SITA services, 3rd Party Suppliers, and Communications. Hardware and printing services also have significant contributions however these vary drastically across the country. Gauteng had the highest proportional spending on 3rd Party Suppliers of 49%, while Kwazulu-Natal had the highest proportional spend on SITA services of 35% and Eastern Cape had the highest proportional spend on communication of 34% of their ICT for the period 2016/17 to 2020/21.

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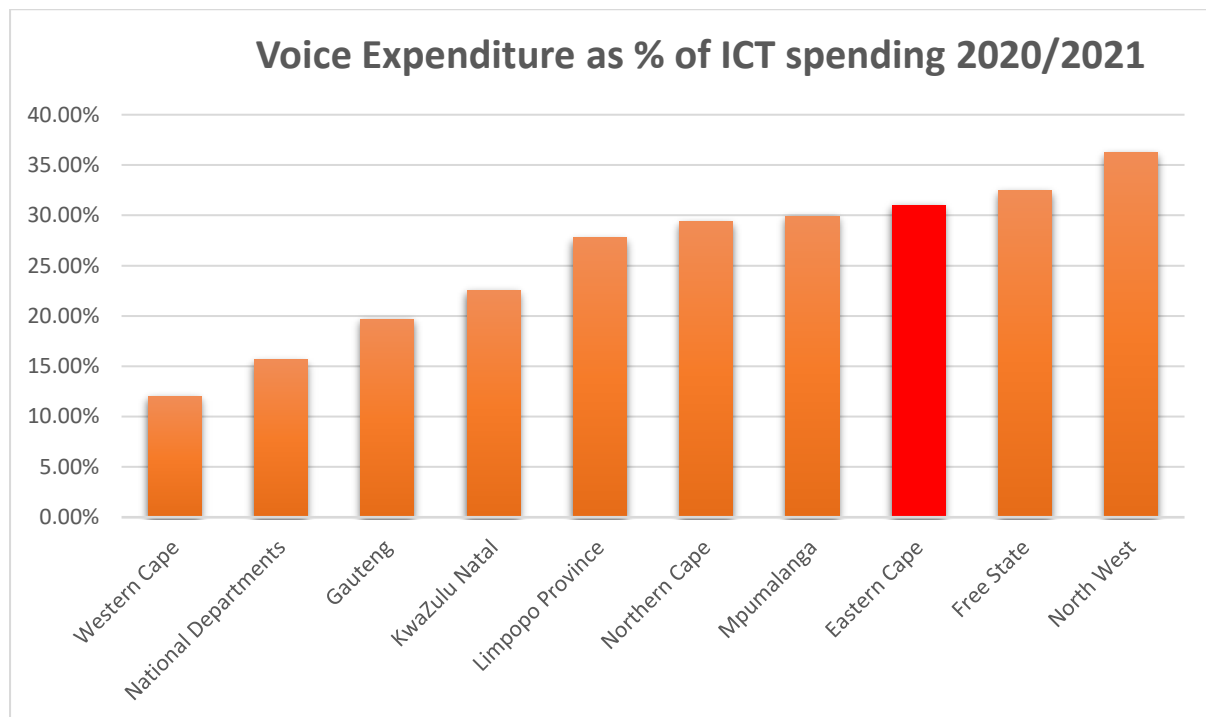


Given the significant contribution of communications spending across the country this spending category was further broken down between data and voice costs. This is represented by the column charts below with Eastern Cape data highlighted. Eastern Cape appears to be an outlier, with significantly higher spending in data costs of 19% of overall ICT spending for the 2020/21 financial year for and just over 30% on voice costs. This spike can be attributed to the department of education and their contract with Vodacom. Further detail is provided in the Education department analysis.



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4. Provincial Historical Expenditure Analysis

Definitions of ICT

Expenditure on ICT includes expenditure for all items and components that enable digital communication both through the Internet and wireless networks. ICT expenditure on telephone landlines, equipment like personal computers, servers, software and physical network. Expenditure on consultants, advisory and personnel directly linked to ICT to enable communication are also included as part of the expenditure.

The Standard Chart of Accounts (SCOA) and Grouping of Items

All BAS items at the lowest level linked to ICT – there are some 415 distinct BAS items at the lowest posting level item – have been identified with expenditure. These items have been categorised into three broad categories for analysis as follows:

- ICT Services
- ICT Cost Categories
- Categories

The following Table 1 provides the items – grouping – of the ICT items into the above three categories:

Table 1: Mapping of the three categories

ICT SERVICES	ICT COST CATEGORIES	CATEGORIES
DESK COMPUTING	HARDWARE SOFTWARE	COMPUTER EQUIPMENT SOFTWARE AND INTANGIBLE ASSETS
HELP DESK	SITA SERVICES	SITA SERVICES
ICT GOVERNANCE	3rd PARTY SUPPLIERS SITA SERVICES	EXTERNAL COMPUTER SERVICES SITA SERVICES
ICT SECURITY	ICT SECURITY	SECURITY EQUIPMENT,SYSTEM,MATERIAL:FIXED SECURITY EQUIPMENT,SYSTEM,MATERIAL:MOVABLE SECURITY EQUIPMENT,SYSTEMS,MATERIAL:IT<R5000
PRINTING SERVICES	CONSUMABLES PRINTING SITA SERVICES	PRINTING SERVICES PRINTING SERVICES SITA SERVICES
TELECOMMUNICATION- DATA	SITA SERVICES	SITA SERVICES
TELECOMMUNICATION- VOICE	AUDIO VISUAL EQUIPMENT	AUDIO VISUAL EQUIPMENT
	COMMUNICATION	CELLULAR PHONES CELLULAR ROUTERS TELECOMMUNICATION
	CONSUMABLES	COMPUTER CONSUMABLES
WEB HOSTING: INTERNET, INTRANET	3rd PARTY SUPPLIERS	EXTERNAL COMPUTER SERVICES
	SITA SERVICES	SITA SERVICES

The mapping of these categories are given in Annexure A.

The 415 **BAS lowest level items** were grouped together into 64 different **lower level items**, which is given in fourth column of Annexure A. These 64 lower level items are then mapped into the three different categories of Table 1 above.

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Observations: Summary of Five-year Expenditure

Table 2 below provides a summary of the ICT expenditure per department from 2016/17 to 2020/21.

Table 2: Summary of ICT Expenditure per Department from 2016/17 to 2020/21

ICT Expenditure - Department	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Grand Total	Grand Total % Share
Cooperative Governance And Traditional Affairs	39 348 188	29 494 510	34 168 031	23 826 394	22 691 767	149 528 890	2.30%
Eastern Cape Provincial Legislature	21 399 927	21 441 444	21 826 166	30 658 331	22 438 794	117 764 662	1.81%
Economic Development Environmental Affairs And Tourism	41 778 789	59 296 797	57 668 964	71 584 181	46 810 842	277 139 573	4.26%
Education	504 455 743	329 294 142	627 037 444	717 737 991	335 658 904	2 514 184 223	38.61%
Health	218 622 563	187 212 338	270 853 100	174 470 020	191 674 867	1 042 832 888	16.01%
Human Settlements	13 816 972	21 216 605	15 609 892	16 108 769	18 105 583	84 857 821	1.30%
Office Of The Premier	84 665 863	218 259 417	128 898 909	103 547 294	231 637 388	767 008 871	11.78%
Provincial Treasury	13 493 508	13 622 111	19 049 699	14 423 148	16 100 514	76 688 979	1.18%
Public Works	72 295 105	63 809 481	58 081 324	68 374 925	52 097 150	314 657 985	4.83%
Rural Development And Agrarian Reform	71 900 869	68 681 585	61 575 483	76 642 851	60 092 576	338 893 364	5.20%
Safety And Liaison	6 957 788	6 512 364	6 264 804	6 531 294	9 429 705	35 695 954	0.55%
Social Development	71 909 340	62 777 870	64 491 310	74 224 143	90 857 479	364 260 142	5.59%
Sport Recreation Arts And Culture	35 673 268	26 201 917	19 930 562	36 181 980	31 702 680	149 690 407	2.30%
Transport	48 970 559	36 430 400	56 159 126	62 702 846	74 518 920	278 781 850	4.28%
Grand Total	1 245 288 483	1 144 250 979	1 441 614 812	1 477 014 166	1 203 817 168	6 511 985 609	100.00%

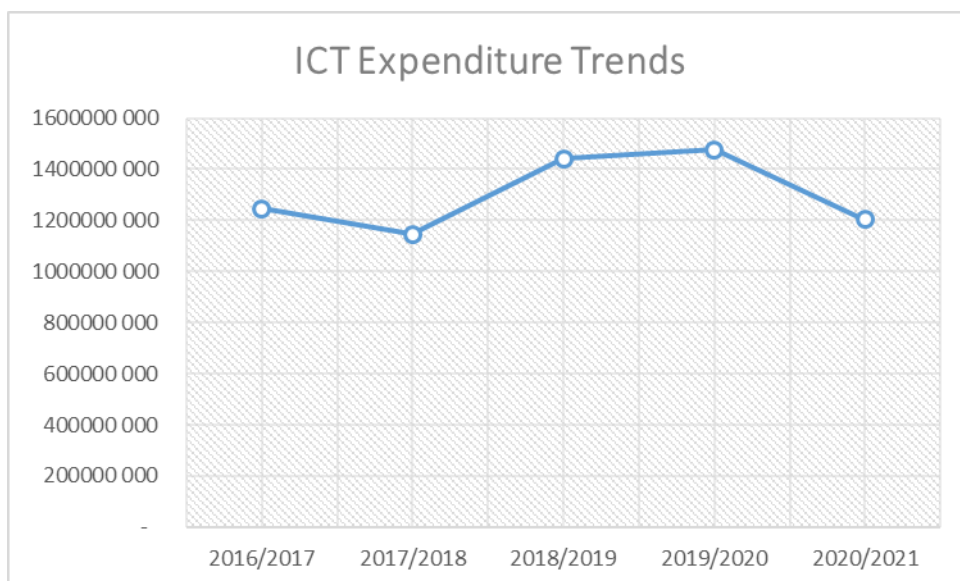
In total, over the five year period, the province spent R6.512 billion on ICT, with the Department of Education accounting for highest expenditure – at R2.514 billion, accounts for 38.6% of the provincial expenditure over the five year period. This is followed by Health, at R1.042 billion accounts for 16.1%, and Office of the Premier, at R767.008 million accounts for 11.7%. The combined expenditure in Health and Education is R3.557 billion and accounts for 54.6% - this is expected as these departments have a large number of employees. OTP expenditure is the third highest after Education and Health due to the Department paying for the centralised provincial ICT services.

