

**DIGITAL
MAURITIUS
2030**

**Ministry of Technology,
Communication
& Innovation**

Foreword by Honourable Pravind Kumar Jugnauth, Prime Minister, Minister of Home Affairs, External Communications and National Development unit

Dear Citizens,

It is indeed a great pleasure for me to be associated with the launch of the Digital Mauritius 2030 Strategic Plan which goes in line with Vision 2030 of my Government, that of transforming the country into a high income and inclusive economy.

When I look back at the progress of the digital economy over the past 15 years, I see a sector that has gone a long way to position itself as the 3rd pillar of the economy and pitched on a high growth path. According to Information and Communication Technologies Authority figures for 2017, broadband penetration stood at 78% taking us among the top performers in Internet in the League of Nations.

Mauritius has emerged as a leader in Africa in ICTs as depicted by the favorable international rankings of the country. Conscious of the need to double efforts for the digital economy to continue its expansion and be a stronger provider of jobs to our youth, the Ministry of Technology, Communication and Innovation in consultation with the Industry has formulated this Strategic Plan.

The Plan sets out an ambitious blueprint with emphasis on digital government, ICT Infrastructure, Innovation, Talent Management and Cyber Security.

Digital Government provides a unique opportunity for reengineering administrative processes, joining-up fragmented services and addressing the needs of business and citizens alike. Under digital government, Mauritius is stepping firmly into the fourth industrial revolution with digitalization spreading across the economy riding on technological applications fueled by big data, open data, smart mobile apps, data sharing through the award winning InfoHighway platform, identity verification through mobile phones, among others. This will help to achieve better openness, transparency, engagement and improved decision making as well as offer integrated services to citizens and businesses.

The bold move, to setup the Mauritius Artificial Intelligence Council bringing together the best of brains both locally and externally, is a testimony of my Government's resolve to transform the country into an oasis of technology for the benefit of citizens and businesses.

In the same vein, due attention is being given to addressing the skills mismatch and skills divide. My Government will leave no stone unturned when it comes to upskilling our youth. The offer of 50 scholarships to students in blockchain technology and artificial intelligence is just the beginning. Many more supporting measures will be introduced in the coming years.

The Plan aims to build a culture of innovation whilst laying the foundations for emerging technologies as drivers of socioeconomic growth. Through the promotion of Science, Technology, Engineering and Mathematics (STEM) in our education system, our technopreneurial spirit will take us to new frontiers. Here, I wish to recall the launch of the first Mauritian cube satellite in 2019 which will come to fruition thanks to all of people ingenious brains spanning many disciplines including ICTs, engineering and astronomy.

On the infrastructure front, investments will be made for Mauritius to avail of world-class

network capabilities in terms of reliability and speed. Our existing international Internet connectivity will be expanded to link to new submarine cables (IOX, METISS, MARS, 2ndBackhaul, 5th, 6thcables). New data centres and disaster recovery centres will be built coupled with widespread availability of Very High Speed Internet (Fibre, 5G) and emergence of IoE (Internet of Everything).

To ensure a safe and secure cyberspace, the Digital Mauritius 2030 Strategic Plan proposes to tackle cybercrime by strengthening legal frameworks, maintain strong cybersecurity mechanisms through regional and international linkages and educate local communities on cybersecurity.

I firmly believe that this Digital Mauritius 2030 Strategic Plan will find its place as the rallying force for the country's energies in ICTs for a stronger and more vibrant digital economy – playing its role in our transformation journey to a high income and inclusive economy.

To conclude, I wish to commend the Ministry of Technology, Communication and Innovation and all the stakeholders in the digital economy sector for formulating this Strategic Plan.

Thank you

Hon. Pravind Kumar JUGNAUTH

Prime Minister, Minister of Home Affairs, External Communications and National Development unit,

*Minister of Finance & Economic Development
Republic of Mauritius*

Foreword by Honourable Yogida Sawmynaden, Minister of Technology, Communication and Innovation

Dear Readers,

The document that you are holding in your hands is the roadmap to the Mauritius of tomorrow. One that shall enable our population live in a modern, technology-driven society. The Ministry of Technology, Communication and Innovation has prepared this strategic plan after consultation with stakeholders from the public and private sectors, with proposals coming from all sectors of our economy. **Digital Mauritius 2030 Strategic Plan**, in line with our Prime Minister's vision of transforming our country into a digital economy, covers a number of measures, each spread over the short, medium and long term.

Since the start of my mandate as Minister of TCI, I have given full support to the implementation of sustainable policies that promote the industry's growth and multiplies the resulting benefits for its citizens. Hence, we introduced the *Digital Youth Engagement Program* and the *ICT Awareness campaign for senior citizens*. A lot has been achieved also by strengthening regulations, notably with the amendment of the *Data Protection Act*, ensuring that Mauritius is in line with major reforms in Europe (e.g. General Data Protection Regulation).

In this era of Industrial Revolution 4.0, Mauritius ranked first in Africa in the United Nations e-Government Index 2016. This serves as a testimony of the progress made on the Smart Mauritius and Vision 2030 agendas. The implementation of e-Government projects has constantly led to minimising the execution time of Government-to-Government, Government-to-Business and Government-to-Citizen transactions and associated costs. The digital transformation of our public sector was and still is, very much, a priority.

The introduction of the *Open Data Mauritius* initiative is the linchpin of our strategy. By opening public data to citizens, the latter becomes empowered through public participation and engagement. The *InfoHighway* (already awarded Champion status in the e-gov category at the *World Summit on the Information Society* forum 2018) provides a platform for sharing of data amongst government agencies. On top of that, we also have more than 200 e-services, easing the everyday life of citizens and businesses.

This government's duty aims at improving the quality of life of citizens with innovative and modern technologies. So as to fulfil this objective, my Ministry has recently released a set of mobile apps, such as the *Smart Traffic* and *Smart Police apps*, in view of democratising access to information and Government services. A campaign for the promotion of these apps has started with the slogan "*Nou La Pou Ou*" (*We are here for you*), portraying our will to be customer-oriented by devising products and services which shall help our citizens.

