

<b>INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SECTOR STRATEGY &amp; ACTION PLAN – Saint Lucia</b>	
<b>Background</b>	
<b>General description of the sector</b>	<p>The Information and Communication Technology (ICT) sector is essential element of all economies. From a policymaker’s perspective it displays two functions:</p> <ul style="list-style-type: none"> <li>• As an important, in many cases indispensable, <b>enabler</b> for business and government, ICT plays an essential infrastructural role;</li> <li>• As an <b>industry</b>, it is one of the fastest growing sectors worldwide, with great economic importance for many economies, and significant potential for others, including Saint Lucia.</li> </ul> <p>The ICT sector is the backbone of the Knowledge Process Outsourcing (KPO) and Business Process Outsourcing (BPO) industries and plays a critical role across sectors, particularly with respect to services exporting and marketing.</p> <p><b>Information technology (IT) services</b> include the whole range of computer-related services, from simple after-sales maintenance and support to highly sophisticated tailor-made soft and hardware solutions, for example:</p> <ul style="list-style-type: none"> <li>• Software development (for business and retail)</li> <li>• Web design, development and hosting</li> <li>• Internet, extranet and intranet solutions</li> <li>• Database design and management</li> <li>• Security solutions</li> <li>• Application development - from business to pleasure</li> <li>• Hosting, data storage, etc.</li> <li>• Networking infrastructure</li> <li>• ICT Training</li> <li>• Information technology consultants</li> </ul> <p><b>Communication technology (CT) services</b> include all variations of basic and value-added telecoms services, including Internet-based communication. But there are relatively sophisticated Communications services in Saint Lucia with the latest infrastructure and technology.</p>
<b>Types of services offered in Saint Lucia</b>	<p>There is no accurate information on the ICT sector in Saint Lucia. The 2015 St. Lucia telephone directory shows 45 companies that might be considered ICT businesses. Another list, compiled by the National ICT Office from anecdotal reports, includes 58 firms that supply IT or ICT-related services and some to foreign</p>

	<p>clients. According to Mortley (2015) of the approximately 58 ICT firms on the island, approximately 16 are owned by women.<sup>1</sup> Data from the 2010 Census provided by the Central Statistics Office indicated that over 1,000 persons reported that they work in the ICT sector.</p> <p>In Saint Lucia, a range of ICT services are offered including:</p> <ul style="list-style-type: none"> <li>• ICT Project management</li> <li>• Hardware and software procurement and installation</li> <li>• Software development</li> <li>• Data management (e.g. data recovery)</li> <li>• ICT consulting (e.g. policy and strategy development, research, security, ICT audit)</li> <li>• ICT training</li> <li>• Computer maintenance and repair</li> <li>• Networking</li> <li>• ICT support</li> <li>• Website development</li> <li>• ICT outsourcing</li> <li>• Computer sales</li> </ul> <p>Also, various telecommunications services are provided by companies on the island. But for the most part, the IT services presently being offered to the public in Saint Lucia are relatively basic IT services. Little software development and innovation in IT is taking place. However, there is some in-house IT development in organizations to meet their internal needs.</p>
<p><b>Size of sector, trends, growth (global/regional)</b></p>	<p>The information technology services market worldwide (75 countries surveyed by the World Information Technology and Services Alliance – WITSA) accounted for a total of around USD 1.2 trillion in 2011. Apart from a small contraction in 2008/2009 as a result of the worldwide economic crisis the market has grown, and continues to grow, at rates of around 9-10% per year.</p> <p>Around two-thirds of overall spending on ICT (services and hardware) comes from business and government clients, and one-third from consumers. The single biggest client sector is the financial services industry, with government, other services, manufacturing, the telecoms industry itself and transport following suit.<sup>2</sup></p> <p>In 2013, information technology outsourcing totaled US \$648 billion of which information technology (IT) services comprised US \$309 billion. Insurance and banking sectors will be the sectors in which ICT outsourcing will increase the most in the near future. (<i>State of Outsourcing 2013 Study – HfS, KPMG</i>).</p>

<sup>1</sup> Natasha Mortley, Aug 2015, *Female Entrepreneurship in St. Lucia* Report

<sup>2</sup> All indications above distilled from WITSA, *Digital Planet 2010, Executive Summary*.

	<p>In Saint Lucia, ECTEL data for 2015 show that from a population of 165,595 there were 54,718 mobile Internet subscribers or 33 percent of the population. Information on fixed line Internet subscribers varies according to source but in 2013 ECTEL estimated that about 42 percent of households in Saint Lucia were connected to fixed line broadband. Saint Lucia established an Internet exchange point (IXP) in 2014. An IXP is a critical component of telecommunications infrastructure that allows local Internet service providers to exchange locally-destined Internet traffic between their networks without cost - thereby reducing costs of Internet services. The communication sector contributed to 6% of the GDP in 2014. The IT sector is small and currently contributes minimally to employment and GDP but its contribution may be understated due to lack of proper survey data and documentation from the sector.</p> <p>Saint Lucia is not listed in the 2014 Global Information Technology Report, which provides a comprehensive assessment of networked readiness, or how prepared an economy is to apply the benefits of information and communications technologies (ICTs) to promote economic growth and well-being. (148 countries).</p> <p>Saint Lucia ranked 104 in the 2014 Global E-Government Rankings which assess the availability of online services; telecommunication infrastructure and human capacity. Saint Lucia has slipped 14 places in the past 2 years. (For comparative purposes, Barbados is ranked 59<sup>th</sup>).</p> <p>Saint Lucia developed a five-year National ICT policy and strategy (2013-2018), which was approved by the Cabinet in 2013. The strategy outlines many initiatives across several sectors. With respect to ICT as a business, 3 main objectives are noted: the establishment of an ICT and software development incubator; capacity building and training for private sector ICT professionals, and the development of an ICT professionals database. However, the strategy focuses on the enabling environment for ICT use in Saint Lucia and does not pay attention to the development of the sector in terms of commercial prospects.</p>
<p><b>Potential economic impact for Saint Lucia</b></p>	<p>The function of the ICT services sector generally and for Saint Lucia is two-fold:</p> <ol style="list-style-type: none"> <li>(1) The ICT sector functions as a key <b>enabler</b> for virtually all other sectors of the economy. The availability of high-quality ICT infrastructure, including high-quality ICT services is essential in particular for sophisticated high-value services of interest to Saint Lucia, from financial services and sophisticated business-support services to cultural and entertainment services. ICT is a tool for services exporting and international marketing across sectors.</li> <li>(2) The ICT sector is also <b>itself a high-value industry</b>. Not least because the industry is globally growing at speed, the potential impact of an evolving local ICT services industry on Saint Lucia is significant, even if Saint Lucia only manages to capture a very tiny part of the local, regional and international market.</li> </ol> <p>The Government of Saint Lucia (GOSL) has recognized the importance of the sector and has undertaken several initiatives over the past few years to ensure its development including: the elaboration of a National ICT Policy and Strategy 2013-2018; offering ICT Business Incubator Grants (EC \$1.6 million over 2014-2015); attempting to establish island-wide WiFi coverage (Soufriere now has WiFi); establishing community access</p>

