National ICT Strategy of St. Lucia

2010 - 2015

Ministry of the Public Service
and Human Resource
Development

December 2010

Foreword

In this world of competition, it is imperative that St. Lucia utilises information and communication technology (ICT) to strengthen our economic position and to build a knowledge-based society. We must use ICT to strengthen our tourism and agriculture sectors, and we must have a focus on growing the ICT sector itself. Our country needs to take its rightful place in the modern world. We must be seen as a place to do business and to visit. ICT can help position us on the travel map, but we need to make effective use of a tourism portal, and we must improve the quality of the customer service that we deliver to our valued visitors through ICT-enabled integration.

A CALL TO ACTION

"Banks and businesses throughout the world have failed at an alarming rate and economic activity in the global economy as a whole is on the decline. All this is taking place despite the concerted efforts of policy makers to diagnose and prescribe correctly the remedy for economic recovery and survival. The implications for Saint Lucia and the Caribbean are serious, considering our dependency on Tourism, Primary Commodities, Trade and Development Finance."

St. Lucia Budget Speech 2009, Prime Minister

Honourable Stephenson King
Prime Minister

Our agricultural sector is another area that can benefit significantly by strategic investments in ICT. The utilisation of well managed databases and sharing of key information by all our agricultural stakeholders can only redound to our benefit.

I must remind you that the success of this national ICT plan is driven by the intellectual capacity of our people. Our citizens need to be equipped to utilise the information that the ICT infrastructure will deliver to make better decisions, to perform more effectively at their jobs, and to support personal growth and the growth of their families.

It is, therefore, with great pleasure that I invite each and every one to rise to the challenge of transforming St. Lucia into a knowledge-based society. I urge you to explore the benefits that ICT provides today and the opportunities that it will provide to the next generation. I ask our business community to become more involved and to strengthen the linkages that ICT enables in order to grow our economy. I invite ICT organisations around the world to become our partners in this endeavour. Finally, I say, it is time for innovation, it is time for action, and it is time for delivery!

Honourable Lenard Montoute
Minister for Social Transformation, Public Service, Human Resource Development, Youth and Sports

Introduction

To successfully deliver the mandate of this Ministry, reform and development initiatives need to be supported by the strategic use of information and communication technology. Modernisation of our public service will improve and enhance the quality of services provided to the public. Government leads the development of our country and this Ministry plays a central role in our social and economic advancement. The importance of the functions of the public service to citizens and businesses cannot be underestimated. More is being demanded of us: faster delivery timeframes, more convenient and better quality service, greater integration across agencies and ministries, and better communication and collaboration.

We must meet these demands through ICT-enabled public service transformation. E-government is a key aspect of this reform, intended to promote greater convenience, transparency, and cost efficient interaction between government and citizens, businesses and other agencies and entities.

Developing the skills and innate innovation of our youth is also fundamental. Enhancing their ability to create, share, and utilize information and knowledge to their advantage will deliver a wealth of economic and social benefits and will better equip our nation to cope with the global challenges facing developing countries today.

This transformation, although led by government, is not a government initiative but a national initiative. It is a multi-stakeholder agenda that involves investing time and resources to build capacity within the public service and to ensure that the public is prepared to participate and take advantage of the benefits delivered through ICT. So let's join forces to seize the opportunities that emerging technologies can offer. "Let's embrace the spirit of a well known local quote, ***"Tout Sent Lisèn Se Yon".*** When we come together as one – no challenge is insurmountable".

THE OPPORTUNITY

Youth (10 - 35 years old) constitute at least 50% of the population of Saint Lucia and, therefore, are an indispensable asset that must be harnessed if the country is to realize its full potential. If youth are unskilled and are out of the mainstream of development, it means that our country will suffer the consequences of their marginalization. An investment in youth is an investment in the future of our country and so those of you who so do, I say well done!

Youth Month 2008,
Honourable Lenard Montoute,
Minister for Social Transformation,
Public Service, Human Resource
Development, Youth and Sports

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Executive Summary

The National ICT Strategy provides a plan of action that harnesses the skills and creativity of the people of St. Lucia and combines them with modern information and communication technology (ICT) to enable sustainable social and economic development and to support the country's national development agenda.

The plan is multi-sectoral and focuses on ways in which the technology can be used for the development and well-being of each sector. The National ICT Vision of St. Lucia aims to:

"Improve the quality of life in Saint Lucia by embracing ICT to promote development, innovation and global competitiveness thereby enabling sustainable social and economic growth."

This vision is supported by three core values that will contribute to and underpin its success:

- *Community, Integrity, Innovation*

The overarching Vision will be achieved by accomplishing the following objectives:

1. Provide universal access to electronic information and communications
2. Foster the use of ICT in education to develop human capacity, enhance competitiveness, modernize the teaching and learning environment, facilitate equity of access, and to develop individuals who are capable of functioning effectively in a technologically driven society
3. Enable greater equity in the allocation and use of health care resources by exploiting ICT-enabled mechanisms to promote quality health care delivery and management
4. Improve the quality of life and social well being of the community through various programmes that would enable the use of ICT for future challenges and technological advancement
5. Promote economic development through the use of ICT and ICT professionals
6. Enable effective and efficient supply chain management (from production to sales and marketing) through the use of ICT and thereby promote the economic viability and sustainability of agricultural related activities
7. Establish a suitable institutional framework within the Public Sector to facilitate the adoption of a common ICT infrastructure and architecture within government and promote ICT as a driver for social advancement and economic growth

8. Improve the overall coordination of the marketing and other tourism management functions, through the use of ICT and thereby enable the sustainable development of the sector

9. Strengthen national security through the smart and strategic use of ICT to securely share information among authorised officials, and to improve internal administration and operations

St. Lucia's current level of ICT development was evaluated to provide an understanding of the developmental needs and barriers that exist. The country's ICT infrastructure is fairly well established; however there is a much larger penetration in the towns than in the rural areas. There are approximately 20,000 Internet subscribers throughout the island. Internet bandwidth, however, is limited and relatively expensive. Use of mobile phones increased from 60 percent in 2004 to more than 99 percent in 2009, with the telecommunications industry accounting for 10.8 percent of the GDP in 2007. A key challenge is the limited number of skilled ICT professionals available within the island, with only a few businesses offering ICT services and a limited amount of software development. Several key pieces of ICT enabling legislation have already been drafted and most ministries are making reasonable efforts to utilise technology to enhance their processes and services to the public.

Based on the country's needs and challenges, the Plan was developed around key areas of focus and identifies how technology can promote and develop these sectors. An ICT policy was developed, and projects and programmes have been designed to move St. Lucia from its current state of ICT development, to a level of preparedness that will allow the country to take full advantage of the social and economic benefits that ICT offers. Most of the projects outlined in the Plan contain inter-dependencies and require multi-stakeholder collaboration in order to be successful. Highlights of the Programmes and Projects are given below:

- The '*Virtual St. Lucia' and 'One St. Lucia' Programmes* will strengthen St. Lucia's presence online and provide visitors with a seamless, hassle-free vacation planning experience

- The national ICT Infrastructure will be upgraded to meet the needs of each community, particularly in the rural areas, and to support new and emerging technologies

- Government infrastructure will be enhanced to support better systems integration, collaboration and sharing of information among ministries, departments, and agencies

- Computers will be refurbished, reallocated, and maintained to provide schools and the less fortunate with access to ICT

- Schools will be networked to allow students and teachers greater access to information and resources to develop their skills and enhance the teaching and learning experience

- Health professionals at public health facilities will receive access and training to utilize the enhanced Health Management Information System to provide better quality healthcare for citizens and residents

- The ICT sector will become established as an industry contributing to the GDP of St. Lucia

- Businesses will be encouraged to adopt ICT to enhance productivity and service offerings; while government will provide an enabling environment through appropriate legislation and policy to support this uptake

- Government services will be conveniently accessible to all, through the use of modern technologies such as the mobile telephone, Internet and multimedia kiosks. It will also provide the structure and governance needed to manage ICT development at a national level, and develop the policies and frameworks to support its growth

- The Agricultural sector will be supported by a robust and integrated Agricultural Information System that will promote diversification, better farm management and expanded export capabilities

- Communities will have adequate access to ICT and will utilise these to promote community involvement and entrepreneurial development

- National security and the administration of justice will be improved by better information sharing and improved business processes across all required and authorised agencies

An initial estimate of US$22 million will be required to implement the Plan over the next five years. Government has already begun to seek funding for some of the initiatives and will continue to focus on allocating funds and establishing partnership arrangements, locally and internationally, to obtain the resources required. Over the coming months, a few key projects called “Quick Wins” will be implemented to help build momentum for the Strategy.

St. Lucia’s National ICT Strategy makes provisions for all, from the elderly to the differently-abled, from students to communities, from small businesses to farmers and those in other industrial sectors, to name a few. Skills development and access to information are key themes throughout the Plan, which provides a pathway to an information-based society. Government services will be accessed online, tourists will be able to book an entire vacation using the tourism portal, schools will be able to share information and resources over reliable networks, communities will have the facilities required to keep their youth occupied in a productive manner and provides services for businesses and other community residents.

There are no limits to the benefits that these initiatives can deliver to the people of St. Lucia. The Plan provides the guide to achieving these benefits within the next five years. With dedication, commitment and strong leadership, St. Lucia will become a more mature participant in the global information society.

1. Background

St. Lucia is part of the Windward Islands in the Eastern Caribbean, with typical formations of strikingly beautiful volcanic rock. The country is exceptionally stunning with a dominance of high peaks and lush rain forest. The population of 160,000 is evenly spread between urban and rural areas within the 238 square miles island. The capital, Castries, houses more than one-third of the population. Despite a relatively high emigration rate, the population is growing rapidly - at about 5.4% per annum.

St. Lucia has a per capita income of US$ 10,700 and is ranked 69th in the 2009 United Nation's Human Development Report. In 2007, the labour force was estimated as 43,800 people, with an estimated unemployment rate of about 20%. The economy of the country was traditionally based on agriculture, with sugar being the main crop from the 17th century until the 1920s. Crops such as bananas, mangos, and avocados continue to be grown for export. However over the last few years, tourism has become the main source of income and is the biggest employer in the land.

The currency of St. Lucia, the Eastern Caribbean Dollar, is a regional currency used by members of the Eastern Caribbean Currency Union and is managed by the Eastern Caribbean Central Bank (ECCB). The ECCB has kept the EC$ stable at EC$ 2.7 = US$ 1. St. Lucia is a beneficiary of the U.S. Caribbean Basin Initiative and is a member of the Caribbean Community and Common Market (CARICOM). The country hosts the Executive Secretariat of the Organization of Eastern Caribbean States (OECS).

The country gained independence in 1979 and Queen Elizabeth II is recognised as the Head of State of Saint Lucia - represented by its Governor-General. Executive power is in the hands of the Prime Minister and his Cabinet. The Prime Minister is usually the head of the political party winning the elections for the 17 Seat House of Assembly. St. Lucia has an independent judiciary composed of District Courts and a High Court. Cases can be appealed to the Eastern Caribbean Court of Appeals and, ultimately, to the Privy Council in the United Kingdom.

The development of regulatory and policy activities in information and communication technology (ICT) is carried out by the National Telecommunications Regulatory Commission (NTRC). St. Lucia is the headquarters of the Eastern Caribbean Telecommunications (ECTEL) Authority, which has been developing policy, strategy, and regulations to liberalize and regulate the telecommunications sector in the OECS since 2004. Four draft bills are currently being

reviewed by the Office of the Attorney General. These are the E-Transaction Bill, the E-Crimes Bill, the Data and Privacy Protection Bill, and the Freedom of Information Bill.

In 2008, the output of the manufacturing sector in St. Lucia declined by 5.4 per cent to $84.1 million. Its weakened performance is attributed to the significant decline in exports to regional markets as demand from their tourism sectors waned. The problems experienced by the manufacturing sector were further compounded by rising costs of inputs including fuel and other raw materials. Elsewhere in the manufacturing sector, the production of paper, paperboard, electrical and metal items increased, while the output of food products and alcoholic and non alcoholic beverages fell.

The construction sector, which has been a leading determinant of economic growth in the past, suffered its second year of decline in 2008, falling by an estimated 14.4 per cent. The lower than expected performance of the sector was attributable to the significant decline in public sector construction, coupled with a fall in private construction, linked to the reduction in external investment finance.

"With time, our economy transformed from a single - crop agricultural base to one which promoted a tripod of agriculture, manufacturing and tourism, and ultimately to the present, where the role of the services sector is highlighted within a modern diversified economy. During this fourth session of the ninth Parliament of Saint Lucia, Government will focus on the following priorities:

- *Stabilising the economy;*
- *Protecting existing jobs and creating new job opportunities;*
- *Continuing our investments in social infrastructure, particularly in*
- *education and health;*
- *Providing social safety nets particularly for more vulnerable groups;*
- *Investing in our youth,*
- *Preserving law and order, and*
- *Fostering a social partnership among all segments of our population in order to confront the development challenges facing our country.*

Even in highly developed countries, the continuous need for investment in education appropriate to the needs of today's knowledge-based economy is seen as a priority. This applies even more so to us, where physical resources are few, but human resources are plentiful, and waiting to be harnessed.

