



**SOUTH AFRICAN
INFORMATION TECHNOLOGY INDUSTRY
STRATEGY PROJECT**

**REVIEW OF POLICIES IMPACTING THE ICT SECTOR:
POLICY & LEGISLATIVE REVIEW**

FEBRUARY 2002

*“Fuelling the Information Economy:
To develop a strong South African
ICT Sector to contribute to
sustainable economic growth,
social upliftment and
empowerment.”*



Canadian International
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EXHIBIT 1: LIST OF POLICIES AND LEGISLATION

ABBREVIATIONS

AS: Academy of Science
BTT: Board on Trade and Tariffs
DACST; Department of Arts, Culture, Science and Technology
DoE: Department of Education
DoC: Department of Communications
DoF: Department of Finance
DoL: Department of Labour
DPE: Department of Public Enterprises
DPSA: Department of Public Service and Administration
DTI: Department of Trade and Industry
GITO: Government Information Technology Officers Council
IAB: Immigration Advisory Board
IBA: Independent Broadcasting Authority
ICASA: Independent Communications Authority of South Africa
IDC: Industrial Development Corporation
IIDC: Information Industry Development Council
IISA: Information Industry South Africa
ISETT: Information Systems, Electronics and Telecommunications Technologies SETA
NACI: National Advisory Council on Innovation
NRF: National Research Foundation
NSA: National Skills Authority
SARS: South African Revenue Service
SATRA: South African Telecommunications Regulatory Authority
SETA: Sector Education and Training Authority
SIP: Strategic Investment Programme
SITA: State Information Technology Agency
TISA: Trade and Investment South Africa
UNCITRAL: United National Commission on International Trade Law
USA: Universal Service Agency
WIPO: World Intellectual Property Organization
WTO: World Trade Organization

1. INTRODUCTION

1.1 This review has been conducted as part of the first phase of a study commissioned by the SAITIS Project Office to identify and assess the policy, legislative and regulatory environment that impacts the Information and Communications Technology (ICT) Sector.

1.2 The ICT sector has been the subject of detailed research and debate over the space of several years. Thanks to, among others, the SAITIS project, an extensive public / private consensus has developed regarding the core objectives and strategies that should be pursued to build a vibrant ICT sector in South Africa. The fruit of that debate has been extensively documented in the Department of Trade and Industry's (DTI) *Information and Communication Technology Strategy for South Africa (ICT Vision)* and *SAITIS ICT Sector Development Framework (SAITIS Framework)*. The *SAITIS Framework* provides a detailed road map of goals and supportive actions to be implemented by government and private sector alike. For this reason, the *SAITIS Framework* provides the review with a logical point of reference.

1.3 At the same time, the ICT sector presents policy-makers with unique and difficult challenges. One of the most prominent is the rapid development of technologies, requiring policy-makers to constantly play "catch up" as new legislative and regulatory challenges arise. As highlighted below, South Africa does not yet have a comprehensive ICT policy, but merely a range of sectoral ICT policies that address the issue in varying degrees of depth. In this respect, South Africa is not unique. Nor is the absence of a comprehensive policy necessarily a reflection on the diligence of its governing institutions. Rather it is the result of the speed with which developments occur in the sector and the complexity of the issues involved.

1.4 While developments within the ICT sector requiring the attention of policy-makers are vast, they are not all occurring at the same pace. For example, commercial transactions via the Internet are already a reality in South Africa and elsewhere in the developed world. By contrast, while some broadcasting is already occurring via the Internet, eg free-to-air radio broadcasting, the broadcasting of television programmes on a universal scale is still some way off in South Africa because of limited internet penetration.

1.5 These realities imply that ICT policy priorities will be influenced, to a large extent, by the current state of technology. The pace at which technology is expected to develop over the medium term will, in turn, determine longer-term priorities. The rapid development of e-commerce has already highlighted significant gaps in existing laws. Hence the pressing need for legal reform to accommodate issues such as electronic signatures. By contrast, South Africa still has the luxury (albeit for a limited period of time) to consider its policy responses to issues such as the convergence of broadcasting and telecommunications. This breathing space can be used to South Africa's advantage. It allows policy makers the benefit of comparison with approaches in other countries, and permits them to avoid pitfalls that have overcome policy-makers elsewhere. Eventually, it can assist to tailor an ICT policy best suited to South Africa's unique circumstances.

1.6 For understandable reasons, the development of legislation for the ICT sector has lagged behind. In most cases, policy responses are still being developed or were only recently finalized.

The delay in introducing legal reform is, however, becoming a pressing constraint. It has been emphasized that electronic commerce requires a high degree of certainty about the rules that apply. In the absence of such rules, business is constrained and will go elsewhere. As highlighted below, South Africa has a backlog compared to recognized ICT leaders such as Ireland and Singapore. Not all policy requires law to ensure implementation. However, legislation does signal the seriousness of policy-maker's intent. Hence, it can only be to South Africa's benefit to create a predictable legislative environment in which the ICT sector, and especially e-commerce, can flourish.

1.7 In conducting our review, we have been struck by the large number of policy documents that touch, extensively or in passing, on the ICT sector. Existing policies contain nothing which appear to present a constraint to the sector's development. However, the mass of words does highlight the need to move from policy formulation to implementation.

1.8 In our preliminary view, the absence of a formal **governance structure** for the ICT sector poses a serious constraint to the pursuit of the policy objectives and goals that have been formulated for the ICT sector. The *ICT Vision* emphasizes the need for the extensive co-ordination and highlights the complexity of the issues confronting the sector. Similarly, the *SAITIS ICT Sector Development Framework* contains preliminary proposals for such a structure based on a partnership approach. Tentative reforms have been made through amendments to telecommunications legislation to clarify policy responsibility for ICT sector. However, these reforms do not address core governance concerns. As we discuss below, there are convincing reasons why such an ICT governance structure should preferably be created through legislation. Without it, we fear that the task of translating admirable policy goals into real results will be arduous and protracted.

1.9 Although not part of this project brief, a comparative analysis of approaches in countries recognized as ICT "leaders" was undertaken to extract context trends for the purpose of this review. Although individual approaches in countries such as Canada, Ireland, Malaysia, Singapore and Ethiopia differ, it is noteworthy that a strong emphasis on establishing **governance structures to provide co-ordinated support** to the sector is a common theme. Moreover, government's ICT sector initiatives are usually placed under **high level** political leadership¹. This ensures that **intra-governmental co-ordination** can be secured to synergize policies and programmes driven by various government departments and agencies. **Business** and **academia** are often given a central role in advising government on appropriate policies² and the civil sector is drawn in as a co-partner in government initiatives to attract investment (especially foreign) in the ICT sector³. **Legislation** forms the backdrop to providing a comprehensive governance structure that accommodates the challenge of **convergence**⁴. At the same time, leading ICT countries have

¹ Prime Minister (Ireland, Ethiopia), deputy Prime Minister (Singapore).

² Eg, the Information Society Commission of Ireland, chaired by the former president of Dublin City University draws on high level representation from universities, hardware (IBM, Compaq) and software companies and NGOs.

³ An example is the creation of a **digital hub** in Dublin in terms of special legislation setting up a statutory agency. The digital hub has at its core an agreement with the Massachusetts Institute of Technology to establish its European media lab in Ireland. Similarly, Singapore's Info Communications Development Authority (IDA), may enter into joint ventures with the ICT sector.

moved rapidly to reform laws to support commercial and government activity in the digital environment by adopting laws on **e-commerce**⁵. As discussed in greater detail below, legislation is actively used in these countries to signal the seriousness of policy-makers intent in creating stable and enabling frameworks within which e-government, e-business and supporting ICT applications and services can flourish.

2. METHODOLOGY AND SCOPE OF THIS REPORT

2.1 This report represents the results of a policy and legal review of **current** government policies and laws relevant to the ICT sector. The findings are based on a documentary scan, expanded by input gained from a Workshop on a First Draft of the report and by telephonic interviews.

2.2 The brief for this review required an assessment of the **impact** of existing policies and laws on the sector. All policy is dynamic, especially in the ICT sector. Most existing policies represent a “work in progress” as individual government departments grapple with the modalities of integrating ICTs in their activities (e-government) and formulating policies that accommodate ICTs in their areas of responsibility. So far, no comprehensive ICT policy as such exists, and perhaps this is unlikely given the speed with which technology develops in the sector. **Hence, our findings merely reflect a “slice in time” and were not able to fully take into account numerous ongoing activities within various government departments to address the individual ICT priorities.**

2.3 As our review amounted to a mere “assessment of words” contained in individual policies and legislation, it is not possible with a narrow brief such as this to identify and explore all areas of social and economic impact that may, over time, evolve from the implementation and enforcement of the policies and laws. De facto, lack of implementation or enforcement may render the intent in policy and legislation of little value. Moreover, current potentially enabling or promoting provisions may in the long term prove to be potentially constraining due to the dynamic pace of the sector. Findings, thus, reflect glaring short to medium term impact.

2.4 Policies and laws were tested as to the extent to which they are sensitive to the objectives of the four main goals of the **SAITIS ICT Sector Development Framework**. Considerations applied in evaluating sensitivity to the SAITIS Framework goals, included:

- Whether a policy or act addressed ICT issues or was silent thereon;
- Whether the absence of reference to ICT issues in general or specifically was potentially constraining, neutral to or enabling the development of the ICT sector;

⁴ Eg, the Malaysian Communications and Multimedia Commission is established as the regulator for telecommunications and broadcasting, while overseeing the IT industry and regulating on-line services. It is responsible for economic, technical and social (content) regulation, as well as consumer protection.

⁵ Ireland, Malaysia and Singapore have already all adopted e-commerce legislation. Malaysia recently adopted a Telemedicine Act.

- Whether existing references and provisions were potentially enabling, neutral to or constraining further development of the ICT sector.

2.5 The policy and legislative framework contains policies and legislation that may be considered as of higher rank in so far as they address the economy as whole, eg. GEAR and labour legislation, whilst others address individual sectors of the economy, eg. the Telecommunications Policy and Act. Despite this hierarchy in scope, the individual sector policies and legislation all have an equal standing and thus have not been weighted in terms of impact on the ICT sector. Considering the inescapable fragmented nature of the ICT sector, an arbitrary weighting of policies may have little value as the development of the sector as a whole is dependent on the success of all its constituent policies and legislation. This brief is not intended to weigh individual sector policies in order to list them in terms of value to the ICT sector, the approach is rather to identify those policies and legislation which may be potentially constraining the future development of the ICT sector with a view to prioritising action steps towards the improvement of the enabling environment for the ICT sector.

2.6 Details of existing policies and laws are contained in the 4 annexes that correlate with the 4 goals adopted in the SAITIS ICT Sector Development Framework. As stated above, the *SAITIS ICT Sector Development Framework* provided a logical starting point for the review. Hence, the four annexes respectively cover its four main **goals**, ie:

- Goal 1: Robust, growing and sustainable **ICT sector**, with equity;
- Goal 2: Increased **use** of ICT as an enabler for social-economic development, with equity;
- Goal 3: Knowledgeable and growing ICT-skilled **workforce**; and
- Goal 4: World-class culture of ICT **innovation**.

2.7 It is fully recognized that many of our findings identifying current potential constraints may rapidly become outdated. For example, we have highlighted the pressing need for legal reform to fully facilitate e-commerce in respect of which existing law is a **constraint**. It has, however, recently been reported that the Electronic Transactions Bill is the first to be tabled during 2002. Similarly, we view that absence of a comprehensive ICT governance framework in legislation as a serious **constraint**. Recent amendments to the Telecommunications Act have partially clarified the issue in giving the Minister of Telecommunications responsibility to develop an ICT strategy. It is recognized (and recommended) that such strategy will comprehensively address the governance issue. Once formulated, we expect that the strategy will, in turn, result in more extensive legal reform that fully clarifies policy, institutional and operational responsibilities. As experienced in countries like Canada, once the governance dimension is clarified, understanding is able to evolve regarding the cross-cutting and individual priorities of government departments and agencies. This eliminates the need for government agencies to “compete” to secure resources to achieve ICT individual goals as a firm basis is laid for a comprehensive assessment of cross-cutting priorities supported by effective co-ordination and planning.

3. IMPLEMENTING THE SAITIS ICT DEVELOPMENT FRAMEWORK: POLICY, LEGISLATIVE AND REGULATORY REVIEW

Policy context

3.1 As a sector, ICTs have only recently received attention from policy-makers. Unlike other more established sectors such as telecommunications, several years or even decades have not been spent developing and refining an ICT policy. The relative youth of the sector has made analysis particularly difficult, as existing sectoral ICT policies are still very much a “work-in-progress”. Where existing policies touch on ICT issues, they often (a) either provide only partial guidance, (b) acknowledge the need for policy, but sidestep the issue or (c) flag it as a subject for future consideration.





3.2 Against this background, it is axiomatic that South Africa has no comprehensive ICT policy. The *SAITIS ICT Sector Development Framework* provides the closest approximation to a policy for the ICT sector. For this reason the Framework was applied as a template to analyse existing policy and laws as documented in the annexes. As mentioned in section 1, the absence of a comprehensive policy is (a) both understandable in terms of the rapid development of ICTs and (b) an opportunity for South Africa to develop a policy response that is flexible, dynamic and tailored to its unique circumstances.

3.3 In undertaking our review, our assessment of impacts of various policies has been influenced by the following considerations:

- **“Vintage”.** It is noteworthy that earlier policies, eg GEAR, pay less attention to ICTs compared to those formulated in the past two years. This is understandable given the rapid developments in the sector and the increase in its profile since the mid-nineties.
- **Origin.** A large number of policy frameworks impact on the ICT sector. However, they all ultimately reflect the different priorities and pre-occupations of the various government departments. For this reason, the degree to which ICTs is isolated as an issue in policy documents, also varies. For example, the Department of Education’s (DoE) *Strategy for Information and Communication Technology in Education* is highly specific about the desired ICT outcomes in the education sector. By contrast, the Department of Labour’s (DoL) *Employment Strategy Framework* does not address ICTs as a sector, but formulates generic principles of labour policy for the economy as a whole.
- **Application.** It remains axiomatic that the true test of policy lies in **implementation**. This refers both to (a) the degree to which decision-makers adhere faithfully to declared policy and (b) the inherent soundness of policy principles and guidelines. Our review amounts to a mere verification of the “words” that contain policy. Whereas those “words” may be sound, policy implementers determine whether the stated goals are, in fact, achieved or frustrated. The recent (and continuing) debate about ICASA’s regulatory independence and role underlines this point.