	<p>centers across the island, and providing laptops to every secondary school teacher as well as every 3rd, 4th and 5th form student (Form 3 – 2,783; Form 4 – 2,917; and Form 5 – 2963 or a total of 8,663 laptops have been distributed to date). These initiatives may develop relevant skills in the economy but it is not clear what impact, if any, there is on entrepreneurship in the ICT sector.</p> <p>It is difficult to predict the particular impact that the growth of the ICT sector can have in Saint Lucia, particularly the capacity to export ICT-related services or IT-enabled services (ITES). This is due to the small size of firms in the sector and the lack of an international thrust by most firms. However, a few firms appear to be competitive and have clients in the wider Caribbean and further afield. But there is no clear international vision for the sector (such as in Mauritius, for example). Also, the industry does not seem to work in consortia or attract contracts and the ICT Association is quite weak compared to the Jamaica Computer Society, for instance.</p>
<p><b>Main players in the sector</b></p>	<p><u>Communication Technology Services</u>  Flow - <a href="http://discoverflow.co/saint-lucia">http://discoverflow.co/saint-lucia</a>  Lime - <a href="http://www.lime.com/lc/personal/home-st_lucia">www.lime.com/lc/personal/home-st_lucia</a>  Digicel - <a href="http://www.digicelstlucia.com">www.digicelstlucia.com</a></p> <p><u>Information Technology Services</u> – There are approximately 30 firms in this sector. The largest three are:  Converge Solutions -- <a href="http://www.convergesolve.com">www.convergesolve.com</a>  Innovative Business Solutions - <a href="http://www.ibsstlucia.com">www.ibsstlucia.com</a>  J E Bergasse – <a href="http://www.jebergasse.com">www.jebergasse.com</a></p>
<p><b>Associations and relevant entities</b></p>	<p>Saint Lucia ICT Association - <a href="http://www.ictassociation.lc">www.ictassociation.lc</a>  National Information Communications and Technology Office  Caribbean Regional Communication Infrastructure Project - <a href="http://www.carcip.govt.lc">www.carcip.govt.lc</a></p>
<p><b>Internal to Saint Lucia</b></p>	<p><b>Strengths</b></p> <ol style="list-style-type: none"> <li>1. Able to compete regionally and internationally on price</li> <li>2. A few well-established, sophisticated IT providers/exporters providing a launch pad for future development of the sector (pioneers)</li> <li>3. Significant national push towards broad IT literacy, especially among the young (island wide-wifi, laptops for students, community access centers)</li> <li>4. Native English speaking workforce, with cultural affinity to the North American markets</li> <li>5. Reasonable connectivity, reportedly in the process of being further improved</li> <li>6. There are IT subjects in the Caribbean secondary school examinations and ICT as a Caribbean Vocational Qualification CVQ and UWI courses (however, they are weak on real-world application/little hands-on training)</li> <li>7. New incentives for ICT businesses</li> <li>8. Average Internet and mobile penetration rates in terms of Internet access but high mobile telephone use.</li> </ol>

	<b>Weaknesses</b>	<ol style="list-style-type: none"> <li>1. Poor access to financing / no culture of venture capital or angel financing</li> <li>2. Little sector collaboration / weak association and Saint Lucian firms are not well-known internationally; lack information on the sector and reluctance by firms to provide such.</li> <li>3. Low general understanding of ICT and its application even amongst senior business managers/public sector officials and accordingly, low value placed on ICT services</li> <li>4. Significant human resource limitations &amp; lack of a skills database – unknown number of certified practitioners; revenue and number of people employed is small.</li> <li>5. Inadequate protection of intellectual property - software piracy is a major constraint to software development sector</li> <li>6. Apparent preference by public institutions for ICT services supplied by foreigners than locals</li> <li>7. High duties on mobile phones, tablets, computer parts</li> <li>8. Inequitable tax rates – i.e. 8% for hotels, 15% for IT services (and hotels enjoy long tax holidays and other benefits that are not extended to ICT businesses)</li> <li>9. High cost of broadband and unreliable/poor speeds, particularly mobile &amp; not keeping up with international trends, particularly mobile</li> <li>10. UWI graduates lack practical IT skills and experience in current industry applications</li> </ol>		
<b>External to Saint Lucia</b>	<b>Opportunities</b>	<ol style="list-style-type: none"> <li>1. World-wide growth of overall demand</li> <li>2. Increasing costs of services in traditional outsourcing markets, like India</li> <li>3. Increasing trend in working with ‘English as a first language’ service providers</li> <li>4. ICT training available online, often free</li> <li>5. Specific regional integration developments (e.g. OECS/CARICOM harmonization of governmental institutions, mechanisms) may provide specific demand for solutions which some providers are well-positioned to satisfy</li> <li>6. Digital entrepreneurs and “new business” developments in ICT noted as objectives in CARICOM’s strategic plan, thereby possibly ensuring a regional effort re. the development of this sector.</li> </ol>		
	<b>Threats</b>	<ol style="list-style-type: none"> <li>1. Worldwide sophisticated competition, rapidly growing</li> <li>2. Increasing connectivity leads to increasing competition through cross-border supply from worldwide sources</li> <li>3. Loss of qualified personnel / brain drain</li> <li>4. High cost of intra-regional travel stifles regional reach of Saint Lucian ICT consultants.</li> </ol>		
<b>Demand</b>				
<b>Potential Markets:</b>	<b>Characteristics of Potential Clients &amp; Mode of Supply:</b>	<b>Why interested:</b>	<b>Competitors:</b>	
<b>Saint Lucia</b>	While demand for ICT services in Saint Lucia is growing, it is not	Easier to master skills in local market.	Little to none. There are relatively few ICT businesses in Saint Lucia	