Parallel to this is the need to address issues of information and communications at a time when the use of electronic commerce is on the rise. Accordingly, the Government proposes to pass the Electronic Bill, the Electronic Transactions Bill, the Computer Misuse Act, the Data Protection and Privacy Bill, and the Freedom of Information Bill."

Her Excellency Dame Calliopa Pearlette Louisy,
GOVERNOR-GENERAL OF SAINT LUCIA
On the occasion of the Formal Opening of the
Fourth Session of the Ninth Parliament of Saint Lucia
Friday, April 24, 2009

In the 2009 budget speech, the Prime Minister identified the theme for the budget as "*Generating Growth, Securing Jobs, Promoting Competitiveness and Protecting Vulnerable Citizens in the Face of Global Recession*". He identified five economic guidelines that will

facilitate the achievement of "*a secure and brighter future*" for all Saint Lucians. These guidelines were as follows:

1. *Formulating a strategic vision for our Nation to provide long term direction and vision, so as to clearly delineate where we are headed.*

2. *Setting clear objectives which involve converting strategic vision into specific performance outcomes.*

3. *Creating a national development strategy, designed to achieve the desired outcomes of national growth, development and social change.*

4. *Implementing and executing the chosen strategy effectively and efficiently.*

5. *Evaluating performance and initiating corrective adjustments in vision, long term direction, objectives, strategy and implementation activities, in light of actual experience, changing conditions, new ideas, and new opportunities.*

It is within this context that St. Lucia's national development agenda - medium term economic strategy was directed to the creation of a more diversified economy, improved conditions for private sector development, and enhancement of competitiveness. In particular the Government recognised the need to promote the use of information and communication technology (ICT) as an enabler for growth and development within the island and, therefore, the national development agenda emphasised the use of such technologies in building requisite capacities within the primary sectors. Further, Government recognised that the current lack of an overarching National ICT Policy and Strategy was a major limitation in the implementation of sustainable ICT initiatives and for the effective adoption and utilization of ICT resources.

Government, therefore, committed itself to providing appropriate infrastructure, investing in appropriate skills development, and implementing effective policy and regulatory frameworks so as to enhance development of the ICT sector, within the context of a well designed ICT policy and strategy.

In particular, Government required that the ICT strategy seek to:

- *Integrate St. Lucia into the global economy*
- *Prioritize private sector development*
- *Prioritize sustainable economic and social development*
- *Address poverty alleviation*
- *Support regional integration*

In essence therefore, St. Lucia's National ICT Strategy is a plan to facilitate measurable levels of improvement in social and economic wealth at an individual, organisational, and national level. The Strategy is geared to leverage and enhance St. Lucia's human resources and ICT infrastructure to accelerate economic and social development. It has been crafted to facilitate the achievement of St. Lucia's National Development goals and to promote national prosperity and well being.

2. The National ICT Vision and Objectives

For many years, there has been a global recognition that ICT can enable a country's economic prosperity through its capacity to improve the management and efficiency of all spheres of the lives of individuals and businesses. This is particularly true for small island states and emerging economies as ICT can significantly reduce the impact of time and location, and enable a small island country to have a global reach.

In this context, the vision of the Government of St. Lucia for ICT has been captured in the following statement:

"Improve the quality of life in Saint Lucia by embracing ICT to promote development, innovation and global competitiveness thereby enabling sustainable social and economic growth."

In achieving this vision, Government strongly believes that the following core values must be maintained, supported and enabled, namely:

- **Community**
- **Integrity**
- **Innovation**

The delivery of the national ICT agenda must therefore support the building and strengthening of the communities that exist throughout the country; it must facilitate the integrity of all that government does; and finally, it must release and enable the innovation that is inherent in the people of St. Lucia.

At a broad conceptual level, Government defined the outcomes that it expects the national ICT strategy to achieve. It requires that the overall governance of the public service become more effective and that service delivery to citizens and businesses be extensively facilitated using electronic delivery channels. It expects that ICT would enable significant economic growth through the creation of new ICT-related job opportunities that citizens would reach out to fill. It is believed that with the innovative use of ICT within the health care delivery system that the health and well-being of the citizens of St. Lucia would improve. This in itself would have significant spill-over benefits to the country as healthy citizens cost less to the state and can contribute more to their families, the community, and the economy. It is also expected that ICT would improve national security and the administration of justice in the country through careful collection, sharing and mining of information. Finally, it was required that investments

in ICT be matched by investments in people to facilitate enhanced levels of information literacy and ultimately innovation.

The working groups defined the key objectives (in action statements) that would ensure the achievement of the high level outcomes outlined before, namely:

- To provide universal access to electronic information and communications.
- To foster the use of ICT in education to develop human capacity, enhance competitiveness, modernize the teaching and learning environment, facilitate equity of access, and to develop individuals who are capable of functioning effectively in a technologically driven society.
- To enable greater equity in the allocation and use of health care resources by exploiting ICT-enabled mechanisms to promote quality health care delivery and management.
- To improve the quality of life and social well being of the community through various programmes that would enable the use of ICT for future challenges and technological advancement.
- To promote economic development through the use of ICT and ICT professionals.
- To enable the effective and efficient supply chain management (from production to sales and marketing) through the use of ICT and thereby promote the economic viability of agricultural related activities.
- To establish a suitable institutional framework within the Public Sector to facilitate the adoption of a common ICT infrastructure and architecture within government and promote ICT as a driver for social advancement and economic growth.
- To improve the overall coordination of the marketing and other tourism management functions, through the use of ICT and thereby enable the sustainable development of the sector.
- To strengthen national security through the smart and strategic use of ICT to securely share information among authorised officials, and to improve internal administration and operations

St. Lucia has, therefore, set itself clear ICT-related targets to be attained over the next five (5) years. It is necessary, however, to determine the extent of the effort required to successfully achieve these targets. This determination is best captured in an assessment of the current state. This e-readiness assessment quantifies the preparedness of a country to participate in the global information society and to derive the benefits of the knowledge economy. A country's level of e-readiness is determined by assessing the country's maturity across a range

of ICT indicators that are considered fundamental to facilitating national development and delivering broad ICT-related benefits.

It is also useful to determine how St. Lucia compares with other countries that are in similar circumstances and to access the experiences of such countries with respect to the strategic utilisation of ICT.

3. The Current State

An understanding of St. Lucia's level of e-Readiness provides a solid launch pad for its national ICT plan, and creates a detailed baseline for measuring progress as the national ICT agenda is executed. It is noted that e-Readiness assessments are generally carried out on a routine basis as a part of the ICT monitoring and reporting process.

It is useful as well to review St. Lucia's performance against other countries which are similar in size and economy or which have attempted to deliver relevant ICT initiatives - that is, ICT Benchmarking. The combination of the as-is assessment and the benchmarking analysis allows a determination of the state of readiness of St. Lucia to move forward with its proposed ICT agenda.

2009 BUDGET ADDRESS for the Financial Year 2009/2010

"Generating Growth, Securing Jobs, Promoting Competitiveness and Protecting Vulnerable Citizens in the Face of Global Recession"

Economic activity in the member States of the ***Eastern Caribbean Currency Union*** *as a whole slowed, with GDP growth of 1.7 per cent down from 5.2 per cent in 2007. Like most countries in the region, this performance was largely brought about by a fall in tourist arrivals, lower inflows of foreign direct investment and a decline in construction.*

GDP growth is estimated at 0.7 per cent in 2008 down from 1.5 per cent in 2007. The downturn is associated mainly with a decline in construction and manufacturing, with spill over effects on other sectors such as mining and quarrying, electricity and water and the wholesale and retail trade. The transport, communications and banking and insurance sectors also recorded lower rates of growth. The decline in construction is largely attributable to a fall in foreign direct investment inflows.

The tourism sector recovered somewhat in 2008, with growth estimated at 2.2 per cent compared with a decline of 7.4 per cent in 2007. The number of stay-over and cruise visitors increased by 2.9 per cent and 1.5 per cent respectively.

The positive performance of the agriculture sector was one of the highlights of the domestic economy in 2008. Its performance was sustained by strong growth in banana production of 26.5 per cent to 38,360 tonnes after a 10.8 per cent decline in the previous year. Earnings from banana exports to the United Kingdom were also up by 35 per cent to $58.9 million in contrast to a decline in 2007, notwithstanding the depreciation of the pound sterling against the US dollar.

Honourable Stephenson King, Prime Minister & Minister for Finance, On Friday April 24, 2009

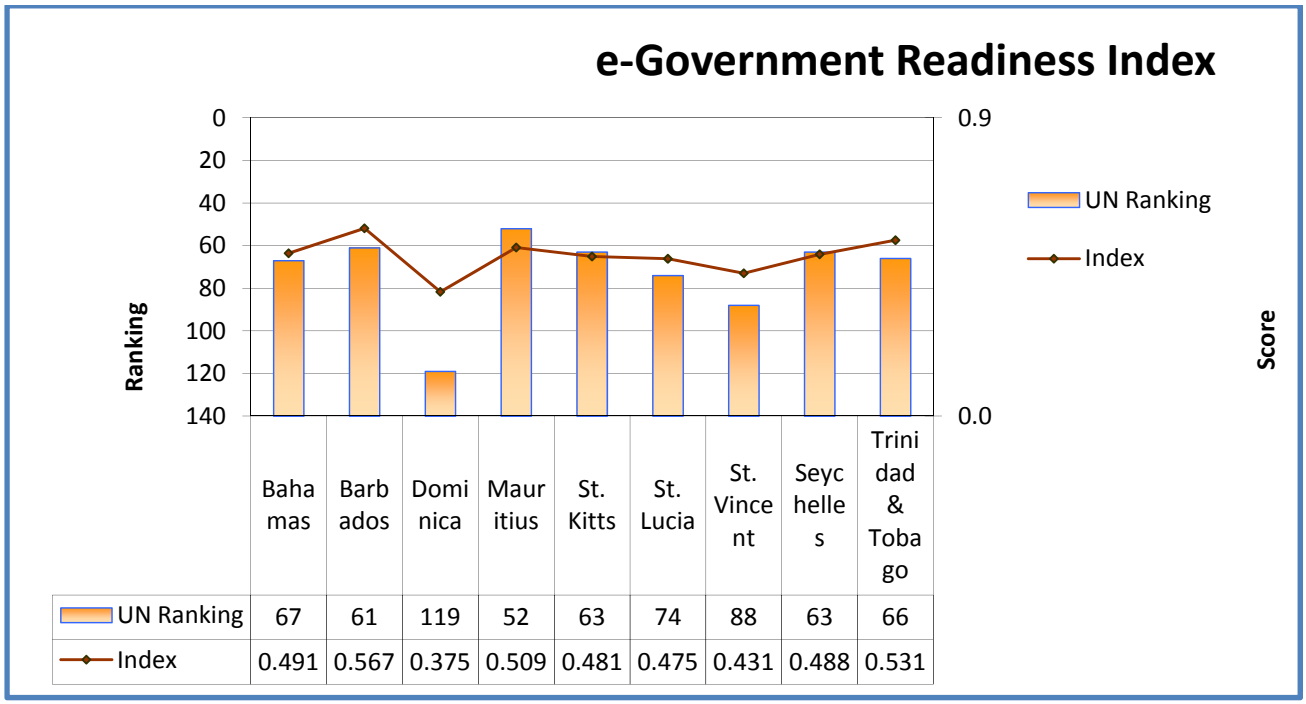
THE NATIONAL CONTEXT

3.1 A Comparative Assessment

The e-government readiness index measures the capacity and willingness of a country to use technology for ICT enabled development. It is an overall assessment of how a country is using information technologies to promote access and inclusion of its citizens.

It takes into account the government's use of the Internet and other technological advancements for the provision of information, products and services. The e-government readiness index is a composite measure that not only assesses patterns of web development in the public sector, but includes other factors that influence e-government such as access characteristics, telecommunications infrastructure and investment in education.

The scores and rankings for selected country are presented in the accompanying graph for 2008. Mauritius and Barbados were ranked 52nd and 61st position respectively out of 192 countries surveyed. St. Lucia was ranked 74th ahead of St. Vincent and Dominica. This benchmarking exercise allows us to view a snapshot of St. Lucia's level of e-readiness in comparison to other similar jurisdictions. The rankings can also provide us with guidance as to which countries we may want to collaborate with in order to learn from their development experiences. More comparative information and analysis can be found in the associated 2010 E-Readiness and Benchmarking Report.



	Bahamas	Barbados	Dominica	Mauritius	St. Kitts	St. Lucia	St. Vincent	Seychelles	Trinidad & Tobago
UN Ranking	67	61	119	52	63	74	88	63	66
Index	0.491	0.567	0.375	0.509	0.481	0.475	0.431	0.488	0.531

UN e-Government Survey 2008, United Nations (191 Member States)

3.2 ICT Infrastructure

St. Lucia has two fixed telephone line operators and a tele-density of 51 lines per 1,000 people. The number of mobile phone subscribers increased from about 60 percent of the population in 2004 to more than 99 percent in 2009, with most subscribers using prepaid services. There are also two major carriers that provide mobile services for the country. Overall, St. Lucia's telecommunications industry is estimated to be EC$ 239.45 million, contributing some 10.8 % to GDP by the end of 2007.