The policy framework

3.4 Our preliminary assessment indicates that existing policies, while fragmented, are essentially **neutral** to **enabling** in respect of the ICT sector. In certain cases, where specific ICT policies have been formulated, eg in education, e-commerce, etc, they appear to be forward-looking and are **enabling** in terms of the goals and objectives contained in the *SAITIS ICT Sector Development Framework*. These conclusions are documented in the following figure:

	Potentially Constraining	Neutral	Enabling / Promoting
Science and Technology White Paper: Preparing for the 21 st century			X
White Paper on Broadcasting Policy (1998)			
A Green Paper on Electronic Commerce for South Africa (2000)			X
White Paper on Telecommunications and Policy Directions issued by Minister of Communications			
ICT Sector Development Framework (2000)			X
Strategy for Information and Communication Technology in Education			X
An Employment Strategy Framework (1998)		X	
Policy Framework for an Accelerated Agenda towards the Restructuring of Public Enterprises (2000)		X	
Electronic Government: The Digital Future – A Public Service IT Policy Framework (2001)			X
Growth, Employment and Redistribution (GEAR) – A Macroeconomic Strategy		X	
Driving Competitiveness: An Integrated Industrial Strategy for Sustainable Employment and Growth (2001)			
Financial Access for SMME (2001)			

3.5 A number of specific policies (and supporting legislation) have been identified as impacting the ICT sector directly. In the case of some policies and laws (e-commerce, labour, education and training, immigration and intellectual property) we have discussed their assessed impacts in detail in the next section. Our findings with regard to the remainder are summarised briefly below:

Telecommunications and broadcasting

The crucial and central role of telecommunications policy as a pillar of the ICT sector is recognized in several policy documents. Reforms undertaken during 2000 recognize the growing convergence between telecommunications and broadcasting. The merging of SATRA and the IBA within ICASA gives content to the need for a single regulator for the two sectors and is in line with developments in leading countries such as Malaysia and Singapore. However, current legislation does not yet accommodate the need for an integrated regulatory approach to telecommunications and broadcasting, as ICASA is still required to perform its functions in terms of the Telecommunications Act, 1996 and Broadcasting Act, 1999, which reflect different regulatory approaches. Existing legislation also does not address the issue of technological convergence, beyond instructing the IBA (now ICASA) to research a regulatory regime for convergence. These deficiencies have been recognized by ICASA, which has consistently advocated the need for a consolidation of existing legislation into a “Communications Act”. As discussed below in greater detail, the current fragmented regulatory framework has now been perpetuated by recent amendments to the Telecommunications Act that impose the duty on the Minister of Telecommunications to develop an ICT strategy, amongst others to “facilitate convergence”. How the potential conflict between the statutory duties imposed on the Minister and ICASA in terms of the two laws should be resolved, is not addressed. It has been reported that a Multi-Media Bill, addressing matters of content convergence is under preparation.

Notwithstanding the above deficiencies, recent **policy directions and legislative amendments** have confirmed the process of managed liberalization of the telecommunications sector that entrench a basic pro-competition stance. Legislation can, therefore be described as more enabling of the ICT sector than previously, as increased competition stands to benefit business through changes to the market structure, in offering a choice of operators for the provision of bandwidth. It is variously emphasized that telecommunication infrastructure should be competitive enough to offer competitive prices for bandwidth. The introduction of a service-based competition three years from May 2002 will put pressure on the network operators and may be expected to result in affordable service tariffs. The five-year monopoly granted to Telkom in terms of existing law was viewed as a big hindrance for the development of the ICT Sector. It created a monopoly, which was deliberate to allow the part privatisation of Telkom to be achieved. Existing regulatory policy has, therefore also functioned as a constraint as witnessed by the fact that Telkom has taken VANS operators to court on various issues of dispute. Despite, the expected benefits of managed liberalization, concern on government’s ownership interest in second national operator (SNO) (set aside for ESKOM and Transnet) has been noted as potentially constraining investment and competition.

To the extent that more predictable, conclusive and transparent regulatory procedures are introduced, it is likely that regulatory policy will pose fewer constraints. Legislation is also more enabling for other ICT sector objectives such as skills development and improved access. Amongst others, legislation now entrenches an e-rate for public schools and further training institutions to accelerate the delivery of Internet access to underprivileged areas. Revenues from the Universal Service Fund are also expressly targeted towards the establishment of call centres, public information terminals (which also supports a wide range of e-government objectives), the facilitation of multimedia services and support of SMMEs and co-operatives to acquire and

construct telecommunications infrastructure in under- or non-serviced areas⁶. Subject to the provisos discussed above, current telecommunications policy and legislation is generally **neutral** to **enabling** in the short to medium term. Industry, however reported concerns that should the intent of policy directions by the Minister of Communications to introduce further liberalization in the medium to long-term not materialize, the provisions of the current legislation will have significant constraining impact in the long term. It is noteworthy, that the assessment of the constraining or enabling nature of the current Telecommunications Policy (Directions) and Act was a particularly complex due to the concept of “managed liberalization. Although, a number of enabling short to medium term high impact measures were introduced and a window to future liberalization is opened, many uncertainties in terms of the nature and extent of further long term) liberalization remain.

In the case of the Broadcasting Act, 1999 and Independent Broadcasting Authority (IBA) Act, 1996, the following constraining elements should be highlighted:

Sec 48 of the IBA Act introduces limitation on foreign ownership. Also, Sec 49 introduces restrictions on the number of FM Radio licences an operator may control. These limitations were justifiable five years ago when the law was enacted for the purpose of “freeing the air-waves”. With the consolidation of demand due to financial constraints and available advertising revenue, the grounds for these restrictions have largely fallen away and hence the relevant provisions should be reviewed.

Industrial policy

The impacts of the recently formulated industrial strategy are discussed in further detail below. As the strategy has been formulated in generic terms, it does not propose specific sub-policies for the ICT sector. However, it strongly recognizes the role of ICTs in shifting South African industry into knowledge intensive mode and in that sense is **enabling** of ICT sector objectives. The DTI’s new Industrial strategy also makes the significant point that there is a need for increased co-operation between the DTI and other government departments with regards to those economic sectors previously dominated by public or quasi-public enterprises. The need for **co-ordination** is a central pillar of an integrated governance structure for the ICT sector. This underlines our earlier conclusion (see 1.8), that the lack of such a structure is currently the main impediment to the achievement of the policy goals set out in the *SAITIS ICT Sector Development Framework*. The Minister of Trade and Industry recently announced that a new policy and amendments to legislation on SMMEs are imminent; the intent is to correct the imbalance between policy expectations and the implementation outcome thereof. Matters to be addressed in the new policy and legislation will include co-ordination and involvement of all public and private sector stakeholders (all levels of government, government departments, parastatals, non-governmental organizations and the private sector) as well as measures to accurately track successes and failures.

⁶ These legislative objectives are further advanced by the policy directives recently issued by the Minister of Communications that (a) encourage accelerated provisions of services including VOIP in under-serviced areas (b) redefine universal service targets to include internet multimedia, the needs of differently-abled people and geographic spread and (c) require ICASA to develop regulations on the social obligations of operators and service providers in respect of the empowerment of historically-disadvantaged persons.

In terms of the same announcement, the telecommunications sector, amongst a number of others, are to be targeted for support to SMMEs.

A further noteworthy feature of the industrial sector is the relative lack of enabling legislation in so far as it relates to goals for the ICT manufacturing and services industries, for example with regard to the various industry incentive schemes administered by the DTI. As discussed in 3.20 below, whether the absence of legislation on the ICT sector poses a real constraint, remains to be assessed.

E-government and government procurement

The recently formulated e-government policy highlights that South Africa has yet to establish some critical imperatives required for the successful integration of ICTs into government activity. The absence of a government-wide e-government policy and strategy is emphasized, as well as the general lack of legislation to give structure to e-government service provisioning. The need for a comprehensive **governance** structure has been partially addressed through the creation of the State Information Technology Agency (SITA). However, the formation of informal structures such as the Government Information Technology Officers' Council (GITO) is indicative of other co-ordinative needs that are not yet fully addressed in legislation. Government's policy is strongly forward-looking in terms of e-government outcomes and therefore, largely **enabling** of ICT sector objectives.

Existing policy places a strong emphasis on the need for procurement to support basic RDP objectives. This includes support for (a) the disadvantaged section of the population and (b) SMME development. In as much as ICT strategies aim to promote **equity** in the development of the sector and the strengthening of **SMMEs** as industry participants, government policy is **enabling** to ICT sector objectives. These objectives are supported by existing procurement laws. The impact of existing policies and laws on e-government objectives are discussed further in 3.31 below.

Taxation

Existing fiscal policy impacts in the ICT sector in so far as certain tax concessions functions as industry incentive schemes. The most significant in the 5 year Strategic Investment Programme (SIP) announced in 2001 providing for tax deductions of between R 300 and 600 million for qualifying strategic industrial projects. The latter exclude certain computer-related activities which are defined as hardware and software consultancy, data processing and database activities. The SIP appears, in principle to be **enabling** in respect of the major portion of the ICT sector, although the exact impact of SIP remains to be assessed. More recently, the Minister of Finance announced tax incentives to companies in respect of learnership programmes offered by them. These tax incentives will be managed through direct involvement by the relevant Sector Education and Training Authorities (SETAs); in practice, the efficiency of the SETAs (in the case the ICT sector the ISETT SETA) determine the extent to which companies will benefit from these incentives (see discussion on Human Resource Development below).

International trade rules

South Africa has consistently implemented international trade rules in compliance with its membership of the World Trade Organization (WTO). More recently, the DTI's Industrial Strategy has confirmed South Africa's adherence to the tariff reductions agreed as part of the Uruguay Round. Within telecommunications, South Africa has made a basic offer to liberalize services in line with current negotiations on trade in services. It is, however, noteworthy that South Africa was not a signatory of the ministerial declaration in trade in IT products that reduced tariffs on those products to zero with effect from 1 January 2000. The level of protection remaining is, however, limited to fibre-optic cable and telephone instruments. Despite the limited scope, industry reports that remaining tariffs on fibre-optic cable and telephone instruments continue to have a constraining impact on the growth of the ICT sector.

E-commerce

See discussion under 3.27 below.

Education and Training

See discussion under 3.38 below.

Immigration

See discussion under 3.46 below.

Legislative context

3.6 Legislation is an instrument of policy. In as much as South Africa has no comprehensive ICT policy, but merely a collection of fragmented sector-specific policies, it is unsurprising that little of existing policy is reflected in current laws. It is legitimate to question the extent to which legislation is needed to reflect ICT sector goals and objectives. As instruments of policy, laws serve the primary purpose of (a) mandating programmes and procedures (b) entrusting institutions with powers and functions to pursue policy objectives and goals and (c) guiding the implementing of policy by setting objectives and goals and providing instruments whereby progress can be monitored and measured. Legislation may enhance the credibility of a specific policy objective (and the programme being implemented in its support), as it is a formal *signal* of intent on the part of government to embark of a specific course of action. It creates predictability and certainty, conditions that are often crucial in influencing the private sector (especially foreign investors) whether and where to invest. If appropriately framed, legislation can also enhance the transparency of government action and promote accountability by designating responsibility and providing the instruments whereby performance may be measured. Looking at the ICT sector, legislation can, therefore, make a significant contribution towards *enabling* the desired outcomes of policy.

3.7 However, not all elements of policy need necessarily be contained in laws. Part of this study will comprise an assessment to formulate recommendations regarding the legislative requirements,

if any, that are needed to support implementation of the *SAITIS ICT Sector Development Framework*.

3.8 The review of current legislation reveals two broad conclusions:

- **Some laws, especially in respect of e-commerce, pose barriers to the development of the ICT sector.** These have already been extensively documented as part of the due diligence review conducted in 1999.
- **The absence of legislation establishing a governance structure in the ICT sector is a significant constraint to its development.** Legislation establishing such a structure must, amongst others, consolidate the current fragmented (and conflicting) provisions on ICTs that occur in a number of Acts.
- **Existing laws have recognized the need for institutional “convergence” through reforms to merge SATRA and the IBA to form ICASA.** However, a consistent and uniform regulatory approach to both telecommunications and broadcasting has not yet been established, nor has a regulatory regime for technical convergence been developed.

The assessed impact of existing laws are summarised in the following table:

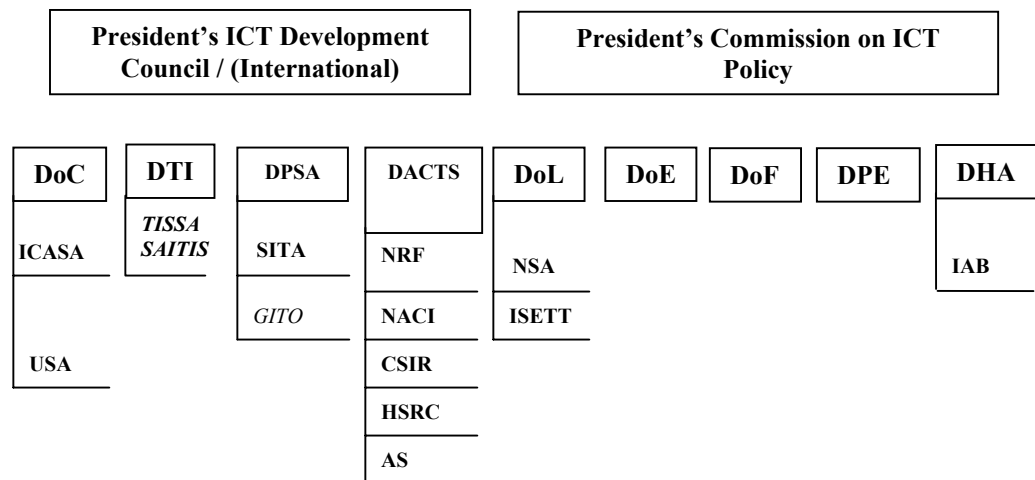
	Potentially Constraining	Neutral	Enabling / Promoting
Academy of Science Act, 2001		X	
National Advisory Council on Innovation Act, 1997			X
National Research Foundation Act, 1998			X
Broadcasting Act, 1999	←←←←←		
Independent Broadcasting Authority Act, 1996	←←←←←		
Independent Communications Authority of South Africa Act, 2000		X	
Telecommunications Act, 1996		→→→→→	
Adult Basic Education and Training Act, 2000		X	
Further Education and Training Act, 1998		X	
Preferential Procurement Policy Framework Act, 2000		→→→→→	
Immigration Act, 2001			X
Skills Development Act, 1998			X
State Information Technology Agency Act, 1998		→→→→→	

3.9 For the purposes of the review we have grouped our conclusions under the following headings:

- Governance of the ICT sector (institutional framework)
- Industrial development and investment promotion
- E-commerce
- E-government
- Human resource development
- Research, development and innovation

Governance of the ICT sector

3.10 The *ICT sector Vision* and various other documents highlight the large number of government department and statutory agencies that are all involved in the ICT sector. As illustrated in the following figure, our review has focussed on those (a) created by statute or (b) administering legislation (*Names in italics represent informal bodies*).



Several features of the structure illustrated above are noteworthy:

- Although numerous public institutions share an interest in the ICT sector, there is limited, if any, provision for **intra-governmental co-ordination**. The only points where this appears to occur is in the Cabinet level Economic Cluster, GITO (which is an informal body) and SAITIS (which has a limited life span). In terms of the current portfolio dispensation it may be appropriate to address the ICT sector in the Economic Cluster; however, within the current context the ICT sector is competing for attention with less fragmented and established priorities. Development of an ICT sector is a nascent priority within an inescapable

fragmented context, which warrants a consideration in favour of a dedicated ICT sector cluster or alternative ministerial coordination forum with consultative linkages to a similar level private sector initiative.

- No provision is made for structured and inclusive constituency representative participation by the **private sector or users**. Other than within ISETT and SAITIS, private sector participation in institutions is discretionary. Moreover, the lack of user representation and participation in all current initiatives be that formal or informal is glaring.
- **Presidential level priority** for the ICT sector is **recognised** through the President's ICT Development Council (international) and the President's ICT Development Council (national). Both initiatives are managed by the Department of Communications. Neither of these initiatives have a statutory laid down terms of references, powers or duties or direct (reporting or co-ordinating) links with other executive agencies. It is interesting to note that, none of the participants in a public-private sector workshop on the initial findings of this review have had access to the terms of reference of these two initiatives; it was reported that the preparation thereof is under way. It is noteworthy that the ICT Development Council's members are not fully inclusive or representative of all the interests in the ICT sector. It appears that, in general, very little is known of the work and outcome of these initiatives. Although recognition at Presidential level is apparent, the impact thereof is, at this stage, not yet noticeable.
- **Research functions** are parcelled out among three institutions with no formal co-ordination backbone although it has been reported that NACI currently facilitates a co-ordination between research initiatives.
- **Government reporting and monitoring is not sensitive to tracking the development of the ICT sector**. Although, legislation administered by government departments require them to publish and submit annual reports to Parliament none of these provisions are specific on reporting and measuring the success and failures of ICT sector. In cases where reporting and monitoring is done, data is not necessarily accurate, comparable or sufficient to present a snapshot of the status of the ICT sector.