This document also projects what shall be the strategies concerning building capacity in an ever-changing sector. With new technologies like Blockchain, Internet of Things and Artificial Intelligence being the new world order, Mauritius cannot afford to lag behind. We need experts in these fields so as to embed them in our local companies. So as to prevent another mismatch

phenomenon between degree holders and labour market needs, we need to review our training contents and patterns. This country needs software engineers, web developers, coders... they are the ones who shall shape our country's high-income economy aspirations.

As you see, our strategy is designed to make Mauritius step up the ladder of development. During that journey, there is no doubt that we shall be brought to amend, streamline and modify this strategy. But this is where it all starts.

I wish to thank warmly all those who have contributed to this strategic document, partners of the private sector and the staff of my Ministry.

Hon. Yogida SAWMYNADEN,
Minister of Technology, Communication & Innovation,
Republic of Mauritius

Executive Summary

As emerging technologies, data, and connectivity are the stepping-stones to the intelligent information society, it is crucial for Mauritius to foster and develop strategic targets to gain sustainable competitive advantages that will continue to position the country as the leader regionally and globally.

The country has developed a multi sector economy based on relevant and timely policy decisions taken over the years. Digitalisation and ICT are going to be the leading economic pillar that will help all existing sectors grow and prosper in the future. Different phases of digital transformation will be required in the next decade to develop the above mentioned competitive advantage, which is more of an economic and societal obligation than a technology-centered desire.

In line with the Mauritius Vision 2030 that calls for an intelligent and smart Mauritius and welcoming the capital importance of digital transformation for growth and competitiveness, the Digital Mauritius 2030 Strategic Plan lays emphasis on the formulation for an innovative, effective and sustainable Public Sector and at the same time creating an enabling environment for business facilitation development. Emerging technologies like Artificial Intelligence, Blockchain, Robotics, Internet of Things, FinTech and Big Data are also expected to assist in the digital transformation process. In this context, a methodology based on five strategic waves namely digital government, ICT infrastructure, innovation, talent management and cybersecurity was adopted to drive the formulation of the strategy which resulted in the following main recommendations:

Digital Government	ICT Infrastructure	Innovation	Talent Management	Cybersecurity/Cyber crime
Review and align procurement clauses to cater for new trends in technology and ICT deployment methods	Provide world class network capabilities in terms of reliability and speed	Simplify, facilitate and alleviate administrative procedures and tasks for Startup structures	Understand skills demand Adopt the right mix of financing instruments	Streamline the Government's cyber security governance and structures Sponsor Cyber Security Research to better understand the cost of cyber-attacks in the Mauritian economy
Routinisation of successful applications	Widespread availability of Very High speed internet (Fibre, 5G) and emergence of IoE (Internet of Everything)	Rethink the role of administration to become as frictionless as possible	Build and sustain motivation for adult learning through active labour market policies and accessible resources	In partnership with the private sector, establish a layered approach to cyber threat information sharing through an online information sharing portal
Framework Agreements for recurrent purchases	Improvement and incentives	Build capacity in all growth areas by training the existing workforce and making sure that universities and polytechnics focus on skills	Create shorter learning modules that foster continued learning	Ensure law enforcement to fight against cybercrime across the nation
Review existing Legal and Regulatory framework to sustain various Digital Government initiatives		Attract foreigners and the Mauritian diaspora to come to Mauritius to work by	Recognize and	
Re-engineering of user processes before application of technology				
Dedicated Business				

Digital Government	ICT Infrastructure	Innovation	Talent Management	Cybersecurity/Cyber crime
Product Owners in Ministries/Departments		offering them better conditions and a better environment	promote on-the-job training opportunities and maximize informal learning opportunities	Setup capacity Building Programme
Multi-Channel Delivery to bridge digital divide		Enhance the education system to focus on critical thinking, problem solving, data literacy and working collaboratively	Harness the power and scalability of blended online courses, enhanced with virtual and augmented reality when relevant	Promote Capacity Building in areas such as Darknet, Virtual Currency and Online Money Laundering
End-to-end digital services with paperless transactions and payments		Focus on SMAC (Social, Mobility, Analytics and Cloud) while making sure that regulations are comprehensive and follow international standards	Ensure digital and data literacy for all	Develop a framework to counter the use of virtual currencies for criminal activities
Use data and analytics for monitoring and continuously improve quality of digital services		Embrace emerging Technologies like Artificial Intelligence, Blockchain, Robotics, Internet of Things, FinTech and Big Data.		Develop guidance for Government agencies to consistently manage supply chain security risks for ICT equipment and services
Promote Tell-Us Once, One-Stop-shop and Under one roof concepts		Create policies to encourage the setting up of "Technology Watch" structures in organizations		Build cyber capacity in the African region and globally, including through public-private partnerships
Data should flow instead of paper – data sharing through the InfoHighway		Create a platform for exchange among experts in different fields, both in Mauritius and abroad		
Promote Open Data for creation of innovative data-driven apps				
Ministries/Departments should follow the Project Management Manual for ICT projects				

With a view of exploring opportunities for digital transformation in the ICT Sector, the Digital Mauritius 2030 Strategic Plan is aligned with other related business transformation strategies for achieving the Mauritius Vision 2030.

The Digital Mauritius 2030 Strategic Plan would rest on a healthy and conducive enabling environment which includes start up culture, data protection and data privacy, big data management, spectrum (frequency) management and converged regulatory framework.

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List of Abbreviations

AGOA	African Growth and Opportunity Act
AI	Artificial Intelligence
BPO	Business Process Outsourcing
CaDS	Career Development Stairway
Cert-MU	Computer Emergency Response Team - Mauritius
COMESA	Common Market for Eastern and Southern Africa
FinTech	Financial Technology
GDPR	General Data Protection Regulation
GTES	Graduate Training for Employment Scheme
ICT	Information and Communication Technology
ID	Identity
IOC	Indian Ocean Commission
IoE	Internet of Everything
IoT	Internet of Things
IOX	Indian Ocean Xchange
IPR	Intellectual Property Rights
MARS	Mauritius and Rodrigues Submarine Cable System
METISS	MeltingpotIndianoceanic Submarine System
MTCI	Ministry of Technology, Communication and Innovation
NSDP	National Skills Development Programme
S & T	Science and Technology
SADC	Southern African Development Community
SIDS	Small Islands Developing States
STEM	Science Technology Engineering & Mathematics
MAIC	Mauritius Artificial Intelligence Council
SMAC	Social, Mobility, Analytics and Cloud

1 Introduction

It is recognized that digital technology has revolutionized the way businesses operate and the way we socialize. This perpetual revolution unveils a future filled with opportunities. The promise for a future, which is inclusive and abundant for all is attainable. We need to be able to harness the real potential of digital technologies. The possibilities which digital technologies can unleash will not only support but has potential to lead to socio-economic growth for one and all. For example, unrestrained access to information can create unique opportunities in all areas of our lives, including the way we work, play, socialize and transact, some of which are still to be imagined.