The country has seen an increase in the number of cyber cafés, a rapid growth in websites, and the widespread use of e-mail. There are four licensed Internet service providers (ISPs) providing international Internet bandwidth, servicing approximately 20,000 subscribers. However, this bandwidth is generally geographically limited and relatively expensive. In 2008, Internet penetration was relatively low at 9% of the total population. In city and town areas, however, penetration rates were estimated as high as 69%, highlighting the need for greater access in rural communities. There are currently approximately 50 Internet access centres on the island. While a small cadre of skilled ICT resources is emerging to support the ICT industry, all ICT hardware and most software are imported. And in fact there are a limited number of local companies developing 'small' software applications.

3.3 Education

St. Lucia has 105 schools which includes 75 kindergarten and primary schools, and 24 secondary schools. About 3000 students graduate from the secondary schools each year and about 20% attend the Sir Arthur Lewis Community College in St. Lucia.

The Ministry of Education has about 1,400 PCs that are utilised by administrative staff and in computer laboratories. By the start of 2009, all schools were provided with Internet access by local ISPs at no cost to Government. Unfortunately, St. Lucia suffers from a significant shortage of ICT trainers and teachers, and

institutions which provide ICT-related education. In response, policy makers have focused on the development of ICT skills in schools. There are currently several initiatives underway aimed at incorporating ICT in the teaching and learning process, developing the ICT skills of teachers, and building the institutional capacity for managing ICT in education.

3.4 Health

St. Lucia has four hospitals, thirty-three health centres, one polyclinic and one mental hospital providing public health services to all citizens and residents. Plans are underway for a new public hospital and an extensive financial review is being undertaken to ensure that a high standard of healthcare delivery is available to all.

A National Health Sector Strategic Plan has been completed and implementation is scheduled to begin during 2010.

The Ministry of Health as part of their National Strategic Plan is currently implementing a Health Management Information System (HMIS) to collect manage and analyse information which will be used as a tool in developing and implementing programmes and policies. These policy directions will help guide service rationalisation, healthcare reform, and health financing with the aim of improving the quality of healthcare to the public. Legislative reform, enhancement of the governance structure for healthcare, and training of all healthcare professionals are all underway to support the implementation of the HMIS.

The Ministry of Health in collaboration with The World Bank and the Canadian Development Bank (CDB) have facilitated the installation of ICT infrastructure at St. Jude's Hospital, Victoria Hospital, Monchy Health Centre, Grande Rivere Health Centre, and the Gros-Islet Polyclinic. The Ministry of Health is also working with local telecommunications providers, and other related government bodies, to further expand this ICT infrastructure and the HMIS to other health facilities and agencies on the island. Upgrades to ICT infrastructure at key public health facilities is currently taking place and is being partially funded by The World Bank.

3.5 Business

The economy of St. Lucia is generally based on tourism, agriculture, manufacturing, a small off-shore financial sector, and a fledgling information technology services sector. Agriculture has been in severe decline for several years since the withdrawal of preferential treatment for banana exports. The manufacturing sector produces paper products, food processing, beverage production, clothing, and assembly of electronic components. Some terminal shipping facilities exist at Castries and Vieux Fort, and oil transhipment at Cul de Sac. However, the business sector has not fully exploited the enabling capabilities of ICT to link to and engage with its business partners in neither the supply chain nor its customers.

3.6 Government

The public sector of St. Lucia has 15 ministries and about 9,073 employees, which includes 3,016 in the core service, and about 54 doctors, 207 nurses, 954 police, and 1623 teachers.

There are currently about 800 PCs within the public service that are connected to a government wide area network and a further 400 standalone PCs. These computers are managed and supported by the government's in-house ICT agency, Computer Centre Ltd (CCL). CCL also manages the data centre, the network infrastructure, the Help Desk, and several Ministry of Finance software applications. The organisation provides first level support for applications developed in-house and for some third party solutions. It assists with the preparation of ICT proposals and the determination of systems requirements, as well as provisioning hosting services. CCL is run by a General Manager and has about 15 members of staff who provide services to government. These services are covered by a Service Level Agreement with the Ministry of Finance. CCL does not currently have an off-site or backup data centre.

The main government locations are situated along the Castries' Waterfront. CCL supports the wide area network interconnecting these locations with a 1 Gbps fibre backbone. Frame relay technology is utilised to provide interconnection to the other government locations across the island. This infrastructure is maintained by a major local telecommunications provider. The Ministry of the Public Service manages the various telephone networks, which includes some Voice over Internet Protocol (VOIP) solutions installed by CCL.

The Inland Revenue Department (IRD) uses the Canadian company, SOGEMA's Standardised Integrated Government Tax Administration System (SIGTAS). The system has been in place for about 10 years. SIGTAS enables the management of tax collection and required legislative and business process changes for its successful implementation. It has the capacity of reminding taxpayers about their taxes due. It allows retrieval of tax information, allows on-line payments, and facilitated the identification and tracking of taxpayers. About 10 IRD staff members use SIGTAS on a regular basis. The IRD has a website, www.irdstlucia.gov.lc, which provides tax payer information, downloadable forms and related instructions, FAQs, Press Releases and other related information. The website also supports an on-line tax calculator. The current database has about 4000 companies and about 70,000 tax payers. The IRD is currently planning for the introduction of VAT on SIGTAS by April 2010. The Information Technology (IT) Unit of IRD has 5 technical resources. Unfortunately, credit and debit cards are not currently accepted for on-line payments.

The Customs and Excise Department uses the UNCTAD's Automatic System for Customs Data (ASYCUDA ++ Version) for customs management. This system has been in use since 2005 and is utilised by about 150 employees. CCL provides application support and development for the system. For example CCL has built a Duty Free Shops java application on ASYCUDA which is in current production. Additionally, about 120 customs brokers have web access to ASYCUDA. The Customs Department has an IT section with an IT Manager and about 6 technical staff members.

3.7 Agriculture

St. Lucia has approximately 6,880 persons employed in a declining agricultural sector. A national drive is underway to build a diversified agricultural sector, with donor funding being invested in several initiatives to provide greater support to farmers and other workers in the sector.

Information is critical to the process of reviving the industry. The Ministry of Agriculture has recently revamped their website, www.maff.gov.lc, to include a wealth of information and downloadable forms that the public can use to submit applications for various agricultural services.

GIS Systems are being utilised for land planning and these systems are also being enhanced in collaboration with utility and service providers. An Agricultural Information System called SLARIS is currently being used by the Ministry to collect and provide statistical data. Plans exist to extend the capabilities of SLARIS to include more modules and more robust reporting capabilities to support decision making and policy formulation. The information provided by the system will assist farmers to be more consistent with their production methods and techniques. Better information and record keeping will also allow St. Lucia to meet the export requirements of international markets, further boosting our export capabilities.

3.8 Community Development

There are two ongoing programmes implemented through the Ministry of Social Transformation, Human Resource Development, Youth and Sports to ensure access to ICTs within communities. The Poverty Reduction Fund is a partnership with local government to create IT Centres in each of the municipal areas. These centres are designed to provide Internet access and ICT training and to promote national productivity by encouraging efficient use of spare time, particularly by youths in the community. A special Community Based IT Centre exists in Vieux Fort and is available for use by schools and members of the wider community.

Community Resource Internet Centres (CORIC) have been established using a grant from United Nations Development Programme (UNDP). Three CORIC centres have been opened so far. These centres offer programmes that engage the community during the day and run "after-school" programmes in the afternoon for school children. ICT skills are taught as well as other programmes that teach life skills, art, and more. Human Resource Development Centres (HRDCs) are located in several communities to provide community based training. There are

plans to expand the CORIC programme by including a CORIC in each Human Resource Development Centre (HRDC). These community access centres will eventually provide citizens with access to government information and services in addition to their existing functions.

In conjunction with the UNDP, a database and portal for development information has also been implemented by the Ministry, where data pertaining to development indicators can be easily accessed. This is part of the UN's DevInfo (Development Information) Programme which monitors progress toward the achievement of the Millennium Development Goals.

3.9 National Security

The Royal St. Lucia Police Force (Police) has an overall staff of about 1,000 and has 13 police stations. The Police Force includes a coast guard unit and is in charge of immigration and issuing passports. The Police Force utilises a Crime Recording System obtained through the Government of Taiwan. This System is linked with the Drivers Licensing System which was also donated by the Government of Taiwan and utilised by the Transport Department of the Ministry of Communications, Work, Transport and Public Utilities. Because of this linkage, stolen vehicles can be tracked on both systems. The two systems are hosted in the new ICT Data Centre in Castries.

The Police Force utilises a Border Control System from the United Kingdom which is integrated with the I-24/7, Interpol's global police communications system. The Police Force has a data and voice network which is based on frame relay technology from LIME, however the network is generally considered to be slow and unreliable. The operations of the various Courts of Law are largely paper-based with tremendous opportunities to utilise ICT.

It is clear that a lot of ICT initiatives are being pursued in St. Lucia. However, a renewed and focussed agenda needs to be pursued, if ICT-enabled growth and transformation is to be achieved. The Plan takes a pragmatic approach to achieving its objectives by defining Programmes and Project for execution over the specified timeline. These Programmes and Projects which will enable these national benefits will now be considered.

4. The Programme and Projects

Given the starting point defined by the current state assessment and benchmarking in Chapter 3, this Chapter presents the key Programmes and Projects that St. Lucia will pursue in order to achieve its National ICT Vision over the next 5 years. These Programmes and Projects are summarised in the table below.

SECTOR	PROGRAMMES & PROJECTS	
Tourism	'Virtual St. Lucia'	
	'One St. Lucia'	
ICT Infrastructure	Infrastructure Upgrade	
	e-Government Infrastructure	
	ICT Refurbishment	
Education	Connected Schools	
	Smart Education	ICT in Education
		Education Management
		Education Portal
Health	e-Health Administration	
Business	'ICT-in-Business'	
	'ICT-as-a-Business'	
Government	e-Government	Institutional Strengthening
		Stakeholder Engagement
		Portal
		Process Redesign
		Digitisation
		Legislation and Policy
Agriculture	Agricultural Information and Integration	Forest Information Management System
		Production and Marketing Information System
		Livestock and Crops Quarantine Information System
		Fisheries Information Management System
		Pest and Disease Surveillance Information System
		Water Resource management Information System
		Bio-diversity Clearing House
		Crop Production Monitoring and Market Research
		Crop Import License System
		Training and Development Project
Community Development and Social Services	Community Access	
	Community Portal	

4.1 Tourism

Tourism will continue to be a major contributor to the economic well-being of St. Lucia, and it is therefore imperative that ICT plays its optimum role in supporting its growth. As such, the Programmes in this sector are intended to enable and improve the overall coordination of the marketing and other key tourism management functions through the use of ICT. If done well, these Programmes will result in the sustainable development of this sector.

The 'Virtual St. Lucia' Programme

This Programme is intended to facilitate the use of ICT within St. Lucia's hospitality sector with an emphasis on promotion through integrated marketing communications. A key technology component of this Programme is the strengthening of St. Lucia's presence on the Internet. This will include the redesign of the current Tourist Board's Website, the development of local more content, and a greater utilisation of social networking technology such as Facebook and YouTube. Simultaneously with the introduction of new technology would be the facilitation of change and the introduction of new business processes into the tourism sector. It is clear that if the stakeholders in this sector do not embrace new ways of doing business and do not change their business processes, then the intended benefits of the Virtual St. Lucia initiative will not be maximised. It should be noted that the use of mobile technology will be an integral part of this programme, including its capability as a broadcast mechanism for security alerts and weather warnings.

The 'One St. Lucia' Programme

The key outcome of this Programme will be to provide visitors to St. Lucia with a seamless and stress-free vacation planning experience. In order to achieve this objective, it is necessary to strengthen the information management capabilities of the national tourist office and other related organisations in the sector. ICT must be utilised to easily interface, collaborate, and share information among the various stakeholders. Databases with the appropriate data mining capabilities must be created to enable new business opportunities to be identified and to allow information necessary for improving the visitor experience to be gleaned. Information at a national level must be created to aid tourism research, destination marketing, and evaluation of the economic, social and ecological impacts of the sector. The technology must be utilised to

integrate the supply chain – again with the focus on ensuring that visitors have an exceptional visit. A key element of this Programme would be the review and updating of the policy and regulatory framework that underpins this sector – including policies on data sharing and adoption of ICTs by SMEs.

It is important to mention at this point that the opportunity exists for a 'One Windward Islands' Tourism Programme. The key factor of such a Programme is the potential to share cost, infrastructure and to utilise the available human resources for maximum benefit of all of the Windward Islands.

4.2 ICT Infrastructure

The main objective of the ICT Infrastructure Programmes is to ensure that all citizens and businesses have universal affordable access to the ICTs that they wish to utilise for their personal or commercial benefit. This would require the availability of an appropriate level of infrastructure in all communities of St. Lucia, which is accessible by every individual in terms of availability and affordability.

