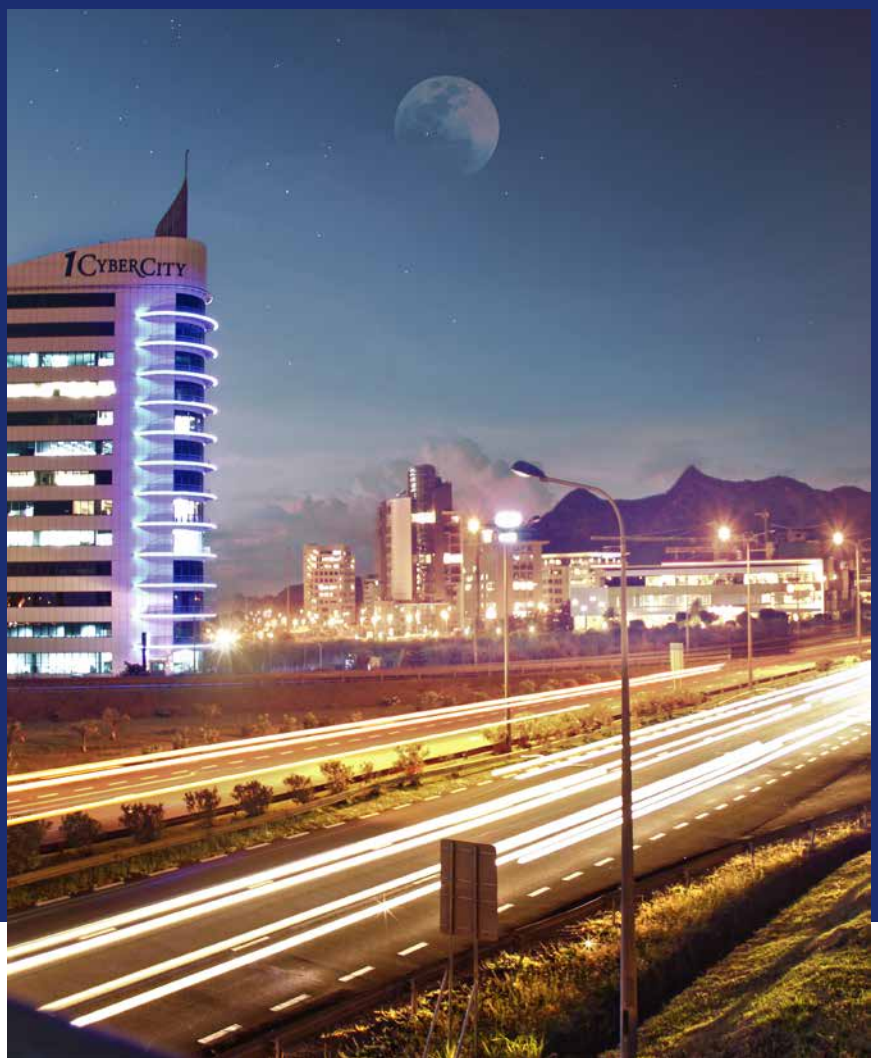
MAURITIUS

NATIONAL EXPORT STRATEGY

SOFTWARE DEVELOPMENT SECTOR

2017-2021



Republic of Mauritius

International Trade Centre

This National Export Strategy (NES) is an official document of the Government of Mauritius. The NES was developed on the basis of the process, methodology and technical assistance of the International Trade Centre (ITC) within the framework of its Trade Development Strategy programme.

ITC is the joint agency of the World Trade Organization and the United Nations. As part of the ITC mandate of fostering sustainable development through increased trade opportunities, the Export Strategy section offers a suite of trade-related strategy solutions to maximize the development payoffs from trade. ITC-facilitated trade development strategies and road maps are oriented to the trade objectives of a country or region and can be tailored to high-level economic goals, specific development targets or particular sectors, allowing policymakers to choose their preferred level of engagement.

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The International Trade Centre (ITC)

Street address: ITC 54-56, rue de Montbrillant 1202 Geneva, Switzerland

Postal address: ITC Palais des Nations 1211 Geneva 10, Switzerland

Telephone: +41-22 730 0111

Fax: +41-22 733 4439

E-mail: itcreg@intracen.org

Internet: http://www.intracen.org

Layout: Jesús Alés – www.sputnix.es

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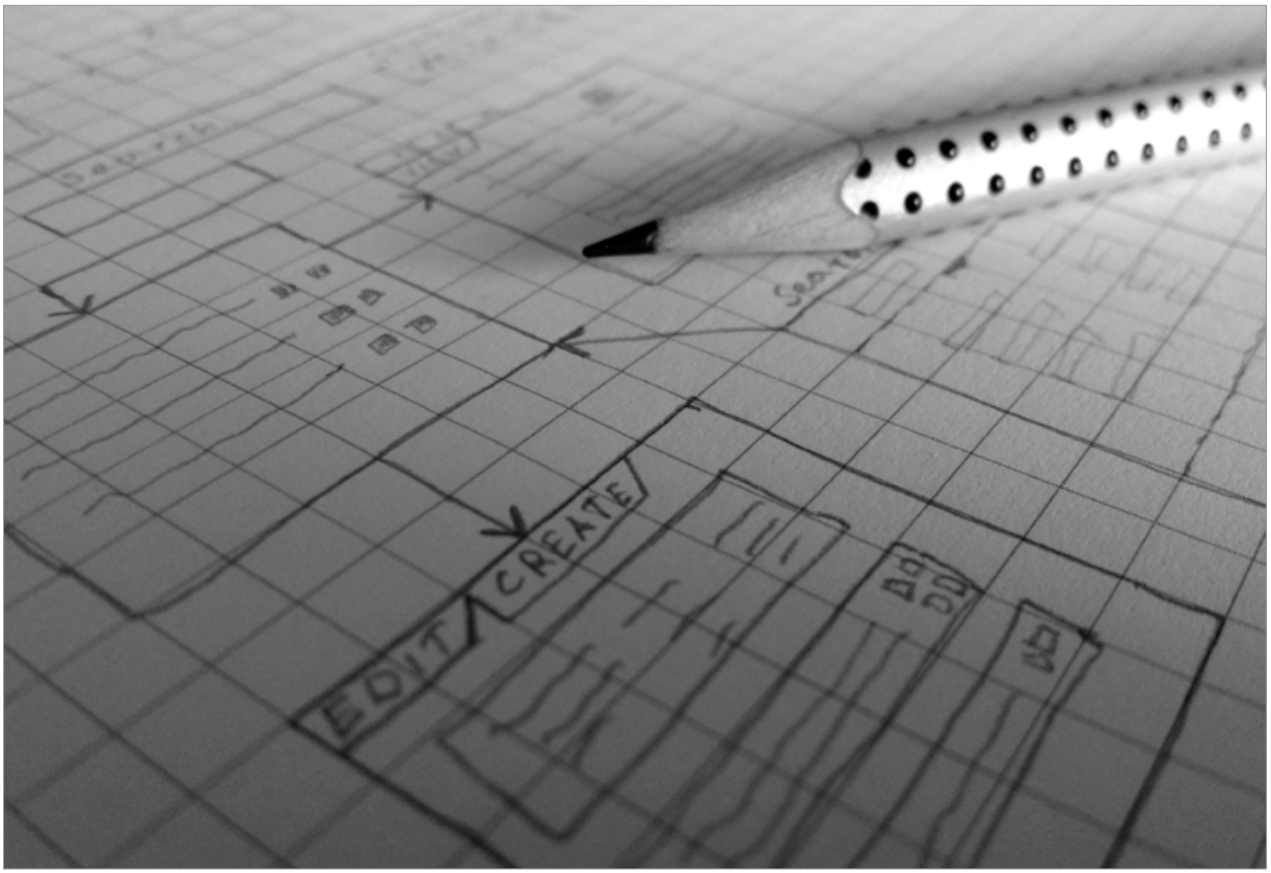
Name	Organization
Mr. Peter Neubert	Cisolve Ltd
Mr. Z. Noormohamed	Central Informatics Bureau
Mr. Vivagen Amoomoogum	Mauritius Chamber of Commerce and Industry
Mr. Raj Lalji	State Informatics Ltd
Mr. Chamroo Abedeen	A. Chamroo Ltd
Mr. Mario Gastaldi	Across Digital
M. Hugues Sauzier	Agileum
Ms. Pratima Sewpal	Board of Investment
Dr. Mahen Soobron	Central Informatics Bureau
Mrs. Kavita Ramdhary	Ceridien Ltd
Mrs. Rooma Narrainen	MCCI
Mr. Sobratee Aslam	Ministry of Education and Human Resources, Tertiary Education and Scientific Research
Mr. Y. Cader	Ministry Of Industry & Commerce
Mr. Ismael Limalia	National Computer Board
Mr. Kisen Daworaz	SMEDA
Ms. Rachna Dabeedial	State Informatics Ltd
Mrs. Stephanie Hoelzl	Tylers

Technical facilitation, guidance and support for the process were provided by the project team of the International Trade Centre (ITC).

Name	Function	Organization
Ms. Marion Jansen	Chief, Office of the Chief Economist and Export Strategy	ITC
Mr. Anton Said	Head, Trade Strategy Development Programme	ITC
Mr. Darius Kurek	Project manager	ITC
Mr. Rahul Bhatnagar	Project lead technical adviser	ITC
Ms. Claude Manguila	Project technical adviser	ITC
Mr. Reg Ponniah	Technical editor	ITC



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ACRONYMS

BRIC	Brazil, Russia, India, China
BPO	Business Process Outsourcing
COMESA	Common Market for Eastern and Southern Africa
EU	European Union
GTES	Graduate Training for Employment Scheme
HRDC	Human Resource Development Council
ICT	Information and communication technologies
IPR	Intellectual Property Rights
ITC	International Trade Centre
MCE	Mauritian Cooperative Enterprise
MITIA	Mauritius IT Industry Association
MoC	Ministry of Commerce
MQA	Mauritius Qualifications Authority
NES	National export Strategy
OTAM	Outsourcing and Telecommunications Association of Mauritius
POA	Plan of Actions
PPA	Public Procurement Act
SADC	Southern African Development Community
SES	Sector Export Strategy
SME	small and medium-sized enterprises
UNCTAD	United Nations Conference on Trade and Development
WITSA	World Information Technology and Services Alliance

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EXECUTIVE SUMMARY

Mauritius is on the cusp of a software industry revolution. Spurred by increased focus at the policy level of the segment, and robust initiatives at the enterprise level aimed at harnessing the collective strength of the sector, the sector is aiming high to become a reference point for software development services in the Africa region and beyond. The sector possesses an array of comparative advantages stemming from its intrinsic characteristics and recent developments: A trainable, bilingual, competent workforce including Mauritian youth available to boost the sector's human capital base if properly harnessed; A robust national business environment, coupled with a cognizance at the policy level that more needs to be done for the software development sector leads to an even greater enabling environment; Recent government-led investment initiatives in the African market such as Ghana, which enterprises can leverage for market penetration and business development; The highly relevant and timely establishment of the Mauritian Cooperative Enterprise (MCE), which involves several product and services sectors (including software development) coming together to form a multi-disciplinary consortium that can offer a strong value proposition to international clients and aiming to form a presence in 20+ African markets in the next two-three years; Mauritius's strategic location (and strategic involvement in trading blocs such as the Southern African Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA) offering options for firms to become reliable partners in Africa.

These and many other factors make it feasible for the sector to realize its long-term vision. However, there are significant constraints to overcome as well, as indicated in the following sections.

Mauritius: a small player in a fast growing sector globally

The total estimated spending on Computer Software and Services[1] was estimated at $1.2 trillion[2] in 2011. The combined proportion of Software Products and Services (the scope of this strategy) has hovered around 30% of overall spending. The software segment has proved to be more resilient than other ICT sectors such as computer hardware and communications.

In terms of consumption base, developed countries unsurprisingly account for the lion's share of expenditure, although the developing countries are quickly gathering steam. The software markets grew >more than 40% in India, China, Russia, and Latin America between 2008- and 2012 in contrast with developed markets which grew by 15%. Africa in particular shows promising growth.

In terms of exports, the sector has seen a rebound since the last 10 years and export levels stood at $215 billion in 2010. Ireland led the pack followed by India, Germany and the USA. Ireland is the leader both in absolute terms as well as in terms of exports relative to GDP (Israel, Costa Rica and India being the other leaders). In terms of importers, UNCTAD reports that the A, EU and Japan constitute the top three while the BRIC countries (Brazil, Russia, India and China) are in the top 10.[3]

1. The information in this section is based on the classification 62: computer programming, consultancy and related activities; division 63: information service activities, derived from ISIC Rev 4. These classifications do not include Business Process Outsourcing (BPO).

2. Information Economy Report 2012: The Software Industry and Developing Countries. United Nations publication. Sales no. (forthcoming). New York and Geneva.

3. Information Economy Report 2012: The Software Industry and Developing Countries. United Nations publication. Sales no. (forthcoming). New York and Geneva.

The value chain for the Mauritian software development sector comprises primarily small and medium-sized enterprises (SMEs) with a select few large firms. This relatively small sector employs between 3,000-5,000 employees (20,000-25,000 when the larger Business Process Outsourcing sector is considered).

Sector firms mainly deliver technology services only in Mauritius and are not well integrated within the export value chain with fewer than 10 firms estimated to be exporting members. Current exports focus on custom development and Oracle solutions-based work. Public procurement – government-led procurement initiatives such as e-government and workflow design – can be a significant market for firms, however, the sector has found it hard to compete with international firms that are better resourced and experienced.

In terms of business development, contracts have materialized mainly through adhoc, opportunity-driven initiatives on the part of companies rather than the deliberate result emanating from a long -term strategy. In a sense, the sector is rather starved for work as the larger client (potential) base prefers to procure established and off-the-shelf imported software and contract expertise from outside the country.

The key trends for this overall ICT sector (including BPO) are as follows:

1. The overall ICT sector contributed 6.4% to the GDP in 2014, up from 4.7% in 2002.[4] Much of this growth can be attributed to the BPO segment as opposed to the software development segment.
2. Total turnover generated for the ICT sector was MUR 33 billion in 2014, f which MUR 21 billion represents value added.[5] The contribution of the software development sector to this, while not calculated separately, is expected to be significantly less than the contribution by the BPO sector.
3. There is significant stagnation now in the sector and the indicators have dropped. Growth rates of the overall sector have dropped from 22% in 2004 to 6.6% in 2014.[6]

Many constraints impacting the sector

The Mauritius software development sector can best be characterized as currently existing in a survival-state, but not thriving. While a number of factors contribute to the general malaise, there are select root-causes including supply side constraints, key business environment constraints, market-side constraints and development-side constraints that have resulted in the sector retaining its small size and exhibiting low levels of growth, innovation, human capital and share in target markets.

At this critical juncture, the sector is faced with the following strategic questions:

1. How can Mauritian companies increase penetration in key markets (including African markets)?
2. How can linkages be formed with important sectors such as financial services and tourism?
3. How to spur the domestic markets and build confidence among the potential client base?
4. What kind of institutional support is required?

Vision

Reinventing the mauritius software development industry.

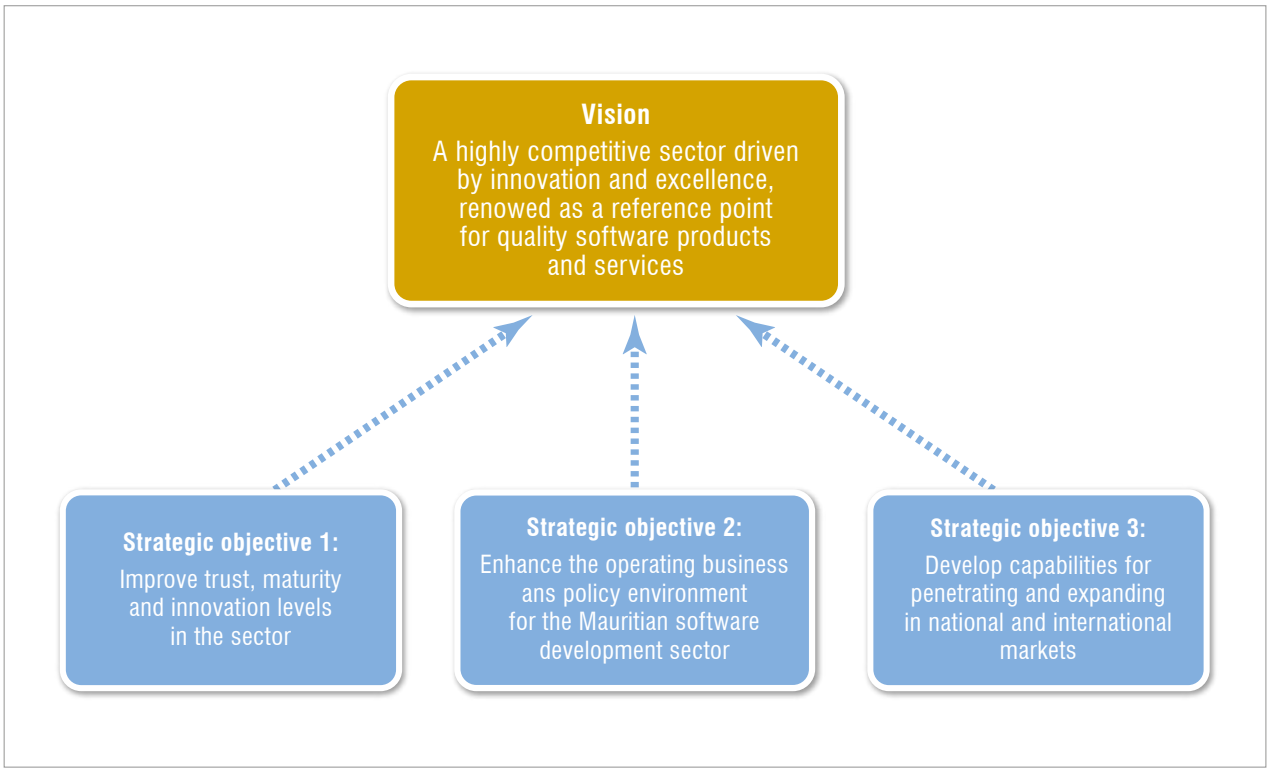
The following vision has been selected for the strategy:

4. National Computer Board. (n.d.). Making of Mauritius a Regional Hub and a Gateway to Africa.

5. Ibid

6. ibid

> “A highly competitive sector driven by innovation and excellence, renowned as a reference point for quality software products and services”



To achieve the vision, a strategic plan of action has been defined for the sector. The POA consists of three high-level strategic objectives that contain multiple operational-objectives. Operational-objectives in turn contain sets of activities which will be implemented. For each activity, key indicators in the form of priority level, implementation period, beneficiary information, targets, implementation partners (lead and supporting) and funding source (where applicable) are also indicated.