3.11 Various proposals have been made regarding sustainable governance structures that accommodate (a) the complexity of the ICT sector, while (b) supporting the essential co-ordination that is required intra governmentally and between government and the private sector. Key elements common to all these proposals are:

- The need for **strong leadership** and **vision** in taking an ICT strategy forward;
- A **partnership** between all stakeholders in the public and private sectors and civil society;
- Extensive **co-ordination** of the multitude of programmes and projects being undertaken within various levels of government and outside; and
- Effective **implementation capacity**.

3.12 This study took note of industry initiatives towards rationalization and co-ordination of common interest; the Information Industry Development Council (IIDC) evolving from the Industry Executives Forum and Information Industry South Africa (IISA) are cases in point. Inclusive constituency representation, especially with regard to the Industry Executives Forum, has not yet been established. The evolution of the IIDC and IISA, however, presents an opportunity to the private sector to give effect thereto and, in so doing, inspire and encourage government initiatives to follow suit. The Motor Industry Development Council has been cited as an example for a coordinated industry which may be the IIDC.

3.13 Until recently, legislation contained no guidelines on governance of the ICT sector. With the adoption of the Telecommunications Amendment Act, 2001, limited steps have now been taken in the direction of establishing such a structure for the South African ICT sector. However, as discussed below, these provisions do not, in our view, adequately address the institutional needs of the sector.

3.14 The new Sec 96B requires the Minister (of Communications) to develop an ICT strategy in order to:

- Promote and facilitate convergence of telecommunication, broadcasting and information technology; and
- Bridge the digital divide (Sec 2 (r) and (s)).

The Act also introduces the requirement that the strategy be reviewed every two years and that the initial strategy and each review be published for notice in the *Gazette*.

3.15 Sec 96B has provided a measure of clarity in allocating **policy** responsibility for an ICT sector strategy to the Minister of Communications. However, in our view the legislation is deficient in several respects:

- The role of other “core” Departments and agencies in developing and implementing ICT strategy is not acknowledged (these departments and agencies are, according to most views, assumed to be DTI, DACTS, DPSA, DPE, DOL, DOE and SITA);
- The ancillary role played by other government agencies, eg ICASA, USA, NRF, NACI, etc is also not acknowledged;
- No provision is made to incorporate the public / private partnership concept⁷ and especially to specify the role of users of ICT infrastructure and manufacturing of ICT products for the benefit of those who implement ICT systems;
- No co-ordinating and/or consultative mechanisms are created;

⁷ The *SAITIS ICT Sector Development Framework* has proposed the: *creation of an ICT **partnership** comprising industry, government, labour, civil society and academia under the auspices of the President’s Office and supported by an **implementation entity**.*

- No provision is made to establish procedures for performance monitoring and reporting;
- No sustainable implementation entity is established or designated; and
- Finally, the legislation has missed the opportunity of signalling a policy resolve to international markets and investors that South Africa intends creating a stable and attractive framework for ICT-related activities.

3.16 Unfortunately, the legislation has also failed to resolve the current fragmentation that characterizes existing reference to ICTs in various laws. Existing laws have parcelled out various ICT-related activities to different institutions and bodies. In some cases, legislative provisions create areas of overlap that could, in practice, result in duplication. The most significant are:

- Sec 59(3)(b) of the Telecommunications Act, 1996 which charges the Universal Service Agency with conducting research and keeping abreast of developments in telecommunications services and **information technology**;
- Sec 12 of the Independent Broadcasting Authority Act, 1996 which requires the IBA (now ICASA) to promote and conduct research into broadcasting policy and **technology**;
- Sec 33(1) of the Broadcasting Act, 1999 that requires the IBA (now ICASA) to conduct an inquiry into a regulatory regime for **convergence**;
- Sec 2 of the State Information Technology Agency (SITA) Act, 1998, which gives SITA responsibility for providing **IT-related services** to government and to promote the effective utilization of IT throughout the Public Service; and
- Sec 2 of the National Research Foundation (NRF) Act, 1998 which gives the NRF responsibility for promoting **research** and **innovation** in amongst others, the ICT sector.

3.17 *De facto* both the DoC and DTI are spearheading the development of the ICT sector; this is not necessarily appropriate as, in terms of constitutional mandate to the executive and public administration division of responsibility between government departments, they do respond to different governing needs. However, both are, in the absence of a recognizable co-ordinated governance structure for the ICT sector undertaking overarching or cross-cutting co-ordinatory initiatives which may be overlapping and are not necessarily synchronised or in synergy. The message from industry is clear that government must resolve, with urgency, who is ultimately responsible for co-ordinating development of the ICT sector with due recognition of the public administration mandate of all government departments and their respective interest in the development of the ICT sector as whole. Despite, the fact that the absence of a co-ordinated governance structure has been identified at numerous intervals in the past as glaring constraint to the development of the ICT sector, responses to correct or improve the situation has been piecemeal, pointing to a tendency to avoid potentially controversial inescapable issues. It has been reported that stakeholders, public and private, have been “talking around” drastic corrective measures.

3.18 The limited range of legislative provisions governing the ICT sector contrast with international ICT governance trends. International examples reveal:

- **Legislation is being actively used to create *enabling frameworks* to support countries' ICT objectives.**
- **Responsibility is being placed on public institutions to undertake (a) traditional regulatory functions in the ICT sector *as well as* (b) promotional functions aimed at enhancing competitiveness and attracting investment.** Legislation is being used as an instrument to pool responsibility to support a tightly integrated sector approach, eg the Info-Communications Development Authority of Singapore.
- **Finally, legislation is being used as a *promotional tool* to signal countries' seriousness in creating business-friendly environments for ICT investment.** Ireland's digital hub legislation is a prime example.

3.19 The assessed impact of the *status quo* are:

- **There is, as yet, no comprehensive institutional (governance) policy for the ICT sector.** This is a major constraint in terms of implementing the goals and objectives for the sector contemplated in the *SAITIS ICT Sector Development Framework*. It also conveys the wrong signal in terms of government's resolve to prioritise development of the sector.
- **Due to the absence of a governance policy, no governance structure is provided in existing laws.** At the same time, existing provisions impacting the ICT sector are scattered through various Acts, creating potential conflict and detracting from a common approach to the sector.
- **An ICT governance law should be enacted at the earliest opportunity.** The Minister of Communications should research an appropriate governance model as part of her statutory duty to develop an ICT sector strategy. The enactment of new legislation should be used as an opportunity to rectify inconsistencies in current Acts and establish appropriate cross-cutting linkages between Acts. Legislation to establish a governance structure should be part of a sector strategy to signal government's intent to create a favourable environment for investment, expanded employment and enhanced equity. **Such legislation should, in particular, reflect the need for strong political leadership and realistically address the need for cross-cutting co-ordination between government departments, the active inclusion of business and civil society as implementation partners and reporting and monitoring requirements to track the development of the ICT sector.**

Industrial development and investment promotion

3.20 Thanks to “vintage” of current policy (May 2001), the role of the ICT sector has received extensive recognition in the DTI’s proposed industrial strategy. Accordingly, the need to shift from traditional labour and resource intensive manufacturing to knowledge-intensive industry that is tightly integrated along the value chain, is repeatedly emphasized. The extensive and innovative use of ICTs is recognized as central to this strategy. At the same time, the constraints imposed by South Africa’s existing skills shortage and expensive, inflexible telecommunications market structure is acknowledged.

3.21 The *SAITIS ICT Sector Development Framework* emphasizes the need for (a) supportive government intervention to promote a sustainable ICT sector using specific programmes and (b) encouraging the geographical clustering of ICT companies. South Africa’s manufacturing sector has traditionally been supported through various incentive schemes. These are administered by the DTI, as well as the Industrial Development Corporation (IDC), South African Revenue Services (SARS) and the NRF on behalf of the DTI. While there are no schemes set up solely for the ICT sector, “new economy” activities that are ICT intensive appear to be well-supported by existing schemes:

- The **Small and Medium Enterprise Development Programme (SMEDP)** administered by the DTI that provides investment grants to, amongst others, IT enterprises.
- **Techno-Industry Development Finance** programme administered by the IDC, that provides equity or equity-related loan finance in especially, IT, telecommunication and electronics industries;
- The **Support Programme for Industrial Innovation (SPII)**, administered by the IDC, that provides grants for the development of products or processes that represent significant technological advances; and
- The **Technology and Human Resources for Industry Programme (THRIP)**, administered by the NRF, that provides support for collaborative research in science, engineering and technology.
- Existing legislation on broadcasting provides for certain limitations on **ownership** which was introduced by the IBA Act of 1993. These limitations will need to be reviewed, as they are stumbling block in the consolidation of electronic media and are prohibitive in the development of a multimedia section of ICT sector.

3.22 The schemes listed in 3.21 are not governed by specific legislative provisions, except in so far as they are funded through appropriation Acts that allocate revenue to the DTI to administer the schemes in question. While the absence of specific legislative provisions does not affect the **legality** of the schemes, it remains to be considered whether (a) the design of the schemes ensure their optimal use by the ICT sector and whether (b) the creation of a dedicated ICT scheme could benefit the expansion the ICT manufacturing and services sector in South Africa and strengthen its role as exporter. The *SAITIS ICT Sector Development Framework* proposes that these schemes be

reviewed from the perspective of the ICT sector's requirements. This should include a consideration of the need for legislation to govern such schemes as well as consideration of the need for legislation to support the concept of a privately led "Enterprise South Africa" to promote ICT sector investment.

3.23 The proposed clustering of ICT companies is similarly not guided by any specific legislative provisions. In this regard, clustering activity appears to be driven by specific government initiatives, eg the Gauteng Blue IQ initiative and purely commercial considerations such as access, workforce availability, etc.

3.24 The *SAITIS ICT Sector Development Framework* identifies a range of objectives and goals to encourage development and promote investment in the sector. These are largely *unsupported* by existing legislation and include:

- Creating linkages between ICT participants through an ICT CEO's forum, sector events and supplier development programmes (these concepts are not currently supported in legislation, although some may be supported through the DTI incentive schemes such as the Sector Partnership Fund and Competitiveness Fund);
- Providing leadership and supporting champions in industry, academia, etc able to build ICT support infrastructure (the comments made above apply);
- Creating an agency or program to attract investment in ICT (by contrast, the Info-Communications Development Authority (ICDA) of Singapore has the statutory duty to promote investment in the ICT sector and attract investment);
- Promoting exports by (a) communicating market trends and (b) marketing SA product and services in foreign markets (once again the ICDA is entrusted by law with this role);
- Developing information networks and knowledge sharing through (a) an ICT sector portal (b) networking events and (c) collaborative projects (These objectives are supported in a limited fashion in current law which requires the NRF to promote the provisioning of information infrastructure to link research institutions and to promote liaison between researchers and research institutions (Sec 4(1)(n) and 4(2)(i) of the NRF Act);
- Increasing finance of sector development especially with the aim of supporting SMMEs (This goal is specifically supported by the Preferential Procurement Policy Framework Act, 2000 which requires organs of state to pursue procurement policies in support of RDP goals, including amongst others, the development of SMMEs).

3.25 Existing industrial policy emphasizes South Africa's commitment to the ongoing implementation of trade liberalization in line with WTO requirements. South Africa is not a signatory of the 1996 WTO Ministerial Declaration on Trade in IT products that intended to reduce all tariffs and duties on IT products to zero by 1 January 2000. We have not investigated South Africa's reasons for non-participation in the agreement. At face value, a reduction in the cost of IT products would appear to promote their more rapid diffusion through all sectors, especially in education and in disadvantaged areas. However, the relative merits of the agreement at the current time remain to be assessed.

3.26 The impact of the *status quo* are assessed as:

- **Current industrial strategy recognizes the central role of ICTs in promoting the growth of the South African manufacturing sector.** As formulated, the policy appears to be fully supportive of the sector goals and objectives as sets out in the *SAITIS ICT Sector Development Framework*. Despite, the positive intent the DTI industrial incentive schemes, it has been reported that the desired impact of these schemes is not achieved; public awareness of these schemes is lacking.
- **Enabling legislation does not support existing industrial strategies for the ICT sector.** An assessment is needed of which objectives, if any, will be enhanced through legislation enabling an investment-friendly framework and affirming government's commitment to investment-friendly policies. In this regard, Singapore's Info-Communications Development Authority, which is specifically charged with promoting the growth and international competitiveness of the ICT industry (and advise on policy to support these goals), provides a point of comparison.

E-Commerce

3.27 The current legal gaps and constraints to the development of e-commerce in South Africa was fully researched during 1999 as part of the development of the *Green Paper on E-Commerce* led by the DoC. This policy attracted interdepartmental participation.

3.28 A significant number of legal barriers to the development of e-commerce in South Africa were identified in the *Report on Electronic Commerce: Legal Issues*. The most significant barriers that were identified are:

- **Legal recognition of electronic messages.** This issue refers to question whether existing laws apply to information held and communicated electronically via a medium such as e-mail in the same manner as to paper-based transactions. It has been concluded that there are many areas where existing laws would not recognize electronic messages and that this poses a potential barrier to e-commerce that should preferably be rectified through an e-commerce specific Act. It is understood that the DoC aims to table an e-commerce Bill in the first half of 2002.
- **Contracting by electronic means.** While South African law appears to support the notion that a contract can be validly concluded by means of the Internet, there is less certainty about

issues such as the time when a contract will be regarded as having been concluded and the place where it will take effect. These (and other issues such as which courts have jurisdiction and which law applies to a contract) appear capable of resolution by incorporating provisions of the UNCITRAL Model Law on Electronic Commerce in South African law.

- **Electronic money.** Issuers of electronic money may fall outside the definition of banking business as defined in the Banks Act, 1990 and hence such issuers may be unregulated and users unprotected. While the Reserve Bank's view is that only registered banks may issue electronic money, there is some uncertainty regarding the bank's statutory authority to regulate the issue.
- **Consumer protection and law enforcement.** A large number of statutes have been identified where (a) the protection currently enjoyed by consumers may not extend to electronic transactions and (b) regulation of commercial activities undertaken in terms of existing laws may not extend to e-commerce. For example, there is uncertainty whether the protection afforded by the Counterfeit Goods Act, 1997 extends to software. Similarly, the Businesses Act, 1991 provides for the premises on which certain businesses are conducted to be licensed. However, it is unclear whether the requirement of licensing extends to similar business not operating from physical premises. The introduction of e-commerce provides the opportunity for new crimes to be committed in respect of ICTs. The SA Law Commission has researched the need for a Computer Crimes Act, but to date no relevant legislation has been tabled.
- **Intellectual property.** Like most countries, South Africa's copyright law is inadequate to deal with the implications of the Internet and digital technology. The need has been identified to implement the World Copyright Convention, 1996 which South Africa has signed but not yet transposed into national law. Various barriers posed by the Copyright Act, 1978 have been identified, such as the fact that it only provides protection within the territory of South Africa. Sec 4(1) of the NRF Act obliges the Foundation to liaise with structures involved in the protection of intellectual property rights. However, the legislation does not establish linkages to support co-ordination with the DTI in terms of its role in administering intellectual property laws. With regard to domain administration, WIPO guidelines to resolve conflicts between trademarks and domain names have been adopted by the Internet Corporation for Assigned Names and Numbers (ICANN) and significantly reduced bad faith cyber squatting of trademarks in generic top-level domains. In SA, domain name administration is undertaken by the NRF and will be assigned to a new organization to be set up. It is uncertain to what extent the NRF has adopted the WIPO approach.