Solutions to national challenges like climate change, unemployment, healthcare, rising energy demands including other sustainable development goals, rest on the exploitation of technologies while at the same time we need to avoid the pitfalls like e-waste which new technologies can create. We need however to identify the key technological trends which will allow us to develop strategic priorities to support development which is inclusive and sustainable and understand how emerging technologies like IoT, data and connectivity can be harnessed to create the desirable future which we can envision for the next future generation. Likewise, we also need to identify barriers that should be overcome to achieve this future.

Acknowledging the important role of digitalisation for growth and inclusiveness, Mauritius has demonstrated unique progress in the digital transformation of its economy through the use of ICT across all socio-economic levels.

In order to position Mauritius at the forefront of technology and to support Government's Digital agenda, the Ministry of Technology, Communication and Innovation has formulated a Digital Mauritius 2030 Strategic Plan with emphasis on recommendations for an innovative and sustainable Public Sector and at the same time establishing an enabling environment for business facilitation.

This plan examines technological trends, opportunities and barriers in order to come up with strategic directions which will guide the country in achieving the Digital Mauritius 2030 Strategic Plan.

1.1 Vision& Mission

Vision A highly inter-connected society with access to the knowledge required for an Innovation-driven culture.

Mission Boost the digital economy and broaden the delivery of public service to enable participation in an innovation-driven society.

2 Opportunities and Challenges

(i) Opportunities and Challenges in ICT Infrastructure and Broadcasting

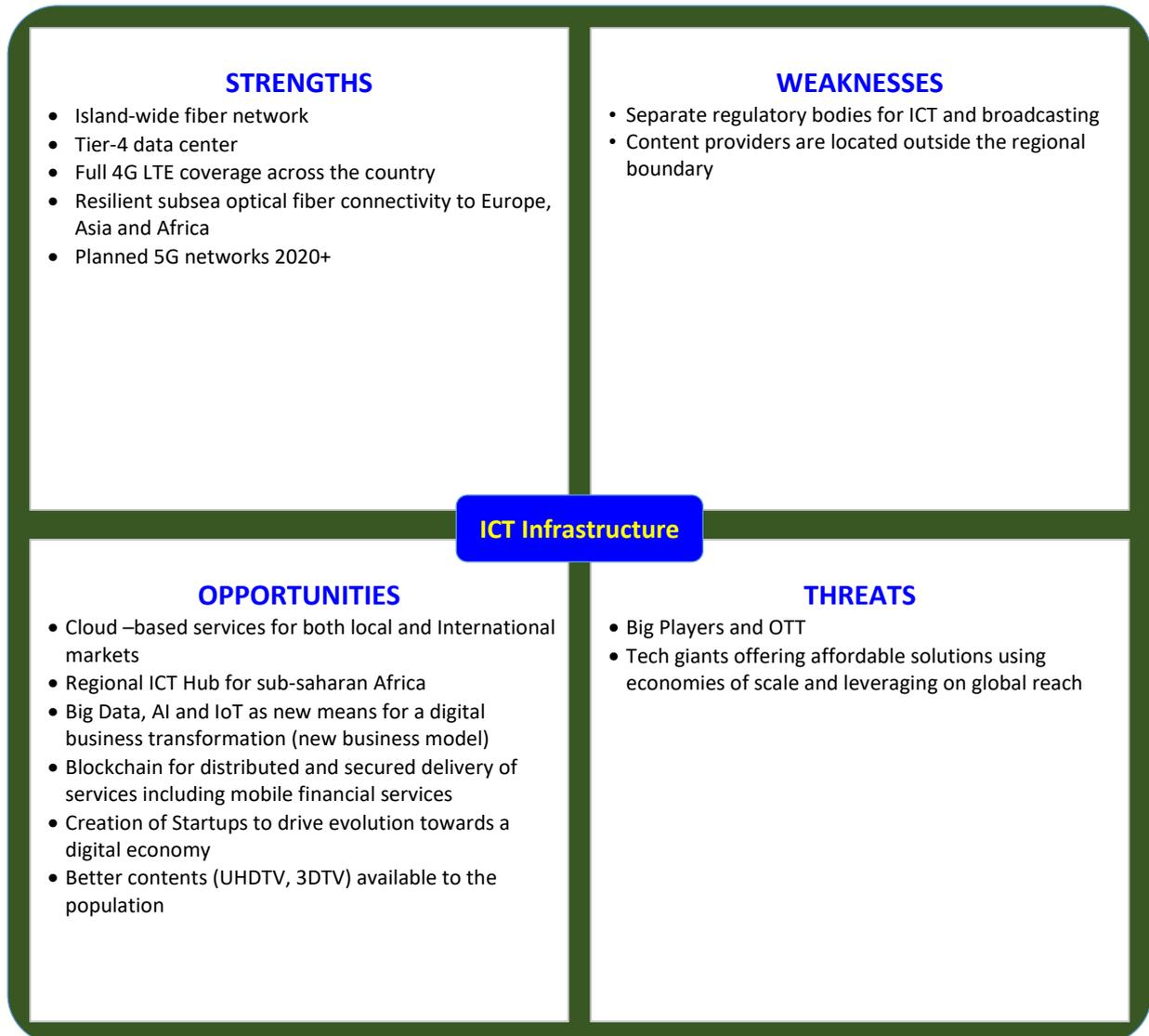


Figure 1: ICT Infrastructure and Broadcasting

(ii) Opportunities and Challenges in e-Government and Business Facilitation



Figure 2: e-Government and Business Facilitation

(iii) Opportunities and Challenges in Talent Management



Figure 3: Talent Management

(iv) Opportunities and Challenges in Cybersecurity and Cybercrime



Figure 4: Cybersecurity and Cybercrime

(v) Opportunities and Challenges in Innovation and Emerging Technologies



Figure 5: Innovation and Emerging Technologies

Status of ICT in Mauritius

The ICT sector has become the third pillar of the economy in less than 15 years and is currently contributing to 5.6% of the country's GDP annually. Around 23,000 people are employed in the ICT sector with a value-added contribution of Rs22 Billion to the economy, out of which, Rs9.6 Billion constituted of exports of ICT goods and services. The sector is growing at the rate of 4.4%.