Figure 1 below provides the trends in ICT expenditure over the five years.

Fig 1: Total ICT Expenditure: 2016/17 – 2020/21

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As can be seen is that in 2019/20, ICT expenditure was the highest at R1.477 billion, while one would have expected that ICT expenditure in 2020/21 would be the highest due to remote working because of Covid-19. Expenditure in 2019/20 is high at R717.737 million (48.6% of that year's expenditure) due the Department of Education purchasing of electronic devices for learners as part of the e-learning strategy (check this fact and support with the nos. of notebooks/tablets purchased).

Table 3: Summary of ICT Expenditure per Category from 2016/17 to 2020/21

Department: ICT Expenditure - Cost Category	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Grand Total	Grand Total % Share
DESK COMPUTING	360 902 201	112 443 949	85 414 184	90 297 057	78 065 791	727 123 181	11.17%
HELP DESK			312 200	640 724		952 924	0.01%
ICT GOVERNANCE	239 926 409	260 216 660	338 897 262	526 485 157	428 884 494	1 794 409 981	27.56%
ICT SECURITY	1 204 231	11 018 698	17 014 191	19 563 254	2 113 224	50 913 599	0.78%
PRINTING SERVICES	213 263 030	212 465 185	212 008 634	76 056 710	66 840 801	780 634 359	11.99%
TELECOMMUNICATION- DATA	88 075 615	218 740 178	109 532 235	107 943 387	236 821 259	761 112 674	11.69%
TELECOMMUNICATION- VOICE	325 552 848	314 428 623	658 744 275	631 879 109	373 076 359	2 303 681 215	35.38%
WEB HOSTING: INTERNET, INTRANET	16 364 149	14 937 687	19 691 830	24 148 768	18 015 242	93 157 676	1.43%
Grand Total	1 245 288 483	1 144 250 979	1 441 614 812	1 477 014 166	1 203 817 168	6 511 985 609	100.00%

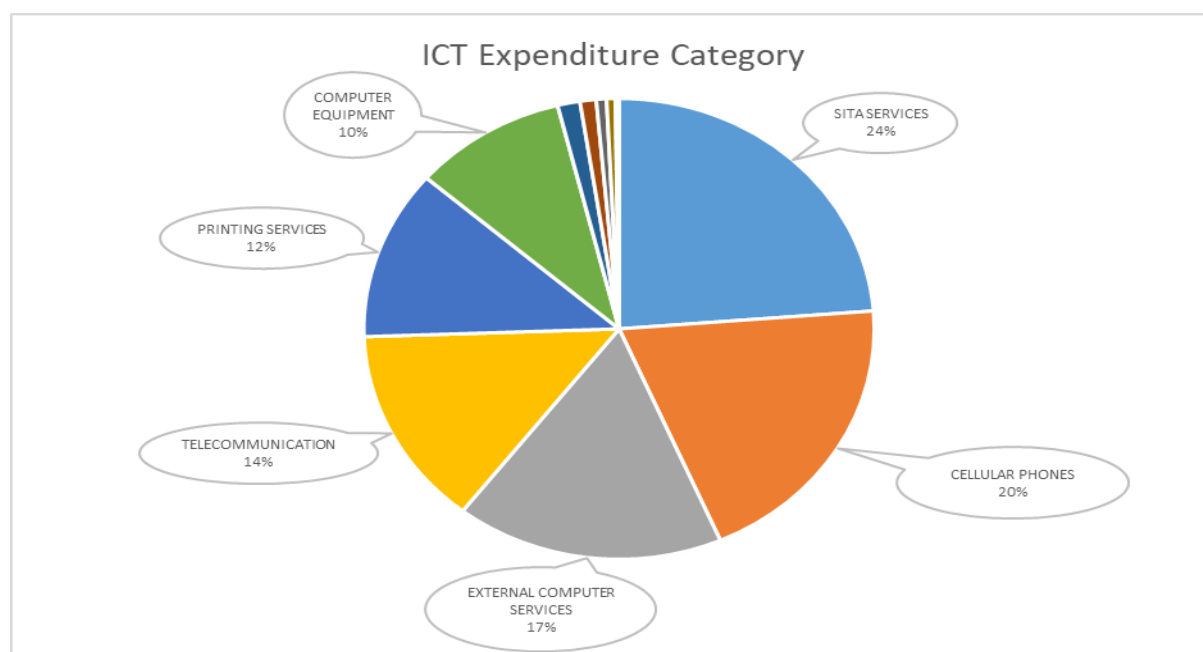
Table 3 provides a summary of all ICT expenditure in terms of the ICT costs category (as defined above in Table 1. Over the five year period, the department incurred just over one-third of ICT expenditure on telecommunication – voice, at R2.303 billion. This was followed by ICT governance at R1.794 billion (27.5% of total five-year expenditure) and Printing services (R780.634 million – 11.99%). It is surprising to see that the data costs (telecommunications – data) is the fourth highest (at R761.112 million – 11.68%). One would have expected to be much higher due to the increase usage SITA data lines.

Telecommunication – voice – consists of Audio visual equipment, cellular phones and routers, telecommunication and computer consumables, while ICT governance consists of external computer services, SITA services for mainframe time (BAS, Logis, Persal) and SITA software licenses.

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However, when we look at the “categories” breakdown of ICT, we can see that the province spent about 24% of the total ICT spending on SITA services, with cellular phones almost at 20%, external computer services at 17% and 14% for telecommunications and almost 12% on printing services. Computer equipment on the other hand is at 10%. The remaining 4% is made of up the last 7 items in the expenditure category (from software and intangible assets to cellular routers).



The province paid about R1.547 billion for SITA services over the past five years, with cellular phones around R1.286 billion and external computer services at R1.1.7 billion.

ICT Expenditure Category	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total	Percentage
SITA SERVICES	243 904 685	378 776 030	273 902 657	272 267 582	378 080 424	1 546 931 378	23.8%
CELLULAR PHONES	102 538 394	111 121 552	417 752 254	436 170 734	218 414 296	1 285 997 230	19.7%
EXTERNAL COMPUTER SERVICES	100 461 489	119 576 008	194 530 870	386 950 454	305 640 570	1 107 159 390	17.0%
TELECOMMUNICATION	206 879 873	185 803 823	202 645 436	177 431 569	136 079 196	908 839 898	14.0%
PRINTING SERVICES	213 263 030	208 007 671	212 008 634	76 056 710	66 840 801	776 176 845	11.9%
COMPUTER EQUIPMENT	338 193 524	88 540 536	75 284 353	73 514 308	58 843 140	634 375 862	9.7%
SOFTWARE AND INTANGIBLE ASSETS	22 708 676	23 903 413	10 129 831	16 782 749	19 222 651	92 747 320	1.4%
AUDIO VISUAL EQUIPMENT	7 365 922	7 798 213	31 290 600	10 092 488	9 737 264	66 284 487	1.0%
COMPUTER CONSUMABLES	8 768 659	9 705 035	7 055 986	8 183 571	8 845 603	42 558 853	0.7%
SECURITY EQUIPMENT,SYSTEMS,MATERIAL:IT<R5000	-	10 254 224	12 401 171	12 566 768	1 116 366	36 338 529	0.6%
SECURITY EQUIPMENT,SYSTEM,MATERIAL:FIXED	915 573	517 898	4 417 601	3 275 827	939 525	10 066 423	0.2%
SECURITY EQUIPMENT,SYSTEM,MATERIAL:MOVABLE	288 658	246 577	195 419	3 720 659	57 333	4 508 647	0.1%
CELLULAR ROUTERS	-	-	-	747	-	747	0.0%
Grand Total	1 245 288 483	1 144 250 979	1 441 614 812	1 477 014 166	1 203 817 168	6 511 985 609	100.0%

Further breakdown of the of SITA services shows that about 50% of the SITA expenditure is incurred on Data lines (R761.112 million). Departments are required to purchase software licence from SITA – in total for SITA software licences, EC spent R362.147 million over the five-year period – with majority of software licences are for the operations systems software at R312.125 million and only R38.658 million on Office Suite Software. Specialised computer services obtained through SITA spent R143.591 million. Internet service charge are quite high at R85.261 million – these costs should be lowered to a

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minimum as possible as staff should spend time doing work and not on not surfing the world-wide web.

SITA also provides access to BAS, Logis and Persal, the three main financial management systems in the province. Together the EC pays R141.369 million for mainframe time.

Expenditure - ICT Categories	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
SITA SERVICES	243 904 685	378 776 030	273 902 657	272 267 582	378 080 424	1 546 931 378
BAS MAINFRAME	10 576 975	11 579 334	16 019 539	8 737 379	7 563 697	54 476 925
LOGIS MAINFRAME TIME	3 403 044	6 151 583	6 488 543	7 374 784	3 728 077	27 146 031
PERSAL MAINFRAME TIME	8 939 395	14 556 329	14 153 915	13 639 524	8 457 217	59 746 380
SITA CLOUD SPACE					-	-
SITA DATA LINES	88 075 615	218 740 178	109 532 235	107 943 387	236 821 259	761 112 674
SITA HELP DESK			312 200	640 724		952 924
SITA INFORMATION SERVICES	1 359 890	2 658 310	3 568 577	3 154 055	998 040	11 738 871
SITA INTERNET SERVICE CHARGES	13 094 363	11 744 883	19 195 794	23 210 909	18 015 242	85 261 191
SITA PRINTING WORKS		4 457 514	-			4 457 514
SITA SOFTWARE LICENCE: OPERATIONS SYSTEMS SOFTWARE	65 457 965	67 062 162	59 674 553	61 483 814	58 446 689	312 125 183
SITA SOFTWARE LICENCE: DEVELOPMENT SOFTWARE	-					-
SITA SOFTWARE LICENCE: OFFICE SUITE SOFTWARE	3 907 178	5 619 583	5 480 606	8 880 773	14 770 117	38 658 257
SITA SOFTWARE LICENCE: SECURITY SOFTWARE	-	-	-	17 117		17 117
SITA SOFTWARE LICENCE: UTILITY SOFTWARE	1 054 990	2 581 345	6 431 902	861 677	417 281	11 347 196
SITA SPECIALISED COMPUTER SERVICES	30 660 421	29 575 613	26 987 111	32 121 426	24 246 471	143 591 042
SITA SYSTEM ADVISERS	17 201 794	4 049 196	6 057 682	4 202 012	4 616 333	36 127 017
SITA SYSTEM DEVELOPMENT	173 055					173 055

Of the R1.285 billion expenditure for Cellular phones, approximately 85% (R1.087 billion) goes to airtime and data while 15% (R198.489 million) goes to cellular phone devices.