3.29 South African common law provides a large measure of flexibility to apply traditional legal concepts to e-commerce. While the courts can, therefore, be relied upon to clarify the law over time, the disadvantage of this approach is that users of e-commerce require legal certainty *now*. The development of court decisions on specific points of law is likely to take several years. Uncertainty will remain even if points of law are clarified, but have not been confirmed in judgements of higher courts. This underlines the urgency for South Africa to address the issues through the amendment or amplification of existing laws.

3.30 We have not revisited the findings of the legal review discussed above as this would, in our opinion, amount to unnecessary duplication. Accordingly, we have limited our analysis to a verification of existing law to establish the extent to which government has taken subsequent steps to amend the laws identifying as barriers to e-commerce. It is noteworthy that it has been reported that the Electronic Transactions Bill will be the first to be considered by Parliament in 2002.

3.31 Our findings in respect of current law are:

- **Limited steps have been taken, thus far, to address the legal barriers to the development of e-commerce.** The tabling of the Electronic Transactions Bill in 2002 is expected to change this assessment and to address the priority concerns in respect of e-commerce.
- **Limited amendments have been introduced to the Bills of Exchange Act, 1964.** The Act has been amended to allow cheques to be presented by means of the electronic transmission of the data pertaining to the instruction (Sec 43A). However, it appears that these amendments do not fully address all the barriers identified in the due diligence review.
- **Amendments were passed to the Companies Act, 1973.** These relate to:
 - o the phasing in of the electronic lodging of corporate forms;
 - o the phasing in of the electronic payment of fees prescribed by the Act; and
 - o the electronic disclosure of corporate information.

In addition, the amendments allow:

- o a company to keep a register of its members and an index to such register in an electronic format;
 - o a company to sign certain documents by electronic means, in addition to the current autographic and mechanical means; and
 - o a company to send its annual financial statements by electronic mail to its members who have consented thereto in writing.
- **The Promotion of Access to Information Act, 2000**, which regulates access to any information to which a person may be constitutionally entitled, whether held by the State or any person, has been drafted in a manner to include information that may be held in electronic or digital format.

E-government

3.32 Government's strategy in respect of e-government has focussed on projecting its role as (a) a model IT user and (b) using its procurement practices as a mechanism to achieve its economic and social objectives in the ICT sector.

3.33 In respect of its IT activities, government is largely dependent on the State Information Technology Agency (SITA). In terms of the SITA Act, 1998, SITA has the duty to:

- Promote the effective utilization of information technology to enhance efficiency in all levels of the Public Service; and
- Provide technical, functional and business advice and support regarding IT, and to provide IT system and management services (to government organs).

3.34 It is unclear whether SITA has not fully assumed its role to support a “whole of government” approach and individual government departments appear to still be conducting IT activities autonomously. In this regard, SITA has prepared a “whole of government” procurement code, but the extent of its implementation remains to be verified.

3.35 The *SAITIS ICT Sector Development Framework* identifies the need for a mechanism to be created in the DTI and other government departments to promote ICT adoption. The goal of forging linkages through innovation initiatives is also adopted. The need for government to expand its role as model user has also been one of the reasons for the creation of the Government Information and Technology Officer’s Council (GITO). GITO includes representation from IT officers in all national and provincial departments. It is an informal structure and has no basis in legislation. It remains to be verified whether its current status constrains its functioning. In some measure, GITO’s success depends on the voluntary co-operation of its members. It is also not certain whether the absence of a statutory funding source limits its effectiveness. If these factors are a constraint, GITO’s transformation into a statutory body (as part of the creation of an ICT governance structure discussed above), may be considered.

3.36 Legally, government procurement is conducted in terms of the Preferential Procurement Policy Framework Act, 2000, which requires all “organs of state” to determine a preferential procurement policy with specific goals in respect of (a) historically disadvantaged persons and (b) the RDP programme. The Act supports the *SAITIS ICT Sector Development Framework* goal of encouraging SMME development in the ICT sector through, amongst others, targeted procurement. The extent to which real results are being achieved in terms of SMME development, remain to be verified.

3.37 The impact of the *status quo* is assessed as:

- **Existing legislation does support government’s objective of acting as a model IT user, especially through its procurement programmes.** The development of SMMEs is expressly targeted in current procurement laws.
- **Existing laws do not meet government’s co-ordination needs in terms of ICT sector development.** This has prompted the creation of informal bodies such as GITO. The enactment of an ICT governance law (discussed above) should at the same time address the future of bodies such as GITO and assess the need for it to be given a statutory role in its current or amended form.
- **It is unclear to what extent a “whole of government” IT approach is yet a reality, especially with regard to IT procurement.** The enactment of an ICT governance law

should also assess whether SITA's role is adequately supported by legislation and if not, what strengthening is required.

Human resource development

3.38 Existing policy repeatedly emphasizes the need for skills development as the South African economy restructures from a low cost labour-intensive manufacturing base to value-added knowledge based activities. The primary focus areas, respectively forming part of **education**, **labour** and **migration** policy, are:

- Skilling and reskilling of the existing workforce in IT applications;
- Preparing for a future IT-skilled workforce through appropriate primary, secondary and tertiary education; and
- Overcoming existing skills shortages through access to foreign skills.

3.39 The South African ICT sector appears to be in the fortunate position that its current and future needs are being addressed, as well as existing resources allow, within the education, labour and migration sectors.

3.40 The setting up of a skills development framework has been completed with the establishment of a Sector Education and Training Authority (SETA) for the ICT sector. The Information Systems, Electronics and Telecommunications Technologies SETA or ISETT is required in terms of the Skills Development Act, 1998 to (a) develop a skills sector plan (b) implement the plan by establishing learnerships and allocating grants to employers, education and training providers and workers and (c) monitoring the education and training that is provided. Inasmuch as a SETA comprises representation from organized labour, organized employers and relevant government departments, its institutional brief is wide enough to accommodate the interests of all relevant ICT stakeholders.

3.41 An evaluation of the effectiveness of ISETT in meeting the skills need of the ICT sector falls outside our brief. Based on existing policy and law, there appear to be no constraints to the effective pursuit of the skills development goals set out in the *SAITIS ICT Sector Development Framework*. However, it has been reported that, despite the promising intent and wording of the policy and legislation, the ISETT SETA, in practice, is not living up to the promise. The fragmented nature of the ICT sector and the lack of a co-ordinated public-private sector governance structure is reported to be contributing (although not the only or necessarily decisive) factors to the disappointing performance of the ISETT SETA.

3.42 The *SAITIS ICT Sector Development Framework* also identifies the need for improved labour market information to assist in the identification and targeting of skills development initiatives. Section 22 of the Skills Development Act has set up a Skills Development Planning Unit (SDPU) in the DoL with the task of researching and analysing the labour market to determine skills

development needs for various sectors of the economy. The degree to which the SDPU is meeting this need for the ICT sector will obviously depend on close co-operation with ISETT.

3.43 The *SAITIS ICT Sector Development Framework* further proposes:

- The creation of “Enterprise South Africa” as a nationally-funded, private sector led agency tasked to integrate skills and enterprises development strategies; and
- Appointing a high profile individual as an “Ambassador for Skilled Enterprise” to promote and monitor the implementation of the skills development plan.

Neither objective is supported by current legislation. Depending on the composition, functions and financing of the agency, legislation is, in all likelihood not required, although ICT governance legislation should draw in the agency in the co-ordinatory and consultative relationships that are established in the appropriate manner.

3.44 The need for the education in IT skills to commence as early as possible is recognized in the IT strategy currently being pursued by the Department of Education (DoE). The DoE has adopted several high level outcomes for primary and secondary schools that include ambitious goals, such as (a) access for all schools to Internet-linked computer facilities for educator and learner use and (b) ensuring that all educators and learners have basic competency in word processing, spreadsheet, flat database, e-mail and browser applications.

3.45 The proposed IT-related outcomes for primary and secondary schools are supported by the recent amendments to the Telecommunications Act, 1996 that dedicate funds received by the USA to, amongst others:

- “Public schools and public further education and training institutions for the procurement of internet services and equipment necessary to access the internet; and
- For the establishment of centres where access can be obtained to telecommunication facilities”.

3.46 Securing access to foreign skills depends, amongst others, on the ease with which immigration to South Africa can be facilitated for foreign workers. Sec 14 of the Immigration Act, 2001 now allows the Department of Home Affairs to grant an exceptional skills entry permit to an individual with exceptional skills under conditions laid down in regulations. It is not clear whether such regulations have already been made, but the legislation now appears to create a mechanism to ease the entry of foreign skilled IT workers. In practice, the effectiveness of the legislation will be determined by efficiency and sensitivity with which it is applied.

3.47 The Immigration Act, 2001 also recognizes the need for input by various other government departments and bodies in advising the Minister of Home Affairs on the implementation of the Act. Sec 28 creates the Immigration Advisory Board (IAB) that will include representatives of the departments of Education, Labour and Trade and Industry. The provisions have been drafted in such a manner that representation by ISETT could, for example, also be accommodated. This

body provides a mechanism whereby the skills needs of the ICT sector in terms of foreign immigration could directly input decisions taken in the Department of Home Affairs.

3.48 Preliminarily, the impacts of the *status quo* are assessed as:

- **Labour legislation provides an adequate framework to address the skills needs of the ICT sector through ISETT SETA.** The efficiency with which skills needs are met will depend, significantly, on available resources, efficient management and the dedication and quality of education and training providers.
- **Primary and secondary school education policy, similarly, recognize the need to prepare scholars for an information-based future.** The preconditions for success will depend on similar factors to those that apply in the labour market.
- **The new immigration legislation recognizes the need to facilitate skilled immigration to South Africa.** Whether the new law achieves this goal in practice, will only be determined over time. However, the IAB provides a mechanism to ensure that the views of the ICT sector can be taken into account in applying the new immigration policy.

Research, development and innovation

3.49 Legislation in respect of ICT R&D and innovation is characterized by a degree of overlap in provisions that, potentially, may result in duplicated activity by different public institutions.

3.50 The National Research Foundation Act, 1998 establishes the NRF as the institution with overarching responsibility for promoting and funding research in “all fields of science and technology”. By implication, this includes the ICT sector. The NRF’s wide-ranging brief is also apparent from its administration of the THRIP scheme which aims to promote collaborative research in the areas of science, engineering and technology.

3.51 The NRF’s legislative brief overlaps with the responsibilities of (a) the USA (b) ICASA and (c) the SABC. In terms of Sec 58 of the Telecommunications Act, 1996, the USA must conduct research into telecommunications services and information technology. Sec 2 of the Independent Broadcasting Authority Act, 1996 gives the IBA (now ICASA) the responsibility to promote and conduct research into broadcasting policy and technology. Sec 7 of the Broadcasting Act, 1999 requires the SABC to conduct research into technology relevant to its activities.

3.52 In practice, the danger of serious duplication is, in the light of the limited resources for research, probably more apparent than real. However, the legislation should be amended to clarify roles and where necessary, establish co-ordinatory linkages to promote effective resource use. In this regard, it is understood that legislation on innovation and research promotion was tabled during 2000. However, it appears that the legislation was eventually not passed. We have been unable to study the contents of the legislation to verify whether it would, in fact, have rectified the deficiencies discussed above.

3.53 The *SAITIS ICT Sector Development Framework's* objective of encouraging ICT innovation appears to enjoy adequate support in existing laws. These objectives find particular support in the creation of the National Advisory Council on Innovation (NACI) in terms of NACI Act, 1997. Several of the suggested programmes to encourage innovation, eg introducing innovation awards, do not require legal sanction. The establishment of the Academy of Science (AS) in terms of the Academy of Science Act, 2000 provides a mechanism whereby scientific excellence can be recognized and awarded through the election of the individual concerned to membership of the AS. Similarly, the objective of encouraging technology transfer from basic research to development does not necessarily require legal sanction. However, it is supported by Sec 4(1)(i) of the NRF Act which requires the Foundation to generally promote technology transfer and the implementation of research results and findings.

3.54 The *SAITIS ICT Sector Development Framework* envisages a National Intellectual Property Regime in line with international benchmarks. This is supported by Sec 4 of the National Research Foundation Act, 1998 which requires the NRF to liaise with structures involved in the protection of intellectual property rights. The need for the Copyright Act, 1978 to be updated to accommodate on-line copyright issues based on the World Copyright Convention, 1996, has already been identified earlier.

3.55 Preliminarily, the impacts of the *status quo* are assessed as:

- **Existing legislative provisions on ICT research are scattered through several laws creating potential conflict and detracting from a common approach to the sector.** The enactment of an ICT governance law should be used as an opportunity to “clean up” legislation and establish a consistent approach that recognizes the NRF as the lead promoter and funder of scientific and technological research.
- **The development of an appropriate governance structure for the ICT sector must assess the role of all research institutions and devise suitable mechanisms to promote complementarity in effort, pooling of resources and optimal use of R&D results.**

4. CONCLUSIONS

Based on the above reviews, our preliminary findings are the following:

4.1 South Africa has no comprehensive ICT sector policy, but a range of sector policies that generally have a neutral to enabling impact on the ICT sector. In the past, telecommunications legislation has imposed constraints on the sector, while some constraints in broadcasting legislation remain. Between telecommunications and broadcasting legislation, a consistent governance or regulatory approach is not established, neither is there a regulatory regime on convergence. The need identified (by ICASA) to eliminate these inconsistencies through a consolidation of legislation is valid and will hopefully soon receive attention.

4.2 The greatest immediate need is for an ICT governance law that establishes an inclusive governance structure, based on a public / private partnership approach, that accommodates

the need for extensive intra-governmental co-ordination. It is recommended that the Ministers of Communications and Trade and Industry address this need as a matter of urgency.

4.3 The second priority is that South Africa rapidly enacts legislation to remove the barriers to e-commerce that have already been identified in previous studies. This will bring the country in line with such ICT leaders as Ireland, Malaysia and Singapore. The mass of laws involved means that legal reform should be undertaken on the basis of specific priorities. The identification of priorities will be addressed during the second phase of the study.

4.4 The creation of a suitable governance structure will eliminate intra-governmental “competition”, assist with the prioritisation of cross-cutting ICT programmes and help to identify emerging priorities. The *SAITIS ICT Sector Development Framework* adopts worthy, but ambitious, goals. From an industry perspective, South Africa is competing (often successfully) in foreign markets with numerous other countries in seeking to sell ICT applications and services. At the same time, it is competing with many other attractive investment destinations for a portion of foreign direct investment in ICTs. As a further priority, it is worth assessing which comparative advantages South Africa enjoys in seeking to expand its share of global IT business and pooling the energies of government, business and researchers in exploiting those advantages to the full. The benefits of high level government commitment combined with the support of business in targeting a few high profile objectives have already been demonstrated in countries such as Ireland and Malaysia. To achieve its objectives for the ICT sector, South Africa needs to rally its forces in the same way.