	<p>keeping pace with international demand or trends.</p> <p>There needs to be an increased understanding of the value and contribution of ICT to businesses and to the economy.</p>		<p>and little to no foreign competitors.</p> <p>There is, however, increasing global competition (online) including global online market-places which offer easily-accessible services to small businesses. (This could be a potential opportunity for Saint Lucian service providers).</p>
<b>Caribbean</b>	<p>For <i>communication</i> services, Lime, Digicel and Flow are obvious regional providers. Their businesses and markets carry a built-in regional logic, due to proximity, travel between the islands (roaming), etc.</p>	<p>The Caribbean is a natural market for ICT services from Saint Lucia.</p> <p>For many IT services, even those which rely primarily on remote delivery, physical proximity still matters to some extent as IT consultants occasionally need to operate physically at clients' premises.</p> <p>OECS/CARICOM regional integration will likely provide both direct opportunities for the development of solutions for problems prompted by integration itself (e.g. harmonized e-government solutions, cooperation and communication platforms, etc.), as well as indirect opportunities for specialization among OECS providers (economies of scale)</p>	<p>Regionally, Trinidad, Barbados and Jamaica offer the strongest competition, however, even in these markets, ICT services exports remain low.</p> <p>Saint Lucia has a strong regional reputation.</p>
<b>Canada &amp; USA</b>	<p>In principle, Canada and the USA are ideal markets in which to offer Information Technology Outsourcing, as well as IT enabled, Business Process</p>	<p>Same time zones, English- as-a-first-language service providers and comparatively low fees could potentially make IT services from Saint Lucia attractive.</p>	<p>The very nature of ICT services ensures global competition. India is a market well recognized for the provision of ICT services. Smaller firms are purchasing ICT services</p>

	<p>Outsourcing and Knowledge Process Outsourcing.</p> <p>The diaspora community can potentially act as an interesting anchor client base.</p> <p>For Canada, opportunities are likely to be enhanced (with a potential positive effect on demand) through a future CARICOM-Canada trade agreement.</p> <p>Opportunities will likely be greatest for tailor-made solutions and other specialized niche services. The offshore industries in Saint Lucia should also be explored as a source of opportunities. It may be worthwhile to commence export efforts on online marketplace platforms (Envato, Fiverr, etc.)</p>	<p>Clients may also require a level of regional, national expertise and those with business connections to Saint Lucia may prefer IT solutions from Saint Lucia (offshore sector, yachting visitors, etc.)</p> <p>However, service consumers from North America will likely require internationally recognized certification as Saint Lucia has not yet developed a reputation for IT services.</p>	<p>on online platforms.</p> <p>Aggressive marketing efforts (and world-class marketing materials) are necessary if ICT services providers are to successfully attract Canadian and American clients, as are recognized qualifications.</p>
<p><b>United Kingdom</b></p>	<p>As per above.</p>	<p>As per above.</p> <p>Opportunities – and hence, potentially demand – are generally enhanced through the commitments undertaken by the EU/UK side in the Economic Partnership Agreement (EPA). In particular, Article 83 of the EPA offers facilitated market access inter alia for providers of “computer and related services” (i.e. IT services) under “Mode 4” when providing their services into the EU as contractual service providers or independent</p>	<p>As per above.</p>

		professionals (i.e. as natural persons travelling to the EU to provide the services). Also, market access for investment by Saint Lucian providers in the EU in IT services is fully liberalized (while not important at this stage, possibly interesting as “bridgeheads” in the future).	
<b>Europe</b>	Language barriers outside of the UK will inhibit trade.  As per above.	As per above.	As per above.
<b>Latin America</b>	As per above (US/Canada), with less price advantage and less anchorage in diaspora community.  Business-links between Saint Lucia and Latin America are generally increasing, which provides opportunities for ICT firms to market themselves via their local clients.  Language barriers will inhibit trade.	With less price advantages and language barriers, Latin America is a less ideal market.	As per above.
<b>Saint Lucia’s competitive advantage or unique selling point?</b>	Saint Lucia is not offering any ‘unique’ services in this sector. However, Saint Lucian IT providers can compete on price versus their North American and European counterparts. Note however, that the 2013-2018 National ICT Plan indicated that there is an ICT skills gap which limits global competitiveness.		
<b>Cost comparison</b>	Competitively priced		
<b>Marketing and Promotion</b>	<b>Current Context</b>	<b>Other Considerations</b>	
<b>Existing channels</b>	Many (but not all) IT service providers in Saint Lucia have a website, however, barring perhaps the top three, the majority of these sites are not world class nor do they seemingly target	It may be useful to host a 1-day training course in ‘marketing to international clientele’.	