The aim of Government is to embed the use of technology in the day-to-day life of every Mauritian. This implies that Government services, businesses and lifestyle would be centered around the digital economy. It is expected that the ICT sector would contribute up to 10% of GDP annually and would create around 50,000 jobs by 2030 with the objective of Mauritius consolidating its leadership in Africa and improving its global rankings on major ICT Indices.

Mauritius is a Small Island Developing State with around 2000 square kilometres and a population of around 1.2Million. The economy has developed since its independence, from an exclusively agriculture-based economy to a diversified upper middle-income economy. This increased the Government's potential to invest in infrastructure, communication and education, which in turn boosted the international rankings of Mauritius.

Figure 6 lists some indicators with regard to the ICT sector:

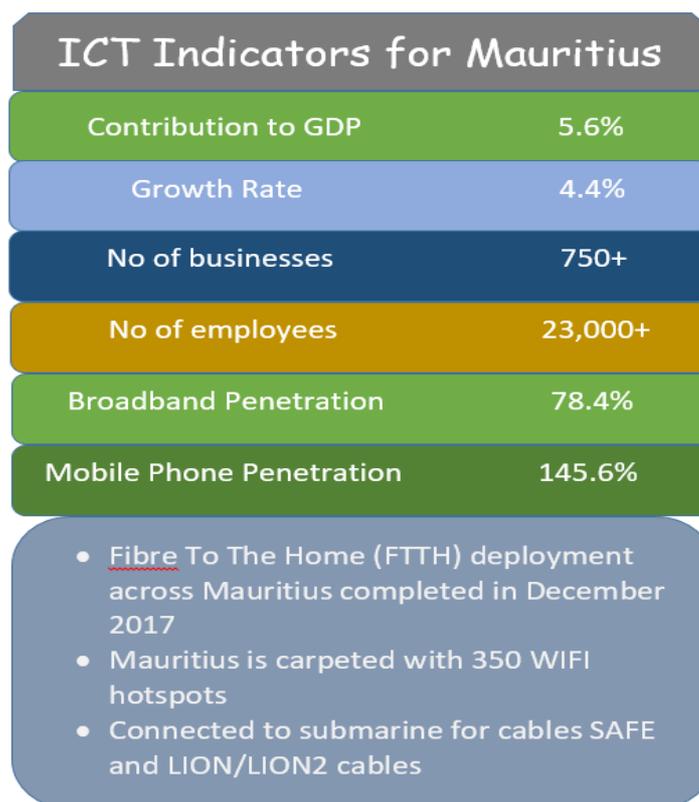


Figure 6: Indicators for the ICT Industry

The ranking of Mauritius in different international indices are as in Figure 7:

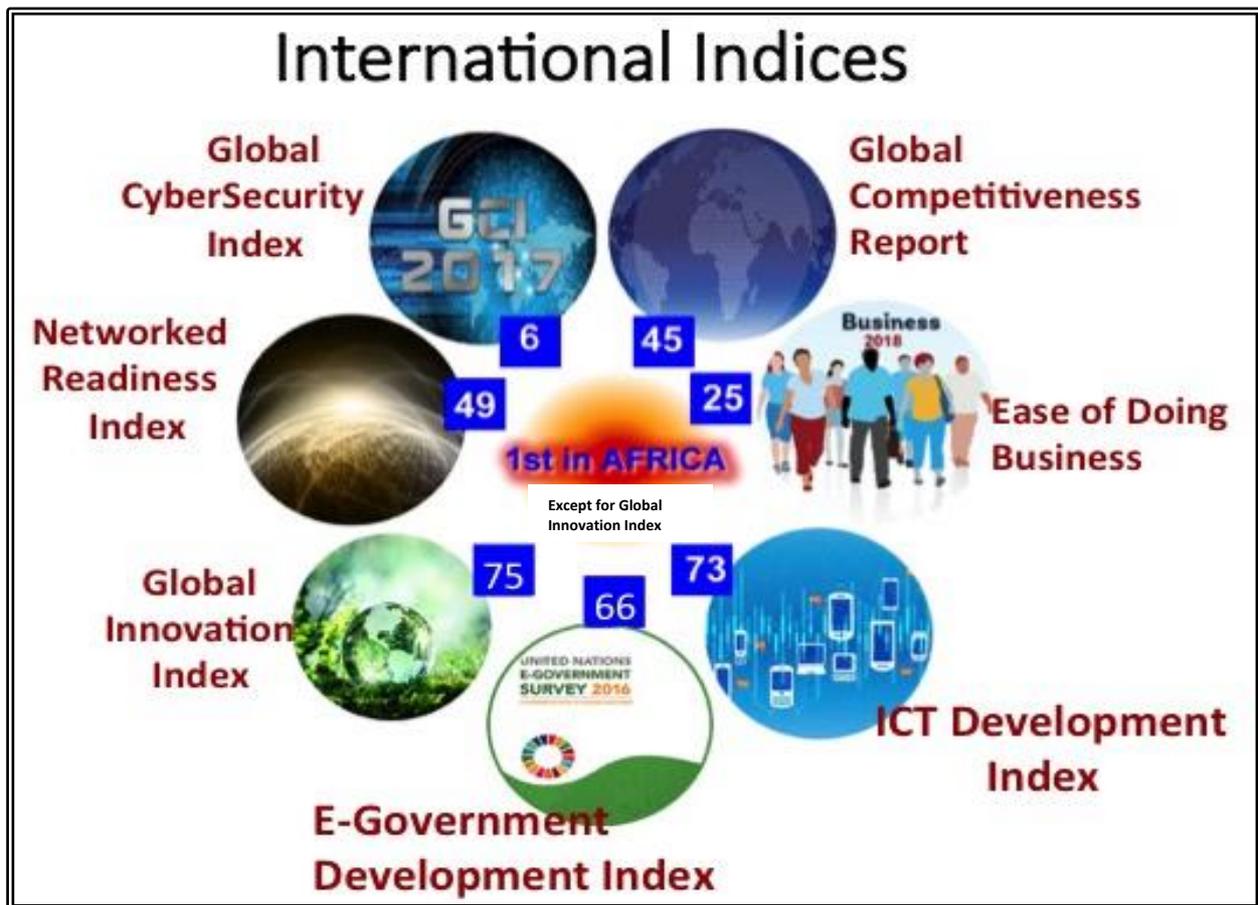


Figure 7: International Indices

A framework has been adopted to realise the vision of achieving economic and social transformational change and to pave the way for a secured Digital Mauritius.

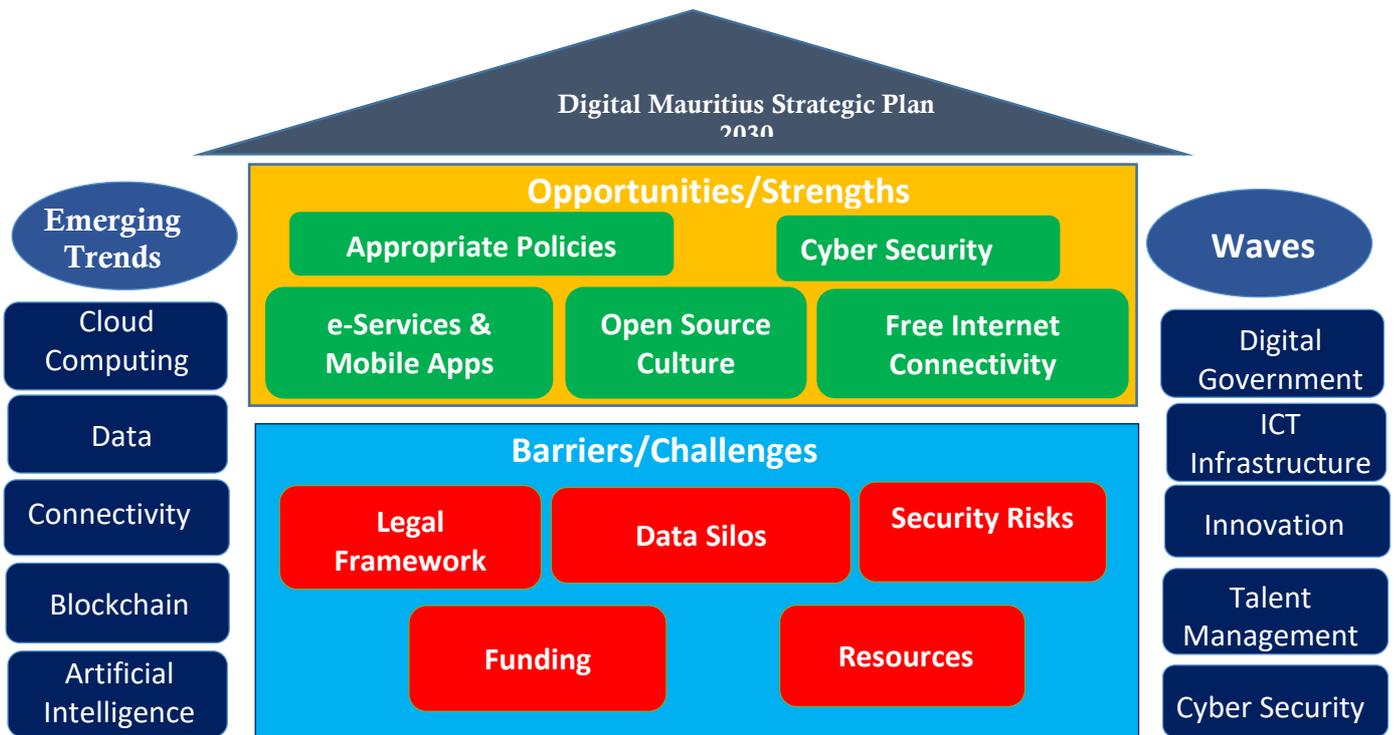


Figure 8: The Digital Mauritius 2030 Strategic Plan Framework

The framework examines elements that will constitute building blocks for the Digital Mauritius 2030 Strategic Plan and include opportunities, challenges, emerging trends and technologies to come up with strategic direction along five strategic waves surfing on public private sector collaboration. The five Strategic Waves are:

- 1) ICT Infrastructure and Broadcasting;
- 2) E-Government and Business Facilitation;
- 3) Talent Management;
- 4) Cyber Security and Cyber Crime; and
- 5) Innovation and Emerging Technologies.

The Digital Mauritius Strategic Plan 2030 is based on intensive consultation on the five Strategic Waves with stakeholders including representatives from World Bank, International Monetary Fund and Gartner amongst others.