Expenditure - ICT Categories	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
CELLULAR PHONES	102 538 394	111 121 552	417 752 254	436 170 734	218 414 296	1 285 997 230
AIRTIME AND DATA	65 566 640	82 223 703	373 441 525	397 745 604	168 530 691	1 087 508 163
CELLULAR PHONES	36 971 753	28 897 850	44 310 729	38 425 130	49 883 605	198 489 067

External Computer services spends R1.107 billion – of which R515.611 million is spent on information services – these are consultancy costs; R280.353 million on software licence development of software; R135.337 million on external computer services; and R123.103 million for development of systems.

Expenditure - ICT Categories	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
EXTERNAL COMPUTER SERVICES	100 461 489	119 576 008	194 530 870	386 950 454	305 640 570	1 107 159 390
EXTERNAL COMPUTER SERVICES: APPLICATION TRAINING	-		1 528 592	1 303 276	117 508	2 949 375
EXTERNAL COMPUTER SERVICES: COMPUTER SERVICES	50 181 429	25 202 466	12 794 456	17 827 098	29 332 057	135 337 505
EXTERNAL COMPUTER SERVICES: DATA LINES	4 275 989	4 869 476	6 178 473	5 526 594	1 066 228	21 916 760
EXTERNAL COMPUTER SERVICES: DEVELOPMENT OF SYSTEMS	11 841 739	7 573 581	12 622 205	8 258 402	82 807 867	123 103 793
EXTERNAL COMPUTER SERVICES: INFORMATION SERVICES	24 917 998	28 772 613	93 306 180	277 602 819	91 011 669	515 611 280
EXTERNAL COMPUTER SERVICES: INTERNET CHARGES	3 269 786	3 192 803	496 037	937 859	-	7 896 485
EXTERNAL COMPUTER SERVICES: LICENCE: OFFICE SUITE SOFTWARE	1 707 002	178 821	30 029	319 200	553 445	2 788 498
EXTERNAL COMPUTER SERVICES: LICENCE: SECURITY SOFTWARE	-		-	-	-	-
EXTERNAL COMPUTER SERVICES: LICENCE: UTILITY SOFTWARE	2 682 383	2 918 597	3 603 056	3 273 877	1 769 422	14 247 335
EXTERNAL COMPUTER SERVICES: MAINTENANCE SYSTEM	1 585 163					1 585 163
EXTERNAL COMPUTER SERVICES: OPERATION SUPPORT		-				-
EXTERNAL COMPUTER SERVICES: SOFTWARE LICENCE: DEVELOPMENT OF SOFTWARE		46 867 651	63 971 843	71 891 669	97 622 083	280 353 245
EXTERNAL COMPUTER SERVICES: SYSTEM ADVISER	-		-	9 660	1 360 291	1 369 951

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Telecommunication costs a total of R908.839 million – with 92% (R835.067 million) on telephones / fax / telegraph and telex.

Expenditure - ICT Categories	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
TELECOMMUNICATION	206 879 873	185 803 823	202 645 436	177 431 569	136 079 196	908 839 898
LICENCES (RADIO&TV)	2 120	1 855	1 855	795	795	7 420
POST/STAMP/FRANKING MACHINE	1 241 341	1 090 536	1 190 602	1 120 807	735 938	5 379 224
RADIO AND TV TRANSMISSIONS	3 818 366	4 587 881	5 058 995	5 083 135	5 685 157	24 233 533
SATELLITE SIGNALS	656 619	597 126	796 154	531 988	507 487	3 089 374
TELECOMMUNICATION	154 675	4 458 526	15 385 565	13 921 472	4 398 032	38 318 269
TELEPHONE INSTALLATION	526 833	1 422 417	222 046	526 457	46 732	2 744 485
TELEPHONE/FAX/TELEGRAPH AND TELEX	200 479 919	173 645 483	179 990 218	156 246 916	124 705 056	835 067 592

Printing Services at R776.176 million – takes almost 12% of the of total ICT costs. EC spent 72% on Government printers at R558.307 million; R55.454 million on printer cartridges and R41.269 million on printing paper. R77.231 million for printer includes costs mainly for operating leases of printer equipment and machinery and the maintenance thereof. An amount of R43.913 million spent in 2016/17 for the leasing of photocopying equipment.

Expenditure - ICT Categories	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
PRINTING SERVICES	213 263 030	208 007 671	212 008 634	76 056 710	66 840 801	776 176 845
GOVERNMENT PRINTERS	153 398 570	168 905 885	167 558 076	29 625 092	38 819 965	558 307 588
PHOTOCOPY MACHINE	43 913 205					43 913 205
PRINTER	4 128 155	17 876 783	20 135 122	22 254 420	12 837 367	77 231 848
PRINTER CARTRIDGE	11 823 099	12 846 446	11 817 397	11 478 333	7 489 291	55 454 566
PRINTING PAPER	-	8 378 556	12 498 039	12 698 865	7 694 178	41 269 637

One would have expected spending on computer equipment to be substantially higher than the other categories – because of the number of employees in the province receiving

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computers. However spending on computer equipment is under 10% of all ICT expenditure – at R634.375 million.

An amount of R432.724 million (68%) is spent on laptops with R77.864 million on servers and mainframes and R77.4 million on desktops.

Expenditure - ICT Categories	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
COMPUTER EQUIPMENT	338 193 524	88 540 536	75 284 353	73 514 308	58 843 140	634 375 862
COMPUTER HARDWARE AND SYSTEMS	15 448 706					15 448 706
COMPUTER HARDWARE AND SYSTEMS - NETWORK LAN	-	-	110 215	746 907	70 141	927 263
COMPUTER HARDWARE AND SYSTEMS - NETWORK WAN	-	-			445 266	445 266
COMPUTER HARDWARE AND SYSTEMS-COMPUTER PERIPHERAL	2 976 118	4 119 098	584 725	2 611 184	447 415	10 738 540
COMPUTER HARDWARE AND SYSTEMS-DESKTOP	5 619 069	33 705 884	24 093 771	6 932 029	7 049 944	77 400 697
COMPUTER HARDWARE AND SYSTEMS-LAPTOP	277 407 405	36 591 081	29 886 203	48 633 957	40 205 754	432 724 400
COMPUTER HARDWARE AND SYSTEMS-SERVER/MAINFRAME	22 139 985	13 919 089	20 343 163	11 242 581	10 219 778	77 864 596
COMPUTER HARDWARE AND SYSTEMS-TABLET PC	14 602 241	205 384	266 275	3 347 650	404 842	18 826 393

5. Expenditure observations and analysis

From the previous section we see that the three highest spending departments are Education, at approximately 39% of all provincial ICT spending over the past five years. This is followed by Health at around 16% and Office of the Premier at around 12%.

The analysis will focus on these three departments with DPWI added in. a list of general observations around licensing and procurement is further added within this section..

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5.1. Education

High Level of DOE ICT:

- DoE has staff compliments of 68 511 of which 41 are dedicated to ICT
- DoE has 1031 Active Directory Licenses.
- DoE currently has 4 000 laptops, 87000 at schools, 4 000 landlines 900 VOIP at Head Office
- ICT Structure – CISCO switching, Ruckus Wifi, Nutanix on Fujitsu servers and Fortinet Firewalls
- DoE has the following facilities, all connected to the network
 - 1 Head office and
 - 23 District offices

CATEGORIES	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand total	Percent of Total
CELLULAR PHONES	6 925 426	53 567 485	322 699 115	348 066 069	100 849 226	832 107 321	33.1%
EXTERNAL COMPUTER SERVICES	23 009 039	32 302 931	104 667 078	295 135 187	160 470 478	615 584 713	24.5%
PRINTING SERVICES	140 916 029	155 364 094	129 071 803	14 750 425	23 222 581	463 324 932	18.4%
COMPUTER EQUIPMENT	268 459 663	22 956 057	12 648 577	3 437 124	14 428	307 515 848	12.2%
SITA SERVICES	34 752 027	33 057 593	36 225 173	30 745 823	34 677 074	169 457 689	6.7%
TELECOMMUNICATION	23 291 812	19 359 422	18 919 907	20 467 401	15 608 168	97 646 710	3.9%
SOFTWARE AND INTANGIBLE ASSETS	5 292 115	8 066 353	-	-	-	13 358 468	0.5%
AUDIO VISUAL EQUIPMENT	521 612	3 144 802	960 582	928 371	-	5 555 367	0.2%
SECURITY EQUIPMENT,SYSTEM,MATERIAL:MOVABLE		184 980	-	3 348 151	-	3 533 131	0.1%
COMPUTER CONSUMABLES	1 288 019	968 265	313 569	185 356	106 109	2 861 318	0.1%
SECURITY EQUIPMENT,SYSTEMS,MATERIAL:IT<R5000		322 160	1 214 642	436 512	-	1 973 314	0.1%
SECURITY EQUIPMENT,SYSTEM,MATERIAL:FIXED	-		317 000	237 570	710 841	1 265 411	0.1%
CELLULAR ROUTERS			-			-	0.0%
Grand Total	504 455 743	329 294 142	627 037 444	717 737 991	335 658 904	2 514 184 223	100.0%

Cellular phones consumes approximately 33%, followed by external computer services and printing services.

The expenditure of cellular phones at R832.107 million – however, basically all of this expenditure is on airtime and data. This is due to the e-learning initiative, where the department purchasing tablets for learners, mostly in the 2018/19 and 2019/20 financial years, where expenditure was R322.699 million and R348.066 million respectively.

The department of Education procured an estimated 77 669 devices from Vodacom from 2017 to date. Figure 3 below provides detail of the devices procured.

