



CHAPTER 9: Build Resilient Infrastructure, Promote Inclusive and Sustainable Industrialization and Foster Innovation

Given our unique position in the Indian Ocean, Mauritius has been improving its legislations and investing massively to explore new ways of expanding the economy of the country, whilst ensuring that all newly implemented projects are resilient and sustainable.

BRIGHT SPOTS

CREATING A MODERN, SAFE AND EFFICIENT LAND TRANSPORT SYSTEM FOR IMPROVED CONNECTIVITY

The total road network stood at some 2,350 km, including 100 km of Motorway. There are around 2,109 public buses serving Mauritius and Rodrigues on more than 322 routes. There were 531,797 vehicles (cars, motorcycles, vans, trucks and buses) registered and operating on the roads of Mauritius in 2017.

In the recent years, traffic congestion and road accidents have been a major concern in Mauritius. To cater for this situation, a number of measures have been adopted which include:

a) Road Decongestion Programme

Ten major projects are being implemented under the Road Decongestion Programme. In this context, Rs 12 billion has been provided over three years (until 2021) for the construction and upgrading of new roads, bridges, flyovers and bypasses under the Road Decongestion Programme.

b) Metro Express Project

The Mauritius Metro Express is a 26km light rail transit system being which includes 19 stations. It will pass through five major towns of the island, including the Capital (Port Louis). The project was officially launched in March 2017 and is being implemented by the Government of Mauritius with financial assistance from the Government of India. Part of the operations are due to begin in September 2019, while train services is expected to be fully operational in early-2021.

The Metro Express will reduce traffic congestion, meet the current and emerging transport needs of Mauritians and improve access to jobs and services for people living in the corridor, whilst providing greater travel choice. The project's development would provide cleaner alternative for commuters and would help meet the country's goal economic growth within a sustainable environment.



Metro Express: Laying on rails in progress

Transforming Port Louis into a Maritime Hub

Port Louis is the sole maritime gateway of the country. It handles 99 percent of the total volume of external trade and contributes 2 percent to GDP. Given the strategic location of Mauritius in the Indian Ocean, a number of measures have been taken since 2015 to transform the port (which is situated in Port Louis) into a Maritime Hub:

- The Mauritius Container Terminal berths have been extended to 800 metres and strengthened to establish Port-Louis as a full-fledged container transshipment hub in the region.
- The navigational channel has been dredged to 16.5 metres, making Port Louis the deepest port in the region capable of accommodating the largest mother vessels of 12,000 TEUs.
- The capacity of the Mauritius Container Terminal has been increased to 750,000 TEUs (from 550,000 TEUs) allowing Port Louis to handle more transshipment traffic.
- 7 cranes are now available for loading and unloading of vessels, positively impacting on port productivity.
- Total cargo traffic has increased by 3 percent to reach 7.5 million tonnes in June 2018.
- The total number of vessels that took bunker at Port-Louis increased by almost 12 percent to reach 2,011 in 2017

Developing the SSR International Airport into a major regional logistics and aviation hub.

The SSR International Airport is the only airport on the island of Mauritius. Currently, more than 20 scheduled airlines serve more than 30 destinations through the SSR International Airport. The passenger terminal handles some 1,640 passengers per hour (both arrivals and departures) and has a capacity of 4 million passengers per year. The Airport is operating at 92 percent of its capacity.

Government has been implementing a series of measures to increase passenger handling capacity to 4.5 million by 2020 and to expand air freight traffic to 65,000 tonnes in 2020. Main recent developments include:

- Lease Agreements signed with three major Operators/Developers for the newly developed Cargo, Freeport and Logistics zone. A fourth operator will start its operations before end-June 2018.
- The air freight traffic has increased by nearly 18 percent in 2017, reaching almost 61,000 tonnes for both inbound and outbound cargo (incl. transshipment).
- The Aviation Training Centre of Mauritius has acquired TrainairPlus accreditation as associate member, thus giving it access to a database of Training Programmes at nominal costs

INNOVATION & TECHNOLOGY

Over the past few years, the ICT sector has evolved as a major growth pole in the Mauritian economy. With an estimated contribution of 5.7 per cent to GDP in 2018, ICT is the 3rd pillar of the economy with a value addition of around Rs 23 billion and providing employment to some 23,000 persons. The sector is currently growing at a rate of around 5 per cent.

