DEPARTMENT OF TELECOMMUNICATIONS AND POSTAL SERVICES

NO. 342 **07 APRIL 2017**

ELECTRONIC COMMUNICATIONS AND TRANSACTIONS ACT, 2002 (ACT NO.25 OF 2002)

NATIONAL e-GOVERNMENT STRATEGY AND ROADMAP

I, Siyabonga Cyprian Cwele, Minister of Telecommunications and Postal Services, hereby publish the proposed National e-Government Strategy and Roadmap in terms of Section 5(3) of the Electronic Communications and Transaction Act, 2002 (ACT NO.25 of 2002).

Interested persons are invited to provide written comments on the proposed Strategy and Roadmap, within 30 working days from the date of publication of this notice at any of the following addresses:

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Please note that comments received after the closing date may be disregarded. Please contact Mr David Monyepao at (012) 421 7003 for any enquiries.

Dr Siyabonga Cyprian Cwele, MP
Minister of Telecommunications and Postal Services
Date: 35/3/2017

National E-Government Strategy and Roadmap

Digitizing Government Services

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1. INTRODUCTION

1.1. Purpose

The purpose of this strategy is to guide the digital transformation of public service in South Africa into an inclusive digital society where all citizens can benefit from the opportunities offered by digital technologies to improve their quality of life. The development of this strategy took place by means of a desktop research by the Department of Telecommunications and Postal Services (DTPS) and seeks to make partnership with all government departments of the Republic of South Africa. All project partners have a common interest to promote access of government information and services at all spheres of government to citizens.

This document defines a renewed approach and programme of action that will radically improve the electronic government (e-Government) situation in South Africa. The Honourable Minister, Dr Siyabonga Cwele, in the 2014/15 budget vote speech stated that more focused attention will be given to infrastructure roll-out, the creation and acceleration of the expansion of e-Government services, as well as to develop e-Government platforms, for use by departments to deliver services online to citizens. In this regard, the department will coordinate work with other frontline government departments that provide services to the public. Through SITA, over the next three years, a significant number of government services will be available online.

Such a new approach and programme of action will require the department to unlock any challenges relating to policy, institutional arrangements and solicit buy-in from respective public sector stakeholders, and Information and Communications Technologies (ICT) industry participation to provide the requisite skills, technology and related investments to implement and support the e-Government technical solutions.

The new approach and programme of action is not intended to replace or supersede the prevailing e-Government policy and framework. It is the intention of the department to support State Information Technology Agency (SITA) – as the Agency of ICT for government to create an enabling ICT environment for government departments to provide electronic services (e-Services) to the citizens of South Africa.

The initiative invites comments from various departments for further debate in the discussion and presents recommendations that will lead to improved government services through the use of ICTs, performance and practice within and across the three spheres of government (and other related stakeholders).

1.2. South African e-Government context

'E-Government' or 'digital government' is the innovative use of communications technologies (including mobile devices), websites, applications and other ICT services and platforms to link citizens and the public sector and facilitate collaborative and efficient governance. E-Government includes:

- ***Government to Government programmes (G2G)*** – is concerned with interaction between different levels of government and collaboration with government agencies;
- ***Government to Citizen programmes (G2C)*** – involves an interaction between government and its citizens;
- ***Government to Employee programmes (C2G)*** – this involves the relationship between government and its employees. This form is considered as an effective way of bringing employees together and promoting knowledge sharing among them; and
- ***Government to Business programmes (G2B)*** – this is concerned with supporting business activities.

e-Government in South Africa include the use of ICT to automate internal processes of government (G2G systems) as well as external processes of Government (G2C and G2B). G2G systems are used across all departments or used for a specific government sector, such as Basic Accounting System (BAS), Logistic Management Information System (LOGIS), National Population Register (NPR), Social Pension Fund (SOCPEN), Police Crime Administration System (CAS) and electronic National Transport Information System (e-Natis). G2C ICT systems however are used to facilitate interaction and collaboration between government and citizens of the country, such as government websites, Batho Pele Gateway, SARS e-Filing, DoL U-Filing and DHA "Trace and Trace".

E-Government service is about transforming government to be more citizen-centred. Technology is therefore a tool in this effort. E-Government services success requires changing how government works, how it deals with information, how officials view their jobs and interact with the public.
Achieving e-Government services also requires active partnerships between government departments, citizens and the private sector. The e-Government process needs continuous input and feedback from the "customers"— the public, businesses and officials who use e-Government services. Their voices and ideas are essential to making e-Government services work.

During the early years of introducing ICT systems in the working environment especially to government, initial attempts towards e-Government were made with a focus on networking government departments and developing in-house government applications in the areas of defence, economic monitoring, planning and the deployment of ICT to manage data-intensive functions. These applications focused on automation of internal government functions rather than on improving service delivery to citizens.

1.3. Situational Analysis

The history of e-Government in South Africa dates back to 1995 when the White Paper on the transformation of public service was released. This White Paper proposed the creation of a number of new and additional structures, including the Presidential Review Commission (PRC).1 In 1997 a White Paper on transforming public service delivery was released labelled as the Batho Pele White Paper. The purpose of this White Paper was to provide a policy framework and a practical implementation strategy for the transformation of public service delivery.2

The DPSA was instrumental in the development of the eight Batho Pele (put the people first) guiding principles which should be taken into consideration in the implementation of e-Government in South Africa. These principles aim to enhance the quality and accessibility of government services by improving efficiency and accountability to the recipients of public goods and services.

In 1998, the Presidential Review Commission (PRC) released a report which detailed the PRC's main findings and recommendations in relation to the operation, transformation and development of the South African Public Service.3 Chapter 6 addressed the problems that were associated with Information Management, Information Systems and Information Technology in the public service. As a consequence of the recommendations of the PRC, the DPSA was granted the administrative responsibility for ICT in government. The formal ICT governance framework of Office of the Government Chief Information Officer (OGCIO), SITA and Government Information Technology Officer's Council (GITOC) was established to proactively bring value to government in terms of ICT use for internal administrative applications and general government service provisioning to citizens and business entities in society.4

The Thusong Service Centre programme of government was initiated in 1999 to extend services of government to outlying areas where people live. The primary focus has been rural and underserviced communities with the aim of providing citizens with access to government services and information. These centres are also used to introduce ICTs to the underserviced communities and to promote literacy and access to technology.

In accordance with its mandate, the DPSA produced an e-Government policy document in 2001 entitled 'Electronic Government: The Digital Future

[1] Presidential Review Commission, Presidential Review Commission Report, February 1998.
[2] Republic of South Africa, White Paper on Transforming Public Service Delivery (Batho Pele White Paper), October 1997
[3] Presidential Review Commission, Presidential Review Commission Report, February 1998.
[4] Department of Public Service and Administration, South African E-Government Conceptual Framework, February 2006

– A Public Service IT Policy Framework'. The development of this document centred on the ICT house of values which define the benefits that are to be achieved by the application of ICT to government.

In 2001, as required by the Public Service Regulations of 2001, The DPSA released the first version of Minimum Interoperability Standards (MIOS). MIOS specifies the technical standards and policies required for the achievement of interoperability of ICT systems across the public sector. Interoperable systems working in a seamless and coherent way are critical for the establishment of a connected government and the delivery of electronic services.5

In August 2002, the Electronic Communications and Transactions (ECT) Act came into law. According to the ECT Act, the purpose of the act is: "To provide for the facilitation and regulation of electronic communications and transactions; to provide for the development of a national e-strategy for the Republic; to promote universal access to electronic communications and transactions and the use of electronic transactions by SMMEs; to provide for human resource development in electronic transactions; to prevent abuse of information systems; to encourage the use of e-Government services; and to provide for matters connected therewith."6

In 2002, the DPSA released an e-Government Gateway Concept Paper which defined the problems to be solved through e-Government and explains the objectives and implementation phases of the Gateway Project. The implementation phases comprised of the following four phases: Phase I: Access to Information about Government and Services; Phase II: Implementation of Web-Enabled Two-Way Transactions and Phase III: Multi-purpose and personalised services.

In 2004, government took a big step towards the implementation of Phase I of the Gateway project by establishing the Batho Pele Gateway which is a publicly accessible, central government services information portal. 7

The Cabinet approved the National Integrated ICT Policy White paper in the beginning of October 2016 and it advocates for the development of the national e-government framework to transform South Africa into inclusive digital society where all citizens across all spheres of government can benefit from the opportunities offered by ICTs to improve their quality of life. The strategic focusing of government efforts through the National Development Plan 2030 (NDP 2030) is paramount in dealing with e-Government and the fact that the existing e-Government Policy and Strategies have played a lip-service over time which lead to outdated approaches as well as the fact that

[5] Department of Public Service and Administration, Minimum Interoperability Standards, November 2011
[6] Republic of South Africa, Electronic Communications and Transactions Act, August 2002
[7] Department of Public Service and Administration, South African E-Government Conceptual Framework, February 2006

South Africa has not moved forward in achieving the strategic objectives as set in 2001 e-Government policy[8]. This has prompted the DTPS to develop a coherent National e-Government Strategy and Roadmap which will provide direction for the implementation of e-Government. The adoption of this e-Government Strategy and Roadmap is essential for the transformation and modernisation of public service delivery.