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Figure 3: Devices procured from Vodacom on RT15

Vodacom Acc No	Phase	Description	Start	End	Subs Period in Months
G0002683	Phase 1	ECDOE - FOUNDATION "PHASE 1 EDUCATORS" (LAPTOPS)	01-Apr-17	31-Mar-19	24
G0011513	Phase 1	ECDOE OFFICE BASED OFFICIALS - FIELD WORKERS (LAPTOPS)	01-Apr-17	31-Mar-19	24
G0011513-1	Phase 1	ECDOE OFFICE BASED OFFICIALS - SUBJECT ADVISORS (LAPTOPS)	01-Apr-17	31-Mar-19	24
G0011513-2	Phase 1	ECDOE OFFICE BASED OFFICIALS - SUBJECT ADVISORS (CELLPHONES)	01-Apr-17	31-Mar-19	24
G0011513-3	Phase 1	ECDOE OFFICE BASED OFFICIALS - EDO'S (LAPTOPS)	01-Apr-17	31-Mar-19	24
G0011513-4	Phase 1	ECDOE OFFICE BASED OFFICIALS - EDO'S (CELLPHONES)	01-Apr-17	31-Mar-19	24
G0011511	Phase 1	SCHOOL PRINCIPALS (TABLETS)	01-Apr-17	31-Mar-19	24
G0011512	Phase 1	DEPT OF EDUCATION - 560 SCHOOLS (LAPTOPS)	01-Apr-17	31-Mar-19	24
G0011512-1	Phase 1	PERSONAL ASSISTANTS (LAPTOPS)	01-Apr-17	31-Mar-19	24
G0011512-2	Phase 1	COMMUNICATORS (LAPTOPS)	01-Apr-17	31-Mar-19	24
G0011512-3	Phase 1	COMMUNICATORS (CELLPHONES)	01-Apr-17	31-Mar-19	24
G0011498	Phase 2	DEPARTMENT OF EDUCATION(PHASE2) - INTERSEN (2G)	01-Apr-18	31-Mar-21	24
EB000062	Phase 3	EC EDUCATION Phase 3	01-Apr-19	31-Mar-22	36
EB000062-1	Phase 3	HELP DESK	01-Apr-19	31-Mar-22	36
EB000062-2	Phase 3	PHASE 3 CHANGE MANAGEMENT	01-Apr-20	31-Mar-22	12

Unfortunately the level of benefit derived from this investment is not in keeping with the scope of the investment nor has the project appeared to have the desired outcomes.

ICT Expenditure - Category	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
CELLULAR PHONES	6 925 426	53 567 485	322 699 115	348 066 069	100 849 226	832 107 321
AIRTIME AND DATA	5 608 837	51 855 518	318 173 173	348 066 069	100 849 226	824 552 823
CELLULAR PHONES	1 316 589	1 711 967	4 525 942	-	-	7 554 498

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External computer services, at R615.584 million makes about a quarter of the ICT expenditure in the Department of Education, of which the Information services (consultants) makes up 82% of the external computer services while about 14% (R85.234 million) has been spent on software licenses for software development. Key areas of investment in this regard are the support for SASAMS (including reporting and preparation of data for National DBE) as well as the Education Facilities Management System.

ICT Expenditure - Category	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
EXTERNAL COMPUTER SERVICES	23 009 039	32 302 931	104 667 078	295 135 187	160 470 478	615 584 713
EXTERNAL COMPUTER SERVICES:APPLICATION TRAINING				-		-
EXTERNAL COMPUTER SERVICES:COMPUTER SERVICES				241 335	103 429	344 764
EXTERNAL COMPUTER SERVICES:DATA LINES	133 748	484 142	1 992 656	451 171	-	3 061 716
EXTERNAL COMPUTER SERVICES:DEVELOPMENT OF SYSTEMS	59 280	-	6 559 744	57 001	15 666 667	22 342 692
EXTERNAL COMPUTER SERVICES:INFORMATION SERVICES	22 816 011	27 939 976	91 711 211	272 781 284	89 352 366	504 600 848
EXTERNAL COMPUTER SERVICES:SOFTWARE LICENCE:DEVELOPMENT OF SOFTWARE		3 878 814	4 403 467	21 604 397	55 348 015	85 234 693

It is of concern to note that printing services makes up just over 18% (R463.324 million) of the ICT spending, with spending on government printers accounting for almost all of the spending. The spending on government printers was high in 2016/17 to 2018/19, reaching a high of R155.364 million in 2017//18, and decreased substantially to almost R13 million in 2019/20 and increased to R22.607 million in 2020/21

ICT Expenditure - Category	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
PRINTING SERVICES	140 916 029	155 364 094	129 071 803	14 750 425	23 222 581	463 324 932
GOVERNMENT PRINTERS	140 290 049	152 922 342	127 880 119	12 999 987	22 607 005	456 699 501
PRINTER	206 192	1 313 304	63 559	215 254	-	1 798 309
PRINTER CARTRIDGE	419 788	380 341	199 324	320 433	262 793	1 582 679
PRINTING PAPER		748 107	928 800	1 214 752	352 783	3 244 442

Spending on SITA services amounts to R169.457 million (6.7%) with R98.141 million being spent on operations systems software licences, with R30.248 million spent on Persal Mainframe time and R17.430 million spent on system advisors. DoE has the largest number of PERSAL users (over 900 which is almost twice as many as the next department).

ICT Expenditure - Category	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
SITA SERVICES	34 752 027	33 057 593	36 225 173	30 745 823	34 677 074	169 457 689
BAS MAINFRAME	5 765 761	2 174 653	1 893 384	1 113 693	1 080 430	12 027 922
LOGIS MAINFRAME TIME	420 046	672 080	497 906	514 342	530 921	2 635 296
PERSAL MAINFRAME TIME	4 718 760	6 651 040	7 374 330	6 732 923	4 771 491	30 248 544
SITA DATA LINES	-	-	-	-	-	-
SITA INFORMATION SERVICES				-		-
SITA INTERNET SERVICE CHARGES	1 932 994	2 661 576	2 673 480	969 191	736 737	8 973 978
SITA SOFTWARE LICENCE: OPERATIONS SYSTEMS SOFTWARE	19 198 105	18 115 586	19 047 454	17 313 613	24 467 159	98 141 917
SITA SOFTWARE LICENCE:SECURITY SOFTWARE	-	-				-
SITA SPECIALISED COMPUTER SERVICES	-	-				-
SITA SYSTEM ADVISERS	2 716 360	2 782 657	4 738 617	4 102 061	3 090 336	17 430 033

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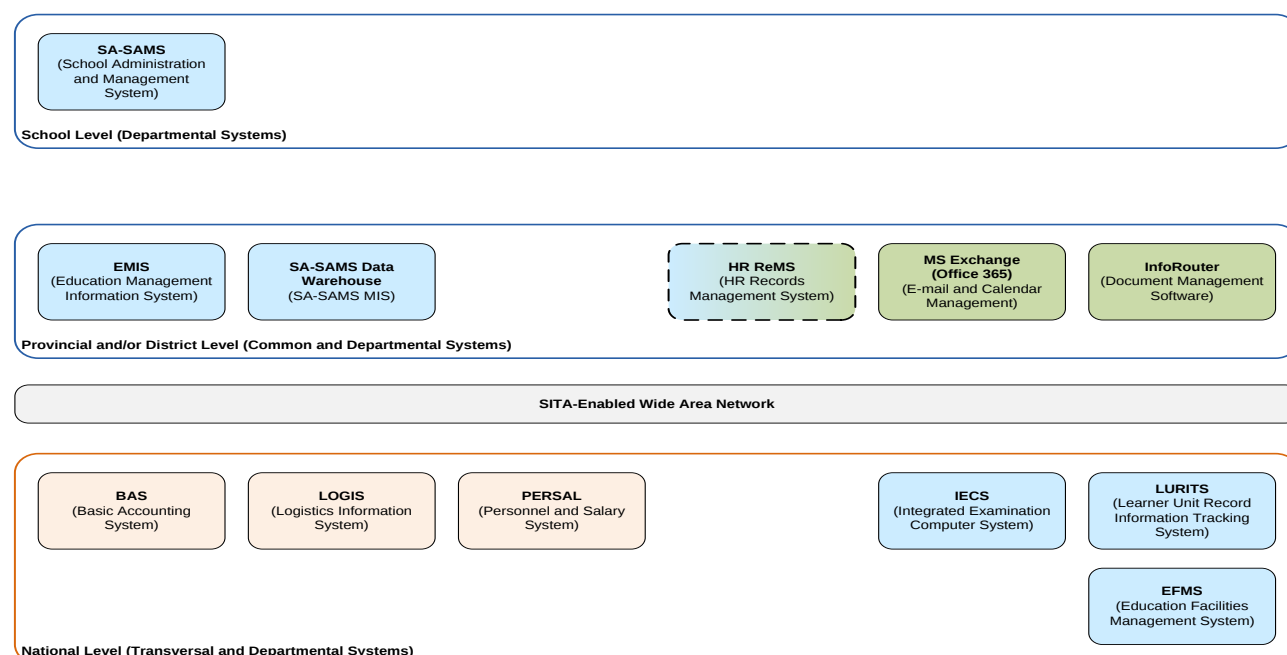
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Spending on telecommunications is R97.646 million (just about 4%) with basically all of the spending on telephones / fax / telegraph / and telex. Spending continuously decreased marginally from R23.291 million in 2016/17 to R15.608 million in 2020/21 financial year. DoE implemented strict controls, including disconnecting the phone lines, to manage these costs.

ICT Expenditure - Category	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
TELECOMMUNICATION	23 291 812	19 359 422	18 919 907	20 467 401	15 608 168	97 646 710
POST/STAMP/FRANKING MACHINE	127 458	113 666	55 508	93 342	28 576	418 549
RADIO AND TV TRANSMISSIONS	2 098	2 120	2 120			6 338
SATELLITE SIGNALS		-	76 000	-	-	76 000
TELEPHONE INSTALLATION	481 985	321 605	222 046	112 134		1 137 770
TELEPHONE/FAX/TELEGRAPH AND TELEX	22 680 272	18 922 032	18 564 232	20 261 925	15 579 592	96 008 053

The review has identified some ICT software / systems used in the department as shown in Figure 1 below. These are a mix of in-house developed, proprietary and those owned by the national department. Figure 1 below presents the identified systems.