In 2017, Mauritius ranked 72nd out of 176 countries worldwide on the *ICT Development Index* and 6th on the *Global Cyber Security Index*. The country is also ranked first in Africa in these indices.

Latest statistics show that the proportion of individuals using internet in Mauritius has almost doubled over the period 2010-2016. Broadband internet, at a speed equal to or greater than 256 Kbps, has tripled from 6.5 subscriptions per 100 inhabitants in 2010 to 19.5 subscriptions per 100 inhabitants in 2017, while broadband penetration is at around 81.4 per cent (June 2018).

In terms of infrastructure, all households are now connected to the *Fibre-to-the-Home* (FTTH) network. In addition, 350 WIFI hotspots are available across the island of Mauritius

A number of measures have recently been taken to enhance the policy framework in the ICT sector to ease the daily life of citizens and businesses. These include the 2017 *Data Protection Act*, the introduction of an information highway (InfoHighway), which includes more than 370 data sharing e-services for data exchange among Government agencies, the *National Open Source Policy* for Mauritius and a *National Open Data Portal*.

CONNECTIVITY IN MAURITIUS

- number of mobile cellular phone subscriptions per 100 inhabitants increased from 143.6 to 145.5;
- number of fixed telephone lines per 100 inhabitants improved from 30.8 to 32.7.

IMPROVING CONNECTIVITY OF THE OUTER ISLANDS

Rodrigues

The Mauritius and Rodrigues Submarine (MARS) subsea cable system, launched in February 2019, is the first project to focus on developing connectivity in Mauritius' outlying islands. The MARS cable connects Rodrigues to the rest of the world and will enable the island to begin its digital transformation and move to a new stage in its economic development.

By multiplying the connectivity in Rodrigues by 500, the MARS cable will offer new opportunities in terms of innovation, from application development to BPO services on Rodrigues Island.

The MARS cable was laid by CS Maram, one of the most modern and environmentally friendly cable ships in the world.

Agalega

Furthermore, Mauritians living on the Island of Agalega have internet connectivity through satellite bandwidth since September 2018. This is the first time the Island has been provided with internet connectivity.

PROMOTING INNOVATION AND SUSTAINABILITY THROUGH SMALL AND MEDIUM ENTERPRISES

Small and Medium Enterprises (SMEs) contribute nearly half of total employment and about 35% in Mauritius. In 2016 alone, the SME Sector accounted for around 55% of the total employment creation in Mauritius. Through successive budget measures, the government of Mauritius has been promoting the creation of innovative SMEs in key sectors such as agriculture, marine, ICT and construction.

In the Budget for Financial Year 2018/2019, Rs. 1 Billion was earmarked for Micro, Small and Medium Enterprises (MSMEs) for a series of schemes which include loan facilities for start-ups, planters engaging in sheltered farming and operators of organic farms, and an Enterprise Modernisation Scheme which provides finance lease facilities to MSMEs to modernize their plant and equipments.

An SME Innovation Award was launched in 2017 with a view to recognizing SMEs which have brought significant innovation in terms of product or process development and thus further encouraging SMEs to nurture a culture of innovation in the long run. The objectives of the SME Innovation Award 2017 are to

- enhance the competitiveness and productivity of the SME sector;
- promote and reward innovative SMEs; and
- encourage local SMEs to be creative and adopt innovative practices, leading to business transformation.

PROMOTING INNOVATION, RESEARCH AND DEVELOPMENT

Given the importance of research for raising the quality teaching and learning, elevating ranking of universities based in Mauritius, and for creation of knowledge, there is an increased focus placed to further the research agenda.