As noted in the National ICT Policy Review report (2015) there are currently a number of different e-policies and strategies in place, and different instruments assign responsibility for an e-Strategy to different parts of government such as the DPSA (2001 National e-Government policy), DTPS (National e-Strategy as per the ECT Act[9]) or Information Society Development (ISAD) plan (2007). The NDP calls for the finalisation of a National e-Strategy that cuts across government departments and sectors of society. It is in this context that the department should lead in driving the development of such National e-Strategy in line with ICT Review recommendations.

There have been islands of e-Government initiatives in the country at the national, provincial and district level. Some of them have been highly successful and are suitable for replication. Some provinces including Gauteng and the Western Cape have advanced to a state where they have developed Provincial e-Government Strategies and established independent e-Government departments. Most government departments have embraced the use of ICTs for e-Government to promote service delivery and to make the government more efficient and effective significantly to improve administrative civil services. Although most websites of government are at the developmental stage but there are few of those that have made strides to provide online services. Some of the successful case studies of e-government services which the implementation of this Strategy will build on include the following:

- SARS e-filing is one of the sophisticated systems globally for tax management with good results on tax collection;
- Department of Home Affairs launched the Smart Identification Card System for citizens which is widely rolled out and the banking sector is assisting. The Smart ID cards have better security features;
- Integrated National Transport Information System (NATIS): Car and License Registration is functioning though it requires improvement to afford registration and renewal of services anywhere and everywhere in the country not only where users reside;
- The Department of Health approved the the National Health Normative Standards Framework (HNSF) for Interoperability in eHealth. The framework represents the first step towards a complete health enterprise architecture specification for South Africa. When fully developed, this enterprise architecture will define how eHealth

[8] Department of Public Service and Administration, South African e-Government Policy

[9] Electronic Communications and Transactions Act,2002 (Act no.25 of 2002)

solutions, across all levels of healthcare in both the public and private health systems, will interoperate with each other to support person-centric continuity of healthcare and successful implementation of the National Health Insurance (NHI) initiative;

- SITA has a track record of developing Government-to-Government (G2G) and Government-to-Citizens (G2C) systems. G2G systems include Basic Accounting System (BAS), Logistic Management Information System (LOGIS), National Population Register (NPR), Social Pension Fund (SOCPEN), Police Crime Administration System (CAS) and electronic National Transport Information System (e-Natis). G2G systems developed include Government Websites, Batho Pele Gateway, SARS e-Filing, Department of Labour (DoL) U-Filing and Department of Health (DHA) "Trace and Trace".
- Mobile penetration has reached 100% in South Africa and there has been advancement in development of mobile innovations. Some of the mobile applications supporting e-government services include the Find & Fix mobile application launched by the Johannesburg Road Agency (JRA), an agency of the City of Johannesburg. The mobile app enables the public to report potholes, faulty traffic signals, storm water drains, manhole covers, and other infrastructure issues related to JRA. Similarly the City of Tshwane launched a mobile app city safety – Namola app. Namola uses GPS coordinates to map locations where security alerts are sent in partnership with Tshwane Metro Police Control Room. Security alerts by citizens are immediately sent to the control room and police officers are dispatched to the location for assistance.

A need was therefore felt for taking a holistic view of the several e-Government initiatives implemented across the country. It was increasingly perceived that if e-Government was to be speeded up across the various arms and levels of Government, a programme approach would need to be adopted, which must be guided by a common vision, strategy and approach. This would have the added advantage of enabling huge savings in costs, in terms of sharing the core and support infrastructure, enable interoperability through standards etc., which would result in the citizen having a seamless view of Government. It was with this background, that the National e-Government Plan was formulated for implementation across the country.

The need for greater coordination of strategies and implementation of digital policies across government requires that a central structure be established to drive a whole of government approach and develop a national e-Government policy and strategy. This will assist in aligning various initiatives across government and in ensuring accountability. The Department is well positioned to drive the required coordination.

International Benchmarking

The world is going through rapid transformation owing to the fast pace of change in technological development and adoption. Government therefore have to pursue e-Government as a crucial means to make its government more competitive, by leveraging the world's best information and communications technology (ICT) to deliver services to its citizens. The United Nations (UN) developed a four stage maturity model of e-Government and the model was used for ranking the UN member states.

The four stages of the model are defined as follows:

- The 1st stage is ***"emerging information" services***: In this stage, e-Government Web sites provide static information.
- The 2nd stage is ***"enhanced information services"***: In this stage, the presence is enhanced with one way or simple two way communication.
- The 3rd stage ***"transactional services"***: In this stage, a two way interaction with citizens is possible.
- The 4th stage is "connected services": In this stage, Web sites are proactive in requesting citizens' feedback via Web 2.0 tools. Government agencies are citizen centric and services are customer centric.

The 9th and 2016 Edition of the United Nations e-Government Survey entitled "e-Government for Sustainable Development and produced by UN Department of Economic and Social Affairs was released on August 1, 2016. Like the past survey Reports, the 2016 edition provides a global assessment of the e-government development status of the 193 UN Member States. The report series is designed to serve as a tool for public administrations to learn from one another and identify areas of strength and challenges in their digital government policies, strategies and initiatives. The Survey tracks the progress of e-Government development via the e-Government Development Index (EGDI) which assesses e-Government development at the national level through the available Telecommunications Infrastructure, Human Capital and the national online presence of all 193 United Nations Member States. The Report specifically shows that the United Kingdom, followed by Australia and Republic of Korea lead in the global e-Government rankings.

Key to the success of e-Government internationally, is the establishment of a separate e-Government programme or office that is focused on the development and implementation thereof. These e-Government programs/offices, are managed usually by a "Ministry of Information Technology" or a "Ministry of Finance" or jointly, who are actively involved in the program.

A popular trend which has proved to be successful is the development of a central portal (electronic front office) that provides integrated public

information and services.[10] This provides the users with easy access to all government information and services and allows for *back-office integration* across the various government departments, encouraging inter-departmental collaboration.

In addition, most countries have recognised that ***mobile devices*** are the most widespread personal technologies. To benefit from this, most countries are beginning to provide citizens with the opportunity to receive personalised SMS alerts and notifications for various services, and has developed separate ***m-Government*** sites and mobile applications. [11]

A benchmarking exercise of South African e-Government activities against the UN e-Government Maturity Model resulted in an e-Government maturity classification of Level 2 (enhanced presence). The vision of digital transformation of government in South Africa is to ultimately achieve Level 4 of e-Government maturity. This will require that our e-government services, websites, processes and capabilities have to be harmonized and transformed to global standards. Provision of electronic services and solutions that are tailor-made for citizens' needs and an environment that enables citizen participation in government decision-making process are also key towards achieving this vision.

2. LEGISLATIVE MANDATE

Currently there are a number of role players in the South African Government that have a legislative mandate, whether directly or indirectly, to either manage, enable, develop, or implement e-Government. Please note that the following legislations are only extracts and interpretations from the legislation. For more details, please refer to the latest Acts.

The Electronic Communication and Transaction (ECT) Act of 2002 aims to provide for the facilitation and regulation of e-Government services and electronic communications and transactions with public and private bodies, institutions and citizens.[12] In addition, the ECT Act of 2002, including all its amendments, empowers the Minister of Telecommunications and Postal Services (MTPS) to develop the National e-Strategy. In the development of the National e-Strategy, all matters involving e-Government services shall be determined in consultation with the Minister of Public Service and Administration. Therefore the MTPS will need to take into consideration the requirements of the e-Strategy in the development of the National e-Strategy and will be required to seek advice from the MPSA on matters involving e-Government.

[10] Department of Economic and Social Affairs, United Nations E-Government Survey 2012
[11] Department of Economic and Social Affairs, United Nations E-Government Survey 2012

The Public Service Act of 1994, including all its amendments, empowers the Minister of Public Services and Administration (MPSA) to develop and establish norms and standards related to, amongst other, information management and electronic government in the public service. The mandate of the Minister of Public Service and Administration therefore empowers the DPSA to provide direction on e-Government for the public service. Furthermore, the DPSA is mandated to foster good governance and sound administration in the public service[13]. This includes transforming and modernizing the public service through the development and implementation of policies and frameworks.

The Public Service Regulations of 2001, including all its amendments, sets out regulations for e-Government in Chapter 5. This section addresses 3 areas of e-Government. The first area is fundamental to electronic government which requires all departments to manage Information Technology (IT) effectively and efficiently, taking into consideration that IT must improve the delivery of public services, the productivity of the department and the cost-efficiency of the department.[14] The second area relates to information security whereby the MPSA is required to issue a handbook called the Minimum Information Security Standards (MISS). All persons working with public service information resources will be required to comply with the MISS. The final area deals with interoperability whereby the MPSA in consultation with the Government. Government Information Technology Officer Council (GITOC) is required to issue handbook on Minimum Interoperability Standards (MIOS). All departments are required to comply with MIOS as this is essential for seamless and integrated service delivery.

The State Information Technology Agency Act, 1998 (Act No. 88 of 1998) as amended in 2002 provides for the establishment of a company referred to as the State IT Agency (SITA). SITA is mandated to 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 with the Minister of Telecommunications and Postal services as the sole Shareholder representing the Government.

Furthermore, the Section 7(6) of the SITA Act requires the Agency to set standards for the interoperability of information systems and standards for a comprehensive information systems security environment for departments. SITA is also required to certify every acquisition of any information technology goods or services by a department for compliance with the above mentioned standards. Therefore SITA plays a pivotal role in supporting the execution of the e-Government Strategy. This includes, inter alia, providing guidance to government on how to create and establish secure online e-Services, integrating government systems to allow for sharing of information

[13] http://www.dpsa.gov.za/about.php?id=16
[14] Republic of South Africa, Public Service Regulations, January 2001

and performing the necessary research to help achieve the objectives as set out in this strategy. SITA has in accordance with its mandate supported the DPSA in the development of the MISS and the MIOS which specifies the policies and technical standards required for interoperability and security of information systems.