	international clientele. Most are largely passive websites.	
<b>New channels</b>	Social media is not being well-utilized in this sector. While several firms do have some social media presence, it does not appear to be well-maintained.	Given the complaint of IT service providers, that the public does not well understand the role or value of IT services, much more can be done by the companies to raise awareness via social media.
<b>Branding &amp; Advertising</b>	Minimal branding and advertising is being undertaken – ads in the newspaper, radio, yellow pages.  While national branding may not be relevant here, it would be useful, particularly on the Invest Saint Lucia website, to outline the range of ICT services available on the island.	It would be useful to undertake a public awareness campaign via the ICT association on the importance of ICT in business.
<b>Collateral marketing material</b>	Basic and limited.	
<b>Coordinated Strategic Plan (Stakeholders)</b>	Saint Lucia has developed a five-year National ICT policy and strategy, which was approved by the Cabinet of Ministers in 2013. The strategy outlines many initiatives across several sectors but it focused mainly on the enabling environment – connectivity, computers in schools, etc – not on commercialization of ICT.  A coordinated strategic plan, distinct from the National ICT Strategy and Policy, for businesses, BSOs and the government for the development of the sector <i>(1) as an industry, including (2) as an export industry</i> is highly desirable. This would be necessary to foster an industry-wide vision of the future.	
<b>Investment incentives</b>	An ICT Business Incubation and Training Grants project was launched in 2014. Under this initiative approximately EC\$1.6 million dollars was made available for ICT business start-ups. Activities in 2014/15 included launch and call for proposals for Business Incubator Grants, screening and evaluation of applications and award of grants. Of the total amount available, approximately \$1 million has been committed.  Invest Saint Lucia website indicates the following as incentives	ICT Business Incubation and Training Grants success stories: <a href="http://www.carcip.govt.lc/#!/testimonials/c1j88">http://www.carcip.govt.lc/#!/testimonials/c1j88</a>

	<p>for the ICT sector:</p> <ul style="list-style-type: none"> <li>• An attractive incentives package including a tax holiday of up to 15 years;</li> <li>• Duty-free concessions on imports.</li> </ul> <p>Investment opportunities outlined on the Invest Saint Lucia website include:</p> <ul style="list-style-type: none"> <li>• Voice and call centre operations</li> <li>• Business process outsourcing (BPO)</li> <li>• Knowledge process outsourcing (KPO) operations</li> <li>• Technology training institutions</li> </ul>	
<b>Standards and quality</b>	<p>The Electronic Transactions Act, the Data Protection Act, and the Computer Misuse Act were passed in St. Lucia, as well as an e-commerce policy.</p> <p>There are however, no professional standards for this sector. Some businesses have adopted international standards (e.g. Microsoft certification).</p>	Quality Management Systems should be a mandatory standard for any ICT business as done in Argentina. Government provides funding for this.
<b>Innovative marketing</b>	There are no innovative marketing examples in this sector.	
<b>International outreach strategy</b>	There are no good examples of international outreach in this sector, barring the efforts of Invest Saint Lucia.	
<b>Regional collaboration</b>	<p>Efforts have been undertaken by Caribbean Export to establish a regional ICT association, however, it is not active.</p> <p>Regional collaboration is undertaken via initiatives and organizations such as the Programme for Enhancing Competitiveness in the Caribbean through the Harmonization of ICT Policies, Legislation and Regulatory Procedures (HIPCAR), spearheaded by the International Telecommunications Union (ITU). This links OECS member states in common consideration of international standards in telecommunications legislation, regulations and related issues, as does the Eastern Caribbean Telecommunications Authority (ECTEL).</p>	

<b>Linkages with other clusters of economic activity</b>	While the ICT sector is linked to all sectors of economic activity as an enabler of other services, there does not appear to be active business-to-business, cross-sector collaboration. There is much scope for these types of collaborations.	
<b>Policy barriers</b>	<p>There are no excessive policy barriers. The sector receives positive attention from the GOSL but duties on ICT equipment/devices and taxes on the sector are a constraint to the further development of the sector.</p> <p>There is a fairly low uptake of ICT services by businesses, beyond the basic in-house accounting, point-of-sales and word processing. However, embracing of ERP/CRM, Data Mining and Analysis, etc., including government-to-business; business-to-business, business-to-consumer (G2B/B2B/B2C) are almost non-existent. As the major determinant of the direction of ICT and the largest consumer of ICT, the GOSL is in the position of being able to change this single-handedly, simply by offering many of their services online. This would have the effect of validating many of those inter-organization services, thus generating increased demand for local ICT services. It would also need to undertake a deliberate policy of engaging local service providers for the provision of those services, to avoid a simple wholesale move to appropriating those services from outside the local market, which would then simply relegate the locals to mere hardware repairs and cable connectivity. It would also provide opportunities for developing local capacity in cyber security and network security in general.</p>	<p>Government (GOSL) should develop locally and own their soft ICT assets.</p> <p>Government should undertake greater engagement of the local ICT sector agents, particularly in terms of determining the deployment of new technologies. This could be in the form of periodic forums involving discussions of planned initiatives and related technologies. Benefits would include knowledge transfer in instances where the private sector has already gotten involved in such technologies; ability to have open and frank discussion on choice of competing technologies and the benefit of experience; a greater awareness by government of the abilities and skills set which exist in the local marketplace; a heads-up to the local industry practitioners on potential areas where training may be desired in the near future, thus allowing them to be able to provide required expertise to support those new initiatives.</p>
<b>Administrative barriers</b>	Import duties on computer parts, hardware, mobile phones and tablets negatively affect businesses across sectors by raising costs and impeding ICT-driven innovation and efficiency. Duties on mobile phones and tablets impede rural integration and negatively affect businesses (e.g. social media updating, online bill payment, 24/7 work culture required for services exporters).	