Strategic objective 1: Improve trust, maturity and innovation levels in the sector

The activities contained in this strategic objective are grouped under four operational objectives: *Improve institutional collaboration and trust levels, Spur business incubation and entrepreneurship in the sector, Spur Investment promotion in the sector, Improve human capital and talent retention in the sector*

Strategic objective 2: Enhance the operating business and policy environment for the Mauritian software development sector

The activities contained in this strategic objective are grouped under three operational objectives: Rationalize policy and regulations in order to spur sector to align with international best practices, Develop innovative financial products meeting needs of sector operators, and improve Institutional Coordination in the sector and ensure that structures are in place for efficient strategy implementation.

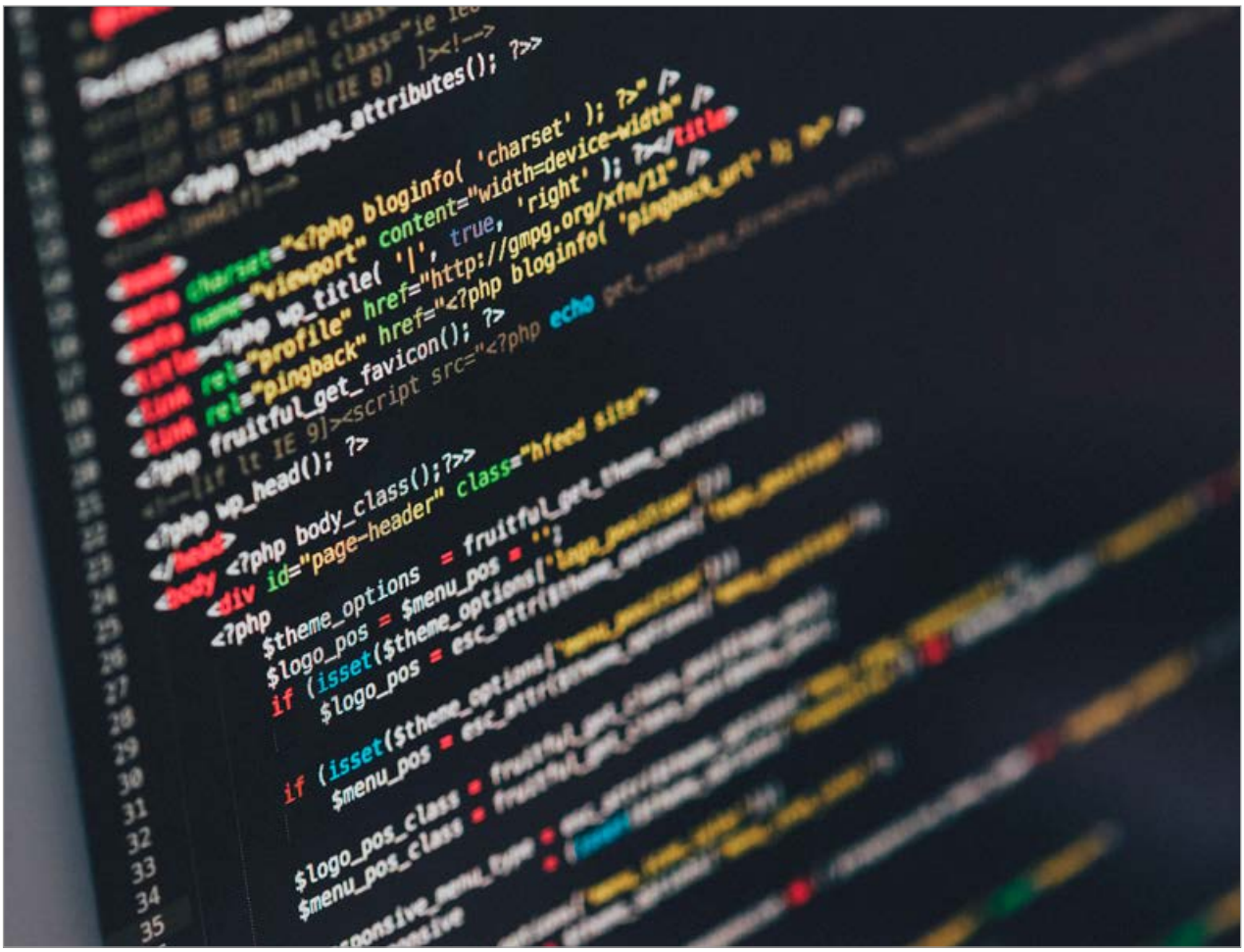
Strategic objective 3: Develop capabilities for penetrating and expanding in national and international markets

The operational objectives falling under this strategic objective are: Develop the domestic market as a driver of competitiveness, Develop strong enterprise level business development capabilities, and improve the brand for the sector in order to develop market awareness and make buyers trust the Mauritian value proposition.

The following are necessary conditions for the strategy implementation to succeed:

1. Consistent focus and support by the government:
   Unquestionably, the government will need to play an important and consistent role in two aspects – facilitating an enabling business and policy environment for software firms, and leveraging official procurement for developing a functioning market for Mauritian firms.

2. Robust Implementation management framework in place:
   A robust implementation management framework will be essential for sustainability of strategy implementation, not only for this sector but the entire NES portfolio. This would include a public-private steering committee that meets regularly to discuss progress of the strategy implementation.



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3. Improved Enterprise trust levels leading to fruitful collaboration:
   Enterprises will find it difficult to 'go-it-alone'. In the future, this status-quo will need to change and levels of trust and collaboration will need to improve. To a large extent, MCE activities will lead to increased collaborative activity out of necessity as firms will need to subcontract and work with each other to complete their components. Mauritius IT Industry Association (MITIA) will also need to play a stronger role in fostering improved collaboration among firms.

4. Steady pipeline of candidates seeking to pursue the IT profession:
   The IT sector does not attract sufficient talent and there is a high degree of brain drain stemming from trained professionals leaving the country. In the medium-long term, these trends will need to be reversed. As an intellectually driven skills-intensive sector, software development field will require adequate numbers of professionals trained in a variety of software skills to be available. This will ensure competitiveness and innovation.

5. Political and Economic stability in key markets:
   Stability in key target markets is an obvious prerequisite for maintaining client relationships, whether in developing countries which face both economic and political risk factors, as well as developed countries where recent economic downturns have led to disruptions. Iterative growth – building on and strengthening existing relationships – will be an essential model for software firms and this can happen only when markets are stable and growing.

The Mauritian software development sector will need to embrace significant challenges, in a quickly evolving operating environment both within target client countries as well as within competitor economies that are strong in the sector. Strong implementation management of the strategy over the five-year timeframe coupled with improvements across the supply-side, business-environment and market-development dimensions will serve to ensure that the sector can maintain strong rates of growth. The future is bright and definitely achievable.

GLOBAL TRADE OF SOFTWARE AND SOFTWARE SERVICES[7]

The total estimated spending on Computer Software and Services[8] was estimated at US$ 1.2 trillion[9] in 2011. The combined proportion of Software Products and Services (the scope of this strategy) has hovered around 30% of overall spending. The software segment has proved to be more resilient than other ICT sectors such as computer hardware and communications.

In terms of consumption base, developed countries unsurprisingly account for the lion's share of expenditure, although the developing countries are quickly gathering steam. The software markets grew >more than 40% in India, China, Russia, and Latin America between 2008- and 2012 in contrast with developed markets which grew by 15%. Africa in particular shows promising growth.

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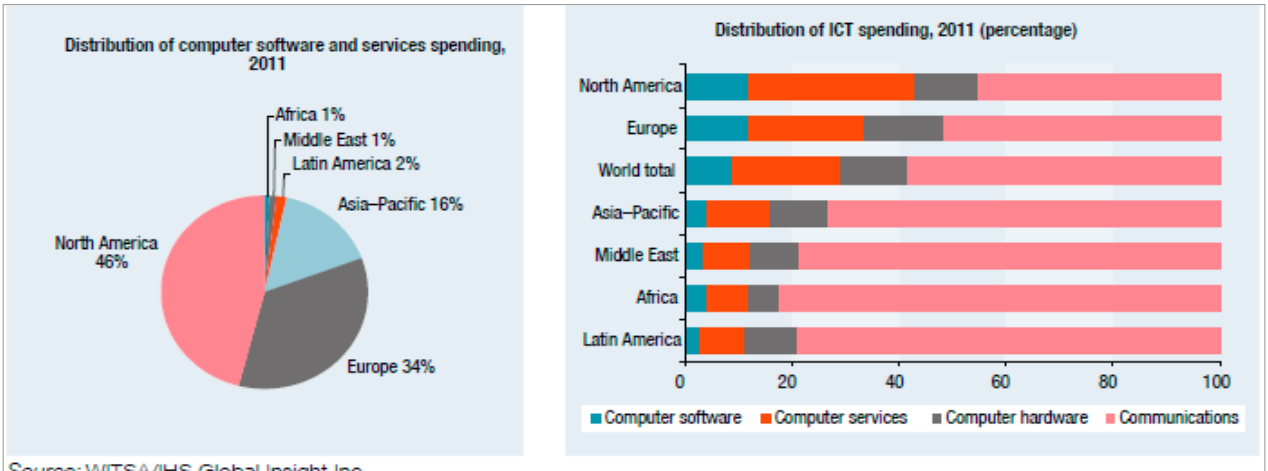
Figure 1: *Distribution of software products and services spending*

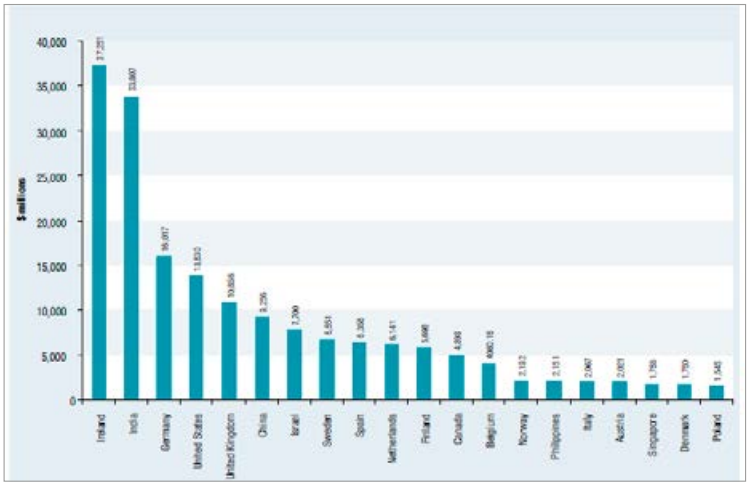


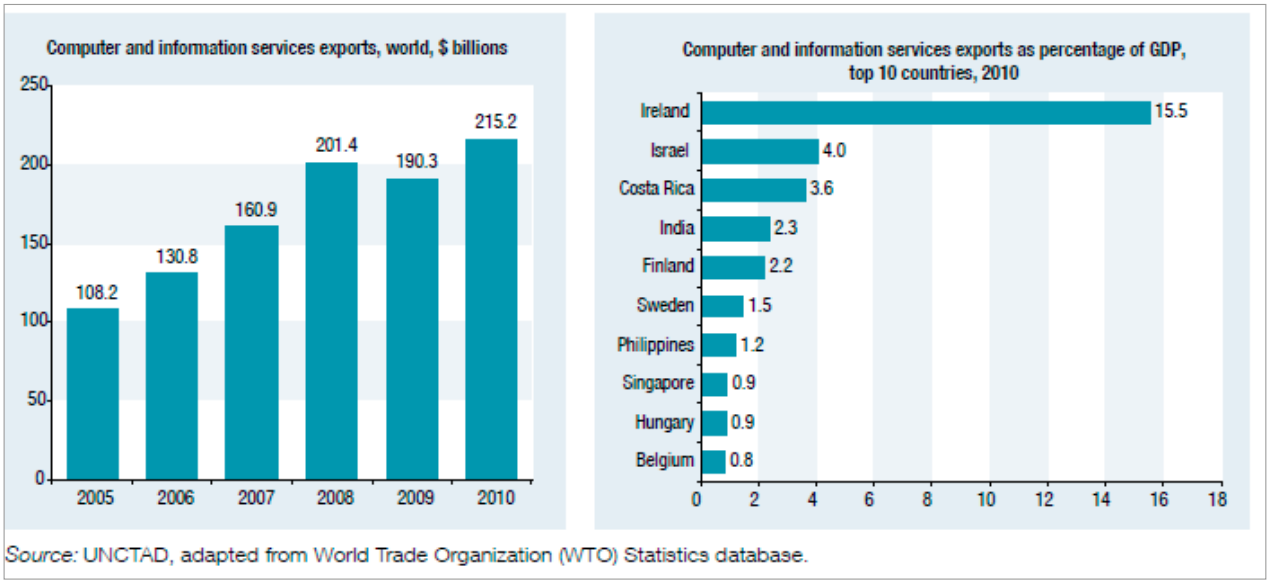
Source: WITSA/IHS Global Insight Inc.
Note: Regions correspond to those used in the source data (see annex table II.1).

Source: (UNCTAD, 2012)

7. Information in this section is based on analyses contained in UNCTAD. (2012). *Information Economy Report 2012: The Software Industry and Developing Countries.* . New York and Geneva.: United Nations publication.

Figure 2: *Export Trends for Computer and Information services exports*





Source: (UNCTAD, 2012)

Technical areas of growth in the sector

1. Cloud computing and online storage continues to be a major driver in the sector fueled by growth and innovation in BRIC countries, especially Brazil and China. UNCTAD reports that future growth will be fueled by firms moving data centres to hybrid public and private cloud infrastructure which will create further a market for application and infrastructure development. In Africa, there is a rising trend in the use of cloud computing for email, servers and networks in the retail, telecom and media sectors. High degree of mobile penetration and poor broadband connections are driving this trend.

2. Local Content is a significant driver considering that the proportion of non-English native speakers on the internet is rising fast and in line with the proliferation of internet access to rural and non-capital areas of countries where English may not be widely spoken. In line with rising economic opportunities in these areas, the demand for customized local content will increase as well. This holds significant potential for a multilingual country such as Mauritius that can cater to the fast growing African French, English market through localization and other value added services.

3. Mobile Applications accounted for a US$ 15-20 billion industry in 2012, driven by the high mobile penetration levels, expansion of broadband mobile networks, and increasing usage of smartphone devices on which a variety of mobile applications can be deployed. According to UNCTAD, there were more than 1 million apps in the market in April 2012 including 600,000 for Apple, 400,000 for Android and about 70,000 of windows phones. This number will continue to increase in the future.

4. The freelancing segment in the software-consulting sub-sector has grown more than 100% since 2010 and constituted a $1BillionUS b industry in 2012. A number of avenues such as odesk and edesk facilitate freelancers to bid for projects and secure work. This segment offers a high potential for young professionals and recent graduates to gain experience as well as potentially thrive as an entrepreneur.

5. The rise in social networking – comprising 1.2 billion users in 2012 – and high penetration levels among a diversity of consumer groups across the developed and developing world bode well for both companies wishing to push their services to consumers as well as software firms who can assist these companies in targeted advertisements, apps, games and other means.

6. Borderless trade is a much-vaunted positive when dealing with software exports. The related logistical challenges that physical goods face during distribution do not account for significant barriers to trade in the case of the software development sector. Economies such as State of Palestine which face tremendous border and trade facilitation challenges have been able to carve a niche in software development and export precisely because of two key success factors – good broadband connections and a relatively well-trained workforce. The borderless model is especially relevant for small firms and consultants who can potentially offer services as subcontractors and link up through the national value chain to the global value chain for this sector.

7. The world is experiencing a youth dividend, and this is especially true for Africa. In 1950, Africa held 9% of all young people in the world and it is estimated that in 2050, approximately 29% of them (350 million young people) will be Africans.[11]The youth population in Africa is growing faster than in other regions of the world. Whereas the number of youth (15-24) on the continent was 294 million in 2000, by 2030, it is expected to be 750 million, which means that Africa will have a youthful workforce that surpasses China and India. Even now, more than 600 million people are under the age of 25, and 72% of the youth population lives on less than $2 per day.[12] More impact for youth is critical to achieving overall development aims. National governments are therefore seeking tangible ways to increase youth employment in this productive sector that will boost contributions to the economy as well.

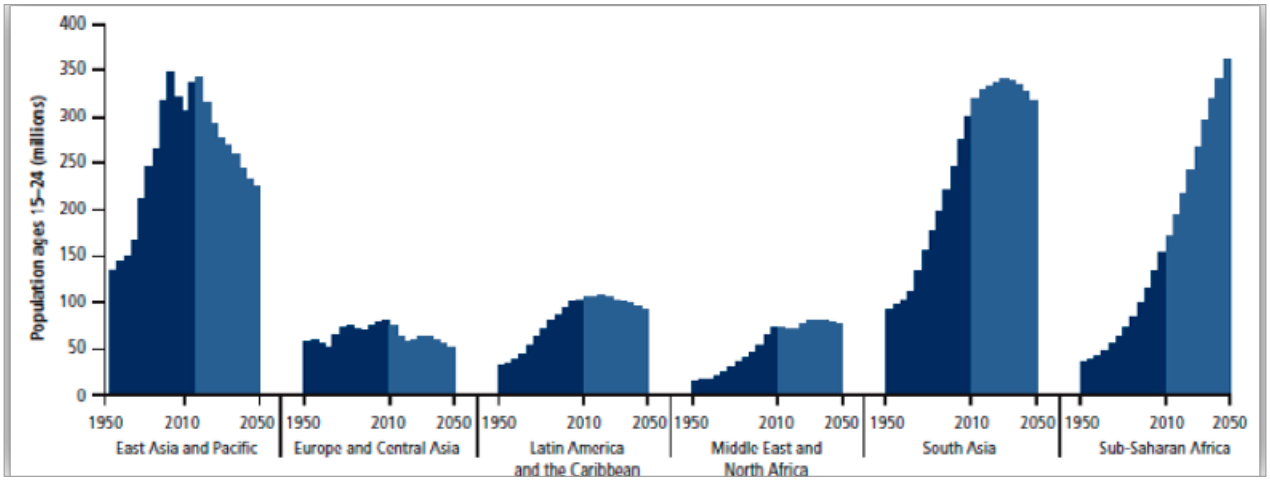
8. The rise of vocational technical training institutes offer job-seekers avenues other than 4-year bachelors and 1 and 2-year Masters programmes for pursuing options in Software Development. This has especially contributed to the growth and steady pipeline of qualified talent in success stories like India. These options also involve lower costs for the skills-seekers which is an important consideration for lower-income groups. The segment of technical training institutes itself can function as a profitable business space.