On the 6th of September 2012, Cabinet welcomed the NDP as prepared by the National Planning Commission (NPC) and acknowledged the plan as the strategic framework to form the basis of future government planning.[15] The NPC formulated the NDP with the aim of developing a long-term national strategic plan for the country. The vision for 2030 is to eliminate poverty and reduce inequality.[16] Although the NDP 2030 does not mention e-Government as a key enabler to the implementation thereof, it is important that the key elements of the NDP 2030 are taken into consideration in the development of the e-Government strategy to ensure that the long-term objectives of the e-Government strategy are aligned to those of the country.

However, the NDP 2030, does regard the vision for Information and Communication Infrastructure, inter alia, the formation of a seamless information infrastructure that will meet the needs of citizens, business and the public sector, providing access to the wide range of services required for effective economic and social participation. [17]This vision also includes the use of multicasting and instant online translation, digitisation and ICT applications which will make it easier for people to communicate and obtain information using different languages. It also promotes the development of mobile government (m-Government) services. [18]

There are other relevant legislations that impact on e-Government services such as The Protection of Personal Information (POPI) Act of 2013 in South Africa which aims at promoting the protection of personal information processed by public and private bodies and to introduce information protection principles so as to establish minimum requirements for the processing of personal information.[19]

The Protection of State Information Act regulates the manner in which States information should be protected; promote transparency and accountability in governance while recognising that State information may be protected from disclosure in order to safeguard the national interest of the Republic. It also provides for the protection of certain information from destruction, loss or unlawful disclosure; to regulate the manner in which information may be protected and to provide for matters connected therewith. [20]

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[15] http://www.npconline.co.za/pebble.asp?t=1
[16] National Planning Commission, National Development Plan Vision for 2030, November 2011
[17] National Planning Commission, National Development Plan Vision for 2030, November 2011
[18] National Planning Commission, National Development Plan Vision for 2030, November 2011
[19] Republic of South Africa, Protection of Personal Information Act, November 2013
[20] Department of Public Service and Administration, South African E-Government Policy, February 2006

With the implementation of e-Government sharing of information with the public and across government departments has never been easier. However, it is imperative that all public departments are aware of the requirements of the above mentioned legislations and ensure that appropriate measures are put in place to ensure that unauthorised persons do not obtain access to personal information of a data subject, that it remains confidential and that where State information is required to be protected from disclosure, that such information remains undisclosed.

3. PROBLEM STATEMENT

e-Government provides an opportunity to use ICTs for promoting greater accountability of the government, increase efficiency and cost-effectiveness and create a greater constituency participation. The e-Government approach will also strive to contribute to wider economic objectives such as achieving cost savings, fostering innovation in technologies and applications for e-Government and promoting growth by fostering a business-friendly environment.
The South African government is faced with several challenges of improving service delivery and the quality of services to citizens. With the opportunities offered by Information Communication Technologies (ICTs), government attempted to improve service delivery through e-Government. However, not much progress was made in the e-Government arena over the past few years.

The approved National Integrated ICT Policy White Paper by cabinet in October 2016 and The Information Society and Development (ISAD) Plan of 2007 identified several challenges that affected negatively on the progress of e-Government in South Africa. Some of the challenges are:

- Lack of synchronisation in approaches to digital transformation adopted by different government departments
- Duplication of processes, databases, large-scale system incompatibilities and inefficiencies as major e-Government hindrances. [21]
- Fragmentation of e-Government initiatives within government has been identified as one of major challenges. e-Government programme has not been directed and managed in a collaborative manner which lead to lack of accountability and responsibility due to the overlapping roles between government departments.
- There is no dedicated budget allocation for the specific implementation of e- Government in South Africa. A number of initiatives are still run under separate budgets.
- Currently there are still a number of government departments who make use of diverse applications, platforms, software and databases. Most of existing ICT systems were not designed to share information

[21] Information Society development plan, 2007

across departments. Cross departmental information sharing is essential to the success of e-Government, thus there is a need for government to standardise the interchange requirements for the delivery and management of data.

- A major reason for the limited progress of e-Government in South Africa is that the e-Government programme has not been directed and managed in a collaborative effort. The roles of the OGCIO, SITA and GITO's are not clearly defined or understood. There is no specific entity that ensures role of leading and managing the e-Government implementation in the country.
- The South African government is facing a challenge of government service delivery and reducing the administrative burden due to growth and mushrooming of population, technological advantages such as the mobile penetration rate can contribute to eliminating these challenges.

In terms of the SITA Act (section 6), SITA is responsible to improve service delivery to the public through the provision of IT, information systems and related services in a maintained information systems security environment to departments and public bodies; and to promote the efficiency of departments and public bodies through the use of IT. Since 2001, SITA has been involved in the implementation of e-Government in South Africa however it has been experiencing challenges due to decentralized funding for e-Government activities and lack of legislation to enable digitization of e-Government services. There is therefore a need to define a new role for SITA as a Digital Transformation Entity in the implementation of this National e-Government Strategy and Roadmap.

4. VISION

The vision for this strategy is to digitise government services while transforming South Africa into an inclusive digital society where all citizens can benefit from the opportunities offered by digital and mobile technologies to improve their quality of life. The strategy aims to optimise service delivery that provides universal access to government information and services anytime and anywhere.

5. STRATEGIC OBJECTIVES

The e-Government framework aims to:

- Ensure that all South Africans can access quality public service and government information from anywhere any time;
- Reduce the cost of public administration in South Africa;
- Harmonise the policy environment and legislative framework to enable digital transformation;

- Establish institutional mechanisms that will advance the coordination and facilitation of e-Government services;
- Create and manage reliable, accessible and cost effective common central services centres;
- Manage the development of frameworks addressing skills development;
- Deliver integrated electronic services which will ensure one stop service portal;
- Develop capacity and skills programme that will ensure sufficient service delivery;
- Develop monitoring and evaluation frameworks for e-Government services;
- Make government more accountable by making its operations more transparent, thus reducing the opportunities of corruption;
- Transform the way government interacts with citizens;
- Provide socio-economic development opportunities by empowering rural and traditional underserved communities using ICTs;
- Leverage on advances brought upon by technological innovations (such as cloud computing, internet of things (IoT), big data, mobile innovations, etc.) to drive the success of digitizing government;
- Expand the technological capabilities of citizens and businesses for participation in the government decision making process; and
- Provide administration in accordance with internationally acceptable standards and best practices.

6. GUIDING PRINCIPLES FOR e-GOVERNMENT SERVICES

The following five primary principles for implementing e-Government focus areas or pillars in the ICT House of Values are the required prerequisite for successful implementation of e-Government initiatives:

6.1. Interoperability

Government ICT systems (including networks, platforms, applications and data) must have the capacity to 'talk' to each other, allowing for architected sharing and exchange of electronic messages and documents, collaborative applications, distributed data processing and report generation, seamless transaction services, 'whole-of government' search and queries, integrated ICT systems management etc.

Of note is that Government has the ability to correct the situation, as well as manage the related aspects of the development of ICT infrastructure, because government consumes more than half of South Africa's ICT goods and services. The real nirvana of interoperability is to have machine-to-machine communication, in essence, removing manual intervention in as many steps as possible. Once this aspect is controlled, citizens will start to experience seamless government service.

It should be possible to achieve this objective, while maintaining a varied mix of ICT products and solutions. There is no need to unnecessarily uproot users from good ICT products and solutions and to upset a productive workforce by an inconsequential new product. Each user should continue working in a familiar environment, except where there is a good reason not to, but the ICT systems in the 'back office' potentially must be capable to provide communications with any other government system.

Government tender procedures must seek to enforce the policy of interoperability of systems. Therefore, the Minimum Interoperability Standards (MIOS) policy must insist that all ICT goods or services must be compatible with existing and planned government systems.

Competition ensures that government service delivery is not singularly dependent on any ICT vendor in the event of collapse. Government should continue to address the issue of designing and implementing a coherent hierarchy of architectures, encompassing the major domains of business, applications and technology.

Just as architecture is essential to building a house, ICT architectures play an important role in defining the underlying infrastructure needed for disparate networks, platforms, applications and data repositories to work together. Thus, ICT architectures present the blueprints for achieving interoperability.

6.2. ICT security

Government operates in an environment where electronic documents, data and ICT systems must be protected from unauthorised access, malicious code and denial-of-service attacks. Interoperability should be achieved without compromising vital ICT security concerns. Government must not readily accept naive ICT vendor-driven solutions to solve the enormous problem of interoperability. Poor standardisation or inappropriate rationalisation breeds serious security problems.

E-government is premised, among others, on the availability of the Internet, and if web sites are compromised, then government data can be read or modified by attackers.

It is always better not to employ an ICT service for live production or to serve clients if competent ICT security has not been catered for. It is important to note that ICT security is not limited to authentication and encryption only. ICT security is related to: (a) avoidance, (b) deterrence, (c) prevention, (d) detection, (e) recovery, and (f) correction in all aspects of security. Security must be provided to ICT at all levels (i.e. physical, people, infrastructure, application or information).