<b>Business environment</b>	<p>Saint Lucia enjoys a fairly relaxed business environment, in which no real restrictions on business exist. The most significant challenges relate to the 'culture of business'. For instance, the lack of cooperation affects the ability of ICT businesses to attract and service bigger projects locally, regionally and internationally.</p> <p>Industry stakeholders report that there is in government procurement, a latent bias in favour of foreign providers of IT services, based apparently on an underlying assumption that Saint Lucian providers may not be good enough when it comes to important and/or complex IT projects. This is inaccurate (there are sophisticated providers in Saint Lucia) and needs to be corrected.</p> <p>Export focus is limited, restricting businesses to a small national market.</p> <p>Also, overall professional ethics/standards of workforce, outside of top-performers, may not be fully up to international standards.</p>	
<b>Regulatory environment</b>	<p>The ICT sector is not formally regulated in terms of standards and certification for professionals by national authorities but international standards are adopted and applied by some companies.  <a href="http://www.lexadin.nl/wlg/legis/nofr/oeur/lxweslu.htm">http://www.lexadin.nl/wlg/legis/nofr/oeur/lxweslu.htm</a></p> <p>Four acts have been passed by the GOSL which govern the digital environment:</p> <ul style="list-style-type: none"> <li>• E-Transaction Act</li> <li>• E-Crimes Act</li> <li>• Data and Privacy Protection Act</li> <li>• Freedom of Information Act</li> </ul> <p>But it appears that regulations have not been implemented so this is a constraint on the full development of online business</p>	

	and e-commerce strategies.	
<b>Human Resources &amp; Standards</b>	<p>The feedback from stakeholder surveys and sector consultations as well as the ICT Strategy note that the lack of skilled human resources in the sector is a “key challenge” in its development.</p> <p>“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.” ~ ICT strategy.</p> <p>Many ICT courses are being offered by the Government of Saint Lucia – including: NSDC (Cellular Technology, Microsoft Unlimited Potential, Computer Maintenance, IT Essentials); NELP (Information Technology beginner and intermediate); CSEC; CAPE (Computer Studies, Information Technology) and CVQs (Data Operations, Network Support, Computer Servicing and Support, Data Operations, Web Page Design, Network Technician Assistant, Computer Repairs Technician Assistant)</p> <p>However, IT education in Saint Lucia has been deemed to be inadequate by ICT professionals and businesses, noting a lack of hands-on and real-world training and a lack of skills in growing areas, such as mobile development and software development. A more intensive and early focus on <u>creativity/innovation</u> and <u>problem-solving</u> is needed.</p>	<p>There is a lack of functioning networks of IT professionals (consultants), nationally and regionally, which critically affects IT businesses ability to respond flexibly and dynamically to market demands. This could be remedied by creating a regional <u>platform/database of qualified IT consultants</u>. This could be done through a future ICT association, through government or – possibly – on a commercial basis by an individual provider.</p> <p>A national database is also required.</p>
<b>Gender and human resources</b>	<p>In schools at CSEC level, more boys than girls take Information Technology and achieve grades 1 to 3 in this subject. This is in contrast with most services-oriented school subjects in which fewer boys than girls participate and obtain high grades. Sex-disaggregated data are unavailable for higher and vocational skills education in ICT, but industry stakeholders indicated that most high-level executives in this</p>	<p>There is a need for expansion of IT training in schools and vocational training institutions, monitoring the numbers of males and females taking the subject and encouraging gender equity.</p> <p>A 2015 study on Gender Equity in ICT in St</p>

	<p>sector are male. ICT may be an important avenue for educational and job advancement for boys given limitations in other sectors in which boys are achieving most of the qualifications (e.g. Agriculture and Construction) and the growing international importance of this sector. It is also important for girls, including in the development of marketing opportunities for their other service-oriented activities. However, in 2014 only 531 students took IT as a CSEC examination subject, of which 56% were boys.</p> <p>In August 2015, at the one week ICT Fair and Hackathon organized by CARCIP, 242 young St Lucians were trained with 54% of them being female.</p>	<p>Lucia concluded that the lack of gender mainstreaming in ICT policies, programmes and plans, limits national capacity to create a more enabling environment for gender equity and equality in ICTs and other sectors to support national development goals.</p> <p>After two years of work, participation of women within the Caribbean Regional Communications Infrastructure Programme (CARCIP) has been generally low. The project's Business Incubator Grant process only saw 23% of its grantees being women, out of an original 50% target.</p>
<b>Financing</b>	<p>ICT business incubator grants were provided over 2014-2015, however there was seemingly an extended period between application and disbursement, which may result in lost opportunities.</p> <p>Otherwise, as small businesses (usually well below 10 operatives) IT service providers (as opposed to the much bigger telecoms (CT) providers) face the same financing issues as most Saint Lucian SMEs – most of which are owned by women. Access to financing has been noted as a key challenge to ICT service providers, as it is to small businesses in general.</p> <p>A specific challenge is the absence of any financing/fiscal incentives for research and development (R&amp;D). As a result the small IT service providers find it often impossible to invest in the development of new sophisticated IT services products/solutions. This leads to subsistence-type business structures, relying on a basic mixture of hardware retail and software support at the expense of the development of potentially lucrative innovative software solutions – which, invariably, impacts on a company's ability to export successfully.</p>	
<b>ACTION PLAN FOR BUSINESSES/PROFESSIONALS</b>		