Figure 4: Departmental systems



Source: (TOFAG ECDOE, 2015)

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The overall spending on systems is as shown in the table below. The biggest spending, to the value of R1.202 billion over the five year period under review, was on Airtime and data

Department*	ICT system/service	2016/17	2017/18	2018/19	2019/20	2020/21	Total	% Total Share
Education	Airtime and data	263 465 023	51 803 118	331 031 789	303 648 017	251 326 433	1 201 274 378	62.1%
	Internet connectivity						-	0.0%
	Rental services		15 936 639	55 326 776	184 189 103	152 456 250	407 908 768	21.1%
	Cabling	14 700 734	2 363 328	1 097 479	35 456 690	1 554 938	55 173 168	2.9%
	Licenses			1 988 328			1 988 328	0.1%
	Premier support				615 774	2 535 762	3 151 535	0.2%
	Drivelock		8 116 800	1 682 680	1 682 680	229 771	11 711 931	0.6%
	Network support	1 218 484	2 438 748	2 253 483	1 561 297		7 472 012	0.4%
	Service desk support	1 998 792	845 219	638 844	309 679		3 792 534	0.2%
	Warehousing			29 965 544	10 000 000	17 401 783	57 367 326	3.0%
	LOGIS	420 046	672 080	497 906	514 342	530 921	2 635 296	0.1%
	PERSAL	4 718 760	6 651 040	7 374 330	6 732 923	4 771 491	30 248 544	1.6%
	BAS	5 765 761	2 174 653	1 893 384	1 113 693	1 080 430	12 027 922	0.6%
	Licenses - MS for Schools		3 878 814	4 124 534	21 604 397	26 288 746	55 896 490	2.9%
	Licenses - MS for Corporate		18 115 586	17 059 126	16 697 839	23 357 443	75 229 995	3.9%
	SITA INTERNET SERV CHRGS	1 932 994	2 661 576	2 673 480	969 191	736 737	8 973 978	0.5%
Education Total		294 220 594	115 657 600	457 607 683	585 095 625	482 270 705	1 934 852 206	100.0%

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5.2. Health

High Level of DoH ICT:

- 1) DoH has an average of 15 899 ICT users
- 2) DoH Has 9 590 Active Directory Licenses.
- 3) DoH currently has 1 195 laptops and 5 884 desktop computers and 12 000 extensions, 2580 PSTN lines, 39 PRI lines, 164 BRI lines, 1 Toll Free
- 4) DoH has the following facilities:

Facility Type	Nr of Facilities	Nr of Connected Facilities
Hospital	93	92
PHC	803	654
District Offices	8	8
Sub-District Offices	25	25
Head Office	1	1
EMS	22	0
FPS	24	2
Lilitha College Sites	22	3
Medical Depots	2	2

Spending by the Department of Health at R1.042 billion makes up 16% of EC ICT spending over the five-year period. Unlike the Department of Education, the Department of Health highest spending is on telecommunication costs – spending about R389.736 million – equating to 37.4% of the departments ICT spending. This is followed by spending on External computer services, Sita Services, Printing services and then cellular phones. Spending on computer equipment and computer consumables is 4.5% and 3% respectively.

CATEGORIES	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total	Percentage
TELECOMMUNICATION	83 224 343	78 917 196	96 153 410	72 372 472	59 068 937	389 736 359	37.4%
EXTERNAL COMPUTER SERVICES	35 369 360	43 671 785	49 683 576	12 987 770	63 252 505	204 964 996	19.7%
SITA SERVICES	25 935 882	21 386 503	37 866 043	31 462 512	15 524 059	132 174 999	12.7%
PRINTING SERVICES	25 170 532	16 664 639	42 785 227	16 851 537	18 527 519	119 999 454	11.5%
CELLULAR PHONES	31 738 231	6 848 431	24 449 292	19 911 765	18 234 110	101 181 829	9.7%
COMPUTER EQUIPMENT	6 728 706	10 550 986	10 202 245	12 978 171	6 092 027	46 552 134	4.5%
COMPUTER CONSUMABLES	5 858 580	6 915 344	4 619 437	6 248 185	7 420 605	31 062 150	3.0%
AUDIO VISUAL EQUIPMENT	768 185	1 943 044	1 068 044	733 337	3 502 155	8 014 765	0.8%
SECURITY EQUIPMENT,SYSTEM,MATERIAL:FIXED	-	314 410	3 884 238	924 272	52 950	5 175 869	0.5%
SOFTWARE AND INTANGIBLE ASSETS	3 828 745					3 828 745	0.4%
SECURITY EQUIPMENT,SYSTEMS,MATERIAL:IT<R5000		-	141 588	-		141 588	0.0%
SECURITY EQUIPMENT,SYSTEM,MATERIAL:MOVABLE			-		-	-	0.0%
Grand Total	218 622 563	187 212 338	270 853 100	174 470 020	191 674 867	1 042 832 888	100.0%

Of the R389.736 million, 96% was spent on telephone / fax / telegraph and telex at R372.435 million, while R11.763 million was spent on radio and TV transmissions.

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ICT Expenditure-Category and Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
TELECOMMUNICATION	83 224 343	78 917 196	96 153 410	72 372 472	59 068 937	389 736 359
POST/STAMP/FRANKING MACHINE	490 606	384 622	589 113	526 461	312 328	2 303 130
RADIO AND TV TRANSMISSIONS	2 228 552	1 947 237	2 698 178	2 269 024	2 620 020	11 763 011
SATELLITE SIGNALS	1 700	8 085	-	19 750	13 860	43 395
TELECOMMUNICATION	142 322	2 999	2 892 587	7 710	-	3 045 618
TELEPHONE INSTALLATION	36 480	19 500	-	43 216	46 732	145 928
TELEPHONE/FAX/TELEGRAPH AND TELEX	80 324 683	76 554 753	89 973 533	69 506 310	56 075 998	372 435 277

Spending on external computer services – is just under 20% at R204.964 million, with the major spending on licenses for software development (R70.142 million) while R62.608 million spent on development of systems and R49.679 million spent on computer services.

ICT Expenditure-Category and Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
EXTERNAL COMPUTER SERVICES	35 369 360	43 671 785	49 683 576	12 987 770	63 252 505	204 964 996
EXTERNAL COMPUTER SERVICES:COMPUTER SERVICES	32 049 717	5 285 317	1 704 645	3 318 803	7 321 295	49 679 777
EXTERNAL COMPUTER SERVICES:DATA LINES	110 931	2 280 112	3 486 550	1 226 880	701 455	7 805 927
EXTERNAL COMPUTER SERVICES:DEVELOPMENT OF SYSTEMS	1 450 016	1 677 697	2 278 837	3 349 910	53 851 741	62 608 201
EXTERNAL COMPUTER SERVICES:INFORMATION SERVICES	1 706 873	832 637	1 517 047	4 821 535	1 378 013	10 256 106
EXTERNAL COMPUTER SERVICES:INTERNET CHARGES	-	-	496 037	-	-	496 037
EXTERNAL COMPUTER SERVICES:LICENCE:UTILITY SOFTWARE	51 823	1 464 799	2 239 116	220 550	-	3 976 288
EXTERNAL COMPUTER SERVICES:SOFTWARE LICENCE:DEVELOPMENT OF SOFTWARE		32 131 223	37 961 343	50 093		70 142 659

Spending on SITA Services is R132.174 million and makes up 12.7% of the departments spending, with R24.530 million being spent on Internet Service Charges and a total of R48.754 million on mainframe time for BAS, Logis and Persal. Specialised computer services has spent R51.245 million.

ICT Expenditure-Category and Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
SITA SERVICES	25 935 882	21 386 503	37 866 043	31 462 512	15 524 059	132 174 999
BAS MAINFRAME	1 404 507	3 613 418	9 084 899	2 404 624	1 773 616	18 281 064
LOGIS MAINFRAME TIME	1 548 119	3 413 995	4 308 210	4 408 786	1 531 859	15 210 969
PERSAL MAINFRAME TIME	2 243 925	4 526 061	4 147 052	3 733 170	611 968	15 262 175
SITA DATA LINES	965 200	129 206	2 502 040	2 139 426	1 047 112	6 782 985
SITA INFORMATION SERVICES	-	-	372 618	385 536	-	758 154
SITA INTERNET SERVICE CHARGES	4 645 111	1 793 682	7 117 948	7 808 587	3 165 192	24 530 520
SITA SOFTWARE LICENCE: OPERATIONS SYSTEMS SOFTWARE	58 223	45 483	-	-	-	103 706
SITA SOFTWARE LICENCE:DEVELOPMENT SOFTWARE	-	-	-	-	-	-
SITA SOFTWARE LICENCE:OFFICE SUITE SOFTWARE	-	-	-	-	-	-
SITA SOFTWARE LICENCE:SECURITY SOFTWARE	-	-	-	-	-	-
SITA SPECIALISED COMPUTER SERVICES	15 070 797	7 864 657	10 333 276	10 582 383	7 394 312	51 245 425

The department spends approximately R120 million on printing services – making up 11.5% of the departments spending. Of the R120 million, almost half of it goes to government printers, while R21.668 million is spent in printing paper, R20.256 million spent on printer cartridges and R16.773 million is spent on photocopying machine.

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ICT Expenditure-Category and Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
PRINTING SERVICES	25 170 532	16 664 639	42 785 227	16 851 537	18 527 519	119 999 454
GOVERNMENT PRINTERS	4 695 696	7 978 880	30 173 859	6 263 400	11 011 373	60 123 209
PHOTOCOPY MACHINE	16 773 262					16 773 262
PRINTER	222 041	105 033	218 534	169 714	463 095	1 178 418
PRINTER CARTRIDGE	3 479 533	4 653 091	5 247 875	4 457 611	2 418 056	20 256 165
PRINTING PAPER	-	3 927 635	7 144 958	5 960 812	4 634 995	21 668 400

The department spent R101.181 million on airtime and data.

ICT Expenditure-Category and Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
CELLULAR PHONES	31 738 231	6 848 431	24 449 292	19 911 765	18 234 110	101 181 829
AIRTIME AND DATA	31 738 231	6 848 431	24 449 292	19 911 765	18 234 110	101 181 829
CELLULAR PHONES			-		-	-

An amount of R46.552 million was spent on computer equipment, of which R25.429 million was spent on laptops and R18.055 million spent on desktops.

ICT Expenditure-Category and Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
COMPUTER EQUIPMENT	6 728 706	10 550 986	10 202 245	12 978 171	6 092 027	46 552 134
COMPUTER HARDWARE AND SYSTEMS	2 486 988					2 486 988
COMPUTER HARDWARE AND SYSTEMS - NETWORK LAN		-				-
COMPUTER HARDWARE AND SYSTEMS - NETWORK WAN	-					-
COMPUTER HARDWARE AND SYSTEMS-COMPUTER PERIPHERAL	-	1 815	-	4 016	20 196	26 027
COMPUTER HARDWARE AND SYSTEMS-DESKTOP	57 206	5 494 503	5 998 456	3 505 903	2 999 885	18 055 953
COMPUTER HARDWARE AND SYSTEMS-LAPTOP	4 184 512	4 959 357	4 203 789	9 468 251	2 613 568	25 429 477
COMPUTER HARDWARE AND SYSTEMS-SERVER/MAINFRAME	-	95 311	-		458 379	553 690
COMPUTER HARDWARE AND SYSTEMS-TABLET PC	-	-	-			-

An amount of R31.062 million was spent on computer consumables.