6.3. Economies-of-scale

Government must leverage its ICT buying muscle to encourage compliance with other key ICT focus areas. Unless well managed, the government's economic muscle may be fragmented, which could lead to unnecessary exploitation by some ICT vendors. As a developmental state such an economic muscle may be used to influence the development of local ICT industry that is not only limited to selling products made elsewhere. Development of local ICT skills that are crucial to e-Government initiatives should be encouraged through the government's ICT economic might. Also, ICT research can be steered towards answering service delivery imperatives through the government's ICT economic power.

The precise impact on employment is difficult to anticipate. If change is well managed and if people are responsible in managing their affairs then change can prove stimulating and provide new opportunities for employment and economic growth. It is intended that change management should enjoy high priority in the planning of any e-Government solution. Public servants and citizens must jointly reap meaningful benefits from any well-managed e-Government programme.

It is important to have dedicated funding for e-government implementation by the different government departments, managed through National Treasury processes.

6.4. Eliminate duplication

Government must abolish unnecessary duplication of similar ICT functions, projects and resources (including collection, processing and archiving of the same data), as well as practices of 're-inventing the wheel'.
The ICT Values attempt to illustrate the relationship between the ICT value and the key focus areas. It should be noted, that it is not possible to obtain ICT value without addressing the primary IT focus areas, while at the same time, developments in the key ICT focus areas do not necessarily lead to ICT value. However, these government ICT focus areas assume that some minimum resources are readily available to the entire government machinery.

6.5. Digital inclusion

At least 75% of South Africans do not have access to ICT infrastructure. Failure to provide access to the previously disadvantaged communities will further impede any effort on electronic government initiatives.

In a fair and rational society, all individuals have equal opportunity to participate in, or benefit from, the use of ICT resources by virtue of their citizenship, regardless of race, gender, religion, age, disability, language, or any other such factors. Empirical research in all nations confirms the growing gap between the rich and the poor, as well as between the well-educated

and the poorly educated users of ICT. As researchers broaden their scope to examine developing nations, the digital divide is of increasing concern and is essential to a developmental state.

A useful ensuing conceptual structure is depicted below. It consists of the enduring values in the top of the figure with supporting pillars consisting of the main focal areas and as a foundation, the factors that sustain the overall ICT policy framework.

7. CHANNELS OF e-GOVERNMENT SERVICES

The term channel connotes the means through which services are delivered to the customers. A Channel Strategy represents a set of business-driven choices about how and through what means services will be delivered to customers. The central theme of the e-Government framework is to enhance public service delivery through the phased electronic enablement of services.
However, provisioning services through electronic means is only beneficial if it facilitates the customers to access services anytime and anywhere in a more convenient manner. Identifying channels of customer's preference is a critical success factor for effective e-Government, as the choice of delivery channels has a major impact on the following:

- Technology infrastructure required to support the channel such as hardware, software and networking.
- Standard procedures and guidelines required to operate the channel.
- Organisation structure required to manage and deliver the electronic services such as skills, roles and alliances.
- Convenience and satisfaction for the customers in availing public services.

The public shall be given equal opportunity to reap the benefits of using e-Government services. An adequate and sufficient mechanism must exist to ensure that e-services are accessible to the public anytime anywhere. To this end the e-Government central portal, along with its information and services, shall be made available to the public at any time through the following channels:

i. Internet

Government services must be made available to the public through the e-Government central portal. In addition departments must adopt the standard website template that will be developed for all governments website to have the same look and feel. All government services shall be made available online through the internet 24/7 365 days are year.

ii. Mobile

Government services must be made available to the public through the use of mobile technology. Considering that most South Africans have access to a phone capable of connecting to the internet it is imperative that the

required infrastructure is developed to ensure that the services that will be made available on the central portal are also available through:

- Mobi site;
- Mobile apps (m-Commerce); and
- Unstructured Supplementary Service Data (USSD).

iii. Phone (Call Centre)

An e-Government call centre should be established that will assist with the following:

- Technical support for departments providing service through the central portal;
- Technical support for citizens and business that make use of services provided through the portal;
- Information on all e-Government service;
- The ability for citizens and business to perform a transaction through the use of the call centre.
- In addition, e-Government services must be made available to the public through the use of interactive telecommunications including interactive voice prompts.

iv. Digital TV

Through the implementation of digital set-top boxes by the Department of Communications (DoC), collaboration with DoC will be necessary to ensure that government services are made available to the public on the set-top boxes. An assessment must be performed to understand what information and services can be hosted through the set-top boxes.

v. Common Service Centres

Currently, the odd 75 Thusong centres already established provide citizens in rural areas with access to government services. In achieving this strategy the services currently offered at the Thusong centres will increase dramatically. An adequate training mechanism must exist to ensure that staff at the Thusong centres are capable to deliver on all government services available at these centres.

Furthermore, additional service centres must be established in order to transform service delivery in the public sector. Government must consider leveraging off the existing foot print of the South African Post Office (SAPO) in bringing government service closer to the public.

In addition Government must adopt a customer ICT assistance approach. This means that the public will be provided with assistance from government via various channels (e.g. Thusong centres, call centres, online intermediaries, etc.). Appropriate training manuals and/or videos should be made available online to assist the public in executing an electronic transaction.

8. STRATEGIC APPROACH

An efficient, effective and responsive government with better services is a strategic intent for e-Government in South Africa. The government envisions a connected and responsive one government, enabled by ICTs. In this intent, the government affirms that it embraces e-Government at all public sector levels. It will therefore promote, facilitate, and assist the achieving of this intent.

The government is set to address challenges related to e-Government implementation in the country. This framework states and suggests ways in which this intent will be achieved by:

- Establishing Institutional Framework and institutional mechanism to oversee the implementation of e-Government services programmes;
- Ensuring that there is establishment of a Legal and Regulatory Framework that supports the adoption and implementation of e-Government;
- Establishing a structure to facilitate efficient and effective citizen to government, government to government, government to business and government to employees interaction;
- Implementing a secure, robust, and interoperable e-Government Infrastructure;
- Leverage the use of ICT, within an effective e-Government environment, to meet vital socio-economic development goals;
- Seek active and direct participation of the private sector in the implementation of e-Government;
- Developing central e-Government services portal;
- Integrating e-Government services;
- Developing capacity and skills development programmes; and
- Establishing the e-Government call centres.

9. E-GOVERNMENT STRATEGIC OUTCOMES

This Strategy aligned with the National Integrated ICT Policy White Paper which outlines the need for digital transformation of public service for digital society development.

The following three strategic outcomes of the National e-Government Strategy and Roadmap are derived from the National Integrated ICT Policy White Paper directives on digital transformation of public service and the five pillars in the ICT House of Values are the required prerequisite for successful implementation of e-Government initiatives. The e-Government strategic outcomes include;

9.1. E-Government Services Transformation

ICTs to enable citizen participation and convenience require skills necessary for interacting with online services. Citizens now expect convenient and

instant service experience when interacting with government. This therefore calls for transformation of government-to-citizens solutions.

9.2. Enhanced e-Governance

Successful adoption of e-government services by citizens require government to integrate its e-government systems, while achieving the vision of offering stage 4 – connected presence as per the UN e-Government Maturity Model.

In order to achieve this outcome, focus will be given towards; integration of government systems, establishing core ICT infrastructure, improving governance of ICT, increasing skills capacity in government and digital literacy for citizens, and establishing institutional mechanists for e-government implementation.

9.3. Digitally-enabled Society

The World Summit on the Information Society (WSIS) identifies a range of interrelated components necessary to realize its vision of an inclusive information society. These include ensuring access to infrastructure, that the content and services available on Internet and mobile platforms are relevant and that people have the skills and knowledge to utilize ICTs safely. Implementing successful e-Government initiatives require the need to ensure that the adoption of ICTs for government service delivery does not expand the existing digital divide. In order to enable citizens to take advantage of benefits of e-Government, the following issues are addressed; access to ICT infrastructure, digital literacy, connectivity costs and inclusion.

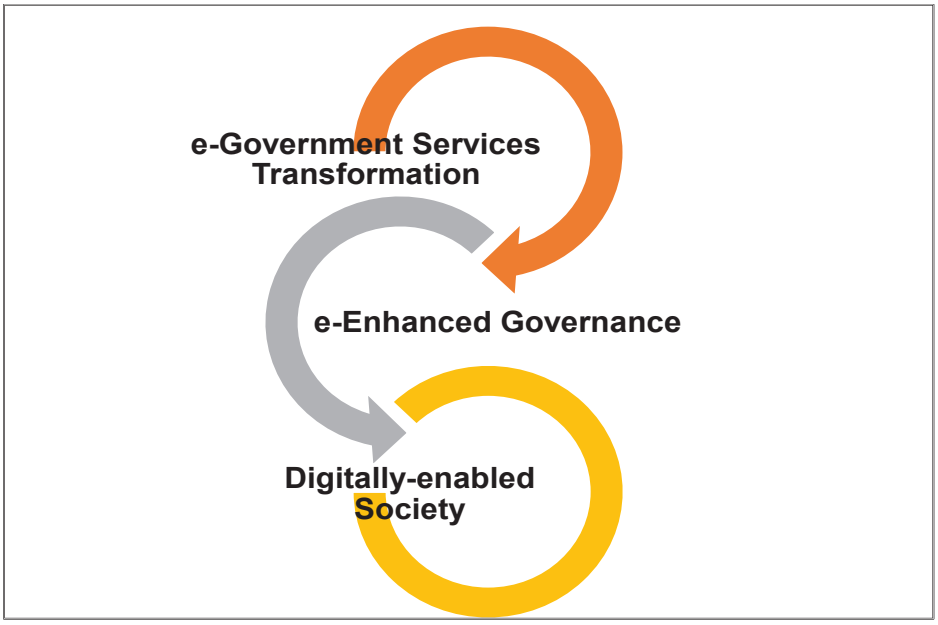

Diagram 1: National e-Government Model

The recommended strategic outcomes will be achieved through various projects that will address the strategic deliverables grouped in three main themes: enhanced e-governance, e-government services transformation and digitally-enabled society.