	<b>Action to be Taken</b>	<b>Entities/Agencies Responsible</b>
<b>Preparing Business for Export</b>	<p>Identify services with the potential to be exported. These will often be niche products (e.g. specialized solutions), but possibly also more generic services where Saint Lucia business/professional can produce comparatively high quality at a lower rate (e.g. West Technology Group). Consider gender as an important dimension of niche marketing, examining the possibilities of developing different or modified products to primarily female and male customers. Also seek a balance between male and female owners and employees of companies receiving support for export preparation.</p> <p>Based on a review of the websites of all ICT service providers in Saint Lucia, marketing is not being targeted at an international clientele. Little information is offered on the websites that will help establish the credibility required by international clients. Marketing efforts must be world-class and persuasive.</p> <p>Set short term (e.g. pilot products, pilot neighbouring market) and long-term objectives. Develop an export business plan.</p> <p>Upgrade internal professional standards to ensure readiness to serve foreign clients. Seek international certification. Undertake online training.</p> <p>Monitor the websites of regional funding agencies and international financial institutions (IFIs) for opportunities in the sector – which are quite frequently advertised. This includes the Caribbean Development Bank, the Inter-American Development Bank, the Commonwealth Secretariat, Caribbean Export Development Agency, the OECS secretariat and the CARICOM secretariat, etc. Successfully serving these clients can help boost credibility.</p> <p>Begin exporting services on online marketplaces. Again, this helps build a portfolio of international clients served and will serve to boost credibility.</p>	<p>ICT Association  Individual companies  SLCSI  Ministry of Commerce  National Information Communications and Technology Office  TEPA  Division of Gender Relations</p>

<b>Market Research</b>	<p>Collaboration with SLCSI, Caribbean Export and TEPA in this regard may be useful. Desk-based research identifying trends and opportunities should be undertaken.</p> <p>IT providers have also identified standard business skills (e.g. accounting, marketing) as areas requiring support.</p>	
<b>International Business Plan</b>	<p>All ICT businesses seeking to export should develop an international business plan. Training should be provided in this area similar to what SLCSI provided through a consultant in 2013/14. Export coaching and marketing assistance is another area in which technical assistance can typically be sought.</p>	<p>Support can be sought from SLCSI and TEPA to this end. Services Go Global training offered by SLCSI supports international business plan development.</p> <p>Alternatively, strategic alliances can be sought with the management consultants.</p>
<b>Market Entry Strategies</b>	<p>Tourist clients can boost credibility by adding an international component to a portfolio. (i.e. satisfied customers include John Brown, Canada). Tourists are often successful business people. Seek to develop and exploit these contacts, where possible. Ensure that hotel staff is aware of your service offerings, should a tourist require IT services while on holiday.</p> <p>A firm offering a unique product (e.g. specialized software or app) can market via direct marketing.</p> <p>Consider 'who you know' in the target market or who you know working with your target market and tap into their networks or ask for a recommendation.</p> <p>Seek recommendations and testimonials and include these on website.</p> <p>All firms should proactively work with clients and other local firms who operate regionally/internationally, or have the potential to do so, to encourage cross-marketing/parallel marketing/joint product development (e.g. accountants, management consultants: applications supporting their advisory services; tourism operators: e.g. tourism-/travel-related apps, e.g. performers/music promoters: electronic platforms, etc.).</p>	

<p><b>Best Practices/Success Stories</b></p>	<p>Converge Solutions -- <a href="http://www.convergesolve.com">www.convergesolve.com</a>  Innovative Business Solutions - <a href="http://www.ibsstlucia.com">www.ibsstlucia.com</a>  J E Bergasse – <a href="http://www.jebergasse.com">www.jebergasse.com</a>  West Technology Group – <a href="http://www.westtg.com">www.westtg.com</a></p> <p>These companies were identified as leaders in the industry for their size, export experience and range of service offerings.</p> <p>See ICT Business Incubation and Training Grants success stories:  <a href="http://www.carcip.govt.lc/#!/testimonials/c1j88">http://www.carcip.govt.lc/#!/testimonials/c1j88</a></p>	
<p><b>Tasks for associations</b></p>	<p>The association needs to be reinvigorated. A good regional model is the Jamaica Computer Society - <a href="http://www.myjcs.com">www.myjcs.com</a> - which organizes training for its members as well as other events such as mobile app development competitions. Develop competitions with separate awards for males and females</p> <p>Tasks for the association should include:</p> <ol style="list-style-type: none"> <li>a) Strengthen relationships and encourage partnerships between national ICT firms and professionals</li> <li>b) Undertake awareness building to educate public re. the benefits of ICT services/ against using pirated software / standards in the sector / etc.</li> <li>c) Development of a national ICT directory (can be expanded regionally)</li> <li>d) Establishment of alliances with other regional ICT associations</li> <li>e) Adopt regional/international standards (consider developing a national ICT standard of excellence) and raise awareness regarding the value of the standard for both ICT firms/professionals and consumers</li> <li>f) Work with the government to upgrade the ICT Strategy, injecting a stronger emphasis on the ICT sector as a commercial sector itself with export potential.</li> <li>g) Lobby (in collaboration with the SLCSI)</li> <li>h) Identify and promote online training opportunities</li> <li>i) Identify and promote international opportunities.</li> </ol>	<p>The ICT association in collaboration with SLCSI can drive the establishment of an ICT incubator.</p> <p>Work with SLCSI and TEPA to facilitate members' access to continuing education, workshops, courses, scholarships etc.</p> <p>Work with government to develop vocational and school-based ICT education involving male and female students.</p>