Expected Investment on Research and Innovation		
2018/2019	2019/2020	2020/2021
Rs 130 M	Rs 120 M	Rs 110 M

In this context, a National Research Week (NRW) was organised for the Higher Education Sector for the first time in May 2018 to create a platform for over 600 researchers to meet and interact as well as disseminate their research findings. The NRW was considered as a successful event and will now be organised on an annual basis. **The second NRW is scheduled in the month of April for the year 2019.**

Moreover several Research Schemes have been initiated by institutions in charge of R&D such as the Tertiary Education Commission which provides funding for the benefit Tertiary Education Institutions and the Mauritius Research Council which is implementing a number of Research and Innovation schemes to usher the country on a higher growth trajectory.

The Pole of Innovation Grant Scheme is one of many existing schemes. This specific grant aims to enhance the impact of Research and Innovation on the economic development of Mauritius by promoting creation of innovative products, services and goods and spurring innovation through advanced research and partnerships among local institutions, academia, companies and

international stakeholders. The list of priority areas for potential proposals include domains such as:

- Renewable Energy
- Ocean/Marine Technology, Resources and Services
- ICT/BPO/Telecommunications (including High Performance Computing and Cloud Computing)
- Life Sciences (including Health, Medical, Pharmaceutical and Biotechnology)
- Manufacturing and Food Processing
- Social Sciences

Robotics and Coding

Moreover, 1,200 students (aged between 11 to 25 years) and 40 trainers initiated to Robotics during financial year 2017/2018, while 1,100 students initiated to coding under the Digital Youth Engagement Programme (DYEP) during the same period.

The training on coding under Digital Youth Engagement Programme targets 2500 persons by the end of financial year 2018/2019 and a further 2600 persons by the end of financial year 2019/2020.

FUTURE CHALLENGES AND OPPORTUNITIES

CHALLENGES	OPPORTUNITIES
<p>Failure rate of small new businesses is high in their initial years. Lack of experience of the entrepreneur and insufficient support mechanisms for start-up companies are some of the major bottlenecks faced by SMEs willing to innovate.</p>	<ul style="list-style-type: none"> • The setting up of a National SME Incubator Scheme (NSIS) under which the Government and the private sector incubators provide the appropriate training and mentoring facilities, co-financing opportunities, office space and other relevant resources to nurture (i) innovative ideas, (ii) early business start-ups and (iii) SMEs willing to expand their activities and explore new markets. • 32 incubatees were supported through the NSIS during financial year 2018/2019. The aim is to reach 150 incubatees by 2021.
<p>Research funds of Rs 50M are provided to encourage academics to perform research. However, given the overwhelming interest and demand for research, more funds are required to boost research.</p>	<ul style="list-style-type: none"> • Assistance can be sought for Mauritius to tap resources for research purposes from international agencies. Research activities can be cross-border. • Technical assistance can be sought for creating a database of all pure research carried out in Mauritius. This repository can be used for sharing and avoiding duplication in research activities. Same would apply for applied research.
<p>Some research cut across various sectors and there is a need to have a repository for all research (both pure and applied research) carried out in Mauritius.</p>	

The initiative of having a fleet of electric buses has known a very slow progress given the rigidity in having recourse to funding from International Development Partners (such as UNDP);

As a result of potential hazard that exist on the complex terrains in Mauritius (A Volcanic Island), Development of new infrastructures and maintainance of old ones often prove more costly than initially anticipated.

- Bus modernisation scheme is being implemented to encourage renewal of the fleet with low emission buses

- The Geotechnical Unit was set up mainly to address geotechnical issues (not limited to rock fall, landslide and debris flow) that may pertain at the initial stage of any development in Mauritius.

- The Unit will be equipped with adequately trained personnel to provide technical advice on infrastructure projects with respect to geotechnical risks on existing and new infrastructural developments.

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