10. MAJOR INITIATIVES ON e-GOVERNMENT SERVICES

All government services that can be delivered electronically shall be delivered electronically and access to those services shall be made available via the central e-Government portal. South Africa currently provides a lot of information on the Batho Pele Gateway about government and on the services government provides. However there are still a vast number of government services which are not delivered electronically.
Therefore 150 government services can be considered for electronic enablement in a phased approach (This list is not static and could change before and during implementation of the strategic initiatives). In addition, these services have been clustered by departments as services will be phased into the portal, department by department. This is required to assist the departments in automating their business process to ensure back-end integration.

Key actions required for e-Government service initiatives that are required to be actioned are:

a. Development of an e-Government central portal that will become the front-end of government. The central portal will provide a single view of a citizen. All government transactions will be performed through the portal. The portal will provide for information and transactional service. The portal is to be developed and managed by SITA. Therefore, the SITA Portal will become the front-end of all e-Government services offered to the citizens.

b. The portal must adopt the following key principles/guidelines:

   i. The e-Government central portal will be rebuilt to make it more user-friendly and incorporate a search engine which will allow users to easily find a service.

   ii. The portal must be made available in each official language. This will drive take-up for e-Government and promote greater inclusivity.

   iii. The portal must cater for all citizens including citizens with disabilities.

iv. A standard template for the government websites will be developed to create standard look and feel for government online. All National and Provincial departments must ensure that all government department websites adopt the standard.

v. The portal must provide citizens with opportunity to give feedback on the functionality of the website as well as the quality of the service provided. This feedback could be through the system itself or through links with social media or electronic surveys where appropriate.

vi. The portal must provide the citizens with an opportunity to suggest potential new e- Services. This supports at least one of the Batho Pele principles, namely consultation. This principle provides the public with an opportunity to tell government what they want.

vii. The portal must exploit the benefits which social media can bring in raising awareness of public services and obtaining feedback from the public.

c. Back end integration of e-Government services: For South Africa to achieve a single view of the citizen through the central portal discussed above, the integration of government is essential in truly achieving a single view of a citizen as currently information (data) about each citizen is dispersed throughout each government department. Therefore, SITA must develop the integration infrastructure that is required to connect each department back-end systems with the central portal (Front-Office).

d. Additionally, SITA must develop a Government Master Data and Service Governance structure. Essentially this is the management of a large Data Warehouse that will centrally host all departments' information regarding a citizen or business in order to achieve a single view of a citizen and provide that personalised service offering to the public.

e. In delivering electronic services (e-Services) one should not simply take the existing processes and services and put them online. SITA must work with the all government departments in redesigning the business processes and rethink how government services should be delivered online. This redesign process would take into consideration the possibilities of sharing and/or using information that is available across all the three spheres of government as well as the integration of like services into a single transaction.

f. When the implementation of the proposed architecture is complete, the automation of process per department shall be performed in a

phased approach. The services shall be clustered per department and brought online in the phased approach. This will allow for a Proof of Concept (POC) with one department where bugs can be ironed out before rolling on all departments. In addition, SITA must leverage off lessons learnt during the POC when rolling out online services for the rest of the departments.

g. In order for South Africa to leapfrog into providing a truly personalised e-Government central portal where all users are able to transact online from one central portal as well as obtain information on all government services, it is imperative that SITA must work with all government departments to implement the e-Government Framework. The structures represented in the framework will provide for the integration of government departments, which is the key requirement in providing a personalised service offering online to all citizens and business.

h. Additionally, in successfully implementing the proposed common cloud ICT Architecture, it will enable the implementation of Government-to-Government (G2G) service.

i. Implementation of adequate security mechanism**:** The goal is to enable the use of a single sign-on using multi factor authentication mechanism to access all e-government services. Therefore, in achieving the strategic objective of effectively delivering integrated electronic service to the public, it is imperative that a single sign-on strategy is adopted for all government electronic services. This strategic initiative will achieve this by leveraging of and improving on the existing infrastructure in South Africa. Therefore, in order to achieve a single sign-on mechanism for all e-Government services, the following is required:

i. A risk based approach must be adopted for all online services and transactions meaning that the authentication mechanism used by the public to access and transact needs to be determined by the risk of the transaction. Therefore for basic services, such as account information, a single factor authentication is sufficient. Should the customer thereafter be required to perform an online transaction, such as submitting tax returns online, the use of e-ID to securely authenticate the user and authorise the transaction should be used.

ii. SITA in collaboration with government departments will be required to develop the infrastructure required to obtain single-sign on for all e-Government services through the central portal. This will be achieved by leveraging of the existing infrastructure that DHA and the South African Post Office have developed.

j. The use of e-ID technology for e-Government services will have to be adopted in compliance with the National E-Identity and PKI Strategy. The strategy will address, but not limited to, the following:

i. Authentication and securing of the identities of the parties to an e-transaction;
ii. Confidentiality, ensuring information is kept private;
iii. Integrity ensuring the information or process has not been modified or corrupted;
iv. Non-repudiation ensuring neither party can refute that the transaction occurred (i.e. the transaction is binding); and
v. The structure and regulatory framework for E-Identity and PKI.

11. ICT INFRASTRUCTURE FOR e-GOVERNMENT SERVICES

Robust ICT infrastructure: rapid advances in ICT infrastructure provide the means to get information to poor and marginalised communities in order to improve their quality of life. ICT plays a role in enabling the modernisation of government and its services. It allows both individuals and companies the opportunity to interact with government, using different forms of communication gadgets such as: Desktop computers, Laptops, Cell phones, Telephones, Self-service kiosks and ATMs. From this perspective, the quality of service delivery dictates the improvement of the ICT infrastructure.

The challenge facing public sector executives is how to make government service easier, quicker, cheaper, more efficient, and more responsive. The development of information communication technology is improving government services through information dissemination, interactive service delivery, and online interactions.

Some of the challenges facing the South African government are essentially historical. One of them is the digital divide that limits access to ICT services. Historically, the country's educational infrastructure has been segregated and unequal. ICT provision in schools still reflects this fact. South Africa needs ICT infrastructure – bandwidth, physical installations, hardware, and software that will serve all citizens well.

Research recognises that ICT infrastructure is one of the main challenges of e-Government. Internetworking is required to enable appropriate sharing of information and to open up new channels for communication and delivery of new services. For a transition to electronic government, architecture – that is, the guiding principles, models, and standards – is critical.

Security: As governments move towards the adoption of e-Government applications, security becomes a critical factor that influences its development at all stages. E-Government raises a potential problem concerning computer security. Security has received widespread attention

in the e-Commerce literature under the broad banner of information privacy. It is also noted that the security of information requires protective mechanisms to safeguard such information from unsanctioned or illegal intrusion.

One of the most significant challenges in implementing e-Government initiatives is computer security. For e-Government activities, service continuity is critical not only for the availability and delivery of services, but also to build citizen confidence and trust. However the risks of fraud and the misuse of sensitive data are concerns as well. The security/trust dimension is an important concern, although different levels of e-Government have differing needs in this area.

Portals that are at rudimentary stages are unlikely to give rise to security concerns in citizens. But as they mature, e-Government initiatives allow citizens to transact online, and require them to provide more information to online information systems, thus exposing them to hackers and viruses. The government needs to foster a sense of trust by limiting the sharing of personal identifiable information with entities to which citizens had not directly supplied that information.

From the preceding literature on ICT security, it is necessary that all spheres of government must design security features on their ICT systems when deciding to provide e-Government services. This creates the need for a clear and holistic approach to addressing and incorporating security at the various stages of the development models.

Privacy: It is very important part of e-Government services. The enhanced communication of the World Wide Web is embedded in social practice in such a way that citizens expect the communication protocol that guides everyday life to apply to cyberspace as well. If communication is dealt with appropriately, the adoption of e-Government could reduce resistance to using the World Wide Web.

Based on theories gathered about privacy, it is very much conclusive that portals at rudimentary stages are unlikely to give rise to privacy concerns in citizens. But as they mature, e-Government initiatives allow citizens to transact online, and require them to provide more information to online information systems, thus exposing them to various vulnerabilities. It is conclusive that governments need to foster a sense of trust by limiting the sharing of personal identifiable information with entities to which citizens had not directly supplied that information.

12. E-GOVERNMENT ROLE PLAYERS AND INSTITUTIONAL ARRANGEMENTS

A multi-stakeholders partnership approach drive the development of the best e-Government programme in developed and developing countries. This

approach provide means for all the relevant key stakeholder groups to be included in ways that not only demonstrate the value of their contributions but also provide for a synergistic impact that can be visible and that can be measured.