Infrastructure Upgrade Programme

This Programme will provide affordable and reliable access to modern communications technologies and services for all citizens and businesses in every community, rural or otherwise. It will encompass innovative mechanisms for funding the infrastructure, including the 'Universal Service' fund to which service providers will contribute, as well as well-designed public-private partnerships. It includes a review of the current policy, legislative and regulatory framework and the governance arrangements that are in place. Policy focus areas include inter-connection, co-location of infrastructure and spectrum management. Legislation will address the modernisation of the Telecommunications Act, to take into account new and emerging services and technologies such as IP TV. It will also address other legislative requirements to facilitate the upgrade and efficient roll-out of infrastructure to all communities. Collaboration with other regional legislative and policy initiatives, for example, those administered by the International Telecommunications Union (ITU) can serve to significantly lower the cost of legislative drafting and policy formulation by building on common approaches that may already exist. Finally, this Programme will include a project which establishes a Point of Presence to connect with the other countries in the region on the Caribbean Knowledge and Learning Network - CKLN.

E-Government Infrastructure Programme

This Programme involves projects which seek to assess and upgrade the current e-government infrastructure, such as the government backbone, with a view to providing cost-effective facilities that allow cross-agency sharing and collaboration. In one of the key projects of this Programme, the telecommunications infrastructure of government will be upgraded to support both voice and data. This infrastructure will be capable of supporting a single VOIP network for all of the public sector, including overseas Missions, High Commissions and offices. This single VOIP network has the potential to significantly impact the cost of all of government communications, including voice. It will include the creation of policies for central ICT procurement and standards to promote interoperability. Initiatives will be undertaken to revise existing legislation and standards for all of government, and to establishment effective cyber-security measures. Special emphasis will be placed on equipping this ICT infrastructure with the capacity to mitigate and respond to national emergencies and disasters.

ICT Refurbishment and Maintenance Programme

This initiative will implement ICT refurbishment and maintenance centres, including PCs, peripherals and mobile devices, for subsequent deployment in communities of need. This Programme will have a heavy training component as it is intended to produce ICT entrepreneurs and maintenance and support individuals who will become available to build and support the ICT sector and the use of ICT by businesses. It may provide opportunities for retired technical persons to contribute to national development by providing training services on a voluntary basis. Individuals will be trained in refurbishing, replacing and even modifying products to meet specific local needs. This refurbishment process will require comprehensive data collection to capture best practices and innovations worthy of patenting.

4.3 Education

The Programmes in this sector have the common aim of transforming education through ICT so that individuals and by extension St. Lucia can become competitive and function effectively in a technologically dynamic and knowledge-based world. The two Programmes, Connected School Programme and the Smart Education Programme, are intended to introduce connectivity and ICT into the school system and build the capacity of all its stakeholders to utilise its enabling capabilities.

Connected Schools Programme

This Programme seeks to provide secure high speed connectivity between all participants in the education system and the infrastructure within schools, administrative locations and associated facilities (such as libraries). This connectivity will enable and support the hosting of software applications (e.g. learning management systems) and content (such as websites / web-based repositories) that would facilitate operational efficiencies and effectiveness. This Programme will create an enabling environment in the education system that will encourage creativity, innovation, critical thinking, communication, research and decision making. This connectivity and infrastructure will create smart partnerships that provide for national electronic networking, global collaboration and comprehensive stakeholder participation. It will enable the networking of the private and public sector educational facilities through the upgrade of the education backbone (EDUNET). Finally, it will facilitate the development of appropriate standards and protocols within the sector.

Smart Education Programme

The Smart Education Programme addresses the need to incorporate ICTs in the educational system, within the classroom, into administrative functions, and to facilitate the information sharing and the policy / decision making involved in the management of the education. This Programme focuses on three areas which are described below:

ICT in Education

The aim of this initiative is to build human capacity by providing educators, practitioners, teachers, office staff and other stakeholders with the requisite skills and competencies to use ICT as a tool to enhance the quality of the teaching and learning environment, and to improve administrative and management operations. It also seeks to generate innovative educational practices through the use of modern technologies, and to support enhanced knowledge management. It will enable the integration of ICT into the education system, and harmonize activities, approaches and standards in the use of ICT in this sector. It will involve the reform of curriculum, pedagogy and content for teaching and learning. Furthermore, it would involve the creation of mechanisms to enable continuous lifelong learning and facilitate specialized training to align with the needs of the marketplace. The Programme will have a special focus on capacity building and the training of key stakeholders. In particular it will support the empowerment of youth and adults towards self improvement through ICT skills training.

Education Management

A sound organizational and management structure for ICT in education is to be developed to implement the initiatives outlined in this Strategy and to promote the use of ICT in education, in line with the objectives contained in the National ICT Policy. This management structure will address the need for governance to oversee ongoing monitoring, policy and standards development, regulatory frameworks, curriculum development and capacity building. It will seek to develop partnerships with stakeholders to enhance connectivity, access and collaboration among educational institutions. Another goal of this initiative is to centralise IT services (including maintenance and upgrade) and ICT procurement to deliver economies of scale and cost savings for all educational institutions, agencies and other organisations.

Education Portal

The Education Portal will provide access to information and education related services and will serve as a gateway to Ministry and school-based websites. This portal development initiative will involve several activities such as the development of the technical design, content, policy and regulatory frameworks. The delivery of e-services via the portal will require the review and reengineering of existing processes to ensure efficient service delivery. The Ministry's website will be redesigned to comply with the "look and feel" and standards associated with the portal. The development of school based websites will also adhere to similar standards that will give a seamless transition from the portal to the various sites accessed through the portal's gateways.

4.4 Health

The e-Health Administration Programme

This Programme is designed to enable greater equity in the allocation and use of health care resources by exploiting ICT-enabled mechanisms to promote quality health care delivery and management. It includes the enhancement of the Health Management Information System (HMIS) that will generate the information needed by policy makers and health service users to make health care delivery more effective and efficient. It is designed to enable greater equity in the assignment of health care resources by allowing the crafting of evidence-based policies and guidelines. It will involve the development of appropriate legislation to govern health information, and support improvements to health education and service delivery though ICT.

The enhancement of the HMIS will incorporate ongoing training for nurses (including trainee nurses) and medical professionals who will be utilising the system.

The effective use of the HMIS as a tool in healthcare delivery and management calls for improvements to the existing ICT infrastructure within the public health sector. Hardware at public institutions will be upgraded and approximately eleven public health facilities will be networked to share information and utilise the HMIS by the end of 2010. It is estimated that a total of 30 public health facilities will be networked by the end of 2013.

Other components of the e-Health Administration Programme include the launch of the new health services website by the Ministry of Health as well as an ongoing education and sensitisation initiative to keep the public abreast with advancements being made in the sector and the impact ICTs are having on the services delivered at healthcare facilities across the island.

4.5 Business

The business-related Programmes are geared to the promotion of national economic development through the use of ICT and through the contribution of ICT professionals. The Programmes will enable businesses, in particular small and micro enterprises, to perform better and to potentially be more profitable.

The 'ICT-in-Business' Programme

This Programme is aimed at educating and building awareness amongst the business community in St. Lucia as to the benefits of utilising ICT for operational and tactical improvements to their organisations, and as a mechanism to improve global competitiveness. It involves the ICT sector ensuring that the quality of the products and services that is provided to the business community exceeds a minimum threshold and is in fact exceptional. The Programme has components of public awareness, education, and the development of quality control and measurement. It includes the development of legislation and regulations in the areas of e-commerce, consumer protection, cyber crime, intellectual property protection and electronic transactions. Finally, the Programme seeks to enhance the export capabilities of the business community through the strategic use of ICT.

The 'ICT-as-a-Business' Programme

This Programme focuses on the development of the ICT sector itself and as a contributor to economic growth. It focuses the creation and maintenance of a pool of skilled ICT persons through training, entrepreneurial development, and professional certification who will be deployed to support and grow the sector. It includes the role of government in the strategic outsourcing of public sector ICT work as a mechanism to stabilise and build the capability and capacity of the sector. It also focuses on building a local market for ICT product and services to provide a base for sectoral growth, as well as providing comprehensive international marketing and ICT research focussed on emerging island states. The Programme proposes the exploitation of the OECS marketplace as a mechanism to provide a stable and defined workload and to share scarce resources and skills. Finally, the Programme has a component to assist with venture capital for ICT businesses and an ICT incubator, which collectively will move St. Lucia from being an ICT consumer to and ICT producer, starting perhaps with the utilisation of ICT in the cultural sector.

4.6 Government

The e-Government Programme

This Programme seeks to facilitate the adoption of a common ICT infrastructure and architecture within government and to promote ICT as a driver for social advancement and economic growth. This Programme will ultimately facilitate multi-channel service delivery, including the Internet, mobile phones and the conventional telephone, an integral part of anytime, anywhere, any channel service delivery. Several Projects will be executed as part of the e-government agenda, including:

Institutional Strengthening Project

This project will develop the capacity of the National ICT and e-Government Unit in the Ministry of the Public Service and Human Resource Development to serve as the central agency responsible for and empowered with planning, coordination, advisory, promotion and monitoring functions. It may include a review of the classification of ICT professionals within the public sector in order to attract and retain the best available resources. It would include the establishment of an appropriate governance arrangement for the execution of the e-Government Programme which would utilise a high-level Steering Committee. Policy and standards development would be part of this project and would focus on the centralisation of IT services and functions in government, guidelines for the governance of ICT at a national level,

and other policies that promote a unified approach to ICTs within government. It will also address the need within government for extensive and ongoing change management and awareness to support the implementation of ICT initiatives.

Stakeholder Engagement Project

This project aims to promote civic engagement through greater access to government information and increased interaction with citizens. It includes public education and awareness activities, the development of a government intranet, the creation of service delivery standards and the assessment of performance against these standards. Ultimately, this project will enable transparency and accountability in governance by improving the interaction and communication within government and the public at large. A database of all ICT initiatives will be maintained on an ongoing basis to keep stakeholders informed of ICT developments and promote collaboration through sustained and regular dialogue.

Portal Project

The Portal Project upgrades and enhances the existing government-on-line portal to an integrated one-stop, 24/7 gateway that provides government information and services to citizens, businesses, and non-residents in a user-centric way. This Project includes the development of content relevant to St. Lucia, the horizontal integration necessary for integrated service delivery, and the strengthening of the legislative framework to support the sharing of data across the public and private sectors. In the first instance, the information on the portal will be improved and re-organised to be more citizen-centric and more user-friendly. The look and feel will be made more consistent and the quality of the content improved.

Process Re-design Project

This Project is about the re-engineering of business processes in ministries and departments with the aim of ensuring efficient delivery of services to members of the public, ensuring that technology is exploited to the maximum in order to improve internal efficiencies and public sector effectiveness, and strengthening the capacity of public officers to utilise the new processes. This is an important element of the e-government strategy as the introduction of technology on its own will be of limited value if appropriate improvements are not made to the business processes that the technology supports.

Digitisation Project

This Project aims to accelerate the digitisation of appropriate government information such as national archives and public libraries. This project would ensure that content relevant to the people of St. Lucia is made available to them electronically, which assists with information sharing. It also provides a relatively limitless capacity for storage, thereby preserving local content and culture in a medium that is easily transferrable and which has the capacity for backing up information for disaster recovery.

Information and Records Management Project

This Project seeks to ensure that the functions, processes and activities of Government are properly supported by authentic, secure, reliable, complete and usable records. As such, it will include an assessment of the current state of information and records across all of Government, and the development of an enabling Information and Records Management Policy. The Project will support the timely and successful implementation of this important policy. It will therefore include the implementation of key ISO Standards, including Data and Information Management: ISO 15489 - Information & Documentation: Records Management; Information Security Management - ISO Standard 17799: Information Security Management, ISO Standard 18028: IT Network Security, and ISO Standard 18044: Information Security Incident Management

E-Government Interoperability Framework Project

The provision of support for the interconnectivity of heterogeneous and dissimilar Information Systems and Services is the output of this Project. This support is integral to the implementation of horizontal citizen-centric and business-centric services across ministries and agencies. As such, it includes the development and implementation of policies and standards to improve the exchange and use of information between systems and across services to support e-Government. The Interoperability Framework Project will include the development of the following policies and standards: Interconnection Policies and Standards, Data Integration Standard, Metadata Standard, Information Access and Presentation Standards, Web Standard, Web Content Standard, Security Policies and Standards, and Computer Use Policy.

Legislation and Policy Framework

An enabling environment provides the foundation for the success of ICT initiatives. Appropriate legislation needs to be established and the policy frameworks should exist to support the use of

modern technologies and the introduction of reengineered processes. Several key pieces of legislation have already been drafted but have not been enacted to date. These Acts will enable electronic transactions, sharing of information through systems integration and many other processes. This project seeks to have these vital pieces of legislation passed and to assess legislative and policy requirements to identify areas of focus for further legislative drafting and policy formulation. This can be done in collaboration with other ongoing regional legislative and policy initiatives.