3 Strategic Wave 1 – ICT Infrastructure and Broadcasting

Activities	Outcome	Timeline		
		Short	Medium	Long
A1.1 Set up two new submarine cables to connect Mauritius to the World (IOX, METISS) by 2020.	World class network setup in terms of reliability and speed	•	•	•
A1.2 Set up new submarine cable to connect Rodrigues to Mauritius (IOX, MARS) by 2020.		•		
A1.3 Provide satellite connectivity for Agalega and outer islands.		•		
A1.4 Set up additional backhauls across Mauritius (2 nd backhaul by CEB Fibrenet to be operational by end 2018).			•	•
A1.5 Set up a Command and Control Centre to operate and manage the Government Wide Area Network			•	•
A1.6 Promote adoption of emerging solutions like AI, IoT, Big Data and Cloud computing.			•	•
A1.7 Foster and develop innovative technologies, establish super connected network and ensure the active use of data.			•	•
A2. Ensure widespread availability of Very High speed Internet (Fibre, 5G) and emergence of IoE (Internet of Everything).	Creation of Intelligent IT industry ecosystems and facilitation of private-sector innovation	•	•	•
A3. Develop a package of incentives for operators investing in ICT infrastructure	Increase in investments in ICT infrastructure including new technologies (like 5G)	•	•	•
A4. Set up a Tier 4 Data Centre for Government	Data Centres for delivery of public services become more resilient	•	•	

Table 1: Transform Mauritius into a hub for Innovation

4 Strategic Wave 2 – E-Government and Business Facilitation

Activities	Outcome	Timeline		
		Short	Medium	Long
A1. Review and align procurement clauses to cater for new trends in technology and ICT deployment methods (Agile methodologies, Proof of Concept, Open source Software, Service contracts)	Simplified, streamlined and sustainable procurement processes for ICT services and systems as well as expedite implementation time of Digital Government projects	•	•	•
A2. Identify common ICT needs across Public Sector	Enhanced management of recurrent requests/demands for equipment, systems and services across Civil Service	•		
A3. Promote routinisation of successful applications across Civil Service	Standardised application across civil service.		•	
A4. Adopt Framework Agreements for recurrent purchases across the civil service	Reduced overhead, lead time and costs of procurement		•	
A5. Review existing Legal and Regulatory framework to sustain various Digital Government initiatives	Conducive legal and regulatory framework for enabling digital transformation		•	•

Table 2: Procurement Review of Digital Technologies

Activities	Outcome	Timeline		
		Short	Medium	Long
B1.1 Develop common policies and standards for harmonization of processes across Public Sector	Harmonized processes with smooth information flow Interoperability of systems and service-oriented architectures	•	•	•
B1.2 Facilitate information flow between systems for better service delivery		•	•	•
B2.1 Re-engineer user processes before application of technology in Public Sector	Simplified and streamlined procedures and systems in the Public Sector	•	•	
B2.2 Implement the National Authentication Framework for single sign-on across Government services		•	•	
B2.3 Carry out studies for utilization of mobile ID		•	•	
B2.4 Exploit emerging technologies including Blockchain in Government services		•	•	
B3. Increase user commitment and project ownership at the level of Ministries/Departments by designating dedicated Business Product Owners	Dedicated Business Product Owners in Ministries/Departments	•	•	

Table 3: ICT Services and Resources

Activities	Outcome	Timeline		
		Short	Medium	Long
C1. Set up Multi-Channel Delivery to bridge digital divide	<ul style="list-style-type: none"> • Reduced pressure on counter services. • Increased efficiency of public service delivery. • Cost savings in public service delivery. 	•	•	
C2.1 Set up End-to-end digital services with paperless transactions and electronic payments	<ul style="list-style-type: none"> • Reduced pressure on counter services. • Ease of doing business improved 	•	•	•
C2.2 Set up a National Certification Authority for provision of digital signatures and e-signing service	<ul style="list-style-type: none"> • Consolidated trust in online transactions 	•	•	•
C3. Use data and analytics for monitoring and continuously improve quality of digital services	Increased quality of online services	•	•	
C4. Issue identity cards to foreign workers and residents	Easing of interactions between foreigners and public authorities	•		
C5. Implement e-residency facility for foreigners to set up companies and trade in Mauritius	Ease of doing business environment is enhanced		•	•

Table 4: Response to Demand for Quality Services

Activities	Outcome	Timeline		
		Short	Medium	Long
D1. Develop Government initiatives to promote “Inform Once Principle”, One-Stop-shop and Under one roof concepts	<ul style="list-style-type: none"> • Simplified procedures and reduced turnaround time in provision of services • Ease of doing business improved 	•	•	
D2. Make e- and m-services more user centric	Higher take ups for e- and m-services	•	•	
D3. Cooperate with public, private and civil society stakeholders to better understand needs	Higher take ups for e- and m-services	•	•	•
D4. Set up e-Participation platforms	<ul style="list-style-type: none"> • Increased stakeholder involvement and user satisfaction. • Higher take ups for e- and m-services 	•	•	•

Table 5: Increase Uptake of Digital Services

Activities	Outcome	Timeline		
		Short	Medium	Long
E1. Open up and accelerate usage of InfoHighway platform for data sharing for public sector and private agencies (for selected items only)	<ul style="list-style-type: none"> Enhanced data consistency. Data duplication across agencies minimized. 	•	•	
E2. Implement Mauricloud platform for document sharing starting with driving license and recruitment in the public service	Easy access to official documents in digital form	•	•	
E3. Implement Artificial Intelligence based solutions in Public Service	Automated systems for faster processing.		•	•
E4. Set up chatbots on Government websites.	24/7 customer support provided.		•	•
E5. Use data analysis within the public sector to predict new needs and trends	<ul style="list-style-type: none"> Enhanced decision-making. Improved policy-making. 	•	•	
E6.1 Release public data sets as open data	More data sets is available to the public	•		
E6.2 Create data-driven applications	Ease of doing business environment is enhanced	•	•	•

Table 6: Foster Data-Driven Culture

Activities	Outcome	Timeline		
		Short	Medium	Long
F1. Set up Digital Government Steering Committee for whole-of-Government project monitoring and resolution of blocking factors	Digital Government efforts well-coordinated to achieve the Digital Mauritius 2030 vision.	•	•	
F2. Implement the Project Management Manual for ICT projects in Ministries and Departments.	Harmonised methodology in the implementation of ICT projects	•	•	•

Table 7: Digital Governance

Activities	Outcome	Timeline		
		Short	Medium	Long
G1. Develop and operationalize a mechanism for rolling out successful Digital Government projects in Africa	Economic growth for Mauritian enterprises implementing Digital Government solutions.		•	•
G2. Expand International Cooperation and Exchanges in addition to IOC, SADC and COMESA Regional Member States, India, China, Estonia, Europe and other countries	<ul style="list-style-type: none"> Expanded Knowhow in emerging technologies Expanded knowhow in e-Government 	•	•	
G3. Position Mauritius as a technology gateway for Africa	Growth of ICT sector and job creation	•	•	•
G4. Take action to continuously improve the ranking of Mauritius on International indices for the ICT sector	Sustained improvements for the ranking of Mauritius on international indices for the ICT sector	•	•	•