A programme approach at the National, Provincial and Municipal levels for implementation of the National e-Government plan, various Departments at National, provinces and municipalities levels are involved. Considering the multiplicity of agencies involved and the need for overall aggregation and integration at the national level, National e-Government Plan is being implemented as a programme, with well-defined roles and responsibilities of each agency involved. For facilitating this, appropriate programme management structures must be put in place.

The following governance model will guide the implementation of the National e-Government Strategy and Roadmap.

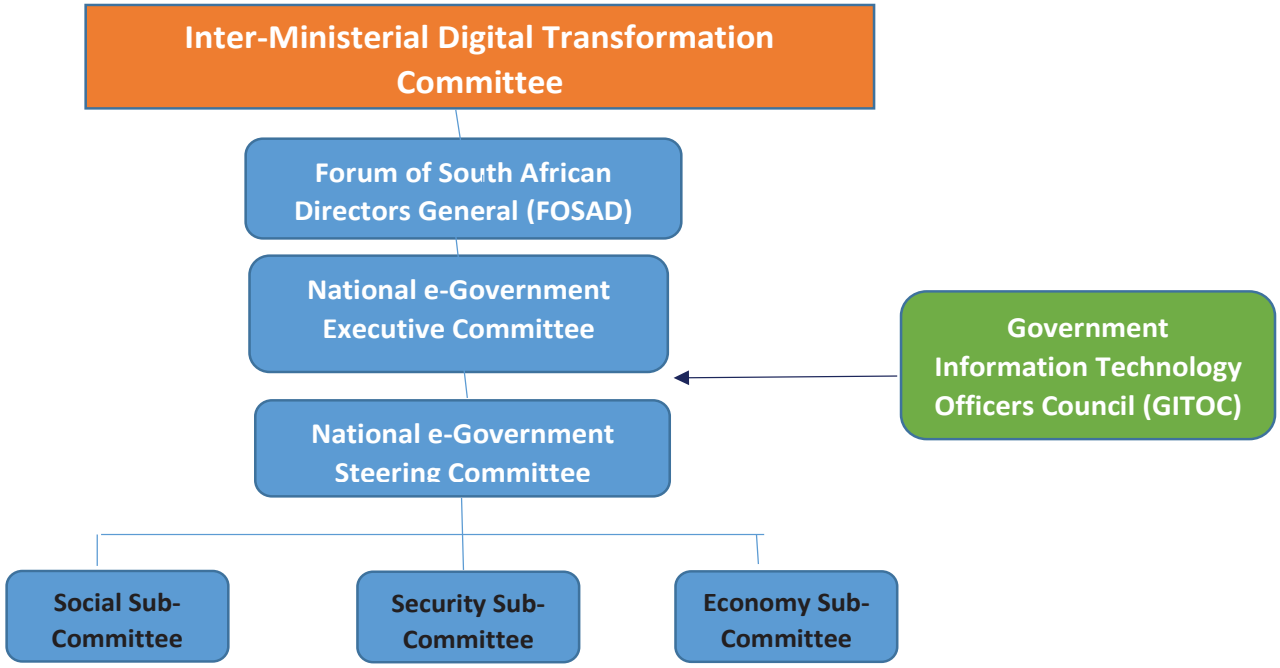

Diagram 2: National e-Government Governance Model

12.1. Institutional Mechanisms

- **Inter-Ministerial Digital Transformation Committee**

The National Integrated ICT Policy White Paper calls for the establishment of a Cabinet Inter-Ministerial Digital Transformation Committee. The Committee will be responsible for driving the e-Government programme across the public service and facilitating coordination of activities across government

to ensure that a whole-of-government approach is applied. The Digital Transformation Committee will be responsible for:

- Approving e-Government Plans for implementation of the National e-Government Strategy and Roadmap to realise and prioritise all policies included in this White Paper;
- Champion the establishment of an e-Government budget vote through National Treasury processes to secure dedicated funding for e-Government activities;
- To ensure e-Government policy and regulatory portfolio in alignment with government priorities and the MTSF (Medium Term Strategic Framework) outcomes. This will be achieved through the establishment of an MTSF directive on e-Government to ensure planning and evaluation of e-Government implementation by the different government departments;
- Direct the programme for change across the public service. It will facilitate coordination of activities across government to ensure that a whole of government approach is applied;
- Individual Ministries will be responsible for roll-out of ICT-related solutions in their specific focus areas. The Committee will assist in ensuring that any challenges faced by individual Ministries in implementation are addressed speedily and that Departments, Provincial and Local Governments are provided with strategic assistance where necessary; and
- The Committee will rigorously monitor progress against objectives.

The Committee will include Ministers of Telecommunications and Postal Services, Communications, Public Service and Administration, Planning, Monitoring and Evaluation, National Treasury, Cooperative Governance and Traditional Affairs, Health and Education. The Committee will be chaired by Minister in the Presidency.

- **National e-Government Executive Committee (NEEC)**

The National e-Government Executive Committee (NEEC) will be a supporting structure of the Cabinet Inter-Ministerial Digital Transformation Committee with the aim to coordinate and secure e-Government programme commitments across Departments. The Committee will be chaired by the Director-General (DG) of Presidency and will comprise the Chief Executive Officer (CEO) of SITA and DGs of DTPS, DPSA and National Treasury. The Committee will provide strategic guidance to government on issues of e-Government and report its plans and activities at the FOSAD (Forum of South African Directors General) before they could be tabled at the Cabinet Inter-Ministerial Digital Transformation Committee.

- **National e-Government Steering Committee**

The National e-Government Steering Committee will be an inter-governmental committee responsible for ensuring implementation of the National e-Government Strategy and Roadmap by government

departments and their entities. The Committee will be chaired by the DG of DTPS.

The Committee will have sub-committees on social, security and economy to address issues relating to government services by the relevant departments.

- **Government Information Technology Officers Council (GITOC)**

The GITOC will provide technical and advisory support to DTPS, DPSA and SITA on issues relating to digitisation of government services. The GITOC constitution is to be amended to include e-Government responsibility.

12.2. Roles and Responsibilities

- **Department of Telecommunications and Postal Services (DTPS)**

DTPS is the facilitator and catalyst for the implementation of National e-Government Strategy and Roadmap by various Government departments and also provides technical assistance through SITA and manages the programme. This will be achieved through the following activities;

- DTPS will lead the establishment of the Cabinet Inter-Ministerial Digital Transformation Committee and provide secretariat support to the Committee;
- Review all legislations affecting e-Government to harmonise the frameworks and to improve service delivery through ICTS;
- Drive the uptake of e-Government services within government and by citizens through communications and awareness campaigns;
- Develop strategies and programs to drive open government;
- Develop technology roadmaps on leveraging technological innovations (such as cloud computing, internet of things (IoT), big data, mobile innovations and data object architecture (DoA)) by government;
- Create a platform for the identification and coordination of projects
- Ensure compliance to government wide security standards and measures.

- **Department of Public Service and Administration (DPSA)**

The DPSA's responsibility is towards government process re-engineering and change Management, which are desired to be realised across all government departments.

- **National Treasury**

The National Treasury allocates funds for National e-Government Programme through Plan and Non-plan budgetary provisions and lay down appropriate procedures in this regard. The National Treasury will support the DTPS in the establishment of an e-Government budget vote to secure dedicated funding for e-Government activities.

- **National, Provincial and Local Government**

➢ The role for the National departments is to provide for e-Government services. Departments will identify and inform the DPSA and DTPS about various departmental Government-to-Citizen (G2C), Government-to-Government (G2G), Government to Employees(G2E) and Government to Business (G2B) services which can be delivered through SITA electronically. The Departments would further do the back-office computerization for the identified services at headquarter, provincial and district levels. Departments will provide the required support for framing policies. Departments will also take necessary action to make the delivery of e-Government services a success.
➢ The role for the provincial administration in the e-Government services is to coordinate provincial and municipal e-Government services with various departments and stakeholders and shall further organize the awareness and sensitization workshops for the masses.

- **State Information Technology Agency (SITA)**

SITA is responsible to improve service delivery to the public through the provision of IT, information systems and related services in a maintained information systems security environment to departments and public bodies; and to promote the efficiency of departments and public bodies through the use of IT. There is therefore a need to define a new role for SITA as a Digital Transformation Entity in the implementation of this National e-Government Strategy and Roadmap.
The delivery of government services would be mandatory for SITA especially at National and provincial level, and will work together with DTPS and DPSA in providing project management and other support to all e-Government projects.

13. MONITORING AND EVALUATION OF e-GOVERNMENT SERVICES

There is a lack of compliance by sector departments with regard to the identification, execution and implementation of e-Government projects. Most government departments view e-Government within the ambit of their internal departmental business needs, goals and initiatives. As a result, duplication occurs and there is no synchronised approach to the implementation of e-Government within the Public Service.

The DTPS will develop a Monitoring and Evaluation Strategy for e-Government implementation with indicators agreed to by all relevant stakeholders. The model for monitoring and evaluation of e-Government services projects will be developed and form part of the e-Government Monitoring and Evaluation Strategy. This model will serve as a tool for understanding what would be needed to change while developing and implementing projects and to assess the impact of the National e-

Government Strategy and Roadmap implementation in South Africa. The model will also serve as a guiding framework for South Africa to improve its global rankings on advancing digital transformation of government services.

14. FUNDING FOR e-GOVERNMENT SERVICES

Globally there has been a concerted effort to ensure the fast tracking of e-Government projects through a variety of financial models. The scale and scope of the interventions to be undertaken for South Africa to meet its e-Government objectives requires investment by public and private sectors.