4.7 Agriculture

A key challenge faced by this sector is the effective and efficient supply chain management as a mechanism to promote the economic viability of agricultural related activities.

The Agricultural Information and Integration Programme

In this context, information plays a critical role. The key Programme, the Agricultural Information and Integration Programme, involves the provision of greater access of information by the St. Lucian community to facilitate sustainable development of the agricultural sector and to improve the information flow among agricultural agencies, supply chain partners and other stakeholders. This involves strengthening and extending St. Lucia's Agricultural Resource Information System (SLARIS), the National Agricultural Information System, which was established to service the agricultural industry in St. Lucia. The database currently provides information on different agricultural statistics like area, yield and production of various crops, plantation crops, fruit crops, commodities like milk products and fish production and will be enhanced to facilitate a centralised repository where reports, documents and other major publications can be stored and catalogued for easy searching and retrieval.

SLARIS will encompass a number of projects, some of which are already under development and will integrate these projects into a holistic and comprehensive solution. The projects which will contribute to this integrated programme include:

Forest Information Management System (FMIS)

FMIS will be used to support the planning, implementation and monitoring of multi-objective forest management activities. It will be used for strategic and operational planning and implementation, and operational control in and across administrative units of the Ministry of Agriculture. FMIS will have the ability to maintain current forest inventories and generate maps of spatially-oriented data.

Production and Marketing Information System (PMIS)

This System will be designed to collect prices of food crops, livestock and livestock products which would assist public officials with the monitoring of data of the country's main food crops. PMIS will provide real time access to this critical information by key players in the agri-food sector including farmers, importers, supermarkets, hotels, restaurants, caterers, policy makers and agricultural planners. This includes a web portal for access to data and statistic and to provide a virtual marketplace for farmers.

MPIS will be created to monitor data on the agricultural sector including commodity prices in the wholesale and retail markets, the prices of agricultural input, estimates for production costs for various crops, recorded data on total production and supply and agricultural trade data.

Livestock and Crops Quarantine Information System (LCQIS)

LCQIS will provide timely and accurate information through the monitoring and surveillance of livestock and crops in St. Lucia. It will be designed to address the problems caused by insects and weed pests in crops and promoting efficiency in the rearing of poultry, cattle and goats.

Fisheries Information Management System (FIMS)

FIMS will enable the data collection and data analysis necessary for the creation of information to supports the management of fisheries.

Pest and Disease Surveillance Information System (PDSIS)

PDSIS will be created to allow the monitoring of pests and diseases in the agricultural sector. Its key components will include surveillance, insecticide resistance management and educational outreach. It will focus on invasive species, which can present a threat to agricultural and trade in agricultural commodities and products.

Water Resource Management Information System (WRMIS)

WRMIS will be developed as a data management tool for water resources information. It is likely to be a web-enabled GIS application that allows access, integrate, query, and visualize multiple sets of data.

Bio-diversity Clearing-House

The final component of this Programme will be the Clearing-House Mechanism (CHM) of the Convention on Biological Diversity. This facility is expected to contribute significantly to the implementation of the Convention through the promotion and facilitation of technical and scientific cooperation.

The SLARIS needs to be expanded to ensure that timely, reliable and accurate production and marketing information is available to the agricultural sector. This will facilitate import substitution and food security, market demand based production scheduling, and would eventually increase the sector competitiveness through diversification and increased market opportunity. In particular, SLARIS will need to include:

Crop Production Monitoring and Market Research (CPMMR)

CPMMR will be developed to enable agricultural producers to manage their land and crop production more precisely. Data will be collected and analysed to monitor and improve production levels and farming techniques. It will enable farmers to check the status of their production on a more systematic basis. Extension officers will utilise handheld devices to submit production and farming data from farms. This data will form the input for the Production and Marketing Information System, which will be accessible through the system's web portal.

Crop Import License System (CILS)

This system will enable the import and transit of agriculture products such as nursery stock, small lots of seed, cut flowers, plants and plant products, fruits and seeds for consumption. The Crop Import License will be an effective tool to guard against the spread of damaging pests and diseases.

Training and Development Project

Given the extensive computerisation and systems proposed in this Programme, it is essential to strengthen the information management capabilities of the central ministry and other agencies and organisations in the sector to ensure effective utilisation of the information that will become available for strategic, tactical and operational purposes. As such this Project will focus on training of all participants, within and external to the public sector.

4.8 Community Development and Social Services

The Programmes outlined within the Community Development and Social Services focus area are designed to build on the sense of community and togetherness that is still alive and vibrant within the St. Lucian culture. Through close integration with ICT infrastructure programmes, communities can use technology to share information, share resources, and collaborate more efficiently to promote improved social and economic conditions for the residents and business in their communities.

Community Access Programme

This Programme will investigate a range of mechanisms to ensure wide-scale community access, including the use of schools after-hours, Internet access centres, kiosks in community centres and post offices, and other innovative means of providing access. It will address the specific needs of the elderly, the disadvantaged, and the differently-abled members of communities. This initiative assesses the particular needs of each community and develops opportunities for the productive use and sharing of technologies. It will include projects that provide access to the latest ICT technologies, and training to address the capacity of rural communities to utilise the technologies introduced for community and individual development. All too often, access centres are viewed only as locations where young people can go to use the Internet or obtain computer training. However these centres, if used productively can be a significant resource to promote social and economic development in the community.

Many similar jurisdictions have successfully implemented Community Access Centres that provide not only Internet access for the community but are also used as business centres for local entrepreneurs and study centres for local students who need access to computer technologies and a quiet place to do project work. A best practice study can be conducted to establish opportunities for using Community Access Centres to service the needs of community members. The way in which the centres will be used, will also inform the design and layout of the Community Access Centres. These Centres will need to contain the appropriate facilities (such as meeting rooms, study cubicles) to service the requirements of the individual community. Ongoing maintenance, staffing and training of resources are essential for the sustainability of the access centres. As such, partnerships with services providers will also need to be incorporated to make these initiatives a success. A few key communities can be selected to pilot this initiative as the design, layout, and services that will be offered are refined before roll out to the wider communities.

Existing facilities such as the Community Resource Internet Centres (CORIC), Community Based IT Centres and the Human Resource Development Centres (HRD) can be integrated with this initiative to improve access and enhance facilities that may already exist. The experience gained

in managing, operating and maintaining the existing centres should be codified and used in designing the new community access projects.

Community Portal Project

With the emerging information age, the familiar sight of a 'black board' outside of community halls, advertising community events, is quickly becoming a thing of the past. However, there is still a need to maintain community involvement and participation, and to share information within the local communities. This is where ICT can revolutionize the way communities collaborate with each other. The Community Portal Project is an online resource for community information, communication, advertisements, and bulletins. Information would need to be presented using simple gateways so that community members can access content relevant to their community fairly quickly and easily.

As a Quick Win, a pilot initiative can be considered to launch the portal in the early implementation phase of the Strategy. This pilot will feature a few key communities and will showcase the prototype, detailing the layout and design as well as the type of information that the portal will contain. Once the pilot is successfully launched, the Community Portal can then be expanded to include all communities, and to become the new and improved way of encouraging community participation.

Both these initiatives will incorporate an aggressive promotion and awareness campaign to ensure that the public will utilise these facilities and services, and it will become part of their everyday lives.

4.9 National Security

National Security Integration Programme

Several initiatives that are in train within the Royal St. Lucia Police Force need to be integrated and interconnected with the overall administration of justice systems. This Programme is intended to build on the existing infrastructure and to eventually feed into the largely paper-based justice systems to enable improved public safety and national security. It will build on the crime reporting system and the current telecommunications infrastructure.

In the first instance, the Police Force will introduce technology-supported command and control systems through the introduction of robust, secure digital radio communications across all national security organisations, commencing with the Police Force itself. Electronic fingerprinting will be introduced and mechanisms to enable authorised access to this secure

database will be created. This will require the appropriate policy, legislation and regulations to ensure effective utilisation of the database of fingerprints while protecting rights of the individual. And once the appropriate policy and legislative framework is in place, a comprehensive real-time wide area video surveillance and recording system will be introduced across the city and at all tourist destinations to strengthen the capability to monitor and manage certain types of criminal activities. This initiative will impact on the government network being developed which must therefore be capable of supporting the increased volumes of video traffic to be carried. Such video systems will have the capability to evolve to support automatic vehicle number plate recognition, facial recognition and similar facilities which will further strengthen the national security capability of the Royal St. Lucia Police Force.

It is expected that these new systems, when integrated with existing police initiatives and with the administrative justice systems, will improve national security and the personal safety of citizens. Such linkages with the administrative justice systems will require close collaboration between two arms of government and the development of appropriate policies and procedures. It can eventually assist with the deterrence, prevention and prosecution of crimes by improved and enhanced information sharing on a more real-time basis. It can evolve to linkages with other agencies like Immigration, Customs, and Inland Revenue, and registries such as Motor Vehicle, 'Dangerous Offender', and 'Family Crimes'.

5. Organising for Success

5.1 Managing Successful Delivery

The National ICT Plan represents a pragmatic approach to the delivery of broad societal benefits to the citizens and businesses of St. Lucia. The approach is based on the crafting of a vision and enabling policies by the expert WG members who have an intimate knowledge of the needs and requirements of the country. It is built on an assessment of the readiness of St. Lucia to re-position itself in the new global e-economy, and on a review of how the country compares to others, and on relevant international best practice. The mechanism that is being utilised for ensuring successful delivery of the Plan is built into its design. It will be executed through the delivery of Programmes and Projects identified in the Plan, which will have clear deliverables, budgets, timelines and resources. Implement the Programmes and Projects successfully, and the Plan will be delivered! That said it must be made very clear that the Plan is ambitious, complex and if managed badly can quickly spiral out of control. There are, therefore, clear steps that the Government of St. Lucia will need to take in order to manage successful delivery, namely:

- Ensure that an effective governance arrangement is put in place, including obtaining committed leadership at the level of a Minister
- Establish a robust implementation team with well defined roles, responsibilities, and targets
- Put appropriate project management processes in place to ensure that implementation of the overall plan proceeds and unfolds as a cohesive whole
- Deliver quick wins early and successfully to build confidence and support at a government and at a national level
- Manage the change and transformation processes proactively and as part of the implementation effort
- Engage all stakeholders (including the Diaspora) consistently and comprehensively in moving forward

- Measure and report progress (internally and internationally), and adapt implementation tactics accordingly
- Monitor and manage the major risks on an on-going and continuous basis
- Communicate effectively on all aspects the implementation effort
- Obtain the necessary funding for implementation estimated at US$ 24.9 million over five years

By taking the above steps and addressing the above requirements, the implementation of the national ICT strategic plan will be well on its way to success.

5.2 Budget

Based on the Programmes and Projects identified in the Plan, it is estimated that funding of about US$ 24.9 million would be required over the next 5 years. These figures are based on costing by analogy with similar ICT programmes and projects done in other countries, and would therefore need to be refined as the individual projects are scoped out in complete detail, and as timelines are established and resources fully identified. This cumulative budget represents Government's contribution only and does not reflect private sector investments for its own benefit.

#	PROGRAMMES	BUDGET	TARGETS	END DATE
1	**'Virtual St. Lucia'**	100,000	Upgrade of Tourist board Portal Integration of Social Networks in Online Marketing	Dec 2010 Dec 2011
2	**'One St. Lucia'**	300,000	Development of an Integrated Hotel Reservations and Vacation Packaging System	Dec 2012
3	**Infrastructure Upgrade**	3,000,000	Upgrade of Infrastructure to meet the Needs of Communities	Dec 2014
4	**e-Government Infrastructure**	2,500,000	Information System Integration WAN Backbone Upgrade	July 2012 July 2011

5	**ICT Refurbishment & Maintenance**	1,000,000	Establishment of two ICT Refurbishment Centres Upgrading of all IT labs at Secondary Schools Establishment of a PPP ICT Refurbishment Mechanism Allocate Refurbished Computers to Primary Schools	Sep 2010 July 2011 Dec 2011 Dec 2012
6	**Connected Schools**	2,000,000	Upgrade the EDUNET and Setup a Knowledge Management /EMIS	Sept 2013
7	**Smart Education** • *ICT in education* • *Education Management* • *Education Portal*	 250,000 175,000 75,000	Establishment of an Education Knowledge Network and Learning Resource Centre Introduction of a Governance Structure for ICT in Education Education Portal Launch	Sept 2013 July 2011 Dec 2011
8	**e-Health Administration** • *Health Information Portal* • *HMIS Enhancement (including ongoing training)* • *ICT Infrastructure Upgrade* • *Legislative Reform* • *Ongoing Awareness & Sensitisation*	 30,000 3,000,000 3,000,000 40,000 50,000	 Launch of website Implement the Health Management Information System in 11 Facilities Thirty Facilities Networked Draft Revised Legislation	 Dec 2010 March 2012 Dec 2013 Dec 2010 On-going
9	**'ICT-in-Business'**	500,000	Drafting and Enactment of ICT Legislation ICT Newsletter ICT Technical Standards Established Establishment of an ICT Professional Association	Dec 2010 June 2011 Dec 2011 June 2012
10	**'ICT-as-a-Business'**	1,000,000	Establishment of ICT and Software Development Incubators Capacity Building and Training for Private Sector ICT Professionals ICT Professionals Database	July 2013 July 2011 July 2011