Table 8: International/Regional Cooperation

5 Strategic Wave 3 –Talent Management

Activities	Outcome	Timeline		
		Short	Medium	Long
A1. Take stock of and recognize existing skills	Qualification frameworks to recognize formal and informal skills	•	•	•
A2. Provide scholarship schemes in Emerging technologies	<ul style="list-style-type: none"> At least 50 scholarships awarded on an annual basis to students wishing to specialize in Emerging technologies like AI, blockchain, robotics and additive manufacturing (3D Printing) Sustainable growth of digital skills achieved 	•	•	•
A3. Understand skills demand and supply	ICT skills (including cybersecurity) demand and supply plan formulated	•	•	•
A4. Implement the ICT skills demand and supply plan	ICT skills (including cybersecurity) gap addressed	•	•	•
A5.1. Adopt the right mix of financing instruments for training of human resources in ICT field	Investments in human capital development	•	•	•
A5.2 Organise trainings in collaboration with universities and polytechnics		•	•	•
A5.3 Introduce ICT training incentive schemes for employees		•	•	•
A5.4 Integrate work placements /internships in ICT courses at tertiary levels.		•	•	•
A5.5 ICT skills exchange programmes with international organisations		•	•	•
A6.1 Expand pool of ICT resources in Government to drive system development and network management	Increased number of software developers, network engineers and other ICT professionals	•	•	
A6.2 Attract foreigners and the Mauritian Diaspora to come to Mauritius to work offering them better conditions and a conducive environment	Transfer of knowhow	•	•	•
A7. Ensure that teaching programmes are enhanced to satisfy the needs of the industry	Bridges between educational institutions and industry built	•	•	•

A8. Create shorter learning modules that foster continued learning for employees	Reskilled employees to adapt skills demands	•	•	•
A9. Recognize and promote on-the-job training opportunities and maximize informal learning opportunities	Individual innovations and learnings rewarded	•	•	•
A10. Harness the power and scalability of blended online courses, enhanced with virtual and augmented reality when relevant	Expanded learning opportunities are available.	•	•	•
A11. Ensure that digital and data literacy as well as critical thinking, problem solving courses are integrated in the educational curriculum	Citizens are digitally and data literate as well as critical thinkers and problem solvers	•	•	•

Table 9: Developing Talents

6 Strategic Wave 4 – Cybersecurity and Cybercrime

Activities	Outcome	Timeline		
		Short	Medium	Long
A1. Establish CERT-MU as a legal entity and as a body providing cybersecurity services at national and international level through partnerships	<ul style="list-style-type: none"> CERT-MU is established under the Computer Misuse and Cybercrime Act National and International cybersecurity issues addressed by CERT-MU 	•		
A2. Set up of a Cyber Threat Centre	Secured cyber space	•		
A3. Conduct cyber security threat assessment exercises	Improved cyber threat preparedness	•		
A4. Issue guidelines on good cyber security practices	Improved cyber threat preparedness	•		
A5. Set-up of a regional capacity building centre for cybercrime	Enhanced cyber maturity in the African region.	•		
A6. Formulate a National Cyber Security Accreditation Framework	Certified and accredited organisations for providing secured services			•
A7. Promote Mauritius cyber security services in the region.	Mauritian cybersecurity services are exported to the region		•	•

Table 10: Secured Cyber Space

7 Strategic Wave 5 –Innovation and Emerging Technologies

Activities	Outcome	Timeline		
		Short	Medium	Long
A1. Set up the Mauritius Artificial Intelligence Council (MAIC) to drive the take up of Artificial Intelligence and emerging technologies as vehicles of innovation	Initiatives in the area of Artificial Intelligence and emerging technologies are implemented.	•		
A2. Launching of the first CubeSAT platform to acquire knowledge on satellite technology and how to efficiently collect and process land and ocean data	<ul style="list-style-type: none"> • Better monitoring, decision-making and management of both land based and maritime activities • Advancement in capacity building, research and development and innovation 	•		
A3. Create awareness about Robotics and its applications	Take-up of Robotics in Industry for boosting productivity and for society’s convenience	•	•	•
A4. Introduce package of incentives for Applied Research	Innovation ecosystem is enhanced	•		
A5. Implement National Innovation Framework	Innovation ecosystem is strengthened	•	•	•
A6. Promote the development of Fintech driven services	Growth of Fintech services in the country.	•	•	•
A7. Identify “Champions”, Startups structures through incubators which are on the brink of becoming big and which require all the support they can get.	Emergence of Champions Startups	•	•	•
A8. Simplify, facilitate and alleviate administrative procedures and tasks for Startup structures.	Administrative procedures simplified for Startups structures	•	•	•

Table 11: Building a culture of innovation in the country

Activities	Outcome	Timeline		
		Short	Medium	Long
B1. Attract multinationals to establish Research and Development centres in Mauritius	Research and Development centres established in Mauritius	•	•	•
B2. Attract innovative businesses to locate near university campuses	Innovative businesses thrive together with academia		•	•
B3. Create a platform for exchange among experts in different fields, both in Mauritius and abroad.	Research and innovation network set up	•	•	•

Table 12: Creating an ecosystem sustained by growth enablers

8 Enabling Environment

The development of the ICT sector requires the strengthening of a number of policies including the ICT governance, talent management and national broadband strategy.

The enabling environment will provide operators with a more stable and transparent ecosystem where they can bring more meaningful contribution to economic growth.