9. The role of government in facilitating a good regulatory and business environment, and in acting as a market through e-government and procurement initiatives is also important.

11. Erhardt, E. (2013). Youth in developing countries: A generation looking for work. *KFW Development Research* (4).

12. Africa Leadership Network. (2012, August 13). *Lifting up Africa by Empowering its Youth.* Retrieved from http://www.africanleadershipnetwork.com/our-perspectives/lifting-africa-up-by-empowering-its-youth/

Figure 3: *Number of young people (aged 15-24) in Sub-Saharan Africa in near future*



Source: OECD (2012) based on UN (2011)

Recognizing the value and potential of the software sector, governments have stepped through development of multi-year ICT specific strategies and policies that are aimed at enabling a conductive business environment – including investments. Governments have also acted as drivers of Intellectual property rights and regulation in their countries.

Additionally, governments have also launched e-government initiatives aimed at streamlining business processes of ministries, parastatals and other public agencies. Fostering Software Demand – through public sector ICT procurement helps domestic firms gain access to a significant market, gain experience and develop partnerships (because smaller firms often have to combine forces with each other or a bigger national/international firm to win contracts).

The public sector has also led establishment of incubators, technology parks and innovation hubs which can be replicated by the private sector.

Key barriers to development of the Software Development sector – global survey

The following are the main results from a global survey conducted by UNCTAD and World Information Technology and Services Alliance (WITSA) of ITC/Software Associations in 2012. The survey aims to identify the main barriers to development that different regions face.

- Across all regions, a key challenge cited was the limited access to venture capital. This is unsurprising given that this is the case even in developed economies. Competition for venture capital is intense, and investors have their own strict criteria based on which they choose to invest their capital.

- In the Middle-East and Africa region, the lack of government procurement of software and IT services is a concern. In developed economies, this form of market development is well established. It should be noted that the challenge can take a dual shape – either government procurement of such initiatives (such as e-government etc) has not been prioritized and therefore does not take place, or it is a case where domestic firms are unable to compete with larger international firms that are awarded contracts and there is limited form of partnership between the international awardees and smaller local firms that could partner up as subcontractors.

- Another frequently cited challenge is that of human capital. Here countries with mature and maturing software sectors have diverging challenges ending with the same goal. Where the former may face challenges in competition from peer companies that attract talent away from them (such as the case in India), the latter may face challenges owing to still-developing educational and training institutions or because of a strong skills-mismatch between the private sector and institutions mandated with churning out trained workers.

Barrier	Developed economies	Asia-Pacific*	LAC**	Middle East and Africa	Transition economies	All regions
Limited capabilities in domestic software/ IT services companies	13	38	45	43	50	34
Lack of qualified human resources	63	63	55	43	75	56
Limited access to venture capital	63	50	73	86	75	66
Weak demand among private enterprises for software and IT services	25	25	18	57	50	29
Lack of government procurement of software and IT services	13	50	45	71	50	44
Limited demand from export markets	13	25	18	29	25	22
Inadequate protection of intellectual property rights	25	25	27	14	—	22
High rates of software piracy	—	13	45	29	25	24
Unfavourable general business climate	13	13	27	14	50	20

Source: UNCTAD–WITSA Survey of IT/Software Associations, 2012.
Note: * Excluding West Asia; ** Latin America and the Caribbean. Based on 38 responses.

THE MAURITIAN SOFTWARE DEVELOPMENT VALUE CHAIN

ENTERPRISE BASE

The value chain for the Mauritian software development sector comprises primarily SMEs with a select few large firms. This relatively small sector employs approximately between 3,000- and 5,000 employees (20,000-25,000 when the larger BPO sector is considered).

MARKETS

Sector firms mainly deliver technology services only in Mauritius and are not well integrated within the export value chain, with fewer than 10 firms estimated to be exporting members. Current exports focus on custom development and Oracle solutions-based work. Public procurement – government-led procurement initiatives such as e-government and workflow design– can be a significant market for firms. However, the sector has found it hard to compete with international firms that are better resourced and experienced.

In terms of business development, contracts have materialized mainly through ad hoc, opportunity-driven initiatives on the part of companies rather than the deliberate result emanating from a long term strategy. In a sense, the sector is rather starved for work as the larger client (potential) base prefers to procure established and off-the-shelf imported software and contract expertise from outside the country.

TRADE SUPPORT INSTITUTIONS AND INSTITUTIONAL ASSESSMENT

The overall trade support network for Mauritius software development sector is considered for the Strategy as the aggregate institutional framework in the country, bringing together those trade and investment support institutions that have an interest in, or a bearing on, the development and competitiveness of the sector. Broadly, the trade and investment support institutions providing services to the sector can be categorized in the following support areas:

- Policy support network
- Trade services network
- Business services network
- Civil society network.

The policy support network comprises ministries and competent authorities responsible for influencing and implementing policies at the national level. These include the Ministry of TCI which is the umbrella policy setting body for the overall ICT sector.

Trade support institutions are technical agencies that provide a range of technical services to software firms across the value chain. These include banks, board of investment, Incubators and Accelerators and also the NCB. The NCB is a parastatal operating under the auspices of the Ministry of TCI and is mandated with spearheading development initiatives in the sector. The NCB provides guidance, entrepreneurship programmes (also related to incubators and accelerators), and other initiatives that are aimed at spurring development and innovation in the sector besides executing the policies set by the Ministry of TCI. The NCB operates with the vision: 'To e-power

people, businesses and the public sector by developing and promoting ICT and ICT-related services in Mauritius'.[13]

Business services associations include professional associations constituted of sector enterprises. For the software development sector, this primarily includes MITIA, founded by leading industry members and representing the interests of the sector. MITIA is also responsible for leading the conceptualization and development of the MCE.

Civil society organizations include the universities and training institutions that provide IT-based certificate and degree courses in the country.

INSTITUTIONAL ASSESSMENT

In terms of a qualitative assessment of the trade support network for the sector, the results are mixed.

- Individually, the support institutions are generally competent and provide reasonably good services, .However it is in the area of coordination and linkages with actors beyond the national component of the value chain (such as potential clients, associations overseas) that the supporting institutions are weak..
- There is a strong need to offset the skills mismatch issue existing in the sector. In this regard, MITIA and the industry in general should work with institutions that provide skills training with certificate and degree level education in the software sector to ensure that the industry and academia are in sync with each other.
- Another challenge (delineated in detail in the 4-four gears section) is that the software development sector has hitherto not been considered or emerged as a sector in its own right. Support instruments, whether policy or technical, are provided for the overall ICT sector which includes the larger BPO sector and this has to some extent overshadowed the software development segment in recent years.

13. NCB. (n.d.). *Vision and Mission.* Retrieved from National Computer Board: http://www.ncb.mu/English/AboutUs/Pages/Vision-and-Mission.aspx

ECONOMIC CONTRIBUTIONS OF THE SECTOR

As indicated in the four gears/competitiveness constraints section, there is a significant challenge associated with the lack of available disaggregated data for the software development sector. What is measured is the aggregate ICT sector that also includes the larger BPO voice and non-voice segment.

Overall, there has been a gradual increase in the absolute value and percentage of the contribution of the software development segment to the ICT sector, reflecting modest gains but there are reported slumps in the sector since 2011.

The key trends for this overall ICT sector (including BPO) are as follows:

1. The overall ICT sector contributed 6.4% to the GDP in 2014, up from 4.7% in 2002.[14] Much of this growth can be attributed to the BPO segment as opposed to the software development segment.
2. Total turnover generated for the ICT sector was MUR 33 billion in 2014, of which MUR 21 billion represents value added.[15] The contribution of the software development sector to this while not calculated separately is expected to be significantly less than the contribution by the BPO sector.
3. There is significant stagnation presently in the sector and the indicators have dropped. Growth rates of the overall sector have dropped from 22% in 2004 to 6.6 in 2014.[16]

14. National Computer Board. (n.d.). Making of Mauritius a Regional Hub and a Gateway to Africa.

15. Ibid

16. ibid

Figure 4: *Contribution of the software development sub-sector to the overall ICT sector in Mauritius*

	2007	2008	2009	2010	2011
Contribution of the software sub-sector to the overall ICT sector (Rs Million)	1,350	1,800	2,400	3,275	3,290
% contribution to the ICT sector	12	14	16	19	21

Source: (National Computer Board, 2013)

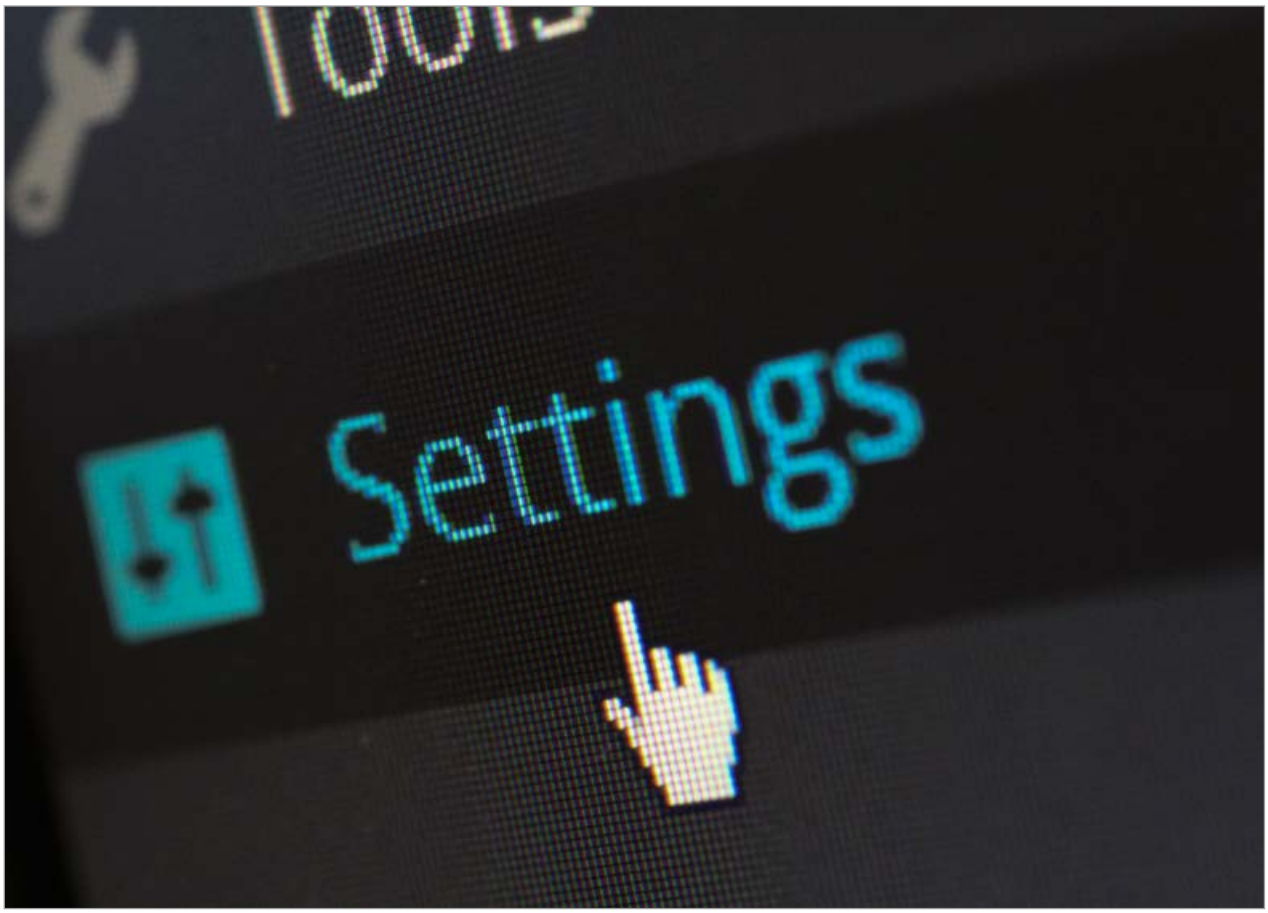


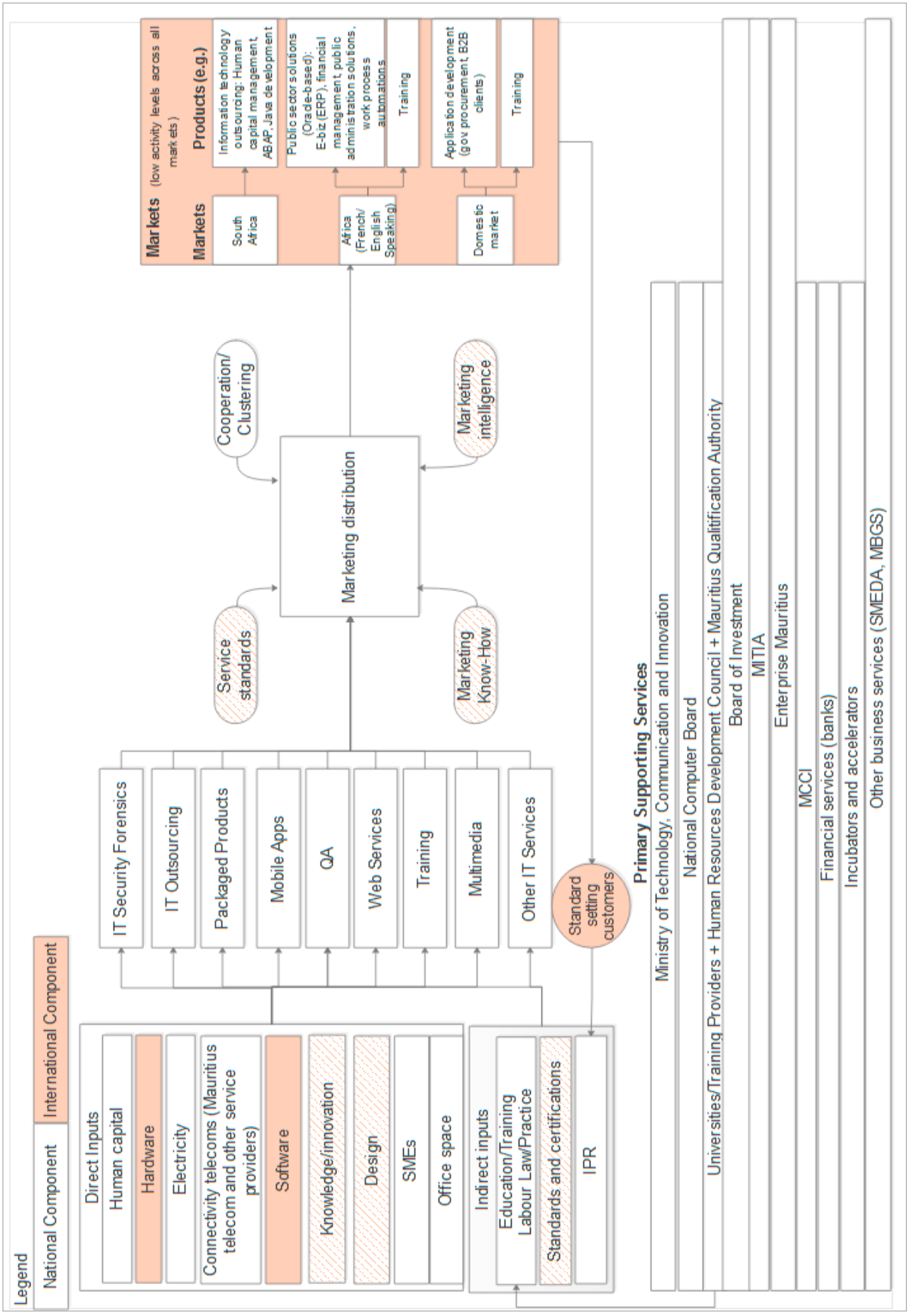
Photo: (cc) pixabay

The comparative advantage of the software development sector lies in Mauritius' stable business and investment environment, strategic location in the Indian ocean area, strategic involvement in trading blocs such as SADC and COMESA, reliable telecommunications infrastructure, bilingual population, and proximity to a robustly growing market in Africa etc. If cultivated and nurtured properly, the sector can indeed flourish. However, as indicated in the 4-four gears section, there are significant challenges and threats to the sector as well.

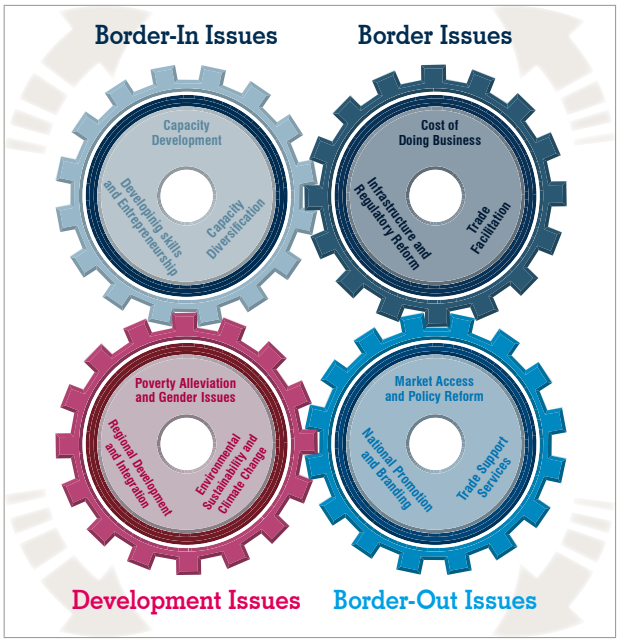
At this juncture, the sector is faced with the following strategic questions:

1. How can Mauritian companies increase penetration in key markets (including African markets)?
2. How can linkages be formed with important sectors such as financial services and tourism?
3. How to spur the domestic markets and build confidence among the potential client base?
4. What kind of institutional support is required?

Figure 5: *Current Value Chain*



COMPETITIVE CONSTRAINTS AFFECTING THE VALUE CHAIN



Traditionally, the scope of trade strategies has been defined in terms of market entry, such as market access, trade promotion and export development. This ignores several important factors in a country's competitiveness. For an export strategy to be effective it must address a wider set of constraints, including any factor that limits the ability of firms to supply export goods and services, the quality of the business environment, and the development impact of the country's trade, which is important to its sustainability. This integrated approach is illustrated by the four gears framework schematic on the right.