11	**e-Government** • *Institutional Strengthening* • *Stakeholder Engagement* • *Portal* • *Process Redesign* • *Digitisation* • *Legislation and Policy*	500,000 20,000 100,000 1,000,000 500,000 80,000	Capacity Building in: Knowledge Management, e-Government, Information Management, Information Security, Project Management and Change Management e-Government Newsletter E-commerce Secretariat National ICT Taskforce Government Portal Upgrade and Back-end System Integration	On-going June 2011 July 2011 Dec 2011 Dec 2012
12	**Agricultural Information and Integration** • *Forest Information System* • *Production and Marketing Information System* • *Livestock and Crops Quarantine System* • *Fisheries Management System* • *Pest and Disease Surveillance* • *Water Resource management* • *Bio-diversity Clearing House* • *Crop Production Monitoring and Market Research* • *Crop Import License System* • *Training and Development Project*	200,000 50,000 50,000 50,000 50,000 50,000 50,000 20,000 50,000 100,000	Integrated Agriculture System	January 2015

13	**Community Development and Social Services** • *Community Access* • *Community Portal*	 2,500,000 40,000	 Establishment of 10 Community Access Centres Community Portal Pilot	 2 Centres per Year 70% National Access to ICTs by 2015 Dec 2011
14	**National Security Integration Programme**	2,500,000	Introduction of a Digital Radio Command and Control System Implementation of a Finger Printing System Introduction of a Wide Area Network Camera System for the City and Key Tourist Areas Linkages to Justice Systems	Dec 2012 June 2012 June 2014 Dec 2013
	TOTAL USD	**$24,930,000**		

5.3 Quick Wins

It is important to jump-start the implementation of the National ICT Policy and Action Plan as early as possible, to ensure that momentum is not lost from the planning effort, and to build on the support created through the interventions of the Sector Working Groups. This can be achieved by the completion of Quick Win projects that have been marked for early implementation over the next twelve months. For this to be achieved detailed project planning must be initiated immediately and adequate funding must be quickly sourced.

Quick Win projects can be identified through the following typical characteristics:

- They can commence with few resources that are generally available
- They have a high probability of success and will deliver tangible project outcomes
- They can be completed within six to nine months

- They will have high visibility and can generate significant support amongst a broad range of stakeholders
- They demonstrate government's commitment to the success of the National ICT Strategy

Taking these factors into consideration, the following Quick Win Projects were identified:

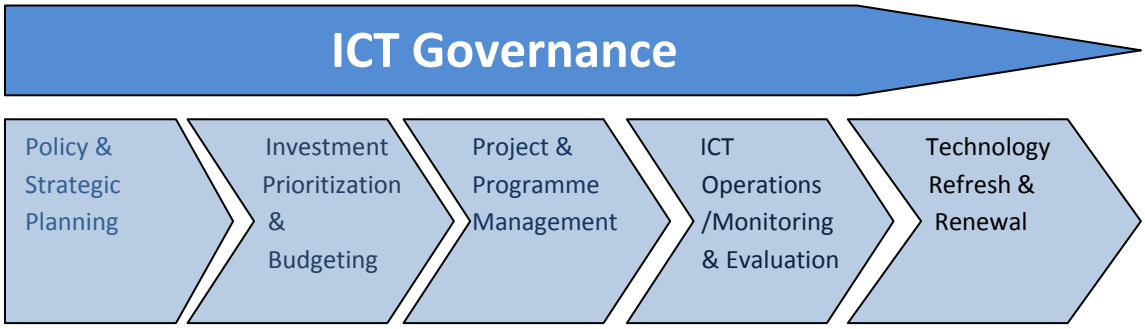
	QUICK WINS	TIMELINES
1	***NICT Governance*** – Establish the framework and structure, and obtain the resources necessary to manage the implementation of the National ICT Strategy, and to sustain ICT development at a nation-wide level	3 Months
2	***e-Government Portal*** – Provide a user-centric, 24/7 online gateway for citizens, businesses, and non-residents to access key government information and services	9 Months
3	***Promotion and Awareness*** – Educate and sensitize the public to the National ICT agenda and the benefits of the initiatives, and provide a platform for the development of public/private sector partnerships	6 Months*
4	***Community Portal Pilot*** – Build community participation and collaboration through an online portal that supports networking and the sharing of community specific information	9 Months
5	***Health Information Portal*** – Promote a health conscious nation through an online portal that is designed to share health information, build awareness of current and potential health matters, and provide supporting health services	9 Months
6	***Key Legislation*** – Enact and implement the e-Transaction Bill, the e-Crimes Bill, the Data and Privacy Protection Bill and the Freedom of Information Bill, which support electronic service delivery and electronic commerce	9 Months

**Followed by integrated marketing communications as ICT projects progress and are completed*

The total budget for these quick win projects is estimated at US$ 420,000.

5.4 Governance

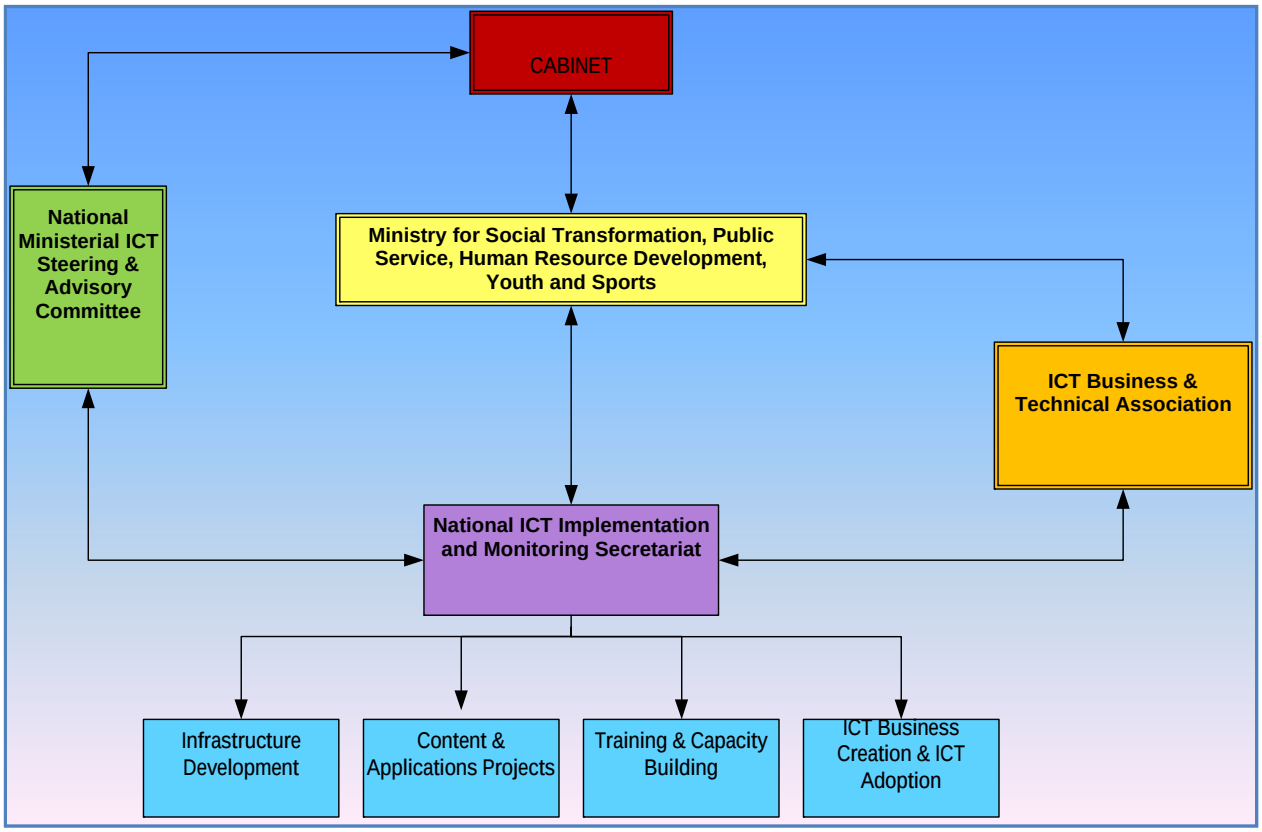
Given the wide range and scope of activities covered by the National ICT Plan, it is essential to develop an appropriate governance arrangement, including the establishment of an implementation team, to manage its execution. The creation of a structure which identifies the entities responsible for national ICT development and defining each entity's mandate is necessary to promote overall development in an organised and coordinated manner. And the roles within the structure must be established to work in synergy with each other. It should be noted that as the implementation of the Plan unfolds, and as the agencies and teams gain experience and the country's maturity with ICT and e-government increases, the governance approach and model would need to evolve to meet changing needs and priorities. The evolving ICT Governance Model is illustrated in the diagram below, and details of the evolving areas of focus and priority follow are given in Annex 3.



It is clear that the governance arrangements put in place by St. Lucia will need to evolve over time to deal with the stage of development of e-government and the utilization of ICT at a national level. In the immediate term, though, an implementation team is needed to move the ICT agenda forward.

5.5 Managing Implementation

It is recognised that while some of the initiatives proposed in the National ICT Strategy for St. Lucia are new, several are currently in the planning stage, and others are already being implemented but need to be aligned with the National ICT Vision. Also, the resources required to execute the Plan are heavily dependent on what can be allocated by the Government of St. Lucia. The figure below illustrates the proposed National ICT Strategy Implementation Structure.



National ICT Strategy Implementation Structure

National Ministerial ICT Steering & Advisory Committee

A National Ministerial ICT Steering and Advisory Committee (the 'Steering Committee') should be established as a direct liaison between the proposed National ICT Implementation and Monitoring Secretariat (the 'Secretariat') and Cabinet. The Steering Committee should be chaired by the Minister for Social Transformation, Public Service, Human Resource Development, Youth and Sports. Hence, the Committee would provide approval of the government ICT policy and major initiatives, and make recommendations to Cabinet.

The Steering Committee should comprise Ministers from the key ministries that are impacted by the National ICT Strategy, which need to support its implementation, such as Ministers responsible for infrastructure, agriculture, community development and social services, education, health, and tourism. The Committee should have some representation at the Permanent Secretary level, including the Permanent Secretary with responsibility for ICT.

The mandate of this Committee would be to ensure that the following objectives are achieved:

- The National ICT Strategy is fully aligned with the national development goals of St. Lucia
- The Plan is implemented as a cohesive whole and is fully integrated
- Appropriate funding and other resources are provided for its successful implementation
- The e-Government and Business Process Re-design initiatives are coordinated across Government
- The engagement of the private sector and civil society is maximised
- EGRIP, CKLN, CTU and other regional initiatives are integrated, aligned and optimised with the Plan
- The initiatives of the proposed ICT Sector are supported
- The ICT Policy and Action Plan is monitored and controlled throughout its execution
- Risks are monitored and managed in a proactive manner

National ICT Implementation and Monitoring Secretariat

Given that a dedicated focus is required to get the Plan operational, there is an immediate need to establish a National ICT Implementation and Monitoring Secretariat (the 'Secretariat'). It is expected that the roles and staffing of the Secretariat will evolve as the initiatives of the Plan accelerate; however, its immediate mandate is as follows:

- Organise to implement the National ICT Policy and Action Plan
- Assist with enactment of the four draft bills being reviewed by the Office of the Attorney General, namely: the e-Transaction Bill, the e-Crimes Bill, the Data and Privacy Protection Bill, and the Freedom of Information Bill
- Prioritise ICT programmes and projects with an emphasis on the Quick Win Projects
- Develop the project resourcing including budgets and obtain the resources needed
- Commence project and programme management activities for the priority projects
- Begin the coordination process across government
- Initiate and deliver the Quick Win Projects
- Improve and accelerate the procurement process consistent with the requirements of funding agencies and Government
- Support the promotion and awareness effort guided by the core values: "Community", "Integrity", and "Innovation"
- Continuously monitor and report progress to the Ministry of Social Transformation, Public Service, Human Resource Development, Youth and Sports, and to the National Ministerial Steering & Advisory Committee

The Implementation Secretariat would liaise with designated ICT Officers (ICTOs) and the ICT or communication departments in each ministry and agency in order to coordinate of all ICT activities. The Secretariat and the ministries and agencies must coordinate and align to avoid unnecessary duplication, limit conflict between institutions, and to ensure cost effective and timely implementation of the various activities. All Government agencies must be mandated to cooperate with the Secretariat to ensure that the objectives of the National ICT Strategy are achieved.

It is expected that the Secretariat will have about 3 to 5 resources at inception and that it will be headed by the National Chief Information & Communication Technology Officer (the 'NCIO') who is well respected in the ICT community and across government.