ICT Expenditure-Category and Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
COMPUTER CONSUMABLES	5 858 580	6 915 344	4 619 437	6 248 185	7 420 605	31 062 150
COMPUTER CONSUMABLES	5 858 580	6 915 344	4 619 437	6 248 185	7 420 605	31 062 150

Per the Page 6 to 10 of the study conducted by SITA ("Eastern Cape Department of Health, High-Level Report" – crafted by Xolani Mbulawa on the 15th July 2021) the following macro ICT Structure is proposed for DoH:

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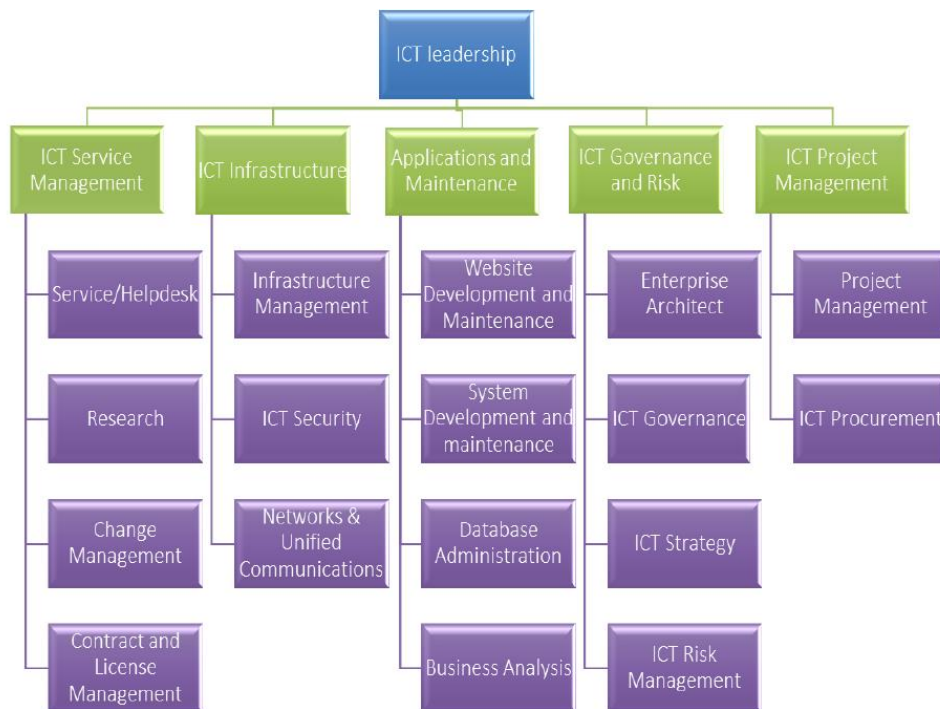


Figure 2: TO-BE Structure

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An analysis of the current DoH ICT Structure indicates 123 ICT funded posts in the establishment with 102 filled and 21 vacant.

Even though this appears to be a large number it is insufficient when compared to the functions laid out in the SITA proposed structure above (most required functions are not catered for). Indeed, 90 of the posts are level 8 and below (junior technical support posts) and 24 are assistant director level. There is only 1 member of the senior management service (the Chief Director) supported by 7 Managers. There are no directors. It appears that this investment in generalist ICT practioners has prevented the department from meeting all of its ICT control obligations. The department urgently needs to restructure ICT in order to ensure that the key control, governance and ICT Management skill sets are within the department.

Further to this when compared to the number of facilities (1000) and users (15 899) a team of 123 is significantly insufficient to provide the required support.

It should be noted that DOH spent R 35.7 Million over the 5 year period under review on the Delta 9 patient and revenue management software.

The use of this system has subsequently been discontinued and has been replaced by a fully open source and open standards, inhouse developed Hospital Management System (HMS2).

This is contrasted to the fact that a fully open source hospital administration and patient management system that is CSRI Endorsed for use in the Health Sector and for interfacing to the National Hospital Patient Registration System, does revenue management, ward and admissions and discharge management, captures all clinical notes per patient, produces scripts for the pharmacy and interfaces to key solutions e.g. NHLS, Digital Xray solutions i.e. the HMS2 system creates an electronic patient record for each patient that can easlity track the patient interactions with all Health care facilities an provide ready access to clinical notes for all medical professionals to ensure continuity of care.

This system is now being rolled out to the hospitals in the province but DoH does not currently have the internal skills to rollout this system.

It is therefore imperative that DoH reviews its organogram and channels the funds previously spent on the Delta 9 system to creating a strong and capable internal team that can support, rollout and enhance the HMS2 and related system for all institutions in the Eastern Cape. DoH further needs to increase its network and ICT infrastructure teams to ensure that DOH ICT users are supported.

5.3. Department of Public Works and Infrastructure

The Department of Public Works currently has **2 078** employees as at 1 September 2021.

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High Level overview of DPW ICT:

- DPW Has 1 700 Active Directory Licenses.
- DPW currently has 1 134 laptops and 2 204 desktop computers.
- DPW has 7 offices – Head office plus 6 regions and all are connected to the SITA network by OTP – (Head office was upgraded to the Provincial Broadband Line provided by SITA during October 2021).

DPW ICT Expenditure Per Category – 2016/17 to 2020/21

ICT SERVICES	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	5 Year Total	% of Spend
ICT GOVERNANCE	29 290 154.25	35 972 751.68	35 096 545.42	40 886 350.74	34 855 062.51	176 100 864.60	55.97%
TELECOMMUNICATION- VOICE	19 703 751.32	19 559 590.83	18 921 834.17	19 185 074.15	12 931 839.86	90 302 090.33	28.70%
DESK COMPUTING	15 070 769.41	5 780 463.50	1 633 276.53	6 040 390.00	3 744 747.76	32 269 647.20	10.26%
PRINTING SERVICES	8 045 948.50	2 446 856.74	2 022 986.02	2 263 109.97	565 500.01	15 344 401.24	4.88%
TELECOMMUNICATION- DATA	184 481.60	0.00	406 682.05			591 163.65	0.19%
ICT SECURITY	0.20	49 818.00	0.00	0.00	0.00	49 818.20	0.02%
Grand Total	72 295 105.28	63 809 480.75	58 081 324.19	68 374 924.86	52 097 150.14	314 657 985.22	100.00%

It should be noted that ICT Expenditure decreased by **27.94%** from 2016/17 to 2020/21. However over this period, Printing Services (92.97% decrease), Desktop Computing (**75.15% decrease**) and Telecommunication – Voice (**34.37% decrease**) saw significant decreases. ICT Governance saw an increase of **19%**.

Over the 5 year period under review ICT Governance is the largest area of expenditure (55.97%) followed by Telecommunication – Voice (28.70) making up 84.66% of the expenditure.

The 75.15% decrease in desktop computing is rather concerning as it shows a potential decrease in investment in the actual ICT tools and technologies.

The highest area, **ICT Governance** consists of external computer services, SITA services for mainframe time (BAS, Logis, Persal) and SITA software licenses. A review of the 2020/21 expenditure on these items reveals that the following suppliers were the highest paid:

Microsoft, SITA, Micrographics SA and Vodacom.

The second highest area, **Telecommunication – voice** – consists of Audio-visual equipment, cellular phones and routers, telecommunication and computer consumables. . A review of the 2020/21 expenditure on these items reveals that the following suppliers were the highest paid:

Vodacom, Telkom, Dimension Data, Internet Solutions.

It is concerning that some of the Vodacom Expenditure cuts across different items.

COM:AIRTIME & DATA

EXT COMP SER:SFT LCN:OPR SYS

SFT

An overview of the ICT Expenditure per DPW Program:

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Programme_Level_5	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	5 Year Spend	% of Spend
ADMINISTRATION	67 542 125.29	61 954 922.62	57 711 883.94	68 140 560.19	51 966 162.16	307 315 654.20	97.67%
EXPANDED PUBLIC WORKS PROGRAMME	672 434.66	82 888.67	208 027.69	115 562.96	49 815.98	1 128 729.96	0.36%
PUBLIC WORKS INFRASTRUCTURE	347 153.65	165 477.95	161 412.56	118 801.71	81 172.00	874 017.87	0.28%
TRANSPORT INFRASTRUCTURE	3 733 391.68	1 606 191.51	0.00	0.00	0.00	5 339 583.19	1.70%
Grand Total	72 295 105.28	63 809 480.75	58 081 324.19	68 374 924.86	52 097 150.14	314 657 985.22	100.00%

As expected the bulk of the ICT expenditure is found in Programme 1: Administration. There is a level of expenditure in the EPWP and Public Works.

It is clear that Transport infrastructure (the Roads function) migrated to Department of Transport and that this programme therefore ceased to exist at DPW that date onwards. It further appears that the Roads function was spending a significant amount on ICT themselves R 5.3 Million over the 2016/17 and 17/18 financial years.

The organisational structure for DPW ICT is as follows:



A review of the DPW Personnel Establishment Report for July 2021 reveals the following:

DPW ICT Structure July 2021

COMPONENT DESCRIPTION	POST SALARY LEVEL	POST JOB TITLE DESCRIPTION	Count of PERSAL NUMBER
DIRECTORATE:INFORMATION COMMUNICATION TECHNOLOGY	13	DIRECTOR:INFORMATION COMMUNICATION TECHNOLOGY H/O	1
HUMAN RESOURCE MANAGEMENT:JOE GQABI(2016)	7	ICT COORDINATOR	1
OFFICE SERVICES SARAHA BAARTMAN 2016	7	NETWORK CONTROLLER	1
OFFICE SERVICES:ALFRED NZO (2016)	7	NETWORK CONTROLLER	1

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OFFICE SERVICES:CHRIS HANI(2016)	7	NETWORK CONTROLLER	1
OFFICE SERVICES:OR TAMBO 2016	7	NETWORK CONTROLLER	1
SUB-DIRECTORATE:ICT OPERATIONS H/O (2016)	7	IT TECHNICIAN	3
SUB-DIRECTORATE:ICT OPERATIONS H/O (2016)	11	DEPUTY DIRECTOR:ICT OPERATIONS	1
SUB-DIRECTORATE:INFORMATION SYSTEMS(2016)	7	IT TECHNICIAN	2
SUB-DIRECTORATE:INFORMATION SYSTEMS(2016)	11	DEPUTY DIRECTOR:INFORMATION SYSTEMS	1
SUB-DIRECTORATE:INFRASTRUCTURE SERVICES(2016)	7	IT TECHNICIAN	2
SUB-DIRECTORATE:INFRASTRUCTURE SERVICES(2016)	11	DEPUTY DIRECTOR:INFRASTRUCTURE SERVICES	1
SUB-DIRECTORATE:SYSTEMS SECURITY MANAGEMENT H/O	7	IT TECHNICIAN	1
SUB-DIRECTORATE:SYSTEMS SECURITY MANAGEMENT H/O	11	DEPUTY DIRECTOR:SYSTEMS SECURITY MANAGEMENT	1

All 18 funded posts are filled at present

18

There are other vacant unfunded posts and DPW is seeking funding for these posts. They do not appear on the establishment as above.