Supply-side constraints

Supply-side issues impact production capacity and include challenges in areas such as availability of appropriate skills and competencies, diversification capacity, technology and low value addition in the sector's products.

Business environment constraints

Business environment constraints are those that influence transaction costs, such as regulatory environment, administrative procedures and documentation, infrastructure bottlenecks, certification costs, Internet access and cost of support services.

Market access constraints

Market entry constraints include issues such as market access, market development, market diversification and export promotion.

Social and environmental constraints

Social constraints include issues related to poverty reduction, gender equity, youth development, environmental sustainability and regional integration.

SUPPLY SIDE CONSTRAINTS

The key supply-side constraints include the following:

1. Small per capita size of firms results in low absorptive capacity for the overall sector, resulting in an increased need for collaboration between sector enterprises
2. The sector faces significant shortage of quality and quantity of talent
3. Capacity diversification is stemmed owing to the small size of the domestic market
4. Strategic focus has been largely lacking in the sector
5. Existing skills gap is exacerbated by the lack of continuous feedback and exchange between the private sector, and institutions imparting training in software development

1. Small per capita size of firms and lack of trust result in low absorptive capacity for the overall sector, leading to an increased need for collaboration between sector enterprises

The Mauritian software development sector is mainly constituted of SMEs that cannot absorb a large project on their own owing to the inherent low absorptive capacities. This is leading to high opportunity costs in terms of both domestic and international projects on which Mauritian firms do not bid. The sector can benefit from increased collaboration between enterprises joining forces and bidding for larger projects together.

Trust between enterprises will also need to be strengthened if collaboration levels are to improve. Currently, sector firms see each other primarily as competitors rather than partners, operating independently in an already crowded market. There have been no successful examples of clustering in the past (although this may change now with the establishment of the MCE). Increased trust and collaboration will eventually be required for penetrating into larger markets.

- **Severity:** ● ● ● ● ○
- **Value chain segment:** Business Environment
- **PoA reference:** Activity 1.1.1

The sector faces significant shortage of quality and quantity of talent

The software sector is currently facing human capital challenges from a variety of angles. First, the sector does not attract the top-talent in the country and this starts early at the school level. Programming and other software segments are perceived by students as less attractive than fields such as finance and therefore they do not generally gravitate towards academic paths involving the software sector. There is also an expectation of high salaries among newcomers right from the start and Mauritian firms are unable to meet this expectation because of the realities on the ground. Owing to the aggregation of the software and BPO segments, there is also a significant perception among young Mauritians that the ICT sector consists only of the larger BPO segment.

Overall, there is a paucity of qualified human resources in the sector, exacerbated by the skills mismatch existing between academia and industry. As a result, there is a gap existing in what is taught in universities and the requirements of the firms as dictated by their current projects and trends in the marketplace. For instance, companies often have to find their own trainers to deliver training on specific software that are not being offered on the marketplace.

The sector also experiences a significant level of migration of qualified professionals from the country to other locations.

- **Severity:** ● ● ● ● ○
- **Value chain segment:**
- **PoA reference:** Activity 1.2.2, 1.2.3, 1.4.5, 1.4.6, 2.1.2

Capacity diversification is stemmed owing to the small size of the domestic market

Currently, the sector focuses primarily on the domestic market. The small size of this market has dictated the slow pace of capacity diversification in the sector i.e. firms struggle to meet operational costs and goals, and do not have the luxury (owing to low business volumes) to think strategically about diversification.

- **Severity:** ● ● ● ○
- **Value chain segment:**
- **PoA reference:** 1.1.1

Strategic focus has been largely lacking in the sector

Until now, there has been a marked lack of strategic focus in the sector. Firms are small, competing in a crowded domestic market and therefore their portfolio of projects are quite diversified rather than specialised and focused. While diversification is good, the trend for an average firm is to complete a particular project on a one-time basis and shifting to another technological area, which also serves to hinder firms to develop deep specialization in one particular area.

- **Severity:** ● ● ● ○ ○
- **Value chain segment:**
- **PoA reference:** 1.1.1, 1.3.2, 3.3.1, 3.2.7

Existing skills gap is exacerbated by the lack of continuous feedback and exchange between the private sector, and institutions imparting training in software development

Consultations are ongoing between academia and industry associations specifically to discuss the software development sector in recognition of the steep gap between the private sector (demand side) and the academia (supply side). The recognized challenge is that the curriculum tends to be more academic-oriented rather than practical and skills providers are slow to adapt to the needs of the private sector. There is also a requirement to establish a 'feedback loop' between the private sector and skills providers in order to maintain alignment of curriculums with the up-to-date needs of software firms.

- **Severity:** ● ● ● ● ○
- **Value chain segment:** Input
- **PoA reference:** 1.4.1, 1.4.6, 1.4.7, 2.3.1

BUSINESS ENVIRONMENT CONSTRAINTS

The key Business environment constraints include the following:

1. Clear institutional delineation of roles on promotion of Software Development is required
2. ICT Infrastructure requires to be upgraded
3. Internships and co-op programme should be focused on projects that are beneficial to both students and companies, and this is currently not the case
4. Additional impetus is required to raise awareness in schools on the software development area as a viable career choice
5. E-government initiatives – a potentially lucrative market for Mauritian firms – have been slow to get commissioned
6. Software development is not treated as a separate growth pillar on the economy and is instead aggregated together with BPO
7. Conversion programme designed to allow non-IT based individuals interested in transitioning to the software development sector need to be promoted better
8. Alternative models for skills development such as on-the-job training programme need to be employed
9. MITIA's visibility and portfolio of service offerings need of improved
10. Access to finance is a significant impediment for sector enterprises

Clear institutional delineation of roles on promotion of Software Development is required

There is an important need to define clearly the roles relevant to sector development, investment promotion, and exports promotion between entities such as Ministry of TCI, NCB, EM and BOI. This is also the case generally with other service sectors, but particularly detrimental to the software development sector because of the existing overarching aggregation in terms of policy, and exports/investment promotion with the BPO sector. There is a perception that there are too many institutional entities involved without clear delineation of mandates.

- **Severity:** ● ● ● ○ ○
- **Value chain segment:** Input
- **PoA reference:** Activity 1.3.2, 1.3.3

ICT Infrastructure requires to be upgraded

Internet services available to firms are currently unreliable (in upload and download speeds) and largely uncompetitive in terms of prices. The cost, reliability and speed of the internet connection have been called into question. This has affected the competitiveness of IT firms specifically in areas like cloud computing where connectivity has to be increased dramatically to provide quality service to data centres. There is consensus that the weak bandwidth may have already rendered Mauritius uncompetitive in the cloud business. It has also been reported that costs of telecommunication (internet and phone) are burdensome as well. This may be owing to the lack of sufficient competition in the sector, which has prevented costs from becoming competitive. This poses challenges not only to the ICT sector but other sectors as well.

- **Severity:** ● ● ○ ○ ○
- **Value chain segment:** Input
- **PoA reference:** Aligned with existing government initiatives occurring in parallel

Internships and co-op programme should be focused on projects that are beneficial to both students and companies, and this is currently not the case

Sector stakeholders recognize that internships are valuable to both companies and job-seekers only if structured properly. Currently, internships tend to be too academic and relatively short (i.e. fewer than six weeks). Ensuring an internship's alignment with the company's core focus areas and a sufficient duration for the internship will contribute to the translation of internships into tangible work opportunities, and potentially also to the IP development of software firms.

- **Severity:** ● ● ● ○ ○
- **Value chain segment:** Input
- **PoA reference:** Activity 1.4.3, 1.4.4

Additional impetus is required to raise awareness in schools on the software development area as a viable career choice

There exists an important need to create awareness among students on the software development sector as a career choice. This can be done through national career guidance from form 3 or earlier, so students can access ample information to choose the field in which they want to specialise (science, accounting, computer, art, etc.)

Also, there is a need for career guidance sessions to target the parents as well as they are big influencers when it comes to decide the field in which they want their children to pursue.

- **Severity:** ● ● ● ● ○
- **Value chain segment:** Input
- **PoA reference:** Activity 1.4.3

E-government initiatives – a potentially lucrative market for Mauritian firms – have been slow to get commissioned

E-government initiatives offer a significant market opportunity for Mauritian software development firms. In recent years, select initiatives have been implemented in this area, and others including payment of traffic fines, car registration, etc. can follow. To translate this into action, a strong vision from the government is required. Additionally, inter-ministerial collaboration is essential since such initiatives typically involve workflow processes such as bi-directional information sharing and sequencing of activities. Therefore it is important to getting the green light quickly on such initiatives.

- **Severity:** ● ● ● ● ○
- **Value chain segment:** Market side
- **PoA reference:** Activity 1.3.1, 3.1.3

Software development is not treated as a separate growth pillar on the economy and is instead aggregated together with BPO

There are no separate statistics collected for software development, which hinders decision making for the subsector as well as points to the high degree of aggregation of the overall ICT sector. The sector is also not as visible compared with the BPO sector owing to its small size and overall aggregation with other segments of the ICT sector. Software development sector firms have expressed an interest in a separation in terms of information collection as well as policy development, so that the sector can develop in its own right. With separation in terms of policy, information and other dimensions, focused interventions can be developed for the subsectors.

- **Severity:** ● ● ● ● ○
- **Value chain segment:** Business Environment
- **PoA reference:** Activity 1.2.1, 2.3.2, 2.3.3, 2.3.4

Conversion programme designed to allow non-IT based individuals interested in transitioning to the software development sector need to be promoted better

Better coordination with industry associations and the private sector is required so training is aligned better with the requirements.

Communication about the conversion programme is needed both from NCB and other institutions so it can be provided to interested candidates. NCB has already signed an agreement with the MCB to diffuse information about the various IT-conversion programmes available. The problem is that this medium may not be effective as many youngsters do not watch national television. As a solution, this information needs to be communicated through a variety of channels including social media.

Additionally, there is a need to review the tenets of the Graduate Training for Employment Scheme (GTES) programme (http://gtes.hrdc.mu/). Training institutions participating in this scheme are required to sign on under the condition that they do not make any profits, which render the scheme untenable for private training centres.

- **Severity:** ● ● ● ○ ○
- **Value chain segment:** Business Environment
- **PoA reference:** Activity 1.4.2

Alternative models for skills development such as on-the-job training programme need to be employed

While the skills mismatch issue is real and will take time to resolve, other avenues for skills development need to be employed as well. For instance, there is the need for companies to invest in the training of their own staff and not rely only on academic institutions to churn out trainees. As the capabilities in the sector grow, on-the-job training programmes would need to gain prominence especially given that the alignment between training institutions and the private sector will materialize only in the medium-long term.

- **Severity:** ● ● ● ○ ○
- **Value chain segment:** Business Environment
- **PoA reference:** All activities in Operational Objective 1.2

MITIA's visibility and portfolio of service offerings need to be improved

There is an important need for raising visibility of MITIA as the key representative body for the sector. Alongside, a set of robust and value-added services for members must be developed. Currently, the association is well-regarded but services are underdeveloped owing to financial constraints and dedicated support. MITIA is driven by volunteers and not structured through a dedicated secretariat. The role of MITIA as the normative representative body for the sector must be strengthened and made more visible.

- **Severity:** ●●●●○
- **Value chain segment:** Business Environment
- **PoA reference:** Activity 1.1.2

Access to finance is a significant impediment for sector enterprises

Access to finance is a challenge for the small-sized enterprises, which, apart from struggling to close business deals, are not in a good position to provide adequate physical collateral to banks. Enterprises also note that the financial instruments available are inadequate for the requirements of the sector.

- **Severity:** ●●●●○
- **Value chain segment:** Business Environment
- **PoA reference:** Activity 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.2.5

MARKET-SIDE CONSTRAINTS

The key market-side constraints include the following:

1. The domestic market needs to be developed further and made accessible for Mauritian Software firms
2. Poor use of market intelligence and research for opportunities in target markets is a significant gap
3. Productivity and marketing skills of enterprises are weak
4. Increase in market guidance and support required for SMEs

The domestic market needs to be developed further and made accessible for Mauritian Software firms

The domestic market offers significant potential for software firms in terms of developing customized software and tailored solutions. This potential is currently underused. For instance, the financial industry alone could serve as a strong market where, instead of each financial firm buying their own software from an international provider, the same software can be built in Mauritius itself and tailored to their needs. This can be applied to other sectors as well, e.g. government, retail, tourism, etc. The public, tourism, finance, manufacturing, and medical devices sectors have been identified as having special potential. These sectors are relatively unaware of the benefit of tying up with the local IT sector and the developed capabilities in the sector.

The government needs to ensure that local firms are provided adequate stimulus through government tenders where a mix of incentives and regulations promote partnership between international firms that can win bids and subcontract certain project components to local firms.

- **Severity:** ●●●●●
- **Value chain segment:** Market Side
- **PoA reference:** Activity 1.1.1, 1.1.3, 1.3.1, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5

Poor use of market intelligence and research for opportunities in target markets is a significant gap

The majority of Mauritian software firms do not have the expertise, or made the required investments in researching international markets. As a result, they lose out on potential bids and opportunities to expand their geographical reach. The root cause is owing to the focus on the domestic market and the capacity gap for conducting continuous market research.

Weak market intelligence and in-market support in target markets is an important obstacle to overcome. Lack of market information and market surveys makes it challenging for exporters to increase penetration in these markets. Although Mauritius has a relatively robust institutional presence in regional trading blocs such as SADC and COMESA, there is significant scope to improve on this for the software sector.

- **Severity:** ● ● ● ● ○
- **Value chain segment:** Input
- **PoA reference:** Activity 1.1.1, 3.2.2, 3.2.6, 3.2.6

Productizing and marketing skills of enterprises are weak

Mauritian software firms are good at developing software but are not good at productizing/standardizing/marketing the offer to clients. Different sets of competencies are needed. For a software solution to become ready to be marketed and distributed more generally it requires a different level of completion of the solution in terms of documentation, finishing and testing as well as real marketing materials and a proper distribution channel of sorts. These things are out of reach of most SME software developed in the market currently.

- **Severity:** ● ● ● ○ ○
- **Value chain segment:** Input
- **PoA reference:** Activity 1.1.1, 2.1.3, 3.2.4, 3.3.2

Increase in market guidance and support required for SMEs

As the supply capacities of the sector enterprises increase, the market side will also need to be proportionately improved. There exists an important requirement for SMEs to get more in-market support and business-development exposure in key international markets. The guided in-market support would need to take the shape of facilitated B2B sessions, increased participation in trade shows, and increased assistance by Mauritian consular and trade representations.

- **Severity:** ● ● ● ● ●
- **Value chain segment:** Input
- **PoA reference:** Activity 1.1.1, 1.3.1, 2.2.4, 1.3.3, 2.1.3, 3.2.1, 3.2.2, 3.2.3, 3.2.5, 3.2.6

DEVELOPMENT-SIDE CONSTRAINTS

The key development-side constraints include the following:

1. Young Mauritians are not keen to pursue a career in software development
2. Gender disparity exists in the Mauritian labour market and extend to the IT sector

Young Mauritians are not keen to pursue a career in software development

A perception of limited job opportunities in the software development space has contributed to a limited number of graduates opting for software engineering technical area. Also, given the relatively significant presence of BPO activities in Mauritius, the software development and BPO subsectors are frequently lumped together decreasing the visibility for the software development space. Thus, to get more young Mauritians interested in software development, there is a need to inform and educate job and degree seekers on the opportunities and potential in this sector.

- **Severity:** ● ● ● ● ○
- **Value chain segment:** Input
- **PoA reference:** Activity 1.2.2, 1.2.3

Gender disparity exists in the Mauritian labour market and extend to the IT sector

Gender disparities are prevalent in the Mauritian labour market evidenced through indicators such as the unemployment rates (female unemployment at 12.2% in 2013 compared with 5.3% for males) and activity rates (45.5% for women vs. 75.1% for men). Anecdotal evidence also suggests that a significant percentage of qualified female professionals (with a secondary or tertiary education do not seek employment). As a services sector which typically enjoys high level employment of both male and female across the world, the software development field in Mauritius will need to spur employment opportunities for women and in doing so offset the skills gap in the sector.

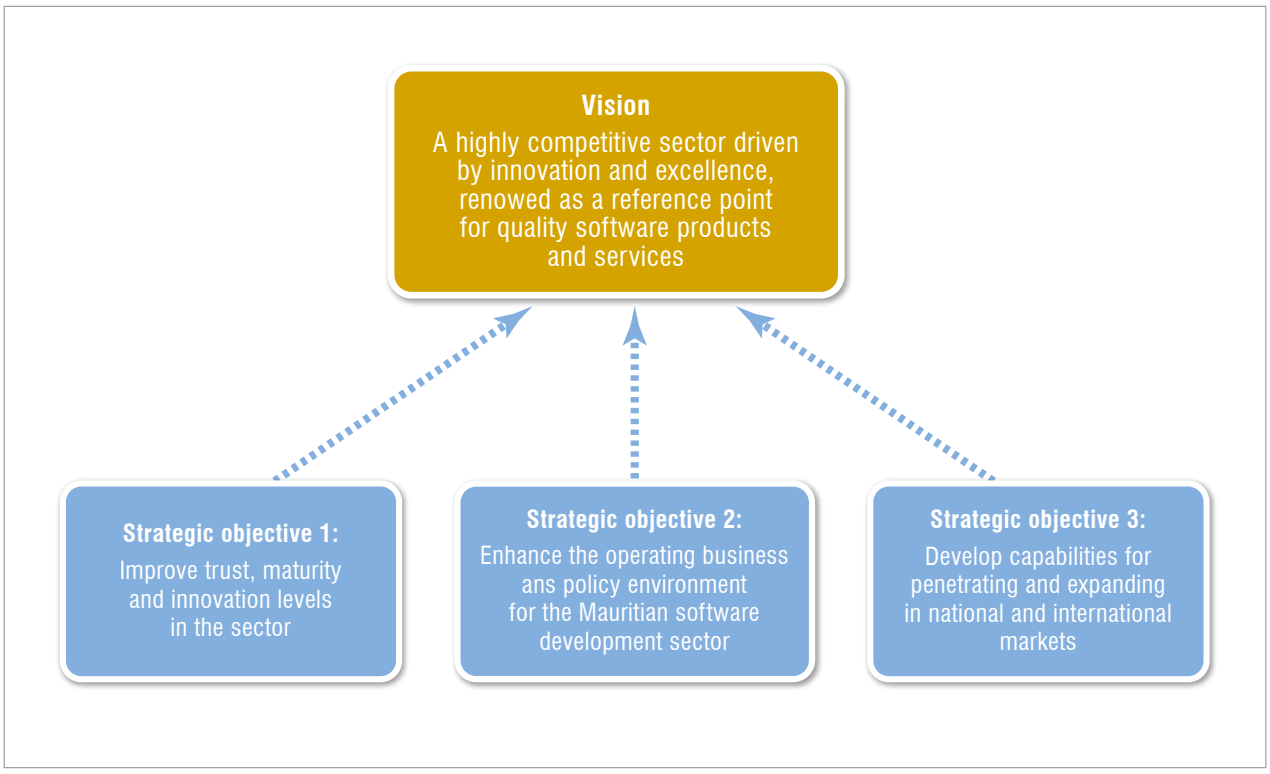
- **Severity:** ● ● ● ○ ○
- **Value chain segment:** Input
- **PoA reference:** Activity 1.2.2, 1.2.3

THE WAY FORWARD

VISION

Reinventing the mauritius software-development industry implied the following vision has been selected for the strategy:

To achieve the vision, a strategic plan of action has been defined for the sector. The PoA consists of three high-level strategic objectives that contain multiple operational-objectives. Operational-objectives in turn contain sets of activities which will be implemented. For each activity, key indicators in the form of priority level, implementation period, beneficiary information, targets, implementation partners (lead and supporting) and funding source (where applicable) are also indicated.