<b>B2B cooperation</b>	<p>All firms should proactively work with clients and other local firms who operate regionally/internationally, or have the potential to do so, to encourage cross-marketing/parallel marketing/joint product development (e.g. accountants, management consultants: applications supporting their advisory services; tourism operators: tourism-/travel-related apps; performers/music promoters: electronic platforms, etc.).</p> <p>Establish a B2B platform with the support of the association.</p>	<p>ICT Association, SLCSI, TEPA</p> <p>Resources from CARCIP? Or Compete Caribbean?</p>
<b>ACTION PLAN FOR BUSINESS SUPPORT ORGANIZATIONS</b>		
	<b>Action to be Taken</b>	<b>Entities/Agencies Responsible</b>
<b>Advocacy</b>	<p>Present and promote Saint Lucia as a location for both ICT investment and as one offering high quality ICT services (which the offshore sector can utilize). Ensure that this information is captured online on the Invest Saint Lucia website (as well as others).</p> <p>Work with the ICT association to develop a national skills database in this sector.</p> <p>Support the ICT association's advocacy efforts.</p> <p>Discourage the use of pirated software.</p>	<p>ICT Association, Invest Saint Lucia, SLCSI, CARCIP</p>
<b>Training/Education</b>	<p>The development of the ICT sector will require both basic and specialized training. BSOs should:</p> <ol style="list-style-type: none"> <li>1. Identify areas where there is a lack of expertise (e.g. Mac repairs) or where specialized skills exist to develop these further</li> <li>2. Identify international trends and provide training in the most relevant areas</li> <li>3. Facilitate access to ICT and business training for ICT professionals and business owners, including through</li> </ol>	<p>SLCSI, TEPA, CARCIP</p>

	<p>major international IT companies (Microsoft, Oracle, SAP) which provide training on their products</p> <ol style="list-style-type: none"> <li>4. International capacity building opportunities (such as IT scholarships provided by India) should be actively promoted to ICT businesses, not only officials</li> <li>5. Develop projects and seek funding to support specialized training in collaboration with the ICT association</li> <li>6. Support the addition of ICT training to the national curriculum, integrating it in a variety of school subjects and encouraging increased participation of boys and girls in ICT specialized courses</li> <li>7. Support the establishment of a physical ICT incubator</li> <li>8. Strive for greater gender equality in the membership of the ICT Association and in candidates and trainees for capacity-building efforts.</li> </ol>	<p>The ICT Incubator model of Mauritius is a good example. Resources for this can be sought from Compete Caribbean or Saint Lucia's National Indicative Program under the 11<sup>th</sup> EDF?</p>
<b>Promotion &amp; Communication</b>	<p>Proactively research, and inform ICT businesses of, regional and international procurement opportunities (public or private)</p> <p>Facilitate partnering (consortium building) of St. Lucian businesses with other businesses or regional/international partners</p> <p>Promote ICT services to investors and potential investors</p> <p>Present and promote Saint Lucia as a location for both ICT investment and as one offering high quality ICT services (which the offshore sector can utilize). Ensure that this information is captured online on the Invest Saint Lucia website (as well as others).</p> <p>Work with the ICT association to develop a national skills database in this sector.</p> <p>Support the ICT association's advocacy efforts.</p>	<p>Invest Saint Lucia, SLCSI, CARCIP</p> <p>A national ICT skills assessment was done in 2011. CARCIP project should update this.</p>
<b>Public-Private Partnerships</b>	<p>Undertake workshops on intellectual property (IP) and IP</p>	<p>WIPO should be approached in this regard.</p>

	<p>protection.</p> <p>Support innovative ICT businesses in obtaining effective intellectual property protection for their solutions (selection of IP tools; registration at home and abroad; etc.).</p>	Also involve the Corporate Registrar's Office.
<b>Best Practices/Success Stories</b>		
<b>ACTION PLAN FOR GOVERNMENT</b>		
	<b>Action to be Taken</b>	<b>Entities/Agencies Responsible</b>
<b>Strategic Plan</b>	<p>The current ICT initiatives/projects of the GOSL are aimed mainly at providing access via devices and/or Access Centres. However, the fact that many persons now have an access device (smartphone) is being ignored, and also not being leveraged, both by the market and by the users themselves. Support need for public awareness programmes to address this shortcoming.</p> <p>Upgrade National ICT Strategy to include stronger industry and export focus or develop separate ICT Services Sector strategy.</p> <p>A policy position by public institutions to develop their own software assets is necessary for two reasons. 1 – custom software is the best way to ensure competitive advantage and best service delivery. 2 – purchasing software development services locally is the easiest way to “invest” and grow the software production industry.</p>	<p>Ministry of Education, Human Resource Development and Labour</p> <p>Ministry of Commerce, Business Development, Investment and Consumer Affairs</p> <p>National Information Communications and Technology Office</p> <p>Saint Lucia ICT Association</p>
<b>Market Access</b>	<p>Secure high levels of market access for ICT businesses and professionals (especially as “contractual service providers” / “independent professionals” in mode 4) to trade partners’ markets (e.g. Canada).</p> <p>Assist national ICT businesses and professionals to make use of corresponding opportunities in Europe already secured under the EPA (Article 83)</p>	<p>Ministry of External Affairs, International Trade and Civil Aviation</p> <p>TEPA, Ministry of Commerce</p>

	Ensure implementation of free movement provisions for professionals in OECS and CARICOM treaties	
<b>Business and Regulatory Environment</b>	<p>Ensure all procurement opportunities in the sector are advertised publicly and encourage any foreign consultants in this area to partner with local businesses to ensure a transfer of knowledge.</p> <p>Update the Electronic Transactions Act, 2011 to comply with the provisions of the UN Convention on Electronic Contracting;</p> <p>Enact and bring into force legislation on Data Protection including Privacy Impact Assessment and Health Information Systems. Introduce legislation on the issue of integration and sharing of data systems within and across administrations;</p> <p>Introduce Consumer Protection Guidelines for Online Transactions.</p> <p>Introduce a specific Electronic Evidence law;</p> <p>Introduce Freedom of Information legislation;</p> <p>Continue with policies and regulations to promote broadband access including the draft legislation from the on-going CARCIP project.</p> <p>Implement the WIPO Copyright Treaty which provides protection for (i) computer programs, whatever the mode or form of their expression; and (ii) compilations of data or other material ("databases").</p> <p><b><u>Timeline – December 2017</u></b></p>	<p>Ministry of Finance Ministry of Commerce, Business Development, Investment and Consumer Affairs</p> <p>Ministry of Legal Affairs, Registrar of Companies and Intellectual Property</p>
<b>Human resource development</b>	<p>Identify international trends and opportunities, as well as national skills gap. Ensure that what is being taught reflects the latter.</p> <p>Build on and further expand the various successful initiatives in the sector:</p>	<p>Ministry of Education, Human Resource Development and Labour</p> <p>TEPA, Ministry of Public Service, Information and Broadcasting</p>