Worldwide, the implementation lack of financial resources, and low levels of skills and limited capacity of governments are some of the main obstacles faced in pursuance of e-government nationwide. The introduction of Public-Private Partnerships (PPP) is seen as a solution to overcome many of the obstacles and challenges faced by governments in realizing the objectives of e-government projects. The PPP model is expected to increase opportunities for both the public and private sectors to serve their customers more effectively and efficiently. An environment conducive to private sector investment must be created through enabling policy and regulations for e-Government services. The different PPP models will be explored to identify the best option and these include; contracting for electronic services and ICT facilities management, co-ownership and co-financing of projects and use of build-operate-transfer (BOT) agreements.

In government, the implementation of this Strategy will need additional funding for transversal programmes and individual government entities. An e-Government Investment Framework should be developed by the DTPS in consultation with National Treasury. It is recommended that a dedicated e-Government budget vote be established, informed by this e-Government Investment Framework.

15. HIGH LEVEL IMPLEMENTATION PLAN

The National e-Government Strategy and Roadmap clearly sets out the vision for e-Government in South Africa and proposes what needs to take place to accomplish the vision. This section is part of the Roadmap that outlines the key actions which ought to take place to enable the implementation of this Strategy. This is a high-level action plan indicating broadly what is to be achieved, who will be responsible and the estimated timelines.
Once the National e-Government Strategy and Roadmap has been approved by Cabinet, the first key activity that will need to be undertaken by the DTPS is the amendment of the ECT Act and the Public Service Act in collaboration with DPSA. This will allow for the establishment of Cabinet Inter-Ministerial Digital Transformation Committee to oversee the development of detailed, integrated national e-Government plans. The successful digital

transformation requires extensive cooperation and collaboration between government spheres.
The DTPS shall in collaboration with SITA and the Inter-Ministerial Digital Transformation Committee, formulate plans for the establishment of the required e-Government infrastructure and the delivery of eServices to realise an inter-operable government. These plans shall include, at a minimum, a detailed work plan, relevant architecture plans and a detailed implementation plan. These plans will leverage off the current e-Government assets which SITA has already developed. These include the deployed portal, the respective departmental eServices and the SITA e-Gov Digital Strategy.
All Government departments should be aware of the detailed plan and continue to re-design their current business processes taking into account the requirements set out in this plan.

Throughout this process, the DTPS and DPSA in collaboration with respective departments must raise awareness of the eServices to increase the take-up. This may be accomplished by providing information on the eServices through various communication channels such as government websites, in press releases, print media on printed forms, advertising banners, radio, television and/or through the use of appropriate social media platforms.
SITA will be a technical leader in this digital transformation of government services journey, collaborating with the various government departments to realise a digital government that embraces citizen centricity.

Below is the high level implementation plan for the National e-Government Strategy over a 5 year period (2017 – 2021)

15.1. NATIONAL E-GOVERNMENT STRATEGIC INITIATIVES AND TARGETS

e-Government Strategic Outcome	Deliverables	Target (3 years)	Responsible party
1. E-Government Services Transformation	Establish a standardised open digital platform to allow for a connected government	2016- 2018	SITA and all other government departments
	Identify citizen facing Public Services that are candidates for electronic service delivery (such as to apply for certificates, permits, basic services, licenses, grants, etc.)	2017-2018	DTPS, DPSA and all other government departments
	Establish mobile sites to increase access to services	2017- 2020	DTPS and its entities

	Design and implement mobile innovations for offering mobile services	2017- 2020	DTPS, DST and SITA
2. E-Enhanced Governance	Development of a National e-Government Strategy and Roadmap	2016-2017	DTPS
	Development of a 3 Year eServices Implementation Plan (aligned to SITA eGov Digital Strategy)	2016-2017	SITA
	National audit of government ICT systems	2016- 2018	SITA
	Develop e-Government governance structure and plans	2017- 2018	DTPS and DPSA
	Develop an Open Government Framework	2018 - 2019	DTPS and DPSA
	Review/Refine Catalogue of Public Services across all spheres of government	2017-2018	DTPS and all other government departments
	Digitalisation of Government Business Services	2016- 2019	SITA and all other government departments
	Establish the e-Government common service centres	2017 - 2020	DTPS, GCIS, SAPO, SITA and all other government departments
	Harmonise the policy environment and legislative framework through the review all legislations affecting e-Government to harmonise the frameworks and to improve service delivery through ICTS.	2017- 2020	DTPS and DPSA
	Establish Cabinet Inter-Ministerial Digital Transformation Committee that will champion the implementation of e-Government in South Africa	2017-2018	DTPS and DPSA

	Re-focus of SITA as a Digital Transformation Entity	2017-2019	DTPS and SITA
	Developing e-Skills Strategy for e-Government services	2017-2019	DTPS, NEMISA and all other government departments
	Develop programme for re-skilling and capacitating the government employees to provide e-Services	2018-2021	DTPS, NEMISA, SITA, GITOC and all other government departments
3. Digitally-enabled Society	Develop e-Skills programmes for rural and underserved communities. Establish centres of excellence in the municipalities and provinces to capacitate and empower rural areas	2017-2021	DTPS, NEMISA and all other government departments
	Develop monitoring and evaluation strategy for e-Government	2018-2019	DTPS, Stats SA, SITA and all other government departments
	Establish a monitoring and evaluation system for e-Government implementation in South Africa	2018-2021	DTPS, Stats SA, SITA and all other government departments
	Develop communication and awareness plans for e-Government services roll-out across all levels of government to drive change management towards a paperless government	2017-2018	DTPS, DPSA and all other government departments
	Implement communication and awareness plans for e-Government services roll-out	2018-2021	DTPS, DPSA and all other government departments

16. RISK ANALYSIS AND MITIGATIONS

The impact of key decisions on the ultimate success of the e-Government implementation will need to carefully consider risk factors on an ongoing basis. These risks could be associated with any of the major components involved with the programme as detailed below:

- People: Availability of suitably qualified people, their understanding and appreciation of each project/programme, perception of programme's management on their work schedules and quality of work.
- Processes: Magnitude of change to existing business processes, security considerations, and changes that can stand the test of time.
- Technology: The choice of the appropriate technology, the need for the adoption of specific standards. The monitoring of selected standards to ensure a balance between opportunity and cost. Effective management of risks involves: identifying possible risks in advance, having processes in place to monitor risks, having the right balance of control in place to mitigate the adverse consequences of the risk, should it materialize; and establishing a decision-making process supported by a framework of risk analysis and evaluation.
- Active risk management helps the achievement of wider programme aims, such as: effective change management, the efficient use of resources, better programme/project management, minimizing waste and fraud, supporting innovation, and increased understanding and visibility of e-Government initiatives, leading to a more realistic estimate of timescale and costs.
- An initial set of risks for e-Government implementation has been listed in the table below:

Risk Mitigation	
Risk	**Mitigation**
i. Government departments are too slow to adopt the e-Government services to migrate manual processes to make them online services.	The DTPS and DPSA should collaborate to engage all government departments to encourage them to make e-Government services as part of their priorities.
ii. Lack of e-Governance structure	DTPS in conjunction with DPSA will develop the framework for e-

		Governance structure indicating responsibilities of each government departments.
iii.	Lack of capacity and availability of resources including availability of local skills to implement and use e-Government services.	Each government department will arrange training to re-skill people and to strengthen e-government services related skills
iv.	Cooperation and harmony among government entities in decision making for e-Government initiatives	Establish Inter-governmental working groups with clear authority over defined e-Government initiatives
v.	Ability and willingness of government entities to document and share their business requirements, processes, services, data and strategies	Active coordination among government entities to document and share information necessary for e-Government initiatives
vi.	Conflicting decisions among government departments	Use of inter-governmental working groups with clear authority to supervise and enforce e-Government policies and standards
vii.	Resistance to change	Increase awareness among stakeholders, raise accountability and enhance change management
viii.	Misalignment with other government entities	Invest in good coordination with key stakeholders and initiative owners

17. GLOSSARY

CoGTA	Cooperative Governance and Traditional Affairs
DOC	Department of Communication
DHA	Department of Home Affairs
DoL	Department of Labour
DPSA	Department of Public Services and Administration
DTPS	Department of Telecommunications and Postal Services
EGDI	e-Government Development Index
e-ID	Electronic Identity
G2B	Government to Business services are all services public bodies provide to businesses via electronic channels.
G2C	Government to Citizens services are all services public bodies provide to citizens via electronic channels.