STRUCTURAL ADJUSTMENTS TO THE VALUE CHAIN

The following key changes are expected in terms of structural adjustments in the form of new, adjusted, or strengthened linkages in the value chain:

key changes in terms of structural adjustments

1. Well-aligned academia and industry resulting in strong technical competencies in the sector
2. IT awareness training integrated across the school infrastructure
3. Increased number of high-quality training providers
4. Highly organized enterprises stewarded by a strong sector association (MITIA)
5. Strong collaborative relationships of Mauritian subcontractors with international software firms
6. Increased awareness and interest cultivated among young Mauritians regarding the sector.
7. Comprehensive conversion programs support available for non-IT professionals to transition to the IT sector
8. Enhanced incubation and accelerator support for enterprises
9. Products are well-aligned and tailored to the current trends and requirements in select target markets
10. Increase in firms with internationally recognized certifications and compliance with standards
11. Increased diversity in the type of products offered
12. Strong linkages and business relationships cultivated with other economic sectors – particularly financial services, Tourism, and other MCE sub-sectors.
13. Strong consortium led (MCE) business-development and successful project delivery in target markets
14. Enhanced in-market support facilitated through government led Africa investments, B2B trade missions organized, and consulates and trade representation support
15. Robust branding and marketing for the software development sector
16. Disaggregated data collection for the software development sector conducted on a regular basis as a policy and information tool.
17. Improved access to finance through tailored financial solutions developed for the sector
18. Clear delineation established between BPO and software development segments regarding provision of services by public sector aimed at investment and trade promotion.
19. Policies and regulations in line with best-in-class examples in other countries
20. Robust institutional structures established for managing strategy implementation over the five-year timeframe

MARKETS

The sector's market reach is expected to expand in line with growth in capabilities over time as sector firms gain increased experience and expertise. It is expected that market penetration – the mode where increased business development and existing client relationships lead to expansion in existing markets – and product development – introduction of new products and services in existing markets – will be the key modes employed by firms to grow their businesses.

Over the medium-long term, it is expected that market-development (where firms sell existing products and services to new markets) and full-diversification (new products and services to new markets) will increasingly take place. These two modes are understandably more difficult to navigate through, and require significant levels of expertise, effort and resources. With ramping-up operations by the MCE, and support by the government in areas such as the cyber city initiative in Ghana, it is expected that firms will have a supporting framework in place to use these modes.

An important pre-condition and success factor is that the strategy implementation takes place as planned and the policy support framework remains conducive to progress.

Short-term (0-2 years)

Domestic Market: The Mauritian market offers potential for companies, especially if they can develop relationships successfully with sectors including Tourism, Financial Services, manufacturing and others. The sector has recently gained cognizance on the need to combine forces through development of consortiums that would bid together for projects. A key success factor will be marketing and fostering a willingness from companies to buy from the local software development firms. The financial services industry has an ingrained tendency to look overseas for solutions without considering local players and if a strong value proposition is offered – backed by solid delivery – this sector alone could offer strong potential. For instance, the few wealth management software systems available globally are expensive and Mauritian firms have proposed the development of a local version that could be proposed to clients in Mauritius.

Photo: (cc) pixabay

Aside from the private sector, the government is also expected to ramp up procurement services for e-government services, workflow (information flow) between ministries and other aspects. The e-government initiative has been stalled to some extent and a restart of procurement activities is expected in the near future.

Africa à Ghana: Mauritius has followed the Singapore model of government-led investments in countries which in turn can lead to business opportunities for national firms in a variety of sectors, organized as a consortium/ clustering set up. Through a recent initiative in Mauritius, a number of sub-clusters have been organized along product and services clusters aggregated to the MCE. ICT is one of the services clusters and through the government's decision to invest in Ghana, the software industry will follow in a clustering setup to bid for projects related to the development of a cyber city and other initiatives in the government's portfolio. Firms within the cluster will organize sub-contracting, project management and other necessary roles. To realize these opportunities, it will be essential to ensure good coverage, build a proper sales pipeline and channel and ensure correct delivery of services and projects so that a robust track record can be generated.

Medium-Long term (2-5 + years)

Africa: Africa holds great potential for Mauritian software firms in view of the rate of growth of the market as well as alignment with Mauritius' stated ambition of becoming the Gateway to Africa for investment and business. Mauritian firms can cater to both French-speaking and English-speaking Africa, thus having a comparative advantage.

Oracle-based public sector solutions, ranging from ERP, public administration tools, work-process automations, crime occurrence Tracking System, software for registering companies et care , gaining speed in the African market.

Project services – involving a gamut of services including niche packaged products, data capture tools and custom developed software – is an attractive tender-based segment with potential for both the public and private sector. Mobile applications are also a rising segment owing to the high level of smart-phone proliferation. Accounting software also has increasing potential.

According to an assessment conducted by NCB, Ethiopia and Rwanda are target countries holding potential in the immediate term, while medium-term candidates include Uganda, Tanzania, Zambia, Angola, Malawi, Lesotho and Zimbabwe. These target markets need to be investigated further and explored on a case-by-case basis.

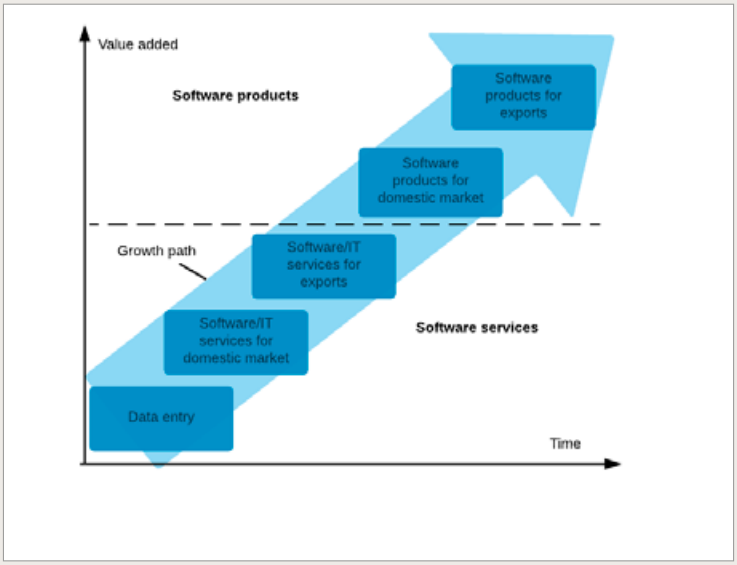
In the French speaking part of Africa, mainly on the west coast, Senegal and Ivory Coast also hold potential for Mauritian firms in the medium-long term. Mozambique is especially relevant considering the close economic ties with Mauritius, although the language barrier is expected to pose challenges.

Developed Economies: In the long term, Mauritian firms are expected to be able to penetrate the USA and European markets (in particular the United Kingdom and France) among developed economies. The main route to market is expected to be IT outsourcing through ABAP, JAVA programming, as well as potentially mobile phone applications development. Outsourcing is gaining pace in most developed economies and offers a significant opportunity for business.

Box 1: Typical evolution path of a software-development sector

The figure below indicates the typical evolution path of the software development sector along the twin dimensions of Value-addition (Y axis) and time (X axis). The level of value addition is usually directly proportional to the maturity level of the sector. Typically, operators start out with low value added (and lower revenue generating) services such as Data Entry services followed by Software/IT services for the domestic and then international markets in line with increasing competencies and experience levels. The growth path then extends to products – first for the domestic market, and thereafter for exports.

This is the case exemplified in leading countries in the sector such as India. This growth trajectory may somewhat be different for SIDS such as Mauritius where domestic and international market penetration may occur in parallel to some extent owing to the small domestic market size and a high degree of cognizance among companies on the need to expand to bigger markets.



Source: adapted based on image in (UNCTAD, 2012)

THE FUTURE VALUE CHAIN

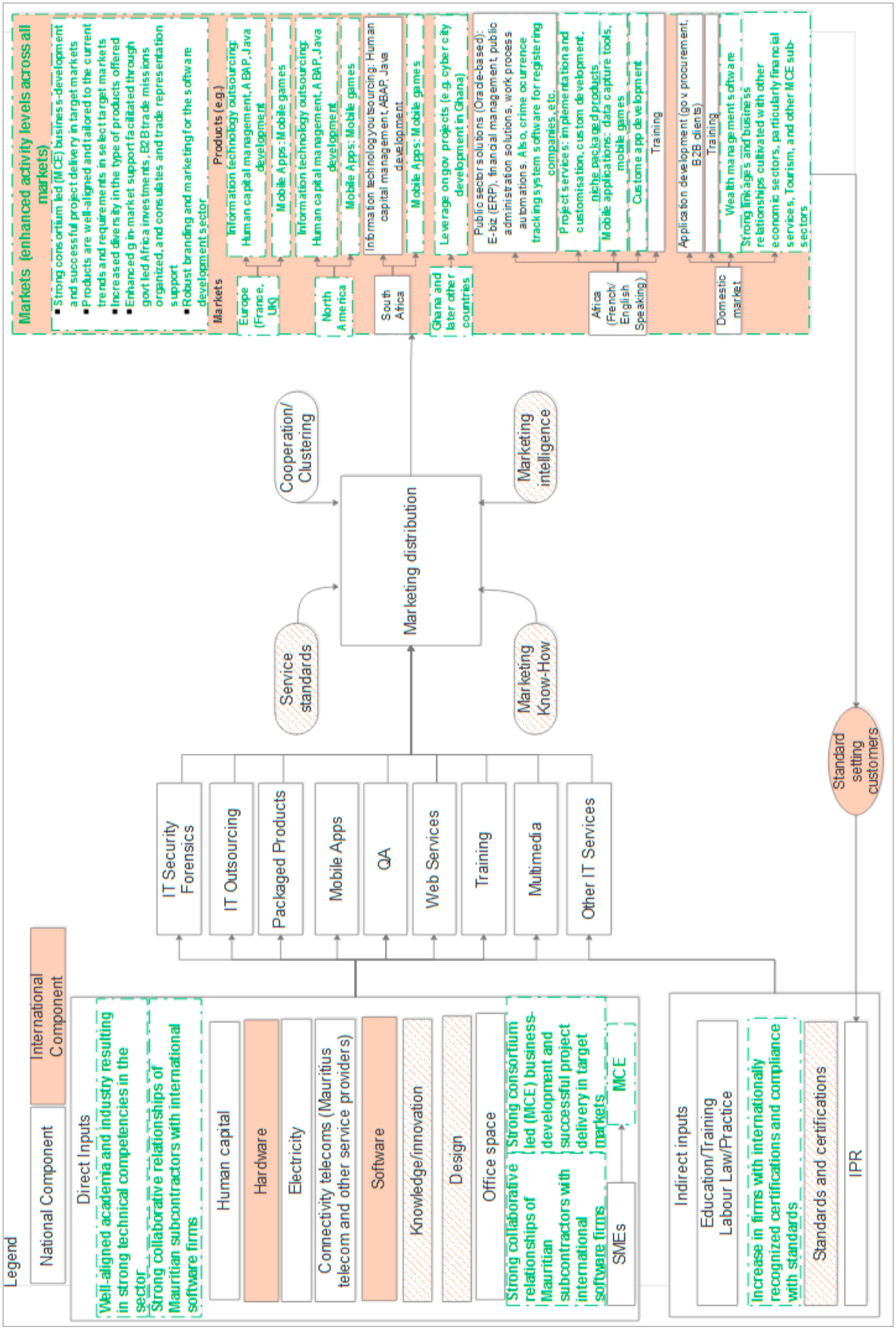
The future value chain reflects the expected impact stemming from implementation of the PoA activities over the next five years. The implementation of these activities will lead to a future state that is characterized by greater competitiveness across the value chain. As indicated in figure 6, the targeted efforts detailed in the PoA address the constraints identified in the four gears analysis as well as specific opportunities in target markets and product diversification.

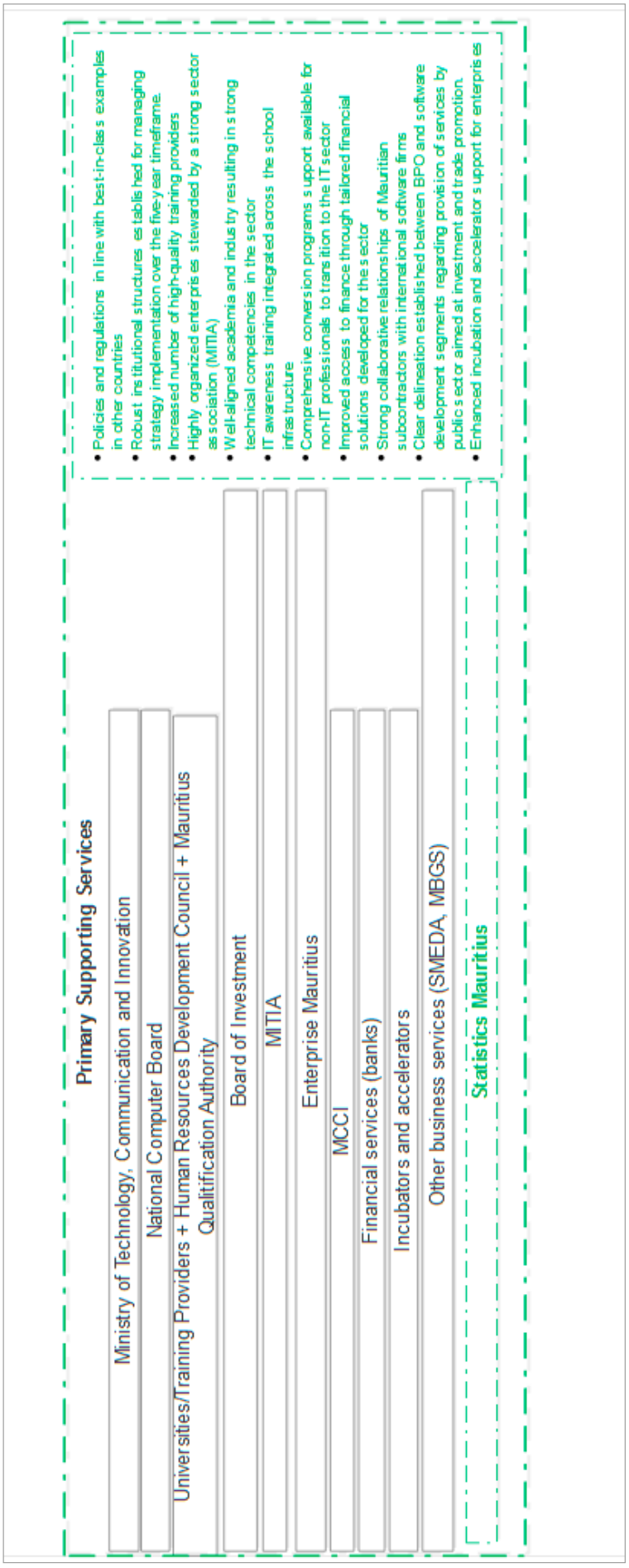
A diverse range of actors and enabling conditions constitute the national software ecosystem in a successful sector. The broad range of actors included in such an ecosystem includes individual firms, software associations, academia, developer community groups (as well as individual developers), and software users. The complex set of interactions between these groups informs the level of coordination, collaboration, product development and innovation that is occurring.

Enabling conditions include a robust vision coupled with enabling strategies and policies that foster cooperation, innovation, ease of doing business and other necessary factors. Policies include legal framework for conducting business operations and investments in the sector. The ecosystem must also by necessity involve global linkages with partners and consumers beyond the national borders.

The scope for improvements is immense and extends across the value chain. In some cases the scope involves strengthening of existing linkages as well as creation of new linkages and process flows. Market development will also be a focus area, aimed at developing domestic markets as well as other key market segments.

Figure 6: *Future Value Chain*




Primary Supporting Services
Ministry of Technology, Communication and Innovation
National Computer Board
Universities/Training Providers + Human Resources Development Council + Mauritius Qualitification Authority
Board of Investment
MITIA
Enterprise Mauritius
MCCI
Financial services (banks)
Incubators and accelerators
Other business services (SMEDA, MBGS)
Statistics Mauritius
• Policies and regulations in line with best-in-class examples in other countries
• Robust institutional structures established for managing strategy implementation over the five-year timeframe.
• Increased number of high-quality training providers
• Highly organized enterprises stewarded by a strong sector association (MITIA)
• Well-aligned academia and industry resulting in strong technical competencies in the sector
• IT awareness training integrated across the school infrastructure
• Comprehensive conversion programs support available for non-IT professionals to transition to the IT sector
• Improved access to finance through tailored financial solutions developed for the sector
• Strong collaborative relationships of Mauritian subcontractors with international software firms
• Clear delineation established between BPO and software development segments regarding provision of services by public sector aimed at investment and trade promotion.
• Enhanced incubation and accelerator support for enterprises

STRATEGIC OBJECTIVES

Strategic objective 1: Improve trust, maturity and innovation levels in the sector

The future state of the sector will be marked by a high degree of cohesiveness among sector enterprises stemming from ramp-up of activities of the MCE. The MCE aims to offset the inherent challenges associated with a small island developing state where the sector mainly comprises small-sized firms unable to bid successfully for large-sized projects. With additional sectors such as construction etc. involved in MCE, the value proposition to potential clients has increased significantly. With time and accumulated experience, individual firms will develop a robust track-record through subcontracts flowing through the MCE model, allowing them to develop stronger capabilities and scale up operations.

