National Skills Development Strategy
2022-2026

A roadmap for tomorrow’s skills
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2022-2026

A roadmap for tomorrow's skills
I am glad that the National Skills Development Strategy (NSDS) is now well underway. The need for a rethinking of our “skills palette” is everyone’s business, and will require a shared commitment across ministries, parastatal bodies as well as social partners. Skills are essential to sustain employability, ensure a readily available pool of skilled labour and foster the future competitiveness of Mauritius.

In order to maximise on opportunities offered by new technologies for disruptive growth, it is critical that the talent pipeline is rightly equipped. Occupational and qualification profiles will also undergo significant changes as a result of the changing nature of work, which is primarily being driven by the digital revolution. That is why Mauritius needs a new skills culture that values lifelong learning & training.

Henceforth, the National Skills Development Strategy, approved by Cabinet on 13 May 2022, looks through the lens of the future worker. It introduces a new approach to skills development in Mauritius. It is about cultivating the full range of skills, from the creative to the complex cognitive capabilities that the future workforce will need.

The entire spectrum of skills for employability is thus covered by the strategy, from informal and alternative approaches to formal approaches, including apprenticeships, entrepreneurship, pre-employment and vocational education, post-employment skill upgrading, etc.

Furthermore, this strategy offers a path for lifelong learning in line with the changing nature of the labour market, which is characterised by digital disruption, the fourth industrial revolution, globalisation, automation and the COVID-19 pandemic. The world being now a global village, there are also a lot of job opportunities for Mauritians as long as they have acquired specific skills that are in demand.
I would like to commend the Human Resource Development Council (