A review of the ICT Goods and Services Contractual framework for DPW reveals the following.

- The systems appear to be in keeping with the role and function of DPW i.e. There are systems for GIS, EPWP, Property Management, Infrastructure Project Portfolio Management and the website and intranet site
- DPW uses a mix of SITA, Inhouse and third party contractors to support these solutions
- Where possible DPW has taken ownership of the source code of the solutions that they use and must be commended for this:
- Amathuba, PEPSI Payment of Household Contractors System, LOGICA, Website and Intranet, Infrastructure Project Portfolio Management are all DPW owned with support from either SITA, inhouse or third parties.
- Only the GIS Software is a proprietary third party owned system (ESRI) and the licenses are paid via SITA but the system is managed and used by the inhouse team

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It is recommended that the department considers funding the vacant ICT development and support posts at DPW so that the department can have sufficient inhouse skill to support and maintain all of these systems.

The department will then realise significant savings on the outsourced services to SITA and industry and the moment and this funding can in turn cover the increased CoE costing.

5.4. Office of the Premier (OTP)

Spending by the Office of the Premier is the third highest in the province at R767.008 million which accounts for 11.78% of the EC ICT spending. SITA services accounts for just over 90% of the OTP's spending of r767.008 million. OTP spent R28.606 million on audio visual equipment with R24.880 million being spent in 2018/19 alone to upgrade the main Boardroom used at the OTP head office building. R16.046 million is spent on cellular phones, while R9.443 million is spent on external computer services; R8.409 million on telecommunication and R7.776 million on computer equipment.

CATEGORIES	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total	Percentage
SITA SERVICES	76 448 514	209 816 623	94 669 322	91 376 345	219 042 977	691 353 780	90.1%
AUDIO VISUAL EQUIPMENT	625 330	428 815	24 880 341	2 092 097	579 425	28 606 007	3.7%
CELLULAR PHONES	2 694 024	1 911 313	2 768 807	2 939 203	5 732 675	16 046 023	2.1%
EXTERNAL COMPUTER SERVICES	1 465 220	3 485 183	658 774	1 938 858	1 895 812	9 443 848	1.2%
TELECOMMUNICATION	1 567 406	1 468 727	2 268 263	2 136 605	968 880	8 409 880	1.1%
COMPUTER EQUIPMENT	1 260 692	745 154	2 137 019	2 064 379	1 569 755	7 776 999	1.0%
PRINTING SERVICES	595 816	403 602	1 216 837	387 390	136 791	2 740 436	0.4%
SOFTWARE AND INTANGIBLE ASSETS	-	-	279 298	-	1 218 856	1 498 153	0.2%
COMPUTER CONSUMABLES	8 861	-	20 249	612 418	492 218	1 133 746	0.1%
Grand Total	84 665 863	218 259 417	128 898 909	103 547 294	231 637 388	767 008 871	100.0%

Of the total SITA services of R691.353 million, with about 96% being spent on SITA data lines. This is due to the fact that the department provides these services for entire EC provincial departments and is rolling out broadband. An amount of R11.449 million was spent on SITA system advisors, with R8.932 million of this amount was spent ion 2016/17.

ICT Expenditure - Category + Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
SITA SERVICES	76 448 514	209 816 623	94 669 322	91 376 345	219 042 977	691 353 780
BAS MAINFRAME	-	234 535	-	-	-	234 535
LOGIS MAINFRAME TIME	-	54 268	-	-	-	54 268
PERSAL MAINFRAME TIME	-	627 881	-	-	-	627 881
SITA DATA LINES	67 516 155	202 278 780	90 511 210	87 916 648	217 250 702	665 473 496
SITA INTERNET SERVICE CHARGES	-	912 305	-	-	-	912 305
SITA PRINTING WORKS	-	4 457 514	-	-	-	4 457 514
SITA SOFTWARE LICENCE: OPERATIONS SYSTEMS SOFTWARE	-	-	2 892 486	3 442 579	1 792 274	8 127 340
SITA SOFTWARE LICENCE:SECURITY SOFTWARE	-	-	-	17 117	-	17 117
SITA SOFTWARE LICENCE:UTILITY SOFTWARE	-	-	-	-	-	-
SITA SYSTEM ADVISERS	8 932 358	1 251 339	1 265 625	-	-	11 449 322

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OTP spent R28.606 million on Audio visual equipment over the five-year period – with R24.880 million being spent in 2018/19 alone.

ICT Expenditure - Category + Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
AUDIO VISUAL EQUIPMENT	625 330	428 815	24 880 341	2 092 097	579 425	28 606 007
AUDIO VISUAL EQUIPMENT	625 330	428 815	24 880 341	2 092 097	579 425	28 606 007

Spending on cellular phones is R16.046 million, all of which expenditure has being incurred on airtime and data.

ICT Expenditure - Category + Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
CELLULAR PHONES	2 694 024	1 911 313	2 768 807	2 939 203	5 732 675	16 046 023
AIRTIME AND DATA	2 694 024	1 911 313	2 768 807	2 939 203	5 732 675	16 046 023

OTP spent R5.439 million on laptops, which is 70% of the total R7.776 million spent on computer equipment.

ICT Expenditure - Category + Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
COMPUTER EQUIPMENT	1 260 692	745 154	2 137 019	2 064 379	1 569 755	7 776 999
COMPUTER HARDWARE AND SYSTEMS	302 920					302 920
COMPUTER HARDWARE AND SYSTEMS - NETWORK LAN			-	427 085		427 085
COMPUTER HARDWARE AND SYSTEMS - NETWORK WAN		-				-
COMPUTER HARDWARE AND SYSTEMS-COMPUTER PERIPHERAL	169 746		8 729	333 380	18 609	530 464
COMPUTER HARDWARE AND SYSTEMS-DESKTOP	95 932	196 271	281 060	366 863	-	940 126
COMPUTER HARDWARE AND SYSTEMS-LAPTOP	680 645	548 883	1 727 908	930 468	1 551 146	5 439 049
COMPUTER HARDWARE AND SYSTEMS-SERVER/MAINFRAME	-	0	119 322			119 322
COMPUTER HARDWARE AND SYSTEMS-TABLET PC	11 449			6 584		18 033

An amount of R9.443 million has been spent on external computer services, of which R6.850 million was spent on development of systems.

ICT Expenditure - Category + Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
EXTERNAL COMPUTER SERVICES	1 465 220	3 485 183	658 774	1 938 858	1 895 812	9 443 848
EXTERNAL COMPUTER SERVICES:DEVELOPMENT OF SYSTEMS	1 465 220	3 415 425	11 878	1 502 692	455 484	6 850 700
EXTERNAL COMPUTER SERVICES:LICENCE:SECURITY SOFTWARE			-	-		-
EXTERNAL COMPUTER SERVICES:SOFTWARE LICENCE:DEVELOPMENT OF SOFTWARE		69 758	646 896	436 166	80 037	1 232 857
EXTERNAL COMPUTER SERVICES:SYSTEM ADVISER	-		-	-	1 360 291	1 360 291

An amount of R7.215 million has been spent on telephone / fax / telegraph and telex.

ICT Expenditure - Category + Lower Level	Sum of 2016/2017	Sum of 2017/2018	Sum of 2018/2019	Sum of 2019/2020	Sum of 2020/2021	Grand Total
TELECOMMUNICATION	1 567 406	1 468 727	2 268 263	2 136 605	968 880	8 409 880
POST/STAMP/FRANKING MACHINE	1 640	6 799	-	7 530	-	15 969
RADIO AND TV TRANSMISSIONS			-			-
SATELLITE SIGNALS	215 086	208 205	249 007	241 467	253 471	1 167 236
TELEPHONE INSTALLATION			-	11 647	-	11 647
TELEPHONE/FAX/TELEGRAPH AND TELEX	1 350 681	1 253 723	2 019 256	1 875 961	715 409	7 215 029

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Office of the Premier ICT Positions

COMPONENT DESCRIPTION	POST SALARY LEVEL	POST JOB TITLE DESCRIPTION	Count of PERSAL NUMBER
CHIEF DIRECTORATE: PROVINCIAL ICT	14	CHIEF DIRECTOR	1
DIRECTORATE: ICT GOVERNANCE	12	BUSINESS ANALYST	2
DIRECTORATE: ICT GOVERNANCE	13	DIRECTOR	1
DIRECTORATE: ICT INFRASTRUCTURE / OPERATIONS	10	ASSISTANT DIRECTOR	2
DIRECTORATE: ICT INFRASTRUCTURE / OPERATIONS	13	DIRECTOR	1
DIRECTORATE: SYSTEMS/ APPLICATIONS DEVELOPMENT	10	ASSISTANT DIRECTOR	1
DIRECTORATE: SYSTEMS/ APPLICATIONS DEVELOPMENT	12	DEPUTY DIRECTOR	1
DIRECTORATE:DEPARTMENTAL ICT	13	DIRECTOR	1
M&E SYSTEMS PRES & PROV HOTLINE	12	DEPUTY DIRECTOR	1
SUB DIRECTORATE:ICT INFRASTRUCTURE	9	ASSISTANT DIRECTOR	2
SUB DIRECTORATE:ICT OPERATIONS/USER SUPPORT	11	DEPUTY DIRECTOR	1
SUB DIRECTORATE:ICT SOLUTION ACHITECTING/APPLICATI	9	ASSISTANT DIRECTOR	1
Filled	15		
Vacant	0		
Total	15		

Currently, office of the Premier is rolling out broadband and VPN in the province it appears that there no sufficient human resources within OTP for these projects. OTP should review their ICT organogram to be responsive to their needs. Centralising ICT Personnel at OTP could assist this province. Microsoft Enterprise Agreement for software licenses should be centralised at OTP to manage software licences better.