With sector growth, a strong industry association is essential. MITIA will be supported to adapt with sector requirements and will be in a stronger position to promote the sector, and provide value added services to member firms.

Over the strategy timeline, a variety of public-private partnership models will ensure that the sector receives and makes adequate use of public sector support. This includes the deployment of a 'growth vouchers' scheme that provides government-funded vouchers to select Mauritian firms in sectors that could potentially be clients of the Software Sector (but the lack of prior experience prevents them from procuring from Mauritian software firms). The end goal would be to incentivize and thereafter spur procurement from software firms. Other forms of support will be the inclusion of the software Sector in the scope and mandate of MyBiz.

The activities under this strategic objective are also focused on investment promotion activities that will bring in much required capital and best practices in the sector as well as improve the exposure of enterprises to international markets.

Human capital is a core component of this strategic objective and activities are aimed at overcoming the significant skills mismatch issue in the sector. Incubation support across the board will be provided – through national level competitions and development/upgradation of incubation facilities – and is expected to result in the rise of a startup culture and increased innovation in the sector.

Strategic Objective 2: Enhance the operating business and policy environment for the Mauritian software development sector

The activities contained in this strategic objective are grouped under three operational objectives: Rationalize policy and regulations to spur sector to align with international best practices, Develop innovative financial products meeting needs of sector operators, and improve Institutional Coordination in the sector and ensure that structures are in place for efficient strategy implementation.

The future state of the sector will include an efficient business and policy environment for enterprises to ensure compliance and parity with existing global best practices, and to be able to function smoothly. The first operational objective is therefore focused on identifying (and fixing) areas of gap and improvement in policies and regulations.

To overcome the financial constraints faced by the relatively small sized-firms, the credit lending environment must be improved through the design and deployment of tailored products that fit the need of software SMEs.

To ensure sustainable implementation management of this five-year strategy, essential implementation structures such as a steering body and a supporting secretariat will be established and resourced. These entities will be responsible for overseeing the prioritization, resource allocation, smooth implementation of activities of a strategic and operational level.

Strategic objective 3: Develop capabilities for penetrating and expanding in national and international markets

One of the key insights gained through the strategy consultations was that enterprises across the board need to improve their outreach and business development expertise in the domestic as well as the international markets. At the same time, potential buyers need to be sensitized to the value proposition of the sector.

The operational objectives falling under this strategic objective are: Develop the domestic market as a driver of competitiveness, Develop strong enterprise level business development capabilities, and improve the brand for the sector to develop market awareness and make buyers trust the Mauritian value proposition.

Proposed activities include holding demonstration days for potential buyers in non-IT sectors (such as finance, healthcare etc.) to explore procurement opportunities with Mauritian firms. Scaling up of the e-government initiative – connecting ministries and public institutions through a workflow, deploying government services such as payments online etc. – will also offer a market.

To assist the sector in developing a strong brand – surveys to understand target market requirements better, branding/marketing campaigns, coordination with consulates and named-contacts, development of a yellow book for the sector and other mechanisms will be employed.

CRITICAL CONDITIONS FOR STRATEGY SUCCESS

The following are necessary conditions for the strategy implementation to succeed:

1. Consistent focus and support by the government:
   The government will need to play an important and consistent role in two aspects – facilitating an enabling business and policy environment for software firms, and leveraging official procurement for developing a functioning market for Mauritian firms. E-government initiatives will need to be ramped up, and Mauritian firms must be according special incentives and quotas. Without this support, small firms and startups will find it extremely difficult to gain a foothold in the market and gain experience.

2. Robust implementation management framework in place:
   A robust implementation management framework will be essential for sustainability of strategy implementation, not only for this sector but the entire NES portfolio. This would include a public-private steering committee that meets regularly to discuss progress of the strategy implementation. The committee would be supported by an operational secretariat for managing the day-to-day details. Essential tasks would include resource mobilization, project tracking, report generation etc. In the absence of structures such as these, the focus may deviate to other matters and therefore the key consideration will be the implementation of a management framework for the entire NES strategy.

3. Improved enterprise trust levels leading to fruitful collaboration:
   Enterprises will find it difficult to 'go-it-alone', given the tough competition from established sectors in countries like India, the small size of Mauritian enterprises which makes it difficult to win bids, and the lack of established cooperation between firms which inhibits innovation. In the future, this status-quo will need to change and levels of trust, and collaboration will need to improve. To a large extent, MCE activities will lead to increased collaborative activity out of necessity as firms will need to subcontract and work with each other to complete their components. MITIA will also need to play a stronger role in fostering improved collaboration among firms.

Photo: (cc) pixabay

4. Steady pipeline of candidates seeking to pursue the IT profession:
   The IT sector does not attract sufficient talent and there is a high degree of brain drain stemming from trained professionals leaving the country. In the medium-long term, this trend will need to be reversed. As an intellectually driven skills-intensive sector, software development field will require adequate numbers of professionals trained in a variety of software skills made available. This will ensure competitiveness and innovation.

5. Political and economic stability in key markets:
   Stability in key target markets is an obvious prerequisite for maintaining client relationships, whether in developing countries which face both economic and political risk factors as well as developed countries where recent economic downturns have led to disruptions. Iterative growth – building on and strengthening existing relationships – will be an essential model for software firms and this can happen only when markets are stable and growing.

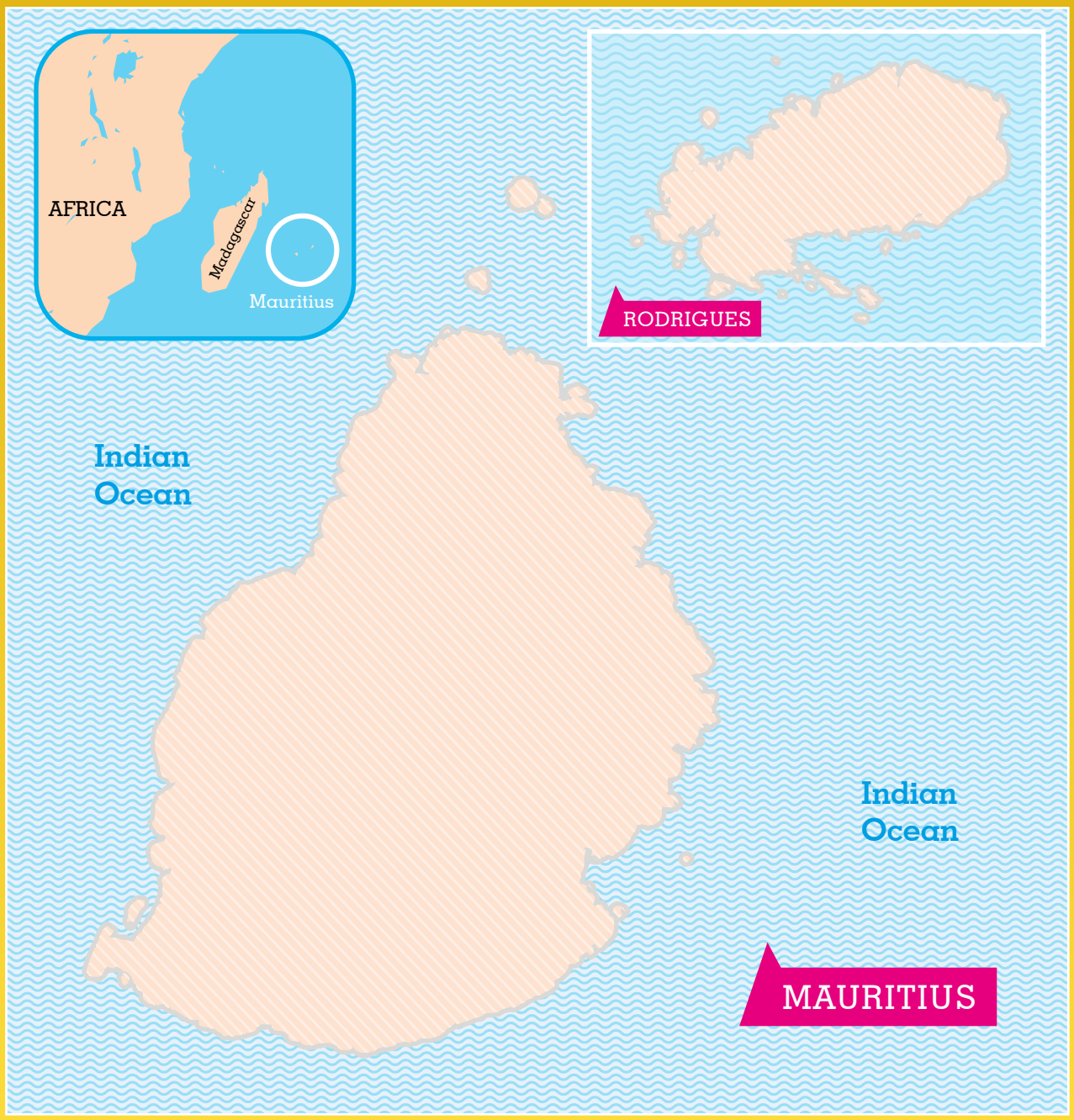
CONCLUSION

The Mauritian software development sector will need to embrace significant challenges, in a quickly evolving operating environment both within target client countries as well as within competitor economies that are strong in the sector. Strong implementation management of the strategy over the five-year timeframe coupled with improvements across the supply-side, business-environment and market-development dimensions will serve to ensure that the sector can maintain strong rates of growth. The future is bright and definitely achievable.

MAURITIUS
NATIONAL EXPORT STRATEGY
SOFTWARE DEVELOPMENT SECTOR

PLAN OF ACTION

The following five-year strategic plan of action (PoA) constitutes the implementation framework for this strategy. The PoA comprised Strategic Objectives, which are aggregated through multiple Operational Objectives and each operational objective has several activities. For each activity, key indicators in the form of priority level, implementation period, beneficiary information, targets, implementation partners (lead and supporting) and funding source (where applicable) are also indicated.



Strategic objective 1: Improve trust, maturity and innovation levels in the sector

Operational objective	Activities	Priority 1=high 2=med 3=low	Implementation period					Beneficiaries	Targets	Lead implementer	Supporting implementers	Possible funding source
			2017	2018	2019	2020	2021					
1.1 Improve institutional collaboration and trust levels	1.1.1 Provide wide-ranging support to MCE over a multi-year period » Regulatory approvals » Organizational support » Advisory support » Initial business development support to spur momentum by government	1						MCE and Sector Firms	Rolling support provided by government	Ministry of ICT	Min of Finance	
	1.1.2 Provide professional advice to MITIA on expanding/refining operations. Areas include: » Awareness of MITIA among Mauritian companies and outside Mauritius. Improved marketing including the launch of a sector magazine. » Potential expansion of secretariat » Improvement in collaboration with other related sector associations such OTAM	3						MITIA	Advisory support focused on institutional development for MITIA provided by end-2017	MITIA		
	1.1.3 In line with the 'growth vouchers' scheme piloted in the UK, commission a similar pilot programme for the Mauritian Software development sector –spanning one year – to facilitating greater penetration to the domestic market for sector firms. The programme will comprise the following: a. Financial support (as a form of subsidy) to potential customer firms seeking to test and contract software development services for their core operations. b. Matching programme to connect software service providers with potential clients. Matching mechanisms will include an online platform as well as an in-person guidance facility. c. Rigorous monitoring and evaluation mechanism implemented in parallel to gauge scalability of such programme, and to assess priority services with high potential in the domestic market.	2	Q3					Sector firms	Scope extended end Q3-2016 Growth vouchers scheme launched Q3 2016	Min of Business and Cooperatives	Sector Associations	
1.2 Spur business incubation and entrepreneurship in the sector	1.2.1 Extend the scope of the One-Stop-Shop (MYBiz) to the SW development sector as a means to growing the sector.	2		Q4				SMEs in the Software Development sector	Feasibility of extending t mandate to development of software would be advised. Scope extended to Software Development sector by end 2017	Ministry of Business, Enterprise, and Cooperatives	MCCI	
	1.2.2 Establish and consolidate a national software competition that will aim to identify promising Software Development talent: » Winners of the competition to be offered mentoring and incubation support for entrepreneurial activity. » Competition to be widely marketed and advertised to generate enthusiasm. » Joint sponsorship by the private and public sector.	2		Q1				Professionals in the sector	First iteration of the competition to be held in Q1 2017	NCB	Ministry of ICT	
	1.2.3 Establish a network of incubator facilities for the sector that will be publicly funded but privately managed: » Co-location of firms to promote exchange of ideas » Physical co-location of firms that collaborate with each other Explore expanding the scope of the Incubator in Ebene to broader Software Development	2						Sector firms	Feasibility study to assess expansion options completed by mid-2017	NCB	Ministry of ICT	
1.3 Spur Investment promotion in the sector	1.3.1 Advocate for a clause for involving local industry (30% of total cost) in large government procurement initiatives won by international firms. a. Involvement to include knowledge and expertise transfer aspects where possible, b. Advocacy to result in possible amendment of procurement act.	1	Q3					Sector Firms	Amended procurement Act	Ministry of Finance and Min. of TCI	MITIA & Industry Associations	

Strategic objective 1: Improve trust, maturity and innovation levels in the sector												
Operational objective	Activities	Priority 1=high 2=med 3=low	Implementation period					Beneficiaries	Targets	Lead implementer	Supporting implementers	Possible funding source
			2017	2018	2019	2020	2021					
1.3 Spur Investment promotion in the sector	1.3.2 Delineate clear separation of responsibilities and budgets between EM, BOI, and others related to ICT (and BPO) export promotion and investment respectively. PMO to mediate and define clear separation of responsibilities.	1	Q3					Overall sector	Clearly delineated responsibilities by Q3-2016	PMO		
	1.3.3 Facilitate match-making events with foreign investors and venture capitalists – who may be interested in using the Gateway to Africa value proposition that Mauritius offers	2						Overall sector	Delegations/Missions to be planned on a rolling basis	NCB	PMO Ministry of Finance Ministry of ICT	
1.4 Improve human capital and talent retention in the sector	1.4.1 Conduct a comprehensive skills gap analysis for the sector between the national infrastructure (supply of human capital) and demand for software development skills by companies. The analysis will cover the following aspects: a. Level of alignment of existing curriculums at universities and vocational training institutes in relation to skills in demand by the private sector, b. Quality of curriculums in comparison with best-in-class examples from other countries including India, c. Qualifications of teaching staff and related skills/expertise gaps, d. Quality of placement services at universities, e. Equipment, software deficiencies at institutions. Recommendations will include: a. Enumerated technical skills on the demand side (enterprises) and supply-side (technical institutions/ instructors) which constitute a current gap and need to be boosted, b. Specific areas of curriculums update, c. Software and Hardware requirements in institutions d. Improved mechanisms for placement services	2						Sector firms	Gap analysis to be completed, disseminated by end-Q2 2016 and recommendations dissemination to key public and private sector entities	HRDC	TEC Industry associations MQA Vocational institutions Universities MOE	National Budget
	1.4.2 Enhance conversion programme for training non-IT graduates into IT fields to develop deployable IT-based skillsets. » Improve coordination and information dissemination between different programme (between providers-industry as well as providers- trainees) through scheduled roundtables between the different programmes. Various programmes in play include GTES programme by HRDC, MITIA, Ceridin, ICT academy. » Review HRDC regulations on training providers being limited to generate profits.	1						Non-IT graduates seeking to transition to the IT sector	Roundtable established by end-Q2 2016	HRDC	NCB and various providers and institutions providing services	
1.4 Improve human capital and talent retention in the sector	1.4.3 Develop an awareness building campaign to reach out to students in Secondary School (Form 3) to expose them to opportunities in the IT sector: » Potentially use existing mechanisms such as activity periods and career days » Re-introduce the career counsellors' role in schools to spread information on career opportunities in the sector. » Information days for parents and students » Campaign to be backed up by an advertising and communication strategy. » Align with existing programme led by ME.	1						Students Sector firms	Campaign deployed by end-Q3	Ministry of Education	Sector Associations Ministry of Labour Ministry of TCI	

Strategic objective 1: Improve trust, maturity and innovation levels in the sector											
Operational objective	Activities	Priority 1=high 2=med 3=low	Implementation period					Beneficiaries	Targets	Lead implementer	Supporting implementers	Possible funding source
			2017	2018	2019	2020	2021					
1.4 Improve human capital and talent retention in the sector	1.4.4 Implementing industry internships and end of year projects in collaboration with the industry » Lobby Tertiary Institutions – through a position paper developed by sector associations – to allow/mandate students to work on end of year projects with enterprises as a means for students to gain industry experience, and for companies to assess and identify potential hires. » Develop cooperative programme that are integrated in the curriculums of the institutions so that students have an opportunity to receive industry experience. Coop program-me to be integrated within the school curriculums.	2		Q1				Sector Firms Students	Position paper written and shared Implementation at key universities	TEC	Sector associations (MCCI, MITIA, OTAM)	
	1.4.5 Provide support to the newly established ICT academy in boosting technical capacities: » Ensure that the academy can issue vouchers and internationally accepted certifications to students. » Course additions based on outcomes of regular industry/academia/public sector roundtables. Academy to leverage existing certified courses, where possible, provided by Mauritian and International providers in the country, rather than developing new courses.	2	Q3					ICT Academy	Provision of support to the academy	NCB	Industry	
	1.4.6 Invite international experts from international collaborative universities with a strong Software Development training base (or contract existing experts in the country) to assist Mauritian universities in assisting and enhancing their curriculums. » Feedback received from the outputs of activity 1.1.1 will inform the areas of upgrade. » Upgrading to be accompanied by comprehensive consultations with the private sector. » Process to be piloted in one university and scaled up based on feedback. » Update curriculums on a yearly basis to reflect fast changes in technology	2	Q3					Universities offering IT courses	Pilot university to be selected by Q3 2016.	TEC	Sector Associations	
	1.4.7 Launch intensive retraining courses for lecturers to get re-acquainted/upgrade their skills based on updates in the sector. » Training to be conducted by internationally recognized/certified trainers currently active in Mauritius » Practical hands-on training that can be swiftly integrated in existing curriculum and that » Given the constant flux and rapid advances in the sector, explore whether this can become a periodic activity. » Provision of funding grants to lecturers to undertake this professional development exercise. Develop a cluster training academies on the lines of Albania, Macedonia and others to improve human capital.	1						Lecturers in universities and training institutes	Training course with first cohort launched in Q4-2016	TEC & Universities		