4.5 On the policy side:

- South Africa has forward-looking up to date **policies** on (a) e-government, (b) e-commerce, (c) industrial development, (d) education (e) innovation and research and (f) skills development, that comprehensively address the role of the ICT sector;
- Due to rapid technological developments and their relative age, telecommunications and broadcasting **policies** have developed gaps that must be addressed to develop a convergence-friendly regulatory environment.

On the legislative side:

- Recent amendments to the Telecommunications Act have introduced a further degree of market liberalization; however, the concept of managed liberalization suggests that the enabling framework remains a “work-in-progress”. Further amendments to match the expectations of further liberalization have to be addressed within the time-scales determined by the Minister in the Policy Directions. Delays in such legal reform will probably change the status of the Telecommunications Act, over time to predominantly constraining;
- The need for a comprehensive ICT strategy is now recognized in law, although crucial concerns about governance and institutional linkages remain to be addressed and probably require a separate ICT governance law;

- Extensive preparatory work has been done to identify legislative amendments required to existing commercial laws to facilitate the whole scale introduction of e-commerce, but have not yet been translated into action; and
- The need for an enabling legislative framework for e-government – that will be closely linked to governance and institutional issues – also still remains to be addressed.

LIST OF POLICIES AND ACTS REVIEWED

The principal policies reviewed during this review were:

- **Department of Arts, Culture, Science and Technology**
 - Science and Technology White Paper: Preparing for the 21st century
- **Department of Communications**
 - White Paper on Broadcasting Policy (1998)
 - White Paper on Telecommunications (1996)
 - A Green Paper on Electronic Commerce for South Africa (2000)
 - ICT Sector Development Framework (2000)
 - Policy Directions issued by Minister of Communications (2001)
- **Department of Education**
 - Strategy for Information and Communication Technology in Education
- **Department of Labour**
 - An Employment Strategy Framework (1998)
- **Department of Public Enterprises**
 - Policy Framework for an Accelerated Agenda towards the Restructuring of Public Enterprises (2000)
- **Department of Public Service and Administration**
 - Electronic Government: The Digital Future – A Public Service IT Policy Framework (2001)
 - E-commerce Green Paper
- **Department of Trade and Industry**
 - Growth, Employment and Redistribution (GEAR) –A Macroeconomic Strategy
 - Driving Competitiveness: An Integrated Industrial Strategy for Sustainable Employment and Growth (2001)
 - Financial Access for SMMEs (2001).

In turn, a large number of Acts are potentially relevant to the ICT sector. The Acts reviewed were:

- **Department of Arts, Culture, Science and Technology**
 - Academy of Science Act, 2001
 - National Advisory Council on Innovation Act, 1997
 - National Research Foundation Act, 1998
- **Department of Communications**
 - Broadcasting Act, 1999
 - Independent Broadcasting Authority Act, 1996
 - Independent Communications Authority of South Africa Act, 2000
 - Telecommunications Act, 1996
- **Department of Education**
 - Adult Basic Education and Training Act, 2000
 - Further Education and Training Act, 1998

- **Department of Finance**
 - Preferential Procurement Policy Framework Act, 2000
 - National Development Agency Act, 1998
- **Department of Home Affairs**
 - Immigration Act, 2001
- **Department of Labour**
 - Skills Development Act, 1998
- **Department of Public Service and Administration**
 - State Information Technology Agency Act, 1998

ANNEXURE 1: ICT POLICY & LEGAL ISSUES MATRIX: GOAL 1: Robust, growing, sustainable ICT sector

OBJECTIVES	Policy / Legislative scan: Findings
<p>1. BUILDING LOCAL ICT SECTOR CAPACITY THROUGH:</p> <p>1.1 Sustainable governance structure to lead & implement ICT strategy and secure stakeholder participation</p>	<p>1.1.1 POLICY: Existing policy frameworks do not create an overall governance structure for the ICT sector. The following principal references to governance needs and structures that impact the ICT sector occur:</p> <ul style="list-style-type: none"> • <i>Increased co-operation is required between government departments (DTI) and other responsible for sector traditionally dominated by public or quasi public sector to broaden industrial policy and integrating policy approaches</i> (IS 8.1 – 8.3) • <i>A broadly based information policy committee is needed to facilitate the development of all aspects of information infrastructure in South Africa and its linkages to the global information society. The committee should include representation from the DoC</i> (WPT, 1.11). • <i>The Ministers Council on Science and Technology should embark on a fundamental investigation into the governance and management structures of government-funded science and technology performing institutions</i> (WPST, 5.1). <p>1.1.2 LAWS: No overall governance structure for the ICT sector is created in existing laws. Section 96B(1)(a) of the Telecommunications Act, 1996 as amended provides that the Minister of Communications shall as soon as possible after commencement of this section develop an Information, Communication and Technology (ICT) Strategy. The Strategy must be published in the Gazette and reviewed every two years (section 96B(1)(b) and (c)). In developing or reviewing the Strategy, the Minister must give due regard to promoting and facilitating convergence of telecommunication, broadcasting and information technology and bridging the digital divide (section 96B(2)). These provisions have partially clarified the question of policy responsibility.</p> <p>However, current legislation still fragments governance elements of the ICT sector between various government departments and agencies, eg:</p> <ul style="list-style-type: none"> • Sec 2 of the State Information Technology Agency (SITA) Act, 1998 establishes SITA as the agency responsible for providing IT-related services to government organs and acting as procurement agency for the State. Sec 7(1)(d) also gives SITA the responsibility to promote the effective utilization of IT throughout the Public Service. SITA is accountable to the Minister for the Public Service and Administration. • The SA Broadcasting Corporation incorporated in terms of section 7 of the Broadcasting Act, 1999. In terms of section 8(m) one of the Corporation’s objectives is to carry out research and development work in relation to any technology relevant to the objects of the Corporation; • The SA Broadcast Advisory Body established under section 38 of the Broadcasting Act, 1999. This body makes policy and strategy recommendations regarding local content policies and strategies (production, display, financing, supply-side measures) to the Minister after consultation with the National Film and Video Foundation. The Minister determines policy in this regard after consultation with the Minister of Arts, Culture, Science and Technology; the Minister of Trade and Industry; and the Minister of Finance; • Sec 2 of the National Research Foundation (NRF) Act, 1998 establishes the NRF as a public agency with the responsibility for supporting research and innovation in, amongst others, the ICT sector. The NRF is overseen by the Minister of Arts, Culture, Science and Technology. • Sec 58 of the Telecommunications Act, 1996 establishes the Universal Service Agency (USA) as a juristic person with the responsibility, amongst others, of: “conduct (ing) research into and keep (ing) abreast of developments in the Republic and elsewhere on telecommunication services and information technology” Sec 59(3)(b). The USA reports to the Minister of Communications. • Sec 2 of the Independent Broadcasting Authority (IBA) Act, 1996 establishes the IBA (subsequently dissolved and subsumed in ICASA) as a juristic person with the duty (in terms of Sec 12), amongst others, to: “promote and conduct research into broadcasting policy and technology”. The IBA (now ICASA) reports to the Minister of Communications. • The Competition Commission which has wide ranging powers in respect of all sectors to review legislation and interact with regulators i.e. ICASA pursuant to the objects of the Competition Act, 1998 (i.e. job creation, black economic empowerment, global competitiveness, economic expansion) (Note: Competition Commission jurisdiction expanded to any Act arising through public regulation (i.e. regulation by any statutory regulator). • ICT development in the private sector is overseen mainly by the Department of Trade and Industry (DTI) through various incentive schemes. No specific legislation applies to these schemes.

GLOSSARY:

Agenda: Accelerated Agenda for the Restructuring of State-owned Enterprises (2001)

ESF: Employment Strategy Framework (1998)

GEAR: Growth, Employment and Redistribution Strategy (1996)

GPE: Green Paper on E-commerce (2000)

IS: Driving Competitiveness: An Integrated Industrial Strategy for Sustainable Employment and Growth (2001)

SITCE: Strategy for Information and Communication Technology in Education (2001)

PD: Policy Directions issued by the Minister of Communications (Government Notice 274 of 23 March 2001)

WPB: White Paper on Broadcasting (1998)

WPT: White paper on Telecommunications Policy (1996)

OBJECTIVES	Policy / Legislative scan: Findings
<p>1.2 Framework for sustainable ICT sector combining (a) supportive government intervention (policies / programmes, etc) with the development of (b) critical-mass geographical clusters of companies (especially Gauteng and Cape Town)</p> <p>1.3 Foster linkages between ICT participants and companies through (a) supplier development programme, (b) sector events for information exchange and (c) creating a forum of CEO of major ICT businesses</p> <p>1.4 Accelerate successful entry for new market entrants through (a) Incubator / entrepreneur centres in research facilities (b) providing venture capital support (c) fostering mentorships between</p>	<p>Finally, while a measure of institutional convergence has now been achieved through merging of SATRA and the IBA into ICASA and an amplification of the objects of the Telecommunications Act, 2001 to promote and facilitate convergence of telecommunication, broadcasting and information technology and develop an ICT strategy in order to bridge the digital divide (section 2(r) and (s)), there is as yet no convergence-friendly licensing regime. Telecommunications and broadcasting is still regulated in terms of different Acts with difficulties compounded by differences in detail.</p> <p>1.1.3 Existing governance structure (SAITIS) has limited life span and has no formal basis in legislation.</p> <p>1.2.1 POLICY: Existing policy frameworks do not propose specific incentives for the ICT sector, although various existing schemes are potentially supportive (see below). General references that do occur are:</p> <ul style="list-style-type: none"> • <i>Government will continue with supply-side policies to facilitate exports and enhance the competitive position of industry (IS, 5.1) and investment incentives are being expanded (IS, 8.2)</i> • <i>Direct subsidy of R&D expenditure via the Innovation Fund and an expanded SPII remains the only realistic option if incentives for private sector innovation (and) are to be increased (WPST, 7.4.2)</i> <p>1.2.2 LEGISLATION: Existing incentive schemes are not based on specific legislation, but mandated under general appropriation legislation as part of DTI budget allocation. Various existing incentive schemes (administered by DTI, IDC, SARS and NRF) are potentially supportive of the ICT sector. However, there are no schemes dedicated solely to the ICT sector</p> <p>1.2.3 The clustering of ICT companies and activities at specific locations appears to be driven by both government initiatives, eg Gauteng Blue IQ Initiative / Innovation Hub project and private sector considerations, eg access, location of workforce, etc. There are no applicable legislative provisions guiding clustering of ICT activities.</p> <p>1.3 (a) POLICY: Reference has already been made above to the proposal contained in the WPT that an information policy committee be established to facilitate the development of ICT infrastructure and global linkages (see 1.1 above).</p> <p>1.3 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • The Telecommunications Act, 1996 does not expressly provide for an information policy committee. However, Sec 21 mandates the Council of TRASA (now ICASA) to establish committees in relation to any of its functions. • There are no applicable legislative provisions providing for a CEO's forum • <p>1.3 (c) Sector Partnership Fund and Competitiveness Fund are incentive schemes providing for development of knowledge networks between firms (IS).</p> <p>1.4 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The Innovation Fund to be administered in consultation with the DTI will provide support to qualifying innovation projects undertaken by a combination of government, private sector, higher education institutions and civil society aimed at allocating resources to competitiveness, quality of life, environmental sustainability and harnessing information technology (WPST, 7.2)</i> <p>1.4 (b) LEGISLATION:</p>

OBJECTIVES	Policy / Legislative scan: Findings
<p>established and start up companies (d) simplifying registration and reporting requirements for start up companies (e) using Internet to support start up companies eg virtual incubator</p>	<ul style="list-style-type: none"> • No specific legislative provisions were identified iro incubator / entrepreneur research centres. Sec 4(2) of the NRF Act, 1998 permits the NRF to co-operate or enter into agreements with any person, institution, government or administration in respect of any of its research promotion and support functions. • No relevant legislative provisions have been identified in respect of venture capital support / mentorships in the ICT sector. Venture capital support could be provided through one of the DTI /IDC incentive schemes. The SPF scheme is available to support collaboration between ICT companies. Registration and reporting by companies is governed by the Companies Act and the Close Corporations Act. <p>1.3 (a) Has SPF and CF been used to support specific ICT outputs as envisaged under this objective? If so, what impact was achieved? Is the SPF and CF sufficient to support this objective? Is a supplementary initiative needed? Does this require legislation?</p>
<p>2. ESTABLISHING ENABLING POLICY / SUPPORT ENVIRONMENT TO ENHANCE ATTRACTIVENESS OF SA FOR ICT DEVELOPMENT THROUGH:</p> <p>2.1 Revision of policies and programmes to better support ICT sector, especially in the areas of</p> <p>(a) E-commerce (b) Government procurement (c) Telecommunications (d) Labour (e) Education and training (f) Taxation (g) Immigration (h) Industry support programmes (i) Intellectual property (j) International trade rules (k) Social equity</p>	<p>2.1 (a) E-commerce: There are significant legal gaps in a number of areas that constrain the full development of e-commerce in SA.</p> <ul style="list-style-type: none"> • As yet, no amending legislation has been prepared to amend the vast number of Acts that constrain the full development of e-commerce – see ENF report • SA Law Commission has undertaken research on admissibility of computer-generated evidence and computer-related crimes – No legislation yet prepared - CHECK <p>2.1 (b) E-government and government procurement:</p> <p>(a) E-government policy identifies a need for legal reform iro:</p> <ul style="list-style-type: none"> • Digital signatures; • Certification System for Electronic Transactions • Rules for Electronic Transactions; • Privacy and Confidentiality so that South African citizens can enjoy the right to control the use of their image, voice, and most information about themselves by permitting or refusing permission for its use or reproduction; • Illegal and Harmful Content; • New Intellectual property rights; • Storing electronic correspondence that has legal implications • Giving priority to South African companies to grow and sustain local ICT sector; • Instrument to renegotiate all existing public sector ICT contracts to ensure delivery of e-Government value; • Devising competent service level agreements (SLA) to rationally and objectively measure the e-Government value; • Information security standards based on ISO17799; • Establishment of common ICT service provider to receive delegated authority from State Tender Board for all ICT procurements (How does this fit with SITA's role?). <p>E-government policy notes that Government IT Officers' Council (GITO) was created as e-government co-ordination and consolidation vehicle for public service.</p> <p>(b) IT procurement – see discussion of government as model IT user – Goal 2, item 3.</p> <p>2.1 (c) Telecommunications</p> <p>ICASA identified several clauses in the Telecommunications Amendment Act, 2001 that compromise their regulatory independence, are potentially anti-</p>

OBJECTIVES	Policy / Legislative scan: Findings
	<p>competitive, exacerbate existing conflicts in the regulatory approach followed in the various existing Acts and attempt to address convergence issues on an <i>ad hoc</i> basis.</p> <p>Overall the need has been identified for a consolidated <i>Communications Act</i> addressing telcoms, broadcasting and convergence and providing for consistent regulatory approaches in all sectors.</p> <p>2.1 (d) Labour: See discussion under Goal 3, item 1.</p> <p>2.1 (e) 5 Education and training</p> <p>See discussion under Goal 3, item 3</p> <p>2.1 (f) Taxation</p> <p>Current depreciation allowances are administered by Income Tax Act.</p> <p>Budget 2001 announced 5 year Strategic Investment Programme (SIP) providing for tax deductions between R 300 and 600 million for qualifying strategic industrial projects. (excluded are activities in tobacco, “certain computer-related activities, and R&D). See Business Day, 9 Jan 2002, p 2.</p> <p>2.1 (g) Migration</p> <p>See discussion under Goal 3, item 1.</p> <p>2.1(h) Industry support programmes</p> <p>2.1 (i) Intellectual property</p> <p>See discussion under Goal 4, item 4.</p> <p>(a) The Copyright Act, 1978 was prepared prior to the era of digitisation and the Internet. It is not equipped to deal with copyright issues arising from ICT advances and hence presents a barrier to e-commerce (eg owners of copyrighted material may be unwilling to make them available on the Internet due to the ease with which material can be copied and distributed, etc). The World Intellectual Property Organization (WIPO) has produced the World Copyright Convention (WCC), 1996 to which SA is party. SA has not yet implemented the convention. Existing law needs substantial revision in line with the WCC and international trends</p> <p>(b) Domain names and trade marks.</p> <p>Domain administration: WIPO guidelines to resolve conflicts between trademarks and domain names have been adopted by the Internet Corporation for Assigned Names and Numbers (ICANN) and significantly reduced bad faith cyber squatting of trademarks in generic top level domains. In SA, domain name administration is undertaken by the NRF and will be assigned to a new organization to be set up. It is uncertain to what extent the NRF has adopted the WIPO approach.</p> <p>WIPO work is continuing protection of recognized identifiers other than trademarks, eg geographical locations and in protection of intellectual property at the level of country code top-level domains.</p>