Digital Government Transformation Strategy Pillars

The following 12 principles are advocated by the **Digital Government Transformation Strategy 2018 – 2022** for bringing government closer to citizens and businesses and for creating a more open, transparent, innovative, participatory and trustworthy Government:

- I. **Openness, transparency** in Government operations and **inclusiveness** of stakeholders for increased social well-being;
- II. **Engagement and participation of stakeholders** in policymaking and service delivery fosters citizen centered service design and delivery;
- III. **Creation of a data-driven culture** embeds the use of data throughout the policy-cycle to improve existing processes and dynamics in the public sector;
- IV. **Protecting privacy** of people and ensuring digital **security** foster greater interactions with Government through digital means;
- V. **Leadership and political commitment** increases support for the digital Government agenda;
- VI. **Coherent use of digital technology across policy areas** ensures common vision and objectives for public sector digitalisation;
- VII. **Effective organisation and governance frameworks** coordinates the Digital Government Transformation Strategy;
- VIII. **Strengthen international cooperation** with Governments to facilitate sharing skills, knowledge and experiences;
- IX. **Development of clear business cases** to sustain the funding and success of digital technologies projects;
- X. **Reinforce institutional capacities** to better support implementation of digital Government initiatives;
- XI. **Procurement rules** compatible with current trends in technology and **modern methods of ICT deployment** to support the digital transformation of the public sector; and
- XII. **Legal and regulatory framework** to address digital opportunities.

Broadband Policy

There is consensus that broadband is of strategic importance to all countries because of its potential to accelerate the contribution of ICT to economic growth, and facilitate innovation.

Broadband not only satisfies communication needs between individuals, it also provides a platform for applications and offers a wide range of positive externalities which have the potential to support and accelerate development (e.g., in health, education and commerce).

The National Broadband Policy 2012 – 2020 reflects the current and future needs of the country taking into consideration the long-term national objectives and the evolving broadband ecosystem in Mauritius.

Protection of Intellectual Property Rights

Protection of intellectual property rights (IPRs) is an integral part of an enabling legal and regulatory framework.

While Internet offers unprecedented possibilities for global dissemination of information, it also creates vulnerabilities to property rights through unauthorized use.

Legal Framework

The legal framework for the ICT sector is the foundation on which the ICT sector is being constructed.

The framework consists of the following legislations:

- Information and Communication Technologies Act (2001)
- Electronic Transaction Act (2000)
- Computer Misuse and Cybercrime Act (2003)
- Data Protection Act (2017)
- National Computer Board Act (1988)
- Postal Services Act (2002)

Data Protection and Data Privacy Issues

In the global information economy, personal data has become the fuel driving much of current online activity. Every day, vast amounts of personal information is collected, transmitted, exchanged and stored across the globe, enabled by massive improvements in computing power.

The Mauritius privacy law namely, the Data Protection Act 2017 (DPA) is comprehensive and covers both public and private sectors. The Data Protection Office (DPO) is the data privacy regulator in Mauritius. Data Controllers and Processors must register with the DPO to inform their intention to keep or process personal data. The DPA also allows data to be transferred to other countries, subject to certain conditions.

Data protection combines elements of human rights and consumer protection and is considered as a fundamental right. Data protection regulation is also seen as an enabling law, which facilitates the development of new technologies and innovations. Insufficient protection can create negative market effects by reducing consumer confidence, and overly stringent protection can unduly restrict businesses, with adverse economic effects as a result.

The Mauritian data protection and privacy law seeks as much as possible to balance these different concerns and interests, ideally in a way that does not unnecessarily hamper the scope for technological development.

Mauritius data protection and privacy legislation has been brought at par with international best practices including the European Union’s General Data Protection Regulation (GDPR).

Spectrum (Frequency) Management

With the emergence of new technologies like LTE-A, IoT and 5G, the management and allocation of spectrum is reviewed on a regular basis. The freeing up of the Digital Dividend and technological advances in mobile technologies have spurred the concept of allocating spectrum in a “technology neutral” manner – leaving it up to the operators to make use of the allocated bandwidth in the most cost-effective method.

Cyber Security

Being connected is now essential, creating new opportunities for innovation and growth. To be competitive, businesses need to be online. However, this also brings risks. Strong cyber security is a fundamental element for growth and prosperity in a global economy. It is also vital for our national security. However, it requires partnership involving government, the private sector and the community to build resilience to cyber security threats and make the most of online opportunities.

Mauritius is taking the lead to act as a regional coordination centre for cybersecurity for the African Region. This will allow curtailing emerging threats in the African region as well as reducing the regional divide in this area. It will also help in improving regional cooperation in the investigation and prosecution of cybercrime.

Emerging Regulatory Framework

The global trend is to reduce licensing hurdles and to adopt technological neutrality, allowing for greater competition between different delivery platforms for greater end-user access and experience.

Many countries are shifting from service-specific to converged licensing regimes thus relieving investors from licensing rules, which are too restrictive and cumbersome.

In Mauritius, the convergence of the different regulatory bodies (ICT, Broadcasting, posts) into a single regulatory entity is a declared policy of Government. Measures are being taken to provide the appropriate legal framework.

The telecommunications, the broadcasting sector and internet-related industries have differing regulatory traditions. Broadcast regulation is traditionally concerned with the regulation of content, and, in the broadcasting sector, licensing provides the basis for regulation on social policy and cultural criteria.

The Internet sector has a largely unregulated or self-regulatory tradition. Self-regulatory codes and rules for legal liability for content have emerged in relation to the Internet.

The converged institution will be tasked with reconciling these differing regulatory traditions.

9 Conclusion

Mauritius aims to become an inclusive high-income country through the promotion and fostering of a culture of innovation and leveraging on Emerging Technologies such Artificial Intelligence, Blockchain, Robotics, Fintech, 3D Printing, Internet of Things and Big Data (and Data Science) to create wealth and jobs by boosting development in line with the Vision 2030 of the Government.

To sustain the growth of the ICT sector in Mauritius, the right focus for exploiting Emerging Technologies with a state of the art infrastructure, Digital Government applications, pervasive innovations, strong talent management coupled with a Cybersecure and Cyber resilient environment, has been given with the formulation of this Digital Mauritius 2030 Strategy.

The Strategy`s fabric rests on an enabling environment consisting of strong pillars like legal regulatory framework, Data Protection and CyberSecurity frameworks.

Rendez-vous with Destiny

Digital Mauritius 2030 Strategy empowers citizens for transforming Mauritius into a Smart Digital nation where the dream of Vision 2030, ***“Our aim is to embed the use of technology in the day to day life of every Mauritian”*** becomes a reality....