Strategic objective 2: Enhance the operating business and policy environment for the Mauritian software development sector											
Operational objective	Activities	Priority 1=high 2=med 3=low	Implementation period					Beneficiaries	Targets	Lead implementer	Supporting implementers	Possible funding source
			2017	2018	2019	2020	2021					
2.1 Rationalize policy and regulations to spur sector to align with international best practices	**2.1.1** Continuously examine and ensure that Data Protection Actis in line with EU Directives. Advocate for legislation to be enacted for: » Software Industry Bill » Electronic transactions, mobile payments (NCB). Commission a needs-assessment study related to Intellectual Property Rights (IPR) protection considerations (including copyright, trademarks, patents, industrial design rights etc.) in the sector. The study will: » Assess the quality of existing (if any) IPR protection mechanisms in Mauritius specifically pertaining to the sector, including monitoring and enforcement measures, » Provide recommendations at the policy (regulations), institutional (monitoring, enforcement, grievance redress), and enterprise (awareness building on rights and responsibilities) levels.	2		Q1				Investors Sector firms	Study completed by end-2016	Ministry of ICT (Working Group)	Data Protection Office, Industry	
	2.1.2 Reduce/rationalize the approval turnaround time with MQA to get training (courses) & trainer approved in a timely manner. Tracking system to be developed to assess status of application.	2	Q4					Training companies	Turnaround time reduced by end-2016	MQA	Sector Associations	
	2.1.3 To cover institutional support gap for early stage and start-up companies, export-incubators will be developed and aimed at companies seeking to export (while also focusing on the domestic market as a growth mechanism). A cohort system will be established wherein a batch of companies will be selected through an application programme and inducted for a one-two year incubation cycle. The application process will involve a business plan competition among other criteria. Support for inducted companies will involve the following: » Financial support, » Office space with access to facilities including computer equipment and related network infrastructure, printing, fax, internet, meeting rooms, administrative support, » Mentoring and coaching support throughout the maturity lifecycle, » In-market support through client matching business delegations etc.	2				Q2		Potential start-up entrants	1 Export Incubator to be established by Q2 2017 with the 1st group of inducted firms.	Ministry of TCI	In-market support and market intelligence: EM, MEXA, MCCI Institutions involved in the technical education sphere such as the Ministry of Tertiary education, HRDC, NCB Universities, and TVET providers.	
2.2 Develop innovative financial products meeting needs of sector operators	**2.2.1** Implement a scheme to provide financial assistance to local companies for the development of intellectual properly that will reside in Mauritius and with the potential to be marketed in target markets. Scheme to include provisions for the following: 1. Tax credit – A super deduction to offset investment into R&D for a number of years. MITIA whitepaper has proposed 200% deduction over three years for investments into R&D. 2. Funding options for R&D: Through pure grant and extended loan facilities based on the existing MyBiz scheme. Proposal of per project one-time grant up to MUR 1 million with the possibility of borrowing up to additional MUR 5 million a guarantee in the developed IP. Existing CRIGS scheme can be adapted and promoted to fit in better. 3. Assistance in productizing existing solutions developed for the local market. Proposed grant would allow companies to contract advisory services for developing a marketing plan for the product involving business development, and establishing distribution network. 4. Possibility of capitalizing R&D investment to boost attractiveness for investors.	1						Sector firms	Integrated in the budget 2016-17	Ministry of TCI	Min of Finance, Industry Associations, MITIA	National Budget

Strategic objective 2: Enhance the operating business and policy environment for the Mauritian software development sector											
Operational objective	Activities	Priority 1=high 2=med 3=low	Implementation period					Beneficiaries	Targets	Lead implementer	Supporting implementers	Possible funding source
			2017	2018	2019	2020	2021					
2.2 Develop innovative financial products meeting needs of sector operators	2.2.2 Examine the success rate of current financing instruments including the Booster Micro Credit Scheme for micro and small projects and the Business Development Scheme for small and medium projects put in place by the Mau Bank. » Analysis to identify root causes preventing Software Development sector firms from accessing provision of loan instruments » Recommendations to guide tailoring of loan instruments developed by Mau Bank for the sector.	2	Q3					Sector Firms	Analysis completed by end Q3-2016;	DBM		
	2.2.3 Promote the development and availability of financial products for exporters. a. Possibility to use signed contracts/letters of intent in cases where traditional collateralization is difficult. b. Use of intellectual capital rather than physical assets as collateral c. Develop specialized loan instrument for the sector – with focus on debt financing aimed at enabling growth and expansion. Roundtable between lenders and sector firms/associations to kick-start stakeholder-driven exploratory process for developing specialized instruments.	1	Q4					Sector Firms	Initial roundtable discussion to be held by end Q3-2016	Financial Institutions + Sector Associations	Ministry of ICT	
	2.2.4 Extending existing schemes to register for funding (partial or full) to attend trade fairs and conduct B2B missions. » Coverage to be extended » B2B, Individual marketing funding, » Possibility of amount to be increased from current levels	2	Q3					Sector firms	Funding scheme to be launched by Q3 2016	SMEDA	BOI, EM, Min of Cooperatives, Min. of Finance	
	2.2.5 Establish grants (based on successful certification) for software firms to benefit from, to acquire standards and certifications. » Grants to cover ISO, CMMI, IT Mark, ITIL » Partial to full refund on successful certification » Funds to be used for actual certification process as well as potential consulting	2		Q1				Sector firms interest in becoming certified	**Grants programme to be established by Q1 2017**	NCB	Ministry of ICT	
2.3 Improve Institutional Coordination in the sector and ensure that structures are in place for efficient strategy implementation	2.3.1 Institutionalize a feedback loop between industry, academia and the public sector in the form of a dedicated roundtable platform that meets on a regular basis, to guide the skills development agenda. 1. Participants to include individual firms, sector associations, universities/training institutions and the public sector. 2. Recommendations from initial assessment study to be used as basis for initial discussions.	1	Q2					Sector firms Institutions involved in training Human Capital for the sector	First meeting of the roundtable to be held in end-Q 20146	Ministry of ICT	Universities Sector Firms	
	2.3.2 Enhance capabilities of Statistics Mauritius to capture detailed statistics related to the software development sector. » Convene roundtable meeting (through feedback loop established in a previous activity) with sector stakeholders and Statistics Mauritius officers to understand requirements and formalize survey/data collection mechanisms. » Develop capability to provide disaggregated data between BPO and Software Development segments. » Facilitate online submission of company data to Statistics Mauritius	1	Q4					Overall sector	Roundtable held by Q4 2016 Data collection to begin in 2016	Stats Mauritius	Ministry of TCI Ministry of Finance MITIA	

Strategic objective 2: Enhance the operating business and policy environment for the Mauritian software development sector											
Operational objective	Activities	Priority 1=high 2=med 3=low	Implementation period					Beneficiaries	Targets	Lead implementer	Supporting implementers	Possible funding source
			2017	2018	2019	2020	2021					
2.3 Improve Institutional Coordination in the sector and ensure that structures are in place for efficient strategy implementation	**2.3.3** Set up (or nominate existing) a shared Software development sector public and private platform, led by the private sector operators, both from lead firms, associations, including foreign investors, as well as SMEs to lead NES implementation. » Goal would be to play the role of an export promotion agency for the sector as well as serve as an umbrella networking platform » Position the platform as the public-private sector coordinating body to manage the implementation of the sector strategy under the NES.	1	Q3					Overall sector	Platform to be identified and established by Q3-2016	MCE	Ministry of TCI	Budget 2016/2017
	2.3.4 Build capacity of the sector platform through targeted training imparted to a small secretariat staff to coordinate and monitor completion of the strategy's activities and to mobilize resources required for implementation of the strategy. The platform will be responsible to mobilize and engage implementing institutions effectively to align all development policies to the software development strategy, and to identify activities that fall under their leadership and plan for required human and financial resources in the five upcoming years.	1	Q3					National Export Council (NEC) secretariat	Capacity building training to begin in Q3 2016	NEC		

Strategic objective 3: Develop capabilities for penetrating and expanding in national and international markets											
Operational objective	Activities	Priority 1=high 2=med 3=low	Implementation period					Beneficiaries	Targets	Lead implementer	Supporting implementers	Possible funding source
			2017	2018	2019	2020	2021					
3.1 Develop the domestic market as a driver of competitiveness	3.1.1 Hold ICT demonstration days targeting other economic sectors for exploring and expanding linkages with the end goal of : » Increased cross-sectoral business development for the software development sector. » joint product/service development Prominent candidate sectors include government (e-governance, education and health) and business sectors such as financial services, tourism, accounting and audit, and others.	1	Q4					Sector firms	First demonstration day to be held in Q3 2016	NCB & MITIA	MCE & Industry associations	
	3.1.2 Launch a broad procurement programme aimed at contracting software development services at key ministries and public sector institutions. The online systems from more developed countries can be used as benchmarks. Fast Track computerization of government institutions and workflow, from a policy point of view starting with select ministries/ government institutions. This would include: » Identification of priority ministries and government institutions where workflow would be piloted. » Translation of paper-based systems to online workflows through a comprehensive and phased SDLC approach, starting with a requirements analysis phase. » Institutions to be linked online. Additionally, identify select procurement opportunities across the spectrum of public sector entities, including the following noted in the e-Government Strategy 2013-2017 » Online application for Mauritian passport » Online application for obtaining a copy of birth or marriage certificate » Registration of motor vehicles » Online application for obtaining a Certificate of Character » Application for admission to schools/colleges » Facility to enrol as elector » Facility to request for transfer of students » Facility to make declaration of theft to the police Procurement initiative to involve Mauritian firms to the extent possible, guided by the implementation of activity 3.1.2.	1	Q3					Government institutions Sector firms	Institutions prioritized by Q3 2016 Requirements analysis phase initiated by Q4 2016	Ministry of ICT	Sector Associations	National Budget
	3.1.3 Roll out the Strategic plan by the Central Informatics Bureau recommendations to be geared towards: » Restarting the stalled e-government initiative. » Re-purposing the National ID for authentication, proof of address etc. » Reviewing other country case studies such as the Estonian model of public-private collaboration » Involve the local sectors in the rollouts of the Strategic Plan	2	Q4					Sector firms	Gap-analysis with recommendations completed by end-Q3 2016	Ministry of ICT	Sector Associations Ministries and official technical agencies NCB Local government	
	3.1.4 Review Public Procurement Act (PPA) to ensure that Mauritian firms are provided with adequate opportunities for bidding/winning/collaborating on public procurement. This will serve the purpose of providing exposure/ to a potentially valuable market for local service providers, development of Mauritian IP, as well as facilitating access to institutions for necessary work. a. Launch a procurement initiative, with requisite transparency and fair-play mechanisms integrated, to procure services from Mauritian services providers. b. Recommendations on percentages for local content to be decided and enforced.	1	Q2					Mauritian firms Ministries/ Parastatals	Review completed on a priority basis by end-Q2 2016	Ministry of ICT	Ministry of Finance Sector Associations (MITIA)	
	3.1.5 Review potential opportunities from the 'Smart Cities' initiative that can be leveraged by sector firms. MCE to take the lead in identifying opportunities, liaising with the public sector on ensuring proper representation and fair-play.	1						MCE / Sector firms	MCE to take the lead	MCE		

Strategic objective 3: Develop capabilities for penetrating and expanding in national and international markets											
Operational objective	Activities	Priority 1=high 2=med 3=low	Implementation period					Beneficiaries	Targets	Lead implementer	Supporting implementers	Possible funding source
			2017	2018	2019	2020	2021					
3.2 Developing strong enterprise level business development capabilities	3.2.1 Develop and deploy brief training courses on planning and executing trade missions for companies. Specifically, develop capacity-building programmes for company employees on business development and market access, trade missions and internationalization.	2		Q1				Sector firms seeking to export	Training courses designed and deployed by end Q1-2016	NCB		
	3.2.2 Conduct annual road-shows by Mauritian delegation of software firms to select target markets to promote the software development sector, and to facilitate deal-making. » Roadshows- to be held in tandem with B2B meetings with potential customers in the target markets. » Senior public sector accompaniment in the roadshow-	2			Q1			Sector firms	1st road show First R- to be held by Q1 2016	EM/ BOI	Ministry of ICT/ EM	National Budget
	3.2.3 Develop a 'yellow book' of Mauritian software development providers with contact information, areas of specialization and portfolio samples. Online format with possibility of efficient updates	2	Q4					Sector firms	Yellow book to be online by Q4-2016	NCB	MITIA	
	3.2.4 Leverage the French-English language capabilities of Mauritian firms to develop a strong value proposition for localization. » Organize delegation of Mauritian firms to select French speaking markets to hold B2B meetings with potential clients. » Initial thrust in the African market with a secondary – medium term – outlook on the European markets.	2		Q1				Sector firms interested and capable in Localization capabilities	B2B mission to be held in Q1 2017	NCB	Sector Associations	
	3.2.5 Provide specialized training to officers in consulates and existing Mauritian overseas trade representations related to the software development sector. » Training programme to last two-three weeks, and to be incorporated into the existing training of officers. » Specific intelligence for each target market required » This training will be aligned with the existing efforts planned as part of the NES interventions. » Efforts will focus on establishing an effective feedback loop for conveying market intelligence covering a variety of aspects between target markets and the Mauritian TSN.	2		Q2				Sector firms	Training programme to commence by Q2 2017	Min of Foreign Affairs	Sector Associations	
	3.2.6 Conduct in-depth market surveys as a precursor to full promotional and marketing campaign – on key Africa markets: » Madagascar » Africa: Government solutions » Ghana – opportunities to be identified on a clustering setup. » Ethiopia (NCB) » Rwanda (NCB) » Medium term opportunities (NCB): Uganda, Tanzania, Zambia, Angola, Malawi, Lesotho, Zimbabwe	1	Q2					Sector firms	Market survey to span Q2 and Q2 2016	EM/BOI/NCB	NCB Sector Associations	
	3.2.7 Establish a system of named contacts (prominent members of Mauritian diaspora/ business community or others) located in specific target markets. Named contacts will be informal ambassadors of the sector in the target market – and will represent the sector's interests in target markets. Specific responsibilities to include: a. Liaising with consulates/representations on issues related to market development, b. Leading/hosting sector business delegations in target markets, c. Being available to market- related queries by sector enterprises	2		Q1				Sector firms	System setup by Q1 2017	Min of Foreign Affairs	MFA, EM/BOI	

Strategic objective 3: Develop capabilities for penetrating and expanding in national and international markets											
Operational objective	Activities	Priority 1=high 2=med 3=low	Implementation period					Beneficiaries	Targets	Lead implementer	Supporting implementers	Possible funding source
			2017	2018	2019	2020	2021					
3.3 Improve the brand for the sector in order to develop market awareness and make buyers trust the Mauritian value proposition.	3.3.1 Initiate a branding/marketing campaign for the sector and integrate marketing efforts with broader existing efforts for Mauritius: » Develop collective promotional and marketing material for both local and international markets to communicate the value proposition statement for the sector » Advertisements/articles in industry journals/magazines in key markets espousing the advantages of doing business with Mauritius. » Financial sponsorship by the government with operational involvement of the private sector (associations)	3		Q1				Sector firms	Campaign to be initiated by Q1 2017	Ministry of TCI	Sector Associations	
	3.3.2 Develop a catalogue of locally-developed applications – focusing on HR, ERP, pensions – which have export potential and showcase these solutions. » Applications with sectoral linkages – textiles, manufacturing, hospitality etc. – should be segmented and highlighted. » Catalogue to be linked to 'yellow book' initiative. » Catalogue to be used as part of sector promotion efforts with potential clients.	2						Sector firms	Catalogue to be online by Q4 2016	NCB and Sector Associations MITIA	BOI / EM	

ANNEX 1

Business case related to the strategic objective 1: Improve trust, maturity and innovation levels in the sector

S. No	Activities	Business case
1	Provide wide-ranging support to MCE over a multi-year period: • Regulatory approvals • Organizational support • Advisory support • Initial business development support to spur momentum by government	Small per-capita size of software firms in Mauritius render it difficult to bid successfully for large projects. Strength-in-unity model will allow the entire sector to benefit. This multi-sector national initiative (MCE) can significantly boost market penetration, project acquisition and management efforts for the sector.
2	Provide professional advice to MITIA on expanding/refining operations. Areas include: • Awareness of MITIA among Mauritian companies and outside Mauritius. Improved marketing including the launch of a sector magazine. • Potential expansion of secretariat • Improvement in collaboration with other related sector associations such as Outsourcing and Telecommunications Association of Mauritius (OTAM)	MITIA is a professionally run organization with a requirement for increased visibility and provision of services to its constituents. This will be especially relevant once the sector starts experiencing growth.
3	In line with the 'growth vouchers' scheme piloted in the UK, commission a similar pilot programme for the Mauritian Software development sector – spanning 1 year – to facilitating greater penetration to the domestic market for sector firms. The programme will comprise of the following: a. Financial support (as a form of subsidy) to potential customer firms seeking to test and contract software development services for their core operations. b. Matching programme to connect software service providers with potential clients. Matching mechanisms will include an online platform as well as an in-person guidance facility. c. Rigorous monitoring and evaluation mechanism implemented in parallel to gauge scalability of such programsme, and to assess priority services with high potential in the domestic market.	Trust in Mauritian software firms on the part of firms in other sectors (potential clients) needs to be generated. The growth vouchers scheme in the UK and such Public-Private Partnership initiatives are aimed at providing a risk-free testing atmosphere for potential clients to use the vouchers to try out service providers and appreciate the value of their services. The end goal is that the firms would thereafter contract service providers on their own.
4	Extend the scope of the One-Stop-Shop (MYBiz) to the SW development sector as a means to growing the sector.	MyBiz is a valuable service available to firms in other sectors of the Mauritian economy. Feasibility of extending t mandate to development of software would be advised. An extension of the scope to the software

S. No	Activities	Business case
5	Establish and consolidate a national software competition that will aim to identify promising Software Development talent: • Winners of the competition to be offered mentoring and incubation support for entrepreneurial activity. • Competition to be widely marketed and advertised to generate enthusiasm. • Joint sponsorship by the private and public sector.	Talent incubation and recognition will be essential to sector growth as well as innovation. As a small sector with significant room for growth, such initiatives that offer opportunity for recognition, exposure and support at a national stage will go a long way in talent development as well as making the sector more attractive to the youth community.
6	Establish a network of incubator facilities for the sector that will be publicly funded but privately managed: • Co-location of firms to promote exchange of ideas • Physical co-location of firms that collaborate with each other Explore expanding the scope of the Incubator in Ebene to broader Software Development.	Software firms in Mauritius have typically not received the same incubation support levels as in other countries. This critical component is being improved gradually and efforts need efforts need to continue.
7	Advocate for a clause for involving local industry (30% of total cost) in large government procurement initiatives won by international firms. a. Involvement to include knowledge and expertise transfer aspects where possible, b. Advocacy to result in possible amendment of procurement act.	This constitutes a win-win solution allowing Mauritian firms to gain experience, expertise and revenue, while the lead international firms can gain available local expertise. Without a regulated clause such as this, the Mauritian software sector may find it difficult to compete with domestic projects (in addition to the international projects where they already face significant competition)
8	Delineate clear separation of responsibilities and budgets between EM, BOI, and others related to ICT (and BPO) export promotion and investment respectively. PMO to mediate and define clear separation of responsibilities.	The lack of demarcation on mandate has created uncertainty regarding services export promotion and investment promotion. In the interim, the software sector has suffered owing to a lack of support mechanism. This was brought out clearly during the consultations involved in the strategy design process.
9	Facilitate match-making events with foreign investors and venture capitalists – who may be interested in using the Gateway to Africa value proposition that Mauritius offers	This is aligned with the stated official ambition of Mauritius becoming a hub of foreign investments into Africa.
10	Conduct a comprehensive skills gap analysis for the sector between the national infrastructure (supply of human capital) and demand for software development skills by companies. The analysis will cover the following aspects: a. Level of alignment of existing curriculums at universities and vocational training institutes in relation to skills in demand by the private sector, b. Quality of curriculums in comparison with best-in-class examples from other countries including India, c. Qualifications of teaching staff and related skills/expertise gaps, d. Quality of placement services at universities, e. Equipment, software deficiencies at institutions. Recommendations will include: a. Enumerated technical skills on the demand side(enterprises) and supply-side(technical institutions/ instructors) which constitute a current gap and need to be boosted, b. Specific areas of curriculums update, c. Software and Hardware requirements in institutions d. Improved mechanisms for placement services	A separate and comprehensive gap analysis will identify the specific areas where the gaps lie, and help in recommending curriculums, policy and institutional updates required.