OBJECTIVES	Policy / Legislative scan: Findings
	<p>Preliminary analysis appears to indicate that the Trade Marks Act is sufficient to deal with cyber squatting as well as current competition law on <i>passing off</i>.</p> <p>2.1 (j) International trade</p> <p>(a) Telcoms</p> <p>Uruguay Round Final Act includes a decision to undertake negotiations on trade in basic telecommunications. SA submitted draft offer on 29 January 1997.</p> <p>(b) Information technology</p> <p>WTO Minister concluded a declaration on trade in IT products (ITA) in December 1996. The ITA is a tariff cutting agreement aimed at reducing tariffs and other duties and charges on IT products to zero no later than 1 January 2000. SA was not a signatory to the ITA.</p> <p>2.1 (k) Social equity</p> <p>See discussion under goal 2 items 1.2 and 4</p> <p>The policy directions of the Minister of Communications reinforce social equity by directing that the SNO and any new major licences shall include a shareholding of anything up to 30% for historically disadvantaged groups and a portion shall be allocated through retail to ensure their broader ownership (PD Market Structure for Telecommunications Services 3.6-3.8).</p> <p>The policy direction (PD: Economic Empowerment of Historically Disadvantaged Persons, 2) also direct ICASA to incorporate this condition in all new major telecommunications licences and that licensing criteria be developed that give priority to historically disadvantaged persons, SMMEs and the ICT sector. These policy directions have been incorporated in section 32B(2) and section 35(3)(a) and (b) of the Telecommunications Act which also promotes the empowerment and advancement of women in the telecommunication industry (section 35 (3)(b)).</p> <p>The abovementioned policy direction also obliges ICASA to report annually to the Minister on the overall status and improvement of the empowerment of historically disadvantaged persons in the ICT sector. Regulations and licence conditions shall provide that no reduction in the level of shareholding of historically disadvantaged persons in all major telecommunication licences shall be permitted without ICASA's approval.</p>
<p>3. BUILDING WORLD-CLASS ICT SECTOR SUPPORT INFRASTRUCTURE:</p> <p>3.1 Providing leadership and supporting champions (industry, local government, universities, etc) able to build ICT support infrastructure</p>	<p>3.1 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>Lack of access is a significant barrier to the development of electronic commerce in South Africa. While government has decided that the rollout of infrastructure will be better achieved through a period of exclusivity for Telkom which allows it the opportunity to roll out services, Telkom's efforts alone are not sufficient to achieve all of the infrastructural needs for e-commerce. Furthermore, the deployment of appropriate e-commerce technology that has adequate data capability must be accelerated in areas where it is needed. The question which further incentives are required to encourage infrastructure development is identified as an issue for further consideration (GPE, 9.4)</i> • <i>Sound telecommunications infrastructure is fundamental to knowledge intensive activities and business in general – business is not well-served by existing market structure (IS, 6.1.2)</i> <p>3.1 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • Sec 36 of the Telecommunications Act, 1996 provides the legal foundation for TELKOM's period of exclusivity.

OBJECTIVES	Policy / Legislative scan: Findings
<p>3.2 Developing information networks and knowledge sharing between ICT participants through (a) ICT sector portal (b) networking events and (c) establishing groups to foster collaborative projects</p> <p>3.3 Increasing finance of sector development, especially high risk “start ups”, foreign investment incentives and improving information dissemination on government incentives through: (a) programmes to encourage existing “angel” investors and venture capitalists, (b) using government procurement to direct business to ICT SMMEs, (c) create agency or program to attract foreign investment in ICT and (d) develop / revise tax and other incentives to encourage ICT investment.</p>	<ul style="list-style-type: none"> • Sec 59 gives the Universal Service Agency the responsibility of promoting universal service and universal access. • No other legislative provisions applicable to ICT support infrastructure have been identified. Support may otherwise be provided through incentive schemes – see 1.2 above. <p>3.2 (a) POLICY</p> <ul style="list-style-type: none"> • <i>Innovation Fund is intended, amongst others, to promote increased networking and cross-sectoral collaboration within South Africa's national system of innovation (WPST, 7.2)</i> • <i>Government is committed to efficiency enhancing networks and to support firm networking and diffusion of best practice through the Sector Partnership Fund and the Competitiveness Fund (IS, 7.4)</i> <p>3.2 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • Sec 4(1)(n) of the NRF Act, 1998 requires the NRF to “promote the provision of an information infrastructure linking research institutions to facilitate co-operation and sharing of research information and knowledge”. The NRF has in terms of its general responsibility to support research identified ICT as a focus area and targeted human – information interfaces and the digital divide as two of the four focuses for research . • No specific legislative provisions apply in respect of networking events. However, Sec 4(2)(i) of the NRF Act, 1998 requires the NRF to “facilitate and promote nationally and internationally liaison between researchers and research institutions”. The IS proposes the development of knowledge networks between firms through the Sector Partnership Fund (SPF) and Competitiveness Fund (CF). <p>3.3 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>Industrial strategy acknowledges underlying power of market forces, but state needs to guide market where market failure occurs (eg skills shortages), by providing amongst others, incentives. (IS, 2.1.3)</i> <p>Existing incentive schemes do target ICT (in addition to other economic sectors)</p> <p>3.3 (b) LEGISLATION</p> <ul style="list-style-type: none"> • The Preferential Procurement Policy Framework Act (PPPFA), 2000 permits organs of state to introduce preferential procurement systems requires all organs of state to pursue preferential procurement policies in support of RDP goals. Reg 17(3) of the PPPFA regulations identifies one of those goals as the “promotion of SMMEs”. • No legislative provisions have been identified establishing an ICT investment promotion agency.
<p>4. Stimulate export penetration to capture</p>	<p>4.1 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>DTI policy is to promote exports and liberalise imports through (a) export marketing support (b) tariff liberalization and (c) provision of exports guarantees</i>

OBJECTIVES	Policy / Legislative scan: Findings
<p>growing portion of global ICT market by:</p> <ul style="list-style-type: none"> • Communicating market trends and opportunities • Marketing SA's ICT products and services in foreign markets 	<p><i>to SMMEs (IS, p 34)</i></p> <ul style="list-style-type: none"> • <i>Government will accordingly investigate policies to improve ICT performance on behalf of SMMEs (IS, 7.3).</i> <p>4.1 (b) LEGISLATION. No applicable legislative provisions identified. DTI incentive schemes allow for support to manufacturers to develop foreign markets through trade missions and part reimbursement of marketing trips</p> <p>.</p>

ANNEXURE 2: ICT POLICY & LEGAL ISSUES MATRIX: GOAL 2: Increase the use of ICT as an enabler for socio-economic development, with equity

OBJECTIVES	Policy / Legislative scan: Findings
<p>1. Stimulating ICT adoption through partnerships by:</p> <p>1.1 Forging cross-sectoral linkages and linking ICT with non-ICT sectors through:</p> <p>(a) awareness and communications programs</p> <p>(b) creating mechanism in the DTI and other government departments to promote ICT adoption; and</p> <p>(c) support linkages between ICT and non-ICT sector associations</p>	<p>1.1 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The White Paper on Telecommunications proposes creating strategic partnerships between equipment suppliers and network operators via licensing conditions such as the JEDP to stimulate the equipment supply industry for regulating equipment purchases, and to consider their adaptation to the local environment for possible deployment in South Africa (WPT, 7.11)</i> • <i>The WPB suggests that in-community broadcasting educational institutions and developmental organisations should be encouraged to forge partnerships with the community sector for the provision of educational and developmental programmes (WPB, 3.3.3)</i> • <i>The GPE points out that the role of government should be to legislate or regulate if necessary and issue licenses where appropriate to encourage user trust; that of the private sector would be to introduce voluntary codes and develop technological solutions. This requires active partnership between government and the private sector. (GPE, 7.1)</i> • The GPE also suggests a public private partnership approach in market development: Partnerships are key to creating the enabling environment necessary for the growth of electronic commerce and in implementing e-commerce. (GPE, 12.4) • <i>With regard to a mechanism to promote ICT adoption, the GPE suggest that the GITO Council could, as a government vehicle that directs the use of ICT, recommend strategies to squash emerging problems or to leverage emerging opportunities, including:</i> <ul style="list-style-type: none"> ○ <i>the emergence of new partners and intermediaries in the delivery of services;</i> ○ <i>structural changes within national government and in its relationships to other levels of government;</i> ○ <i>concerns about privacy and confidentiality in a world in which sensitive information flows across networks and the potential exists for amassing large files of information about individuals;</i> ○ <i>impact of ICT on the country's developmental agenda (i.e. is IT advancing or hampering growth?);</i> ○ <i>accessibility by the previously neglected communities to government ICT resources (i.e. is the IT gap being closed or exacerbated?);</i> ○ <i>effects on public service delivery;</i> ○ <i>influence on democratisation, patriotism and responsible citizenship.</i> <p>1.1 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • Section 41 (10) of the amended Telecommunications Act provides for the Minister to establish in concurrence with the Minister of Education an entity to construct and operate an education network. • Section 41 (11) of the amended Telecommunications Act provides for the Minister to establish in concurrence with the Minister of Transport a Maritime and Aeronautical Radio Services entity to construct and operate a private telecommunication network to fulfil South Africa's international obligations.

OBJECTIVES	Policy / Legislative scan: Findings
<p>1.2 Engaging communities to increase ICT awareness, access and usage through (a) awareness campaigns (b) development of community-based ICT applications (c) developing ICT infrastructure and applications (d) linking community-based application with national, provincial, local and regional initiatives (eg SDIs) and partnerships between government, NGOs, firms, associations, etc:</p>	<ul style="list-style-type: none"> • Sec 7 (d) and (e) of the State Information Technology Agency (SITA) Act, 1998 list SITA’s functions as, amongst others, to: <ul style="list-style-type: none"> ○ promote the effective utilisation of information technology to enhance the efficiency at all levels of the Public Service; ○ provide technical, functional and business advice and support regarding information technology; provide information technology and information systems management services. • There is no legislation currently governing GITO, its establishment, role or functions. <p>1.2 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The WPST proposes that government will institute via DACST the delivery of S&T public awareness programmes in collaboration with consortia of institutions, including societies for the advancement of science, professional associations, academies of science, science museums and libraries, media (printed and electronic), educational institutions and private business (WPST, 9.8)</i> • <i>The GPE proposes the development of a G2C (government to citizen) portal is intended to give citizens the same look and feel on public service delivery, and to allow a seamless public service anytime, anywhere, using any equipment available. This portal depends on a G2G with certain minimum functions, to provide public service as a single entity to citizens (GPE, 4.1)</i> <p>1.2 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • Sec 4 (n) and (o) of the National Research Foundation Act, 1998 list one of the functions of the NRF as: <ul style="list-style-type: none"> ○ promote the provision of an information infrastructure linking research ○ institutions to facilitate co-operation and sharing of research information and knowledge; and ○ compile and maintain a national registry of research funded by the NRF. • The National Development Agency (NDA) Act, 1998 establishes the NDA as a juristic person. In terms of Sec 2, the primary object of the NDA is to contribute towards the eradication of poverty and its causes by-granting funds to civil society organisations for the purposes of- <ul style="list-style-type: none"> (a) carrying out projects or programmes aimed at meeting development needs of poor communities; and (b) strengthening the institutional capacity of other civil society organizations. • Section 66 (1)(d), and (e) of the Telecommunications Act, 1996 provide that Universal Service Fund monies shall be utilised exclusively for the payment of subsidies for the establishment of centres where access can be obtained to telecommunication facilities and for the establishment of public information terminals respectively. • Section 78 of the Telecommunications Act, 1996 provides for the establishment by the Minister of Public Emergency Communication Centres (112 Emergency Centres).
<p>2. Making modern information</p>	<p>2.1 (a) POLICY:</p>

OBJECTIVES	Policy / Legislative scan: Findings
<p>infrastructure (telcoms and IT (computers, software, etc) available to all South Africans to:</p> <p>2.1 Provide widespread access to broadband infrastructure through a <i>National Information Infrastructure Initiative (NIII)</i></p>	<ul style="list-style-type: none"> • <i>The WPB indicates that the IBA (now ICASA) is to conduct a public inquiry and report on a regulatory regime for multi-channel distribution systems. It proposes that there will be competition in the delivery of services between satellite and terrestrial and all providers of multi-channel services will be required to hold a license. Non-broadcast services, i.e. data transmission will be required to hold a license. It states that access to the Internet should be provided to as wide a population base as possible (WPB, Chap 7).</i> • <i>The GPE proposes that government must only get involved in ICT infrastructure that enables e-Government benefits such as:</i> <ul style="list-style-type: none"> o <i>'One stop shops',</i> o <i>Access to a range of relevant government services, through a single service point,</i> o <i>Services appropriate for a targeted group from the most appropriate location,</i> o <i>Access where and when the clients seek the services (GPE 5.1)</i> • <i>The WPB states that Government has several goals for the sector during the period of exclusivity (as described previously), the most important of which is the expansion of the telecommunications infrastructure and the promotion of universal service. Telkom is the primary means to achieve this central goal (WPT, 2.11)</i> • <i>According to the WPST, telecommunications infrastructure should involve:</i> <ul style="list-style-type: none"> • <i>service provision to all sectors of the community in all geographic areas</i> • <i>digital telephone exchanges and transmission networks</i> • <i>broad and narrow-band transmission capabilities, to cater for all types of applications, from simple voice transmission to video-conferencing</i> • <i>connections abroad by means of satellites and optical fibre cables.</i> <p>(WPST, 10.1.1)</p> <ul style="list-style-type: none"> ▪ <i>The Minister of Communications has directed that targets for universal access have to be redefined in terms of services for access to include advanced services such as internet, multi-media with particular consideration to the special needs of differently abled persons and the equitable geographic spread of services (PD: Universal access and universal service: bridging the digital divide, 2.1 and 2.2).</i> <p>2.1 (b) LEGISLATION</p> <ul style="list-style-type: none"> • <i>Section 66 (1)(d), and (e) of the Telecommunications Act, 1996 provide that Universal Service Fund monies shall be utilised exclusively for the payment of subsidies for the establishment of centres where access can be obtained to telecommunication facilities and for the establishment of public information terminals respectively.</i> • <i>Section 78 of the Telecommunications Act, 1996 provides for the establishment by the Minister of Public Emergency Communication Centres (112 Emergency Centres).</i> • <i>Sec 33 of the Broadcasting Act imposes the obligations on the IBA (now ICASA) to conduct an inquiry to determine the licence conditions, obligations, and</i>