G2G	Government to Government services are electronic non-commercial interaction between government organisations/ public bodies and authorities.
GITO	Government IT Officer (Chief Information Officer of a Department)
GITOC	Government IT Officer's Council (Includes various Standing Committees)
HANIS	Home Affairs National Information system
ICT	Information and Communication Technology. Also used as IT
IT	Information Technology. Also used as ICT
ISADR	Information Society Development and Research
OGCIO	Office of the Government Chief Information Officer (See PSICTM)
MIOS	Minimum Interoperability Standards
MISS	Minimum Information Security Standards
MOC	Minister of Communication
MPSA	Minister of Public Services and Administration
NBIS	National Basic Information System
NDP	National Development Plan 2030
NPC	National Planning Commission
OSS	Open Source Software
PKI	Public Key Infrastructure
Plan	A detailed scheme, program or method worked out beforehand for the accomplishment of an object
PNC on ISAD	Presidential National Commission on Information Society And Development
POC	Proof of Concept
PRC	Presidential Review Commission
PSICTMO	Public Service ICT Management Officer
RSA	Republic of South Africa
SAPO	South African Post Office
SARS	South African Revenue Services
SITA	State Information Technology Agency
UN	United Nations

ANNEXURE A – IDENTIFIED DEPARTMENTS WITH PROPOSED e-SERVICES CATALOGUE

National Department	Proposed services	Service Description
1. Department of Transport	Driving and Motor Vehicle Licences	• Register personalised number plate • Renew motor vehicle licence • Apply for a motor vehicle licence • Notification of change of address or particulars of a person or organization • Apply for a temporary permit • Change of ownership or sale of a motor vehicle • Apply for certificate/duplicate document in respect of a motor vehicle • Confirm motor vehicle detail changes • Apply for traffic register number • Apply for a roadworthiness certificate • Register as a driving instructor • Register a driving licence testing centre • Register as a testing station • Register and licence a vehicle • De-register (scrap) a motor vehicle • Apply for a learner's licence • Apply for a driving licence • Apply for letter of authority in respect pf motor vehicle • Apply for a professional driving permit • Renew driver's licence • Register as a manufacturer/importer/builder of vehicles / Make an oath to build up a motor vehicle • Apply for motor trade permit and number • Apply for a temporary driving licence • Apply for special classification in respect of licence fees • Apply for refund of licence fees • Apply for replacement of lost or stolen driver's licence • Apply for exchange of foreign driver's licence

2. Department of Social Development.	Social benefits	• Child support grant • Disability grant • Foster child grant • Care dependency grant • Enrol on new grant payment system • Social relief of distress • International social services (ISS) • War veterans grant • Old age pension • Admission to old age home • Grant in aid • Admission to old age home • Register as a community based caregiver for older persons • Register as caregiver for older persons • Closing an older persons residential facility • Register as a community based caregiver for older persons • Register a non-profit organisation
3. Department of Health	e-Health	• Enables citizens (patients and caregivers) to access and manage personal medical Information (certification, fees, and account management). • Advice to South Africans in the event of death abroad • Give notice of death • Admission into a mental health institution • Communicable diseases • Register medical aid scheme
4. Department of Basic Education (DBE)	e-Education	• School management system • Students enrolment system • Distance learning • Infrastructure and assets management • Apply for reissue of matric certificate (Application for the re-issue of a matriculation certificate) • Apply for the registration of a learner for home schooling • Apply to register as an educator • Apply to register with an ABET centre • Provide Admission to school services • Apply for accreditation as a service provider (Application to SAQA accreditation as a service provider)

		• Apply for evaluation of foreign qualifications • Accredit Education and Training Quality Assurance body (ETQA) • Verify qualification achievements on the National Learners' Records Database
5. Department of Higher Education and Training (DHET)	e-Higher Education	• Register as a private higher education institution (Application for registration as a private higher education institution) • Register with tertiary institution • Apply financial assistance from the National Student Financial Aid Scheme (NSFAS) • Apply to register as an educator • Register as tertiary institution • Apply for accreditation as a service provider (Application to SAQA accreditation as a service provider) • Apply for evaluation of foreign qualifications • Accredit Education and Training Quality Assurance body (ETQA) • Verify qualification achievements on the National Learners' Records Database
6. National Treasury	Financial management system, procurement process and related services.	• Procurement system • PFMA management system. • Monitor provincial infrastructure development • Monitor municipal financial management reforms • Payment of pension benefits and contributions to funds (including special pensions) • Payment of contributions to medical aid schemes • Payment of risk and administration fees to the Political Office Bearers' Pension Fund • Provide special pensions awareness campaign • Payment of military pension benefits • Payment to service providers for medical expenses

7. Department of Trade and Industry	Business registration, business incentives, intellectual property etc.	• Business Process Services (BPS) Incentive • Co-operative Incentive Scheme (CIS) • Clothing and Textile Competitiveness Improvement Programme (CTCIP) • Export Marketing & Investment Assistance Scheme (EMIA) • Production incentives (PI) • Sector Specific Assistance Scheme (SSAS) • Section 12i Tax Allowance Incentive (12i TAI) • Support Programme for Industrial Innovation (SPII) • Technology and Human Resources for Industry Programme (THRIP) • Tourism Support Programme (TSP) • Application for the registration of a patent • Registration of Trademark • Application to register a copyright • Register a design
8. Department of Correctional Services	e-correctional services	• Provide safe, secure and humane conditions of incarceration • Manage access to Correctional facilities • Manage payments of bail and fine at correctional facilities • Schedule visitation of inmates • Induct/Orientate Civilians about Prisons • Manage complaints • Attend to reported incidents • Provide health care services • Conduct recreational programmes • Offer personal development services to offenders • Provide after-release supervision
9. Department of Home Affairs	e-Home Affairs	• Register birth • Apply for identity document • Register foreign birth • Apply for citizenship • Register marriage • Apply for consent of marriage of a minor • Apply for adoption • Apply for child passport • Apply emergency travel certification • Apply for maxi passport • Apply for official passport

		• Apply for crew member certificate • Report lost/stolen tourist passport • Report lost/stolen child passport • Request document for travel purpose • Report lost/stolen maxi passport • Report lost/stolen document for travel purpose • Re-register child born out of wedlock • Change gender • Change Surname of Minor • Change Surname of Major • Change Forenames • Correct of error(s) • Insert forenames in the birth register • Insert biological father's details in the birth register of his child • Register death • Apply for death certificate • Register death outside south Africa • Apply for permanent residence • Apply for VISA
10. Department of Labour	Work related services	• Apply for registration on an amalgamated bargaining council • Provide information on how to pay the Compensation Fund • Report an occupational accident to the Compensation Fund • Apply for the essential services committee for a determination that the whole, or part of the employer's business, is a maintenance service • Apply for registration as a bargaining council • Apply for certificate of accreditation of private agency rendering dispute resolution • Notify the Nedlac a trade union or a trade union federation is considering protest action services • Refer a dispute to the CCMA for conciliation or conciliation-arbitration (con–arb)

		• Apply for registration of an employee's and employer's trade union with the Department of Labour • Request the CCMA to secure agreement on picketing rules during a strike or lockout • Request the essential services committee to conduct an investigation to determine if the whole or part of any service is an essential service • Submit earnings statements to the Compensation Fund • Apply to set up a learnership as a training provider • Apply to join a learnership if you are unemployed • Apply to set up a learnership if you are an employer • Apply for adoption benefits • Apply to register an occupational disease
11. Department of Justice	e-Justice	• Consult family advocate • Marry under customary law • Provide equality/discrimination services • Report estate of the deceased • Change the amount of maintenance • Register trusts • Apply for rehabilitation by insolvents • Protect children accused of crime/in trouble with the law • Apply for a maintenance order • Apply for a domestic violence protection order • Request a further warrant of arrest of a domestic violence respondent • Notify for the rescission of the order of adoption • Recover debt • Apply for the adoption a child • Make an affidavit regarding contravention of a protection order

		• Obtain legal advice • Apply for an adoption of a foster child • Apply for variation or setting aside of a protection order • Consent/withdrawal of consent by a parent or guardian of a child for adoption • Pay maintenance
12. Department of Agriculture, Forestry & Fisheries	e-Agriculture	• Report on statistics on fresh produce markets • Report on monthly food security bulletin • Report on crops and markets • Issue import permits for plants, plant products and other regulated articles • Import permits for plant propagation material and crops grown in the Western Cape • "Report on Pest information package (PIP) • "Register phytosanitary and approve production units, pack houses and inspection points for export for fresh fruit • "Provide pest incursion responses • "Provide quarantine pest incursion responses • Report on plant health information material • Report on plant health diagnostic services • Provide plant quarantine • Inspect official ports of entry • Import/export of genetically modified organisms (GMOs) • Provide use of genetically modified organisms (contained use, trial release, commodity clearance, general release) • Register facilities • Provide GMO status certificates • Export certificates for liquor products • Export exemption certificates • Import certificates for liquor products • Register agricultural production inputs (fertilizers, farm feeds, agricultural remedies, stock remedies, pest control operators and sterilizing plants) • Issue import permits (animals and animal products)

		• Facilitate exports of animals and animal products • Coordinate the prevention and control of animal diseases (such as foot-and-mouth disease, avian influenza, etc.) • Approve import and export facilities • Register animal identification marks • Provide veterinary services information distribution • Provide natural disaster early warning system—early warning monthly NAC advisories on disaster prevention, preparedness and reduction • Provide natural disaster early warning—severe weather warnings • Provide information and advisory services • Provide production guidelines • Provide seed testing services • Provide training programmes on production and related matters • Provide training programmes on seed testing • Provide training programmes on seed testing • Provide certification of schemes • Register premises (nurseries, seed cleaners, packers, sellers and test laboratories) • Issue export certificates for seeds • Issue plant export certificate • Issue authorizations for the import of unlisted varieties of plants and propagating material • Provide variety listing • Provide animal and aquaculture production advisory services • Authorize import and export of animals and related genetic materials
13. Department of Human Settlements	Housing related applications	• Apply for people's housing process • Apply for Individual housing subsidy • Apply for relocation assistance • Apply for project linked subsidies. • Apply for hostel redevelopment programme • Apply for rural subsidy • Apply for consolidation subsidy • Apply for discount benefit scheme

		• Apply for institutional subsidy • Apply for public sector hostel redevelopment funding