	<ul style="list-style-type: none"> <li>• ICT Business Incubator Grants;</li> <li>• island-wide wi-fi;</li> <li>• community access centers across the island;</li> <li>• school laptop programme;</li> <li>• skills development programme.</li> </ul> <p>Ensure that an ICT curriculum is developed alongside the school laptop programme.</p> <p>When the GOSL engages in ICT training, typically under some project which deploys some ICT technology, such training should be extended to the private sector wherever possible (particularly when the training is being hosted or provided locally). This allows for a larger pool of potential expertise available both to the government and also within the private sector.</p>	SLCSI
<b>Finance &amp; Incentives</b>	<p>Continue to provide ICT grants. But the grants process needs to be streamlined and responsive to real-time business and market demands. It is too bureaucratic in its current form, leading to frustration and disinterest among ICT business grant applicants.</p> <p>Extend the Prime Minister's Awards programme. Offer monetary prizes for entrepreneurship in the ICT sector. Ensure awards for youth in the sector as well.</p> <p>Partner with national BSOs to host applications (app) development contests.</p> <p>Provide separate grants, prizes and awards for males and females in the ICT sector.</p> <p>Encourage win-win procurement opportunities by:</p> <ul style="list-style-type: none"> <li>• Proactively soliciting and sourcing local, tailor-made educational content for school laptop programme</li> <li>• Proactively soliciting and sourcing ICT solutions for the Saint Lucia tourism product (apps; websites;</li> </ul>	Ministry of Commerce, Business Development, Investment and Consumer Affairs CARCIP

	databases; games; SMS services; this may include very targeted solutions such as, for example, an app providing a self-health-check, leading to specific suggestions how and where the resulting spa/wellness needs could be satisfied).	
<b>Capacity-building of SMEs</b>	<p>Introduce ICT training as part of the school curriculum.</p> <p>Encourage educational institutions to train in the most relevant areas (based on needs assessment results).</p>	<p>SLCSI TEPA TVET Ministry of Education, Human Resource Development and Labour</p>
<b>Promotion Initiatives</b>	<p>Ensure that the strengths of the sector are noted on the Invest Saint Lucia website and encourage the use of national ICT services to investors and the expatriate community.</p> <p>The GOSL should initiate e-government programs that will speed up online access to all government services. This in itself will act as a stimulus to local ICT firms and professionals and in the long run will reduce the cost of government services and in some instances, can even help earn the government some revenue.</p>	<p>Invest Saint Lucia &amp; Ministry of Commerce, Business Development, Investment and Consumer Affairs</p> <p>Ministry of Finance and Economic Affairs Ministry of Sustainable Development, Energy, Science and Technology ???</p>
<b>Policy Coherence</b>	<p>Remove duties on computer parts, mobile phones and tablets. These duties impede productivity and innovation across all sectors. It is also perverse to tax technologies that increase labour productivity.</p> <p>Work with stakeholders to develop standards for the sector.</p>	<p>Ministry of Finance Ministry of Commerce, Business Development, Investment and Consumer Affairs</p>
<b>Public-Private Partnerships</b>	<p>Collaborate to establish an ICT incubator. There is a virtual one, but the private and public sector agree that a hybrid is necessary with both a physical space and virtual assets. Method of implementation needs to be defined. Saint Lucia should follow the Taiwan or Mauritian model in this regard.</p> <p>Establish a platform or facility where government and local businesses can seek solutions for problems identified. This</p>	<p>National Information Communications and Technology Office Saint Lucia ICT Association Ministry of Commerce</p> <p>ICT association, with support and buy-in by the GOSL and the Chamber of Commerce.</p>

	<p>platform can then use collaborative efforts to engage multiple players in developing innovative methods to develop ICT-based solutions, which can be jointly developed by local firms utilizing both local and foreign expertise. This will also help with driving demand for local-based software development, as it will allow for a focal point to determine demand and allow persons the opportunity to get involved with development, even though they may not be employed in a capacity of a software developer or with a software development firm.</p> <p>Develop a prestigious competition with attractive prize incentives for the development of Caribbean culturally themed apps such as games for children. This can be sponsored by one of the telecoms providers such as Digicel or Flow.</p> <p>Focus joint efforts on the development of a corps of animators in Saint Lucia in partnership with international companies such as ToonBoom that produce animation software. Expand the training under the CARCIP project with Malfinis Film and Animation Studio. This can significantly attract boys and young males who are not performing or not interested in other academic subjects and lead to the development of an animation sector with outsourced work from international companies. Explore options for collaborating with the Caribbean Animation Cluster funded by the Inter-American Development Bank under the Compete Caribbean program.</p>	<p>Resources should be sought from Compete Caribbean or CSME Standby Facility at CDB. This can be set up in a fairly short time and could be built before the end of 2016.</p> <p>National Information Communications and Technology Office, Chamber of Commerce, ICT Association</p> <p>National Information Communications and Technology Office, CARCIP, Ministry of Education, SLCC.</p>
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