OBJECTIVES	Policy / Legislative scan: Findings
	<p>tariff structure for signal distribution including the regulatory regime for multi-channel distribution services and convergence.</p> <ul style="list-style-type: none"> • Sec 34 of the Broadcasting Act requires all signal distribution services and broadcasting services, whether through terrestrial frequencies, satellite or telecommunication facilities within the borders of the Republic or from the Republic to other countries will be required to hold a licence issued by the IBA (now ICASA). In terms of subsection(2) the signal distribution sector must, amongst others: “provide universal access for all South Africans to broadcast services”. <p>2.1 (c) SAITIS assumed the responsibility to develop business case in co-operation with DoC iro NIII. The business case would recommend course of action, including policy, regulatory and legislative changes required and removal of fixed line monopoly to stimulate competition and reduce usage costs</p>
<p>3. Stimulating ICT adoption through government as a model user by:</p> <p>3.1 Encouraging collaborative development of electronic delivery of government services by all government departments through (a) co-operative mechanisms between ICT sector and government (b) increasing awareness of potential for ICT use in government (c) prioritising ICT applications in government and (d) identifying potential ICT applications for electronic service delivery.</p>	<p>3.1 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The GPE points out that based on e-Government studies conducted by countries such as Canada, some of the critical imperatives have not been established. Some of these include definition of Government-wide e-Government policy and strategy; lack of legislation guiding the use of e-Government for effecting the delivery of services. There is a need to provide a legal infrastructure to enable aspects related to:</i> <ol style="list-style-type: none"> a. <i>Digital or Electronic Signatures</i> b. <i>Certification System for Electronic Transactions</i> c. <i>Rules for Electronic Transactions;</i> d. <i>Privacy and Confidentiality so that South African citizens can enjoy the right to control the use of their image, voice, and most information about themselves by permitting or refusing permission for its use or reproduction;</i> e. <i>Illegal and Harmful Content;</i> f. <i>New Intellectual property rights;</i> g. <i>Storing electronic correspondence that has legal implications;</i> h. <i>Giving priority to South African companies to grow and sustain local ICT sector;</i> i. <i>Instrument to renegotiate all existing public sector ICT contracts to ensure delivery of e-Government value</i> j. <i>Devising competent service level agreements (SLA) to rationally and objectively measure the e-Government value;</i> k. <i>Shifting paradigm from buying ICT goods and services (i.e. 'nut-and-bolts'), to getting solutions or results intended to improve the public service delivery</i>

OBJECTIVES	Policy / Legislative scan: Findings
<p>3.2 Using government procurement to stimulate ICT adoption through: (a) strategic purchase of ICT products and services and (b) use of industrial development credits (?) to stimulate ICT development</p>	<p><i>agenda.</i></p> <ul style="list-style-type: none"> <i>l. Managing ICT vendors to avoid the impact of disruptive appeals, and long turn-around-time that can hamper or disrupt public service agencies from delivering crucial service to citizens.</i> <i>m. Encouraging ICT industry to develop and share volatile or costly ICT infrastructure with the public sector; develop local capacity in the whole ICT spectrum (NB. Not sales and marketing only); and stimulate research on peculiar South African ICT developmental imperatives.</i> <i>n. Stimulating the emergence of new partners and intermediaries in the delivery of services. (EGP, 3.1.2)</i> <p>3.1 (b) LEGISLATION: In terms of Sec 7(d) and (g) of the SITA Act, 1998, SITA has the function to promote the effective utilisation of information technology to enhance the efficiency at all levels of the Public Service and to act as IT procurement agency for government.</p> <p>3.2 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The EGP suggests that the State IT Agency Act offers an avenue within which an ICT Acquisitions regulation can be crafted. However, there seem to be a necessity to synchronise and sensitise the State Tender Board legal mechanisms accordingly. A Common ICT Service Provider must be established, and interim arrangements must be made with the State Tender Board to delegate ICT related procurements to the Common ICT Service. Such arrangements must be addressed when applicable State Tender board legal instruments are amended to enable the concept of Common Service Providers. (EGP, 3.2.1)</i> • <i>The EGP also proposes that the State IT Agency must:</i> <ul style="list-style-type: none"> ○ <i>serve as an ICT implementing arm for government, on all aspects that require central co-ordination in order to enhance government service delivery (e.g. Information Security, Interoperability aspects, and leveraging economies-of-scale);</i> ○ <i>deal with ICT vendors to avoid the impact of disruptive appeals, and long turn-around-time that can hamper public service agencies from delivering crucial service to citizens. Thereby, giving public service agencies some space to focus on service delivery imperatives of government.</i> <p>3.2 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • The Preferential Procurement Policy Framework Act, 2000 requires all “organs of state” to determine a preferential procurement policy with specific goals by instituting a preference point system to contract with (a) historically disadvantaged persons and (b) support the implementation of RDP programmes. The Act contains no specific reference to the strategic purchase of ICT products or use of industrial credits. • Section 66 (1)(d), and (e) of the Telecommunications Act, 1996 provide that Universal Service Fund monies shall be utilised exclusively for the payment of subsidies for the establishment of centres where access can be obtained to telecommunication facilities and for the establishment of public information terminals respectively. • Section 78 of the Telecommunications Act, 1996 provides for the establishment by the Minister of Public Emergency Communication Centres (112 Emergency Centres).

OBJECTIVES	Policy / Legislative scan: Findings
	<p>3.2 (c) SITA has developed “whole of government “ procurement policy and code of practice. Current documents not clear whether (a) SITA undertakes all government procurement through SITA Tender board or (b) SITA undertakes some procurement, but individual departments remain autonomous in IT procurement working through State Tender Board.</p>

ANNEXURE 3: ICT POLICY & LEGAL ISSUES MATRIX: GOAL 3: Knowledgeable and growing ICT-skilled workforce

OBJECTIVES	Policy / Legislative scan: Findings
<p>1. Develop comprehensive understanding of SA ICT labour market to support effective ICT human resource development by:</p> <p>1.1 Strengthening capacity to understand labour markets to identify skills required by ICT sector and monitoring skills needs through (a) standard definitions and terminology for ICT skills (SABS, Stats SA, HSRC, DoL and ISETT SETA) and (b) mobilizing funding for graduate training and labour market research</p> <p>1.2 Making better use of labour market information through the establishment of a Labour Market Statistics and Research Centre</p>	<p>1.1 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The ESF recognizes the need for a labour strategy that propel(s) the economy into one which is innovative, inclusive and labour absorbing, for which the skills base must be raised and moved into higher value-added sectors to raise national income (ESF 2.3).</i> • <i>The ESF also emphasizes the need to improve the interface between labour market needs and the education system (ESF 3.3.1.4).</i> • <i>The WPT highlights that the telecommunications sector offers opportunities for locally developed innovative products and services which, with appropriate transfers of skills and technologies, can contribute significantly to economic empowerment of previously disadvantaged communities. (WPT, 1.6) It also points out that there are severe shortages of managerial and technical skills in the industry and proposes that skills development programmes be established to upgrade and broaden the skills base of employees and a special human resources development directorate be established by the Regulator to support these programmes on an industry-wide basis. (WPT 4.9)</i> <p>1.1 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • Sec 9 of the Skills Development Act, 1998 provides for the Minister (of Labour) to establish a sector education and training authority (SETA) for any national economic sector. A SETA’s functions include: (a) to develop a skills sector plan (b) implement a skills sector plan through, amongst others establishing learnerships and allocating grants to employers, education and training providers and workers and (c) monitoring education and training. (The Information Systems, Electronics and Telecommunications Technologies SETA (ISETT) has been established). <p>1.2 (a) POLICY:</p> <p>No specific policy objectives identified.</p> <p>1.2 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • Sec 22 of the Skills Development Act, 1998 (SDA) provides for a Skills Development Planning Unit (SDPU) to be established in the DoL with the task of, amongst others, to “research and analyse the labour market in order to determine skills development needs for (i) SA as a whole (ii) each sector of the economy and (iii) organs of state”. • Section 39 of the Broadcasting Act provides that all licences in terms of the IBA Act and the Broadcasting Act must comply with national skills development policy and specific HRD conditions determined by ICASA.

OBJECTIVES	Policy / Legislative scan: Findings
<p>1.3 Improving the ability to compete for highly skilled workers from abroad by (a) involving employers in selection of skilled immigrants (b) assisting universities/technikons to recruit skilled foreigners (c) facilitating permanent residence for foreign nationals studying in SA (d) fast tracking accreditation of skilled foreigners by professional bodies (e) making Prior Learning Assessment and Recognition (PLAR) part of review process for skilled workers applying to immigrate to SA</p>	<p>1.3 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The WPM recognizes the need to ensure that communities, industries or businesses who need to acquire the skills or contribution of foreign workers can do so without administrative delays or problems (WPM, 5) and that permanent residence is required as such people may need to stay for a protracted length of time (WPM, 9). It also recognizes that it is difficult for government to identify what skills are needed and points out that some skills in fields such as information technology, marketing and business development do not easily lend themselves to on-paper certification (WPM 8.1). The WPM also proposes that “brain – gain” be encouraged by accommodating person with exceptional skills subject to the application of flexible criteria (WPM, 10).</i> <p>1.3 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • Sec 28 of the Immigration Act, 2001 provides for the establishment of an Immigration Advisory Board comprising representatives of various government departments (including Labour, DTI and Education) and miscellaneous representatives from bodies requested by the Minister to nominate representatives. Such bodies could, in principle, include institutions such as ISETT. The task of the IAB is to advise the Minister on the implementation of policy and the Act in particular. • Sec 14 of the Immigration Act, 2001 allows the Department of Home Affairs to grant an exceptional skills or qualification permit to an individual with exceptional skills under conditions as determined in the regulations. The Act contains no reference to the PLAR process. It is uncertain whether regulations have been promulgated. • Sec 6 of the Immigration Act, 2001 provides for the Department of Home Affairs to grant a student permit to a foreigner intending to study in SA for longer than three months (for study shorter than three months a general entry permit (visa) issued in terms of Sec 4 of the Act may be used). The registrar of an education institution approved by the Department may also grant such a permit.
<p>2. Establishing the employment environment to retain skilled workers by:</p> <p>2.1 Increasing the capacity of universities and technikons to do high quality basic and applied research by increasing research funding by national granting councils (NRF?)</p>	<p>2.1 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The WPST proposes a co-ordinated system of grant funding of research administered through the NRF that:</i> <ul style="list-style-type: none"> ○ <i>introduces a separation of agency and performing functions,</i> ○ <i>aims at reducing overheads by consolidating grant funding, while promoting the independence of different areas of SET,</i> ○ <i>it creates a mechanism to ensure support for interdisciplinary R&D. (WPST, 7.3)</i> • <i>The WPST also proposes that organised business develop a policy for building innovation capacity and supporting innovation within the country's enterprises (WPST, 7.4.4)</i> <p>2.1 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • The National Research Foundation Act, 1998 created the National Research Foundation as a new single agency to support and promote research through

OBJECTIVES	Policy / Legislative scan: Findings
<p>2.2 Improving the return on investment in science and technology by establishing a process to involve business and science experts to project science and technology trends and identify high return areas for current and future R&D</p> <p>2.3 Stimulating growth among small knowledge-intensive firms through a programme through DTI / Ntsika to help knowledge-intensive SMMEs to absorb new science and technology graduates</p>	<p>funding in all fields of science and technology.</p> <ul style="list-style-type: none"> • Section 66(1)(f) of the Telecommunications Act provides that money in the Universal Service Fund shall be used exclusively for the payment of subsidies to assist small businesses and cooperatives to acquire and construct infrastructure to provide telecoms services to areas not served or not adequately served by telecoms services <p>2.2 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The WPST notes that the DTI is currently involved in several studies which are designed to result in concrete and sector-specific measures to enhance inter-firm linkages. It also indicates that a new management system will be administered in such a way as to promote the inter-firm linkages.</i> (WPST, 8.3.3) <p>2.2 (b) LEGISLATION:</p> <p>Sec 6(4) of the NRF Act provides that the Minister must ensure that <i>business</i>, amongst others is represented in the appointment of the NRF board.</p> <p>The Technology and Human Resources for Industry Programme (THRIP) scheme provide for financial support to finance research in, amongst others, engineering and technology, provided projects involve the training of students.</p> <p>2.3 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The WPST notes that the DACST will work with DTI on a range of relevant issues related to technology diffusion in SMMEs. Of particular importance in this collaborative activity is the need to define the best available means of financing technology development for SMMEs.</i> (WPST, 8.3.4) <p>2.3 (b) LEGISLATION:</p> <p>No specific legislative provisions identified.</p>
<p>3. Establishing the HR development infrastructure to provide a pool of ICT skills to support ICT and ICT-enabled industries by:</p>	<p>3.1 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The acquisition of basic computer literacy on the part of educators and learners during the initial stages of ICT deployment in schools (SITCE, 4.3.3). Courses will be developed to provide educators with basic management skills to keep computers up and running (SITCE, 4.3.4). The DOE's ICT strategy adopts the following outcomes for primary and secondary education:</i> <ul style="list-style-type: none"> ○ <i>Access to telephony</i> ○ <i>Access to at least one computer for administration with Internet linkage</i>

OBJECTIVES	Policy / Legislative scan: Findings
<p>3.1 Developing the skills for a knowledge based economy by expanding ICT literacy and ICT skills across student body and teachers / lecturers at primary, secondary and tertiary level.</p>	<ul style="list-style-type: none"> ○ <i>Schools must have access to Internet-linked computing facilities for educator and learner use.</i> ○ <i>At the end of the Foundation phase, all learners must have used computers to acquire and enhance numeracy and language skills.</i> ○ <i>Learners and educators must have basic competency in work processing, spreadsheet, flat database, e-mail and browser applications.</i> ○ <i>Learners and educators must have used a host of user-machine interfaces, including keyboard, touch pad and other devices.</i> ○ <i>Where feasible, computer facilities must be used outside school hours by the school and the wider community, with cost recovery, as appropriate.</i> ○ <i>Education software must comply with Curriculum 2005 assessment standards.</i> ○ <i>The DoE portal Thusong will provide access to a host of curriculum and support material. (SITCE, 4.2).</i> <p>3.1 (b) LEGISLATION</p> <ul style="list-style-type: none"> • Sec 10 of the Skills Development Act, 1998, requires a SETA to establish and promote learnerships consisting of a structured learning component and practical work leading to a qualifications registered by the SA Qualifications Authority. • Section 66(1)(c) of the TA provides that money from the Universal Service Fund shall be utilised exclusively to public schools and public further education and training institutions for the procurement of internet services and equipment necessary to access internet. • Legislation⁸ administered by the Department of Education contains no specific provisions regarding education outcomes in the ICT sector.
<p>3.2 Improving capacity of tertiary institutions through (a) increased funding (b) improved recruitment of ICT students (c) stronger links between universities and employers and (d) dedicated ICT degrees.</p>	<p>3.2 (a) POLICY:</p> <ul style="list-style-type: none"> ○ <i>The WPST acknowledges that higher education institutions are traditionally poorly connected to business and government science and technology institutions. It notes that linkages must be established to ensure that business is better able to exploit the research output of higher education institutions. (WPST, 8.3)</i> <p>3.2 (a) LEGISLATION</p> <ul style="list-style-type: none"> • In terms of Sec 4 (1) of the NRF Act, the Foundation has the function to: <ul style="list-style-type: none"> <i>“(i) promote the transfer of technology and the implementation of research results and findings;</i> <i>(j) facilitate and promote nationally and internationally liaison between researchers and research institutions; and</i> <i>(n) promote the provision of an information infrastructure linking research institutions to facilitate co-operation and sharing of research information and knowledge;”</i>
<p>3.3 Upgrading the skills of the existing work force</p>	<p>3.3 (a) POLICY: See 1.1 above.</p> <p>3.3 (b) LEGISLATION:</p> <ul style="list-style-type: none"> ○ Sec 10 of the Skills Development Act, 1998 imposes the duty on a SETA to develop and implement a skills sector plan by, amongst others, (a)