General Observations

With regard to the status of the Microsoft Enterprise licensing 13 of the 14 departments all have Enterprise Agreements with Microsoft. The province appears to have 24 743 user licenses for Microsoft Desktop Products e.g. MS365 (this excludes licenses for servers, MS Project and other MS products). Each department has taken a slightly different approach in determining what level of M365 licensing products are most suited to their officials. This has resulted in an inconsistent approach across departments to determining the best mix of Microsoft products. The actual cost per license is established within the National SITA Microsoft Framework but there is evidence that the consolidation and centralisation of the management of the licenses may result in a more consistent and efficient approach to licensing our officials. A centralised management unit could also research the global impact of implementing alternatives e.g. Open source products, where suitable.

With regard to the procurement of ICT Equipment a brief assessment of the average cost of Desktop and Notebook computers reveals the following concerns and challenges:

- 1) Departments do not consistently utilise the correct Items and Item Control Numbers when issuing orders for ICT Equipment

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- 2) In 2018 / 2019 the average amount spent on a laptop was R 20 500 and the average amount spent on a desktop was R 12 350.
- 3) In 2019 / 2020 the average amount spent on a laptop was R 23 900 and the average amount spent on a desktop was R 15 960
- 4) In 2020 / 2021 the average amount spent on a laptop was R 25 500 and the average amount spent on a desktop was R
- 5) Notable Outliers – a Payment Unit price of over R 100 000 for a computer (may be user error when capturing the number of units bought on LOGIS).

It is however evident from the above that centralised and consistent management of ICT Procurement will result in economies of scale and will ensure that standards are adhered to and enforced for all departments. This will ensure that value is obtained in the procurement and management of desktop computing tools.

A further observation identified is that Provincial Treasury developed in-house the Treasury Information Management System (TIMS) using source code from Department of Social Development. Since internal resources developed this application, Provincial Treasury saved enormous amounts of money on software development costs (an estimated R 6 million for each department using the system). Processing leave applications on manual leave books is history in Provincial Treasury. At present 5 departments are using this system with no licensing cost for any department.

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6. Costing Model

A review of the matters highlighted through the expenditure review clearly outlines the need for the province to have ready access to a costing model that will showcase the costs / benefits of migrating key services away from consultants and the ICT industry into a duly capacitated and professionalised internal ICT capability. It is essential that the Eastern Cape is able to support its technology investment and innovated to improve service delivery and drive down costs. All of this can only be done through the establishment of a duly capacitated team of capable and competent ICT professionals who are employed by government.

Accordingly, the costing model outlined below has been developed to showcase the benefits (financial and other) of establishing capable ICT Organisational units within the Eastern Cape.

Costing Output					
	Year1	Year2	Year3	Year4	Year5
ICT Department staffing	-	-	-	-	-
Project costing	17 500 000	2 587 500	2 678 063	2 771 795	4 368 808
ICT baseline expenditure	262 397 227	219 615 616	227 302 162	235 257 738	244 991 759
Insource/Outsource					
TCO project cost (excl. equipment/licenses) exceeds additional cost of employees => insource					
TCO project cost (excl. equipment/licenses) less than additional cost of employees => outsource					
Consider support ratio and other strategic drivers					

Main formulas used to calculate output:

Project costing: $C_o + C_s + C_h + C_i$

C_o - Cost of Outsourced resource; C_s - software costs + C_h - hardware costs; + C_i - additional internal resources

ICT department staff: Headcount * Level

ICT baseline expenditure: historical ICT recurring costs, eg. licensing.

7. Recommendations

The 5 year ICT Expenditure Review for the Eastern Cape has identified the following key areas that require intervention in order to ensure the efficient and cost effective utilisation of ICT towards more efficient and cost effective service delivery for the people of our Province:

- Formalisation of the principle of capacitating the province to self-provide ICT Services and support (demonstrated through the inhouse developed e-leave system now running in 5

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departments as well as the demonstrated savings with the HMS2 system v Delta 9 and the potential savings for DPW);

- Utilisation of National Treasury and SITA Transversal Contracts to ensure economies of scale, value for money and cost containment;
- Centralisation of key ICT functions at the Office of the Premier including MS License Management, ICT Procurement and Contract Management;
- Development of a centralised ICT Unit within Office of the Premier that can provide ICT leadership, support and technical skills for all departments in keeping the Gauteng / Western Cape / Kwa-Zulu Natal Models.
- ICT planning and governance - Several examples were highlighted in the review that could have been avoided. For example, spending on connectivity in the education though high is not particularly efficient. A more holistic approach to ICT spending could avoid this. Essentially, spending in ICT needs to be better aligned to enterprise architecture and long-term plans.
- Better management of performance data and tracking metrics. Collating data related to systems deployed, active system users, active ICT contracts and specific ICT projects spending was a tedious exercise. It can be assumed that departments do not properly manage their environments to track such key metrics. As such better management in this regard would likely lead to better outcomes for the ICT function across the province.
- Clarifying the role of SITA and how procurement frameworks and processes are implemented may 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.
- The policy and practices around ICT governance are convoluted and cumbersome and need to be reviewed with an intention to streamline and better allocate functions within the processes of procurement and delivery of the ICT function across government and within departments.

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8. Annexure A: ICT SCA items categorization

ICT SERVICES	ICT COST CATEGORIES	CATEGORIES	Lower Level
DESK COMPUTING	HARDWARE	COMPUTER EQUIPMENT	COMPUTER HARDWARE AND SYSTEMS
			COMPUTER HARDWARE AND SYSTEMS - NETWORK LAN
			COMPUTER HARDWARE AND SYSTEMS - NETWORK WAN
			COMPUTER HARDWARE AND SYSTEMS-COMPUTER PERIPHERAL
			COMPUTER HARDWARE AND SYSTEMS-DESKTOP
			COMPUTER HARDWARE AND SYSTEMS-LAPTOP
			COMPUTER HARDWARE AND SYSTEMS-SERVER/MAINFRAME
			COMPUTER HARDWARE AND SYSTEMS-TABLET PC
	SOFTWARE	SOFTWARE AND INTANGIBLE ASSETS	SOFTWARE AND INTANGIBLE ASSETS
			SOFTWARE AND INTANGIBLE ASSETS:DEVELOPMENT SOFTWARE
			SOFTWARE AND INTANGIBLE ASSETS:OFFICE SUITE SOFTWARE
			SOFTWARE AND INTANGIBLE ASSETS:OPERATING SYSTEM SOFTWARE
			SOFTWARE AND INTANGIBLE ASSETS:SECURITY SOFTWARE
HELP DESK	SITA SERVICES	SITA SERVICES	SITA HELP DESK
ICT GOVERNANCE	3rd PARTY SUPPLIERS	EXTERNAL COMPUTER SERVICES	EXTERNAL COMPUTER SERVICES:APPLICATION TRAINING
			EXTERNAL COMPUTER SERVICES:COMPUTER SERVICES
			EXTERNAL COMPUTER SERVICES:DATA LINES
			EXTERNAL COMPUTER SERVICES:DEVELOPMENT OF SYSTEMS
			EXTERNAL COMPUTER SERVICES:INFORMATION SERVICES
			EXTERNAL COMPUTER SERVICES:LICENCE:OFFICE SUITE SOFTWARE
			EXTERNAL COMPUTER SERVICES:LICENCE:SECURITY SOFTWARE
			EXTERNAL COMPUTER SERVICES:LICENCE:UTILITY SOFTWARE
			EXTERNAL COMPUTER SERVICES:MAINTENANCE SYSTEM
			EXTERNAL COMPUTER SERVICES:OPERATION SUPPORT
			EXTERNAL COMPUTER SERVICES:SOFTWARE LICENCE:DEVELOPMENT OF SOFTWARE
			EXTERNAL COMPUTER SERVICES:SYSTEM ADVISER
	SITA SERVICES	SITA SERVICES	BAS MAINFRAME
			LOGIS MAINFRAME TIME
			PERSAL MAINFRAME TIME
			SITA CLOUD SPACE
			SITA INFORMATION SERVICES
			SITA SOFTWARE LICENCE: OPERATIONS SYSTEMS SOFTWARE
			SITA SOFTWARE LICENCE:DEVELOPMENT SOFTWARE
			SITA SOFTWARE LICENCE:OFFICE SUITE SOFTWARE
			SITA SOFTWARE LICENCE:SECURITY SOFTWARE
			SITA SOFTWARE LICENCE:UTILITY SOFTWARE
			SITA SPECIALISED COMPUTER SERVICES
			SITA SYSTEM ADVISERS
			SITA SYSTEM DEVELOPMENT

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ICT SERVICES	ICT COST CATEGORIES	CATEGORIES	Lower Level
ICT SECURITY	ICT SECURITY	SECURITY EQUIPMENT,SYSTEM,MATERIAL:FIXED	SECURITY EQUIPMENT,SYSTEM,MATERIAL:FIXED
		SECURITY EQUIPMENT,SYSTEM,MATERIAL:MOVABLE	SECURITY EQUIPMENT,SYSTEM,MATERIAL:MOVABLE
		SECURITY EQUIPMENT,SYSTEMS,MATERIAL:IT<R5000	SECURITY EQUIPMENT,SYSTEMS,MATERIAL:IT
PRINTING SERVICES	CONSUMABLES	PRINTING SERVICES	PRINTER CARTRIDGE
			PRINTING PAPER
	PRINTING	PRINTING SERVICES	GOVERNMENT PRINTERS
			PHOTOCOPY MACHINE
			PRINTER
	SITA SERVICES	SITA SERVICES	SITA PRINTING WORKS
TELECOMMUNICATION- DATA	SITA SERVICES	SITA SERVICES	SITA DATA LINES
TELECOMMUNICATION- VOICE	AUDIO VISUAL EQUIPME	AUDIO VISUAL EQUIPMENT	AUDIO VISUAL EQUIPMENT
			RADIO EQUIPMENT
	COMMUNICATION	CELLULAR PHONES	AIRTIME AND DATA
			CELLULAR PHONES
		CELLULAR ROUTERS	CELLULAR ROUTERS
		TELECOMMUNICATION	LICENCES (RADIO&TV)
			POST/STAMP/FRANKING MACHINE
			RADIO AND TV TRANSMISSIONS
			SATELLITE SIGNALS
			TELECOMMUNICATION
			TELEPHONE INSTALLATION
			TELEPHONE/FAX/TELEGRAPH AND TELEX
	CONSUMABLES	COMPUTER CONSUMABLES	COMPUTER CONSUMABLES
WEB HOSTING: INTERNET, INTRANET	3rd PARTY SUPPLIERS	EXTERNAL COMPUTER SERVICES	EXTERNAL COMPUTER SERVICES:INTERNET CHARGES
	SITA SERVICES	SITA SERVICES	SITA INTERNET SERVICE CHARGES

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