S. No	Activities	Business case
11	Enhance conversion programme for training non-IT graduates into IT fields in order to develop deployable IT-based skillsets. • Improve coordination and information dissemination between different programmes (between providers-industry as well as providers–trainees) through scheduled roundtables between the different programmes. Various programs me in play include GTES programme by HRDC, MITIA, Ceridin, ICT academy. • Review HRDC regulations on training providers being limited to generate profits.	This is important in view of attracting individuals interested in the IT sector but who are not necessarily interested in a four-year degree, or would like to transition from their current non-IT professions.
12	1.1.3 Develop an awareness building campaign to reach out to students in Secondary School (Form 3) to expose them to opportunities in the IT sector: • Potentially use existing mechanisms such as activity periods and career days • Re-introduce the career counsellors' role in schools to spread information on career opportunities in the sector. • Information days for parents and students • Campaign to be backed up by an advertising and communication strategy. • Align with existing programme led by ME	Reaching out early to secondary school students as well as using existing career counseling mechanisms in schools will help promote the sector and raise attractiveness of the sector to future talent
13	Implementing industry internships and end of year projects in collaboration with the industry • Lobby Tertiary Institutions –through a position paper developed by sector associations – to allow/mandate students to work on end of year projects with enterprises as a means for students to gain industry experience, and for companies to assess and identify potential hires. • Implementation at university level including frameworks • Develop cooperative programme that are integrated in the curricula of the institutions so that students have an opportunity to receive industry experience. Coop program-me to be integrated within the school curriculums.	Relevant internship and Coop- programs will benefit both students interested in the sector as well as companies seeking to hire candidates
14	Provide support to the newly established ICT academy in boosting technical capacities: • Ensure that the academy can issue vouchers and internationally accepted certifications to students. • Course additions based on outcomes of regular industry/ academia/public sector roundtables. Academy to leverage existing certified courses, where possible, provided by Mauritian and International providers in the country, rather than developing new courses.	Promising initiative offering training as an alternative for conventional 4four-year degree programme.
15	Invite international experts from international collaborative universities with a strong Software Development training base (or contract existing experts in the country) to assist Mauritian universities in assisting and enhancing their curriculums. • Feedback received from the outputs of activity 1.1.1 will inform the areas of upgrade. • Upgrading to be accompanied by comprehensive consultations with the private sector. • Process to be piloted in one university and scaled up based on feedback. • Update curriculums on a yearly basis to reflect fast changes in technology	Proven business model for overcoming an expertise gap by procuring it from outside the country.

S. No	Activities	Business case
16	1.1.8 Launch intensive retraining courses for lecturers to get re-acquainted/upgrade their skills based on updates in the sector. • Training to be conducted by internationally recognized/certified trainers currently active in Mauritius • Practical hands-on training that can be swiftly integrated in existing curriculum and that • Given the constant flux and rapid advances in the sector, explore whether this can become a periodic activity. • Provision of funding grants to lecturers to undertake this professional development exercise. Develop cluster training academies on the lines of Albania, Macedonia and others to improve human capital in the sector.	Necessary step in line with the upgrading of the curriculums and the deployment of a feedback look between the industry and academica will be to refresh training of lecturers and trainers through retraining programme.

Business case related to the strategic objective 2: Enhance the operating business and policy environment for the Mauritian software development sector

S. No	Activities	Business case
1	Continuously examine and ensure that Data Protection Act is in line with EU Directives. Advocate for legislation to be enacted for: • Software Industry Bill • Electronic transactions, mobile payments (NCB). Commission a needs-assessment study related to Intellectual Property Rights (IPR) protection considerations (including copyright, trademarks, patents, industrial design rights etc.) in the sector. The study will: • Assess the quality of existing (if any) IPR protection mechanisms in Mauritius specifically pertaining to the sector, including monitoring and enforcement measures, • Provide recommendations at the policy (regulations), institutional (monitoring, enforcement, grievance redress), and enterprise (awareness building on rights and responsibilities) levels.	For the software sector to operate at par with competitors, rules and regulations (especially those that influence minimum entry requirements into target markets) must be brought up to globally acceptable standards. Regulations related to IPR etc. are important to help the sector develop competitiveness.
2	Reduce/rationalize the approval turnaround time with the Mauritius Qualifications Authority (MQA) to get training (courses) & trainer approved in a timely manner. Tracking system to be developed to assess status of application.	This will improve the supply base of qualified trainers who can nurture human capital with relevant skill sets required by industry.
3	To cover institutional support gap for early stage and start-up companies, export-incubators will be developed and aimed at companies seeking to export (while also focusing on the domestic market as a growth mechanism). A cohort system will be established wherein a batch of companies will be selected through an application programme and inducted for a one-two year incubation cycle. The application process will involve a business plan competition among other criteria. Support for inducted companies will involve the following: • Financial support, • Office space with access to facilities including computer equipment and related network infrastructure, printing, fax, internet, meeting rooms, administrative support, • Mentoring and coaching support throughout the maturity lifecycle, • In-market support through client matching business delegations etc.	Software firms in Mauritius have typically not received the same incubation support levels as in other countries. This critical component is being improved gradually and efforts need to continue

S. No	Activities	Business case
4	Implement a scheme to provide financial assistance to local companies for the development of intellectual properly that will reside in Mauritius and with the potential to be marketed in target markets. Scheme to include provisions for the following: 1. Tax credit – A super deduction to offset investment into R&D for a number of years. MITIA whitepaper has proposed 200% deduction over three years for investments into R&D. 2. Funding options for R&D: Through pure grant and extended loan facilities based on the existing MyBiz scheme. Proposal of per project one-time grant up to MUR 1 million with the possibility of borrowing up to additional MUR 5 million a guarantee in the developed IP. Existing CRIGS scheme can be adapted and promoted better to fit in. 3. Assistance in productizing existing solutions developed for the local market. Proposed grant would allow companies to contract advisory services for developing a marketing plan for the product involving business development, and establishing distribution network. 4. Possibility of capitalizing R&D investment to boost attractiveness for investors.	Incentives are required to drive innovation in this fledgling sector to assist the firms to develop new products in a risk-mitigated and supported environment. Without this support, companies will simply not be in a position to undertake the risk
5	Examine the success rate of current financing instruments including the Booster Micro Credit Scheme for micro and small projects and the Business Development Scheme for small and medium projects put in place by the Mau Bank. • Analysis to identify root causes preventing Software Development sector firms from accessing provision of loan instruments • Recommendations to guide tailoring of loan instruments developed by Mau Bank for the sector.	Financial inclusion has been identified as a key challenge impacting the sector. The small size of the average firm along with the weak track record of firms is a barrier. Lending products tailored to the software sector will help bridge the lending gap.
6	Promote the development and availability of financial products for exporters. 1. Possibility to use signed contracts/letters of intent in cases where traditional collateralization is difficult. 2. Use of intellectual capital rather than physical assets as collateral 3. Develop specialized loan instrument for the sector – with focus on debt financing aimed at enabling growth and expansion. Roundtable between lenders and sector firms/associations to kick-start stakeholder driven exploratory process for developing specialized instruments.	Flexibility in lending requirements is needed given that average software firm in Mauritius does not possess significant physical collateral.
7	Extending existing schemes to register for funding (partial or full) to attend trade fairs and conduct B2B missions. • Coverage to be extended • B2B, Individual marketing funding, • Possibility of amount to be increased from current levels	Attending trade fairs and B2B missions will result in enhanced exposure for companies, especially ones that are unable to organize financing on their own.
8	Establish grants (based on successful certification) for software firms to benefit from, to acquire standards and certifications. • Grants to cover ISO, CMMI, IT Mark, ITIL • Partial to full refund on successful certification • Funds to be used for actual certification process as well as potential consulting	Certifications will help firms develop a competitive edge over potential clients (as a symbol of quality), and in some cases may be a mandatory buyers requirement.

S. No	Activities	Business case
9	Institutionalize a feedback loop between industry, academia and the public sector in the form of a dedicated roundtable platform that meets on a regular basis, to guide the skills development agenda. 1. Participants to include individual firms, sector associations, universities/training institutions and the Public sector. 2. Recommendations from initial assessment study to be used as basis for initial discussions.	The severe skills mismatch issue that exists currently will need to be resolved before the sector can reach its potential. A concrete mechanism is required to be instituted, which will encourage industry and academica to discuss their perspectives on a rolling basis.
10	Enhance capabilities of Statistics Mauritius to capture detailed statistics related to the software development sector. • Convene roundtable meeting (through feedback loop established in a previous activity) with sector stakeholders and Statistics Mauritius officers to understand requirements and formalize survey/data collection mechanisms. • Develop capability to provide disaggregated data between BPO and Software Development segments. • Facilitate online submission of company data to Statistics Mauritius	Information is a key prerequisite for efficient decision making, and conversely the lack of adequate disaggregated statistical information on the Software Development sector hinders informed decisions. This will be even more relevant with time as the sector grows in scale.
11	Set up (or nominate existing) a shared Software development sector public and private platform, led by the private sector operators, both from lead firms, associations, including foreign investors, as well as SMEs to lead NES implementation. • Goal would be to play the role of an export promotion agency for the sector as well as serve as an umbrella networking platform • Position the platform as the public-private sector coordinating body to manage the implementation of the sector strategy under the NES.	Implementation management for the strategy over the five years' timeframe will be an ongoing activity and a steering body in the form of the platform to maintain oversight is recommended as best practice.
12	Build capacity of the sector platform through targeted training imparted to a small secretariat staff to coordinate and monitor completion of the strategy's activities and to mobilize resources required for implementation of the strategy. The platform will be responsible to mobilize and engage implementing institutions effectively to align all development policies to the software development strategy, and to identify activities that fall under their leadership and plan for required human and financial resources in the five upcoming years.	To assist the platform in performing its duties, a secretariat will be required to discharge the operational duties on a day to day basis.

Business case related to the strategic objective 3: Develop capabilities for penetrating and expanding in national and international markets

S. No	Activities	Business case
1	Hold ICT demonstration days targeting other economic sectors for exploring and expanding linkages with the end goal of : • Increased cross-sectoral business development for the software development sector. • joint product /service development Prominent candidate sectors include government (e-governance, education and health) and business sectors such as financial services, tourism, accounting and audit, and others.	Demonstration days will serve as a platform for exploring cross-sectoral linkages and provide business development and collaboration opportunities for firms and non-IT based entities
2	Launch a broad procurement programme aimed at contracting software development services at key ministries and public sector institutions. The online systems from more developed countries can be used as benchmarks. FastTrack t computerization of government institutions and workflow, from a policy point of view starting with select ministries/government institutions. This would include: • Identification of priority ministries and government institutions where workflow would be piloted. • Translation of paper based systems to online workflows through a comprehensive and phased SDLC approach, starting with a requirements analysis phase. • Institutions to be linked online. Additionally, identify select procurement opportunities across the spectrum of public sector entities, including the following noted in the e-Government Strategy 2013-2017 • Online application for Mauritian passport • Online application for obtaining a copy of birth or marriage certificate • Registration of motor vehicles • Online application for obtaining a Certificate of Character • Application for admission to schools/colleges • Facility to enrol as elector • Facility to request for transfer of students • Facility to make declaration of theft to the police Procurement initiative to involve Mauritian firms to the extent possible, guided by the implementation of activity 3.1.2.	This public procurement mechanism can lead to significant efficiency gains for the public sector while allowing the software sector to bid for projects.
3	Roll out the Strategic plan by the Central Informatics Bureau Recommendations to be geared towards: • Restarting the stalled e-government initiative. • Re-purposing the National ID for authentication, proof of address etc. • Reviewing other country case studies such as the Estonian model of public-private collaboration • Involve the local sectors in the rollouts of the Strategic Plan	Expected to serve as a procurement platform for Mauritian software firms once it is online
4	Review Public Procurement Act (PPA) to ensure that Mauritian firms are provided with adequate opportunities for bidding/winning/collaborating on public procurement. a. Launch a procurement initiative, with requisite transparency and fair-play mechanisms integrated, to procure services from Mauritian services providers. b. Recommendations on percentages for local content to be decided and enforced.	This will serve the purpose of providing exposure/ to a potentially valuable market for local service providers, development of Mauritian IP, as well as facilitating access to institutions for necessary work.

S. No	Activities	Business case
5	Review potential opportunities from the 'Smart Cities' initiative that can be leveraged by sector firms. MCE to take the lead in identifying opportunities, liaising with the public sector on ensuring proper representation and fair-play.	The smart cities 'SC' initiative is expected to include certain components involving digital content and can serve as a procurement platform for software firms
6	Develop and deploy brief training courses on planning and executing trade missions for companies. Specifically, develop capacity-building programmes for company employees on business development and market access, trade missions and internationalization.	This will result in improved capabilities of companies in conducting their own trade missions effectively
7	Conduct annual road-shows by Mauritian delegation of software firms to select target markets to promote the software development sector, and to facilitate deal-making. • Roadshows- to be held in tandem with B2B meetings with potential customers in the target markets. • Senior public sector accompaniment in the roadshow-	Highly relevant for firms to get exposure to target markets. Especially important once MCE operations have ramped up
8	Develop a 'yellow book' of Mauritian software development providers with contact information, areas of specialization and portfolio samples. Online format with possibility of efficient updates	Highly relevant and essential as a means of advertising software firms and their capabilities
9	Leverage the French-English language capabilities of Mauritian firms to develop a strong value proposition for localization. • Organize delegation of Mauritian firms to select French speaking markets to hold B2B meetings with potential clients. • Initial thrust in the African market with a secondary – medium term – outlook on the European markets.	Strong potential for Mauritian firms to succeed in the localization niche given the bilingual population and geographical positioning
10	Provide specialized training to officers in consulates and existing Mauritian overseas trade representations related to the software development sector. • Training programme to last 2-twothree weeks, and to be incorporated into the existing training of officers. • Specific intelligence for each target market required • This training will be aligned with the existing efforts planned as part of the NES interventions. • Efforts will focus on establishing an effective feedback loop for conveying market intelligence covering a variety of aspects between target markets and the Mauritian TSN.	
11	Conduct in-depth market surveys as a precursor on full promotional and marketing campaign – on key Africa markets: • Madagascar • Africa: Government solutions • Ghana – opportunities to be identified on a clustering setup. • Ethiopia (NCB) • Rwanda (NCB) • Medium term opportunities (NCB): Uganda, Tanzania, Zambia, Angola, Malawi, Lesotho, Zimbabwe	These surveys are essential to understand comprehensively the buyers requirements associated with the selected target markets

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S. No	Activities	Business case
12	Establish a system of named contacts (prominent members of Mauritian diaspora/business community or others) located in specific target markets. Named contacts will be informal ambassadors of the sector in the target market – and will represent the sector's interests in target markets. Specific responsibilities to include: a. Liaising with consulates/representations on issues related to market development, b. Leading/hosting sector business delegations in target markets, c. Remaining available to market-related queries by sector enterprises	The potential for Mauritus' geographically diverse diaspora can be leveraged for firms to conduct networking in select target markets
13	Initiate a branding/marketing campaign for the sector and integrate marketing efforts with broader existing efforts for Mauritius: • Develop collective promotional and marketing material for both local and international markets to communicate the value proposition statement for the sector • Advertisements/articles in industry journals/magazines in key markets espousing the advantages of doing business with Mauritius. • Financial sponsorship by the government with operational involvement of the private sector (associations)	In the highly competitive software development landscape, marketing efforts will gain importance in line with increasing capabilities of firms
14	Develop a catalogue of locally-developed applications – focusing on HR, ERP, pensions – which have export potential and showcase these solutions. • Applications with sectoral linkages – textiles, manufacturing, hospitality etc. – should be segmented and highlighted. • Catalogue to be linked to 'yellow book' initiative. • Catalogue to be utilized used as part of sector promotion efforts with potential clients.	Such a catalogue will allow for better promotion of the sector's capabilities, and encourage new entrants including investors seeking to partner with local firms

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Republic of Mauritius

International Trade Centre

Street address: 54-56, rue de Montbrillant
1202 Geneva, Switzerland
Postal address: Palais des Nations
1211 Geneva 10, Switzerland
Telephone: +41-22 730 0111
Fax: +41-22 733 4439
E-mail: itcreg@intracen.org
Internet: www.intracen.org