⁸ Adult Basic Education and Training Act, 2000; Further Education and Training Act, 1998, Schools Act CHECK, Higher Education Act CHECK

OBJECTIVES	Policy / Legislative scan: Findings
<p>3.4 Upgrading the skills of retrenched workers to enable them to participate in the knowledge economy through (a) special training programmes to teach retrenched workers basic ICT skills (b) cost sharing incentives to training unemployable workers in ICT skills and support employment and training of retrenched workers (c) assisting retrenched workers to start their own businesses</p>	<p>establishing learnerships, (b) approving workplace skills plans (c) allocating education and training grants and (d) monitoring education and training in the sector.</p> <p>3.4 (a) POLICY: See 1.1. above</p> <p>3.4 (b) LEGISLATION:</p> <ul style="list-style-type: none"> ○ Sec 2 (g) of the Skills Development Act, 1998 lists one of the purposes of the Act as being: “to assist retrenched workers to re-enter the labour market”. Additionally, Sec 10 tasks a SETA to: <ul style="list-style-type: none"> “liaise with the employment services of the Department and any education body established under any law regulating education in the Republic to improve information-- i. about employment opportunities; and ii. between education and training providers and the labour market”.
<p>4. Making HR development an integral part of ICT development in SA by:</p> <p>4.1 Creating decision-making structures for a knowledge-based economy by establishing “Enterprise South Africa” as a nationally funded, private sector led executive agency working nationally, regionally and locally to integrate skills and enterprise development strategies</p> <p>4.2 Keeping skills and</p>	<p>4.1 (a) POLICY:</p> <ul style="list-style-type: none"> ○ The ESP proposes that <i>business build capacity at the local level by establishing a nation-wide “Managers Service Programme”. Skilled professionals would volunteer their time to assist in the development of capacity in local and provincial government financial management, the development of Local Business Service Centres, the Social Plan Technical Support Facility, schools management and upgrading and public works projects</i> (ESP, 4.1) <p>4.1 & 4.2 (b) LEGISLATION:</p> <ul style="list-style-type: none"> ○ To date, no legislation has been passed to establish an “Enterprise South Africa” (ESA) agency. Legislation would be advisable if it is intended that the agency perform public functions, include representation from government and public agencies and receive public funds. ○ No legislative provisions govern appointment of “Ambassador for Skilled Enterprise”.

OBJECTIVES	Policy / Legislative scan: Findings
enterprise development front and centre by appointing a high profile individual as “Ambassador for Skilled Enterprise” to monitor implementation of HR development plan	

ANNEXURE 4: ICT POLICY & LEGAL ISSUES MATRIX: GOAL 4: World class culture of ICT innovation

OBJECTIVES	Policy / Legislative scan: Findings
<p>1. Establishing an ICT innovation, entrepreneurship and risk management culture through SA by:</p> <p>1.1 Creating ICT innovation awareness through (a) and innovation awareness programme (b) awards for innovators and entrepreneurs and (c) special celebrations</p> <p>1.2 Creating ICT innovation listening posts by building the capacity of the CSIR and other R&D partners to gather and disseminate ICT innovation intelligence</p> <p>1.3 Forging linkages with other innovation initiatives through (a) National Research and Technology Foresight project (b) expansion of DACST Innovation Fund (c) linkages between public and private research institutions (d) intergovernmental linkages and (e) international linkages.</p>	<p>1.1,1.2, 1.3 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The WPST indicates that the government will institute via DACST the delivery of S&T public awareness programmes in collaboration with consortia of institutions, including societies for the advancement of science, professional associations, academies of science, science museums and libraries, media (printed and electronic), educational institutions and private business (WPST, 9.8).</i> • <i>The WPST indicates that the principal objectives of the initiation of the Innovation Fund are:</i> <ul style="list-style-type: none"> o <i>to permit a reallocation of resources from the historical patterns of government science towards the key issues of competitiveness, quality of life, environmental sustainability and harnessing information technology</i> o <i>to increase the extent to which funds for the activities of government SETIs are obtained via competitive processes and</i> o <i>to promote increased networking and cross-sectoral collaboration within South Africa's national system of innovation. (WPST, 7.2)</i> <p>1. (b) LEGISLATION</p> <ul style="list-style-type: none"> • No specific legislative provisions identified relating to innovation awareness and creation of listening posts. • See Goal 3, 3.2 in terms of the role of the NRF in forging linkages.

OBJECTIVES	Policy / Legislative scan: Findings
<p>2. Stimulating ICT research and development of world-class products, services, and applications for local and global markets by:</p> <p>2.1 Developing an ICT R&D strategy (a) focused on high value products and services (b) programme support for specific R&D strategies</p> <p>2.2 Supporting ICT R&D in universities and research laboratories by (a) raising profile of CSIR and other research establishments (b) introducing reward systems for public researchers and (c) establishing chairs at universities in specific technical areas funded jointly with private sector.</p> <p>2.3 Harness R&D capabilities through ICT centres of excellence supported by public / private</p>	<p>2. (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The WPST proposes the introduction of an annual Science Budget document, constructed using data drawn from departmental budgets, which displays all governmental S&T expenditures including specifically:</i> <ul style="list-style-type: none"> o <i>science councils and national facilities</i> o <i>departmental intramural expenditures and transfer payments on S&T</i> o <i>transfers in the Defence Sector for S&T</i> o <i>other departmental transfers for S&T, including, in particular, the support offered by the Department of Education to institutions in the higher education sector.</i> <p><i>The Department of Finance's proposed multi-year fiscal framework for general government budget expenditures needs to be adopted and applied to the Science Budget. (WPST, 5.4.1)</i></p> <ul style="list-style-type: none"> • <i>The WPT indicates that the DoC would facilitate the creation of a network of 'centres of excellence', at universities and technikons. Such centres will then be able to undertake contract research for companies in the sector. It recognises that the creation of such centres is dependent on institutions being able to build up a 'critical mass' of both intellectual capacity and research equipment (WPT, 8.9)</i> <p>2.1 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • 2.1 In terms of Sec 4 (a), (d) and (e) of the National Research Foundation (NRF) Act, 1998, the NRF has the broad function of (a) promoting the development of human resources and research capacity in the areas of science and technology and (b) allocating funds for research, including the awarding of contracts, grants, scholarships or bursaries to persons or research institutions. <p>2.2 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • Sec 1 of the NRF Act defines “research institution” as “any organisation practising research, as recognised by the Board (of the NRF), with primary emphasis on institutions in the tertiary education sector;” (ie universities and technikons). • The Academy of Science Act (ASA), 2001 establishes the Academy of Science (AS) as a juristic person and as the only body of this nature recognized by government. The ASA does not institute a particular reward system, but provides for election of persons as members of the Academy who have made a significant achievement in the advancement or the application of science (Sec 5(3)). <p>2.3 (b) LEGISLATION:</p> <p>See 2.1 above.</p>

OBJECTIVES	Policy / Legislative scan: Findings
<p>programme</p> <p>2.4 Supporting private sector R&D through (a) tax incentives, programme support and partnership programmes (b) encourage foreign ICT MNEs to undertake R&D in SA in exchange for market access (c) increasing attractiveness of SA for MNEs to serve Sub-Saharan Africa from SA (d) encouraging MNEs to contract with SMMEs</p>	<p>2.4 LEGISLATION:</p> <p>No specific legislative provisions identified.</p> <p>Objectives (a) (b) & (c) are supported by THRIP programme and objective (d) by SMEDP programme</p> <p>2.1</p>
<p>3. Increasing ICT technology transfer from basic research and development through to commercialisation through:</p> <p>3.1 Technology transfer from universities and government research establishments by (a) establishing incubators and technology transfer /commercialisation offices in universities and public research centres (b) investigate mechanisms for venture capital opportunities.</p> <p>3.2 Encouraging</p>	<p>3.1 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>THE WPST identifies SMMEs as bodies which are typically at the cutting edge of commercialising novel products or processes (that is, the products of innovation), but have limited resources both for financing internal R&D and for transferring technology to or from SETIs and international technology vendors. (WP, 7.4)</i> • <i>According to the WPST, the transformation of new ideas into commercial successes, which are so important to the nations ability to achieve economic growth, employment creation and competitiveness, requires that attention be given not only to R&D and the technological factors of innovation, but also the social, institutional and market factors such as adoption, diffusion and transfer. In some cases, these non-R&D costs may account for as much as 60% of the total innovation cost. In the past, policies designed to improve the S&T output of a nation have not recognised the importance of non-technological factors to the innovation cycle. As a result S&T initiatives have often failed to deliver consistently and coherently against promises of economic growth and employment creation. (WP, 7.1)</i> <p>3.1 (b) LEGISLATION</p> <ul style="list-style-type: none"> • Sec 4 (1)(i) of the NRF Act requires the NRF to “promote the transfer of technology and the implementation of research results and findings”. • No specific legislative provisions identified in respect of commercialisation of ICT applications. <p>The IDC’s Techno-industry Development Finance scheme provides equity, equity-related and loan finance for expanding techno (including ITC) business, new ventures and takeover, buy-ins and buy outs at commercial rates.</p>

OBJECTIVES	Policy / Legislative scan: Findings
<p>commercialisation of private sector ICT applications through government support programme or incentives to reduce risk of commercialising private sector ICT applications.</p>	
<p>4. Ensuring intellectual property protection in South Africa by:</p> <p>4.1 Developing an intellectual property regime for global and local markets by developing a National Intellectual Property Policy Regime for global / local markets in line with international benchmarks.</p>	<p>4.1 (a) POLICY:</p> <ul style="list-style-type: none"> • <i>The WPST indicates that DACST will work with the DTI to establish how South African patenting regulations should be revised to best promote innovation. Issues it identifies to consider in establishing or modifying patenting regulations are:</i> <ul style="list-style-type: none"> ○ <i>The value to the inventor of the patenting system. Adequate protection fosters investment and stimulates innovation. The rights of South African inventors need to be rigorously protected.</i> ○ <i>The issue of not being a patent examining country. It points out that this can be addressed by doing the examining in South Africa, which is costly. However, a much less costly alternative is to permit provisional registration of patents pending confirmation by the patenting system of a country which does examine patents. This approach has been adopted by Saudi Arabia. (WPST, 6.1)</i> • <i>The WPST emphasizes that the basic approach should be to align our intellectual property regulations with international norms, rather than opt for a regional or purely national system. (WPST, 6.1)</i> • <i>The GPE highlights that South African intellectual property law is not fully equipped to deal with the implications of the internet, convergence, multimedia, digital technology and hence e-commerce. It points out that the advent of the Internet has changed the underlying assumptions of the original copyright laws entailed in the Copyrights Act 98 of 1978. The GPE points out that the Intellectual Property Laws Amendment Act, 1997 introduced a number of amendments into the Copyrights Act in order to provide for digitised formats of copyrighted goods. However, it expresses the view that a number of legal issues still need to be addressed. The GPE also expresses the view that the Trademarks Act no. 194 of should be enhanced to accommodate the digital, virtual and electronic environment. (GPE 6).</i> <p>4.1 (b) LEGISLATION:</p> <ul style="list-style-type: none"> • Sec 4(1) of the NRF Act, 1998 requires the NRF to “initiate liaison with structures involved in the protection of intellectual property rights”. In terms of Sec 19, the rights in respect of any invention, discovery or improvement by a person in the course of studies or research in respect of which financial support was provided by the NRF, must be determined by agreement between the NRF and that person or his or her employer or both. • Suggested amendments to intellectual property laws are contained in the Due Diligence Report prepared for the GPE. To date, no amending legislation has been tabled.

ANNEXURE 5: TERMS OF REFERENCE

Introduction

One of the objectives emanating from the SAITIS ICT Sector Development Framework⁹ has been the *establishment of an enabling policy/support environment* that makes South Africa an attractive place for ICT Development. The framework deals with the actions required to develop a sustainable South African ICT Sector. The framework is intended to be complementary to and supportive of broader socio-economic development goals of the government of South Africa, particularly with regards to its emphasis on social upliftment and empowerment.

In support of this framework, SAITIS and the Department of Trade and Industry is seeking to review and analyse existing policies impacting on the ICT Sector, in order to create a policy environment that will permit the ICT Sector to take full advantage of the opportunities possible with evolving technologies and markets. There are many government policies and programs operating within, and impacting on the South African ICT Sector. This review is to ascertain which existing policies impact the sector, the impact of these policies (both negative and positive), and where there is misalignment between policies.

Impacts/Benefits

The resulting report will provide government with a comprehensive and systematic assessment of key policies affecting the ICT Sector and a framework to create the policy environment (and related regulatory and legislative aspects) that will permit the ICT Sector to take full advantage of the opportunities possible with evolving technologies and markets.

Deliverables

This study will focus on national Government policies impacting on the ICT Sector

The successful bidder is to deliver:

1. A written report which includes:
 - A description of the current legislative, policy and regulatory environment that affects the ICT Sector.
 - A list all the priority policies impacting on the ICT Sector.
 - An assessment of the impact of the current legislative, policy and regulatory environment on the ICT Sector.
 - A summary of the analysis of the impact of priority policy areas impacting the ICT Sector.
 - An analysis on areas of current legislative, policy and regulatory change that would provide a better environment for the ICT Sector.
 - A description of policy changes that would improve the ICT Sector development, as a recommendation to government.

2. A presentation on the findings to the SAITIS project and the DTI.

⁹ Published online and may be viewed at www.saitis.co.za

Policy Review Considerations

Priority Policy Areas

- Electronic commerce policy (to establish the policies and legal framework for secure electronic commerce).
- Telecommunications policy (to create a more open and competitive telecommunications sector).
- Labour market policies (to address the need for appropriate skills and accurate and timely labour market information).
- Education and training policies (to address the need for skilled workers and to ensure broad access to education and training opportunities).
- Taxation policy (taxation measures to stimulate investment and growth in the sector).
- Immigration policy (to offset the “brain drain” and the lack of skilled personnel in key occupational categories).
- Electronic Government Policy Paper.

ICT Sector Development Considerations

- Equity (to ensure that social upliftment and empowerment are achieved, to address issues of universal access and affordability).
- Government procurement (to use government procurement as a lever to meet sector goals and objectives).
- International trade (to address the implementation of international agreements such as the World Trade Organisation agreement on trade in basic telecommunications, foreign investment rules, etc.).
- Legal framework (to ensure that rights and freedoms are respected, e.g. intellectual property rights, and that international agreements are adhered to).

The following key stakeholders should be considered for consultation (but not limited to):

- Department of Trade & Industry
- Department of Communications
- Department of Arts, Culture, Science and Technology
- Department of Labour
- Department of Justice
- Department of Finance
- Home Affairs
- Department of Public Services and Administration
- Trade and Industrial Policy Secretariat

Some Important References¹⁰

- Industrial Strategy document - Department of Trade and Industry (DTI)
- Information Policy Handbook – IDRC
- ICT Policy and Research Institutions – IDRC
- E-Commerce Policy – for the DoC by Edward, Nathan, Friedland

¹⁰ Documents available from the SAITIS Project Office.