National Chief Information & Communication Technology Officer

As the National ICT Policy and Action Plan is operationalised and moves deeper into implementation, horizontal projects across ministries and agencies come into focus. This creates the need for the NCIO who is critical for effective ICT programme management. This Officer will be responsible for common infrastructure across the public sector such as the government wide area network, the e-Government portal, common policies and standards, horizontal business applications, e-services, strategic outsourcing, liaising with international and regional bodies such as CARICOM, ECTEL, OECS, CTU and the ITU on ICT matters, and reporting to the Steering Committee on implementation of the National ICT Policy and Action Plan.

ICT Business and Technical Association

As previously mentioned, collaboration with the private sector through public private sectors partnerships (PPPs) for the implementation of the National ICT Policy and Action Plan is crucial for the effective and efficient achievement of the targeted project outcomes. The benefits offered by PPPs include:

- A way forward in the context of constrained budgets
- A catalyst for economic growth
- Effective way to bridge gaps between demand and allocable resources, which allows for greater flexibility in allocating both human and financial resources
- The ability to share risk
- Results in institutional capacity building

As such, an ICT Business and Technical Association (the 'Association') should be formed to function as the central liaison between Government and the private sector. Regular ICT roundtable discussions can serve as a communication channel to inform the private sector of Government ICT projects and to obtain their inputs and guidance in moving the ICT sector and the national ICT agenda forward. This Association is a critical pillar of the implementation approach and would address e-government initiatives aimed at expanding e-commerce and e-business, and in improving the interaction between business and government.

5.5 Managing Risk

In its widest sense, risk can never be totally eliminated. This is particularly true with the implementation of a large integrated National ICT Plan. However, steps can be taken to identify the major risks prior to implementation, to quantify such risks, and to put plans in place to mitigate and manage them.

The major risks have been identified and associated mitigation strategies developed. The details are provided below.

- *'Inadequate human resources to implement the Plan'*
  It is important that the implementation of the various ICT initiatives are carefully sequenced and coordinated to minimise duplication and wastage of effort. Capacity building of ICT resources will be pursued with a focus on implementation. However, in the short term, external consulting resources will be strategically utilised to fill gaps with an objective to transfer knowledge and skills to local and internal staff. And finally, strategic use will be made of the Diaspora through outsourcing and attracting them back home.

- *'Lack of stakeholder support for the various projects resulting in slippage and project failures'*
  It is important that the consultative and collaborative approach used in the development of the Strategic Plan be continued and strengthened to ensure stakeholder support is enhanced. An effective communications plan must be developed and executed to ensure that grass root support is built and sustained. Unless stakeholders are embraced, implementation will be stymied.

- *'Lack of political support for the Plan results in lack of funding and lack of resources leading to project stoppage, delays or failures'*
  It is essential that the Strategic Plan meet is goals and targets in order to sustain funding and support. In the first instance, this means that the Quick Wins must be delivered

successfully so that political support can be strengthened and expanded. The identification and support of an executive sponsor at the ministerial level is also critical to mitigating this risk. In essence, success will engender support and improved resource allocation. It is also critical that the Plan continue to be tightly aligned with the development plan and goals of the country if long term support is to be assured.

There are many other risks that can potentially derail the successful implementation of the Plan. It is therefore necessary to develop and use a detailed risk register as the key and foundational tool for managing and reducing the risks identified before and during the project. This means the careful documentation of risk mitigation strategies to be pursued in response to the identified risks and their grading in terms of likelihood and seriousness. This framework will provide the project sponsor, stakeholders and senior management with a documented framework from which risk status can be reported, and against which risk managers can be assigned the responsibility to manage these risks. The creation of the detailed risk register and associated risk mitigation framework is one of the immediate actions to be taken in project implementation, and will be tailored to the actual projects which are put into train and the resources available at that time for implementation.

At this point, the initial step in moving forward can be identified.

5.6 The First Step Forward

The first step would be to accelerate the stakeholder engagement process to operationalise the Plan, and to ensure and strengthen grass root support for its programmes and projects. The communications process should begin with all Ministries and agencies. The private sector should be quickly engaged to ensure that e-business and the ICT sector can take root and expand.

Integral to the above activities is the establishment of the governance arrangements by the appointment of the National Ministerial ICT Steering and Advisory Committee and the National ICT Implementation and Monitoring Secretariat. The Secretariat must be provided with the resources, and be given the mandate and the responsibility to move the Plan to action in a cost-effective and sustainable manner. The NCIO role should be filled as soon as practical.

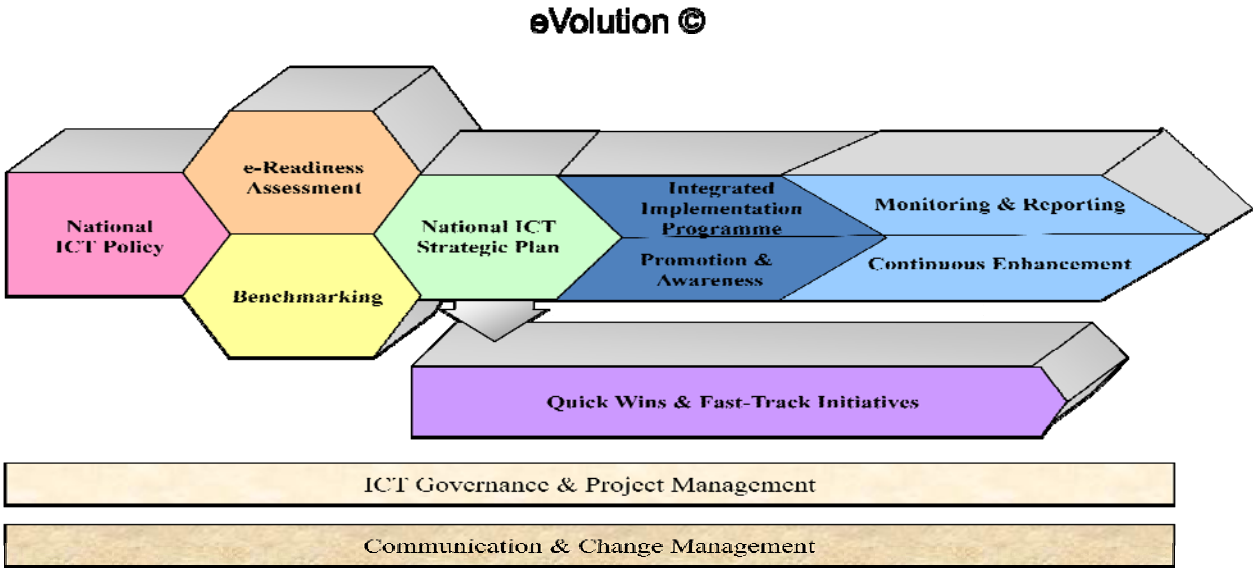
Furthermore, Government should kick start the quick win projects within government to build confidence in the Plan and to generate credibility and support. While these short term projects are in train, work should begin on the detailed implementation planning for the programmes and projects identified. Funding and other resourcing would need to be obtained to execute the prioritised projects, and the e-government agenda further refined.

Monitoring and evaluation of the implementation effort must be built into every project and programme and should be integral to the project management arrangement. Performance against the plan must be reviewed and corrective or other action taken as necessary on a regular and ongoing basis at all levels of the governance model.

Successful implementation of National ICT Plans are generally well understood in the international marketplace, and therefore the strategic use of external resources will assist in its successful implantation, and in ensuring St. Lucia that derives maximum societal benefits, including wealth creation. This means that human resources will be obtained internally and externally to the public service and indeed St. Lucia to establish the Secretariat and to fill the role of the NCIO.

ANNEX 1: The Planning Approach

The approach utilised in the development of the National ICT Policy and Action Plan is summarised in the diagram below.



The eVolution© methodology begins with the development of the National ICT Policy and Vision. It then assesses the state of e-readiness of St. Lucia and benchmarks the country against specifically chosen countries. The NICT strategy is then crafted in an integrated manner through the development of programmes and projects which give effect to the policy and vision. The entire strategy development process is done using Working Groups (WGs) made up of key stakeholders from all sectors of the society. These WGs were organised to support key areas of focus, namely:

1. Infrastructure
2. Agriculture
3. Community Development & Social Services
4. Education
5. Government
6. Health
7. Business
8. Tourism

In essence, St. Lucia's National ICT Strategy is a plan to facilitate measurable levels of improvement in social and economic wealth at an individual, organisational, and national level. It has been crafted by local Working Groups to facilitate the achievement of St. Lucia's National Development goals and to promote national prosperity and well being.

ANNEX 2: The National ICT Policy of St. Lucia

Government of Saint Lucia

MINISTRY OF PUBLIC SERVICE AND HUMAN RESOURCES DEVELOPMENT

NATIONAL INFORMATION AND COMMUNICATION TECHNOLOGY POLICY

December 2010

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1 INTRODUCTION

The Government of St. Lucia is committed to effective national development planning and is focused on sustainable development by maximising the use of scarce resources through greater cohesion across its economic, physical, social and environmental planning processes. The country's medium term economic strategy aims to achieve a more diversified economy with improved conditions for private sector development and enhancement of global competitiveness. In particular, the Government of St. Lucia recognises the need to promote the use of Information and Communication Technology (ICT) as an enabler of growth and development within the island. As such, the national development agenda emphasises the use of such technologies in building requisite capacities within the country's key economic sectors.

ICT is one of the few available tools that have the potential to facilitate the economic prosperity of a country, particularly small island states, by improving the management of every aspect of the life of its people. The current lack of an overall National ICT Policy and Strategy, which provides the requisite framework, guidelines and direction for the adoption and utilization of ICT resources, is a major limitation in the implementation of sustainable ICT initiatives. The Government has, therefore, embarked on a process of crafting a National ICT Policy which focuses on an integrated approach to the development of a knowledge-based society and the application of ICT for socio-economic development.

This document presents the National ICT Policy developed by key stakeholders from the public and private sectors, and civil society. This policy is intended to support all elements of St. Lucia's society, including government, the private sector, NGOs and civil society, and citizens at large.

2 PRINCIPLES

2.1. Vision

The National ICT Policy is aligned to the following vision statement:

"Improve the quality of life in Saint Lucia by embracing ICT to promote development, innovation and global competitiveness thereby enabling sustainable social and economic growth."

2.1 Core Values

The core values which underpin this vision and which must be supported throughout the implementation effort are:

- **Community**
- **Integrity**
- **Innovation**

2.3 Desired Outcomes

The aim of the ICT policy is to ensure that the following outcomes are achieved:

a. Effective governance and extensive e-service delivery
b. Significant economic growth with creation of new job opportunities
c. Improved health and well being of citizens
d. Enhanced levels of information literacy and innovation among citizens

2.4 Areas of Focus

The policy is organised along eight sectors, which are the main areas of focus in which Saint Lucia will concentrate its efforts and resources, and in which it will generate momentum towards the achievement of its goal of infusing ICT in all aspects of Saint Lucian society. The sectors are as follows:

- ICT Infrastructure
- Education
- Health
- Community Development / Social Services
- Business
- Agriculture
- Government including National Security
- Tourism

3 POLICY OBJECTIVES

The broad policy objectives of the National ICT Policy are detailed below by the areas of focus:

2.1 ICT Infrastructure - To provide universal access to electronic information and communications.

2.2 Education - To foster the use of ICT in education to develop human capacity, enhance competitiveness, modernize the teaching and learning environment, facilitate equity of access, and to develop individuals who are capable of functioning effectively in a technologically driven society.

2.3 Health - To enable greater equity in the allocation and use of health care resources by exploiting ICT-enabled mechanisms to promote quality health care delivery and management.

2.4 Community Development and Social Services - To improve the quality of life and social well being of the community through various programmes that would enable the use of ICT for future challenges and technological advancement.

2.5 Business - To promote economic development through the use of ICT and ICT professionals.

2.6 Agriculture - To enable effective and efficient supply chain management (from production to sales and marketing) through the use of ICT and thereby promote the economic viability and sustainability of agricultural related activities.

2.7 Government - To establish a suitable institutional framework within the Public Sector to facilitate the adoption of a common ICT infrastructure and architecture within government and promote ICT as a driver for social advancement and economic growth. And, to strengthen national security through the smart and strategic use of ICT to securely share information among authorised officials, and to improve internal administration and operations.

2.8 Tourism - To improve the overall coordination of the marketing and other tourism management functions, through the use of ICT and thereby enable the sustainable development of the sector.

4 POLICY STATEMENTS

Each of these Policy Statements collectively contributes towards St. Lucia achieving its policy objectives and the National ICT Vision, thereby contributing towards the social, economic, cultural and human resource development of the country.

4.1 ICT Infrastructure

a) Provide a level of ICT infrastructure that meets the needs of every community.

b) Ensure ease of access to every individual in terms of time, distance and affordability.

c) Ensure affordability of end devices.

d) Ensure a high quality of service to all consumers.

e) Develop innovative funding mechanisms.

4.2 Education

a) Create an ICT environment in the education system that encourages creativity, innovation, critical thinking, communication, research and decision making.

b) Establish the appropriate organizational structure and provide a professional development to plan, implement, manage and sustain the integration of ICT into the education system.

c) Establish a regulatory framework for ICT to harmonize activities and approaches; and develop standards in the use of ICT in education.

d) Provide all students with the requisite ICT skills for employment and the educational grounding for pursuing continuous learning and specialised training.

e) Develop a teaching workforce in which all practitioners possess the requisite skills and competencies required to use ICT as a tool in enhancing the teaching / learning process.

f) Create smart partnerships that provide for global collaboration, increased electronic networking and enhanced stakeholder participation.

g) Use ICT to enhance management and administrative functions.

h) Foster the concept of lifelong learning, and develop and sustain strategies to encourage adults toward self-improvement through ICT skills and training.

4.3 Government

a) Establish a National ICT and e-Government Unit in the Ministry of the Public Service and Human Resource Development to serve as the central agency responsible for and empowered with planning, coordination, advisory, promotion and monitoring functions.
b) Enable transparency and accountability in governance and promote civic engagement through greater access to government information.
c) Enhance the existing government-on-line portal to an integrated one-stop gateway that would provide information and services to citizens and businesses in a user-centric way.
d) Undertake comprehensive public sector process re-engineering in ministries and departments to bring about efficient delivery of services to businesses and citizens; and exploit appropriate technologies to improve internal efficiencies and effectiveness.
e) Accelerate the digitisation of appropriate government information such as national archives and libraries.
f) Ensure the creation and management of authentic, secure, reliable, complete and usable records, capable of supporting the functions, processes and activities of Government.
g) Make multi-channel service delivery, including the Internet, mobile phones and the conventional telephone, an integral part of ANYTIME, ANYWHERE, ANYHOW e-Government service delivery.
h) Strengthen national security and improve internal administration and operations through the strategic and secure use of ICT

4.4 Health

a) Increase security and data protection of medical information.
b) Introduce appropriate enabling legislation.
c) Enable efficiency and quality of healthcare delivery.
d) Strengthen the health information and financial management capabilities of central ministries and agencies.
e) Improve ICT knowledge, infrastructure, capacity and usage in the health sector.

4.5 Community Development/Social Services

a) Provide continuous support for self-development through established ICT centres.
b) Ensure the availability of ICT-enabled training programmes that would allow economic and social growth.
c) Increase in the number of ICT centres within communities for the purpose of sharing and disseminating of information.
d) Maximise the use of ICT as a means of curbing social problems within the community.
e) To provide opportunities and solutions for social and economic development through the application of ICT initiatives.
f) Use ICT as a poverty alleviation tool to eliminate illiteracy and improve the quality of life and social well being in the community.

4.6 Business

a) Ensure that businesses are aware of the benefits of adopting ICTs in enhancing and maintaining their competitiveness.
b) Create and maintain a national pool of skilled ICT persons through ICT training and entrepreneurial development programmes, and encourage managed outsourcing to the Saint Lucian ICT sector.

c) Foster an enabling environment for businesses to take advantage of ICT through the availability of a standardized quality of services and products from the ICT sector.

d) Enhancement of the export capabilities of various industry sectors through the use of ICT.

4.7 Agriculture

a) Promote the use of ICT within rural communities to ensure the equitable use of resources within the sector.

b) Create information linkages with other external industries, in particular the wholesale and retail sectors and the hospitality / tourism sector.

c) Ensure the availability of timely, reliable and accurate production and marketing information for the agricultural sector.

d) Strengthen the information management capabilities of the ministry and other agencies/organisations in the sector.

4.8 Tourism

a) Facilitate the use of ICT within the private hospitality sector for marketing and supply chain management functions.

b) Strengthen the information management capabilities of the national tourist office and other agencies or organisations in the sector.

c) Ensure the ability to easily interface, collaborate and share information among the various sectors and stakeholders.

d) Ensure the use of ICT at a national level in tourism research, destination marketing, and evaluation of economic, social and ecological impacts.

5 POLICY IMPLEMENTATION, MONITORING & REVIEW

Recognizing the multifaceted nature of ICT issues and the factors that impact them, the implementation of this policy and the consequent achievements of its goals and objectives will be the responsibility of the entire government at all levels in all sectors, working in close partnership with the private sector and civil society. There is, therefore, a need for the active participation and involvement of all individuals and national institutions.

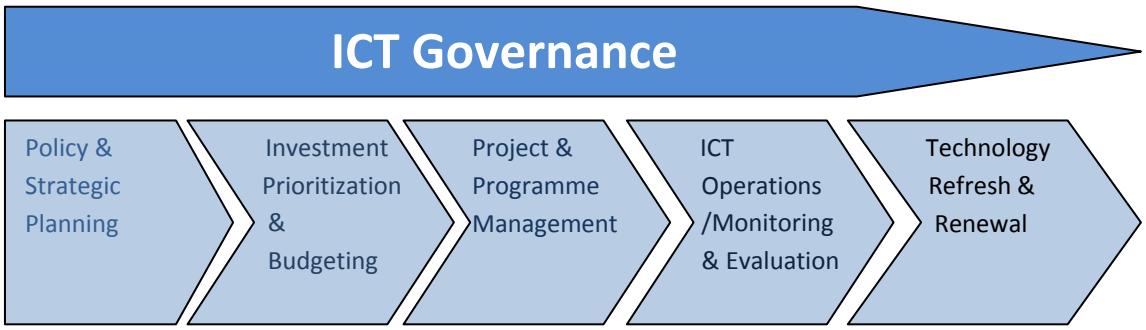
In order to effectively coordinate and harmonise efforts and activities undertaken by many institutions, the National ICT Strategic Plan will outline the mechanisms that will ensure that the policy is updated from time to time and that implementation strategies are carried out in the most efficient and effective manner.

The final goal should be the deployment of ICT in all sectors of the economy and to all communities in St. Lucia.

ANNEX 3: Governance Model

Evolution of the Governance Arrangement

It is important to note that the governance of the implementation of the National ICT Plan will evolve over time, as the ICT experience of the government and the country expands over time, and as the implementation of programmes and projects proceed. As such the initial project management arrangement proposed will need to be reviewed after one year and a more relevant structure put in place as necessary. The key functions and how these typically evolve will now be considered.



Policy & Strategic Planning

The Policy and Strategic Planning function is needed to coordinate the establishment of the five year implementation plan for the policy statements (outlined in Annex 2) at the institutional and organisational levels, in line with the National ICT Strategy. The implementation plan would include the requirements to develop/update the appropriate policies and legislation to support the enhancement of the ICT sector, and to promote ICT uptake in St. Lucia.

Accordingly, Policy and Strategic Planning would be charged with the implementation of the planning approach outlined in Annex 1 for the development of the ICT Policy and Action Plan. This approach is based on the eVolution© methodology, which begins with the development of a national ICT policy and vision that support all sectors of the country. This function would continue to ensure at all existing policy, legislative and regulatory frameworks that underpin each sector, for instance policies on data sharing and adoption of ICT by the various Government agencies, are updated and refreshed in accordance with requirements of the ICT Policy and Action Plan.

Furthermore, the Policy and Strategic Planning function would collaborate with the National Telecommunications Regulatory Commission (NTRC) for the rollout of the implementation plan and the scheduling of the required activities in the telecommunications arena. Some collaboration with other regional legislative and policy initiatives like the Eastern Caribbean Telecommunications (ECTEL) Authority and the Caribbean Telecommunications Union (CTU) would also be considered based on the ICT Policy and Action Plan.

These policy directions will guide the Investment Prioritisation and Budgeting.

Investment Prioritization & Budgeting

Investment portfolio management is a critical function given the significant budgets needed for the various sectors to meet the downstream ICT targets in order to balance risk, performance, and cost across all ICT investments. The solution is to link all investments directly to the strategic imperatives identified and to assess the impact of each investment on the established desired outcomes. Investment Prioritization and Budgeting would, therefore, be guided by the outputs and strategies crafted by Policy and Strategic Planning function. The identified ICT investments identified within this plan will be further assessed and detailed budgets developed. Notably, the Quick Win projects identified above would be given priority due to their potential to add the most value for ICT development and uptake in St. Lucia within the immediate term, with realizable outcomes and tangible impacts on society.

Once the portfolio of investments has been prioritised and the appropriate budgets derived, the role of Project and Programme Management becomes imperative for successful and timely implementation.

Project & Programme Management

Project management is a carefully planned and organised endeavour aimed at accomplishing a specific objective on time and on budget with defined resources. Typically, projects follow some major phases or stages that reflect a full business lifecycle. These phases or stages include:

i. Project initiation
ii. Feasibility studies
iii. Project definition, justification and methodology
iv. Development of the project plan
v. Implementation and delivery of specified benefits
vi. Post implementation review
vii. Monitoring and evaluation
viii. Support/maintenance
ix. Project close

As the technology landscape in St. Lucia would become increasingly complex with the implementation of the National ICT Policy and Action Plan, control and management of the various ICT projects necessitates a pragmatic programme management approach. Programme management is a technique that allows for the control of a group of related ICT projects that are carried out to achieve some of the defined objectives of the National ICT Strategy. It focuses on structuring and controlling projects so that they deliver effectively as a group.

Further to project prioritising and budgeting, this approach would be used to manage multiple ICT projects concurrently with shared or overlapping resources in the different sectors of the country. However, project management of each of these parallel projects remains paramount, as programme management is not concerned with the day to day running of individual projects in the programme.

Furthermore, in undertaking project and overall programme management for the prioritised ICT initiatives, it is critical to ensure effective scope management. Typically, ICT projects can easily suffer from scope creep, which leads to cost overruns and uncontrolled project growth. Therefore, scope management is a critical element of successful and timely ICT project and programme completion. It must be integrated in the programme and project management approaches as a means of managing time, cost, quality, and risk.

Accordingly, project and programme management approaches would in turn govern the ICT Operations, Monitoring, and Evaluation.

ICT Operations, Monitoring, & Evaluation

The ICT Operations function would carry out the activities required on completion of the work during Project and Programme Management by moving to handle day-to-day activities. In so doing, ICT Operations can collaborate with the relevant public and private players in the ICT sector, with an emphasis on shared ICT services. It is essential to utilise a participative approach to benefit from the expertise and resources provided by private/public sector partnerships. Moreover, this would discourage public sector organisations from investing in dedicated ICT systems, which may not integrate well with the ICT systems of other agencies.

Notably, throughout the implementation of the ICT Policy and Action Plan, it is important to monitor and measure change based on the impact of the ICT investments and policy development. As a result, Monitoring and Evaluation would play a key role in the efficient and effective implementation of the ICT Policy and Action Plan at the level of individual projects, and at the integrated multi-component ICT programme. Monitoring takes place while projects are being implemented with the objective of improving their design and expected operations.

Evaluation studies would be conducted to assess whether each ICT project produced the intended impacts and outcomes in a cost-effective manner. This would then inform the design of upcoming projects within the ICT programme.

Complimentary to the Monitoring and Evaluation role is that of Technology Refresh and Renewal.

Technology Refresh & Renewal

In an age of ever-changing technologies, a crucial element is Research and Technology Renewal. This role supports all other roles as it is geared toward research into and assessment of new and emerging technologies, so as to ensure that the ICT Strategy and the ICT Policy and Action Plan remain relevant and cutting-edge. Once a new and emerging technology is identified, it would be studied in terms of its applicability, potential added-value, and integration and cost implications.

While ICT infrastructure has a short shelf life, it is necessary to make the most out of ICT investments. Targeting interoperable and scalable technologies is a means of addressing this challenge in order to avoid obsolescence.

It is clear therefore that the governance arrangements put in place by St. Lucia will need to evolve over time to deal with the stage of development of e-government and the utilization of ICT at a national level. In the immediate term, an implementation team is needed to move the ICT agenda forward.

ANNEX 4: Glossary of Terms

Glossary of Terms

ASYCUDA	Automatic System for Customs Data
CARICOM	Caribbean Community and Common Market
CCL	Computer Centre Ltd
CDB	Caribbean Development Bank
CILS	Crop Import License System
CORIC	Community Resource Internet centres
CPMMR	Crop Production Monitoring and Market Research
CVQ	CARICOM Vocational Qualifications
ECCB	Eastern Caribbean Central Bank
ECTEL	Eastern Caribbean Telecommunications
EDUNET	Education Network
FIMS	Fisheries Information Management System
FMIS	Forest Information Management
HMIS	Health Management Information system
HIS	Health Information system
HRDC	Human Resource Development Centres
ICT	Information and Communication Technology
IRD	Inland Revenue Department
LCQIS	Livestock and Crops Quarantine Information System
MALFF	Ministry of Agriculture, Land, Fisheries and Forestry
MPIS	Marketing and Production Information System
NTRC	National Telecommunications Regulatory Commission
OECS	Organisation of Eastern Caribbean States

PAHO	Pan American Health Organisation
PDSIS	Pest Disease Surveillance Information System
PMIS	Production and Marketing Information System
SIGTAS	Standardised Integrated Government Tax Administration System t System
SME	Small and Medium enterprise
SLARIS	St Lucia Agriculture Resource Information System
SARS	St Lucia Agriculture Resource System
SSDF	St. Lucia Social Development Fund
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
VOIP	Voice over Internet Protocol
WG	Working Groups
WRMIS	Water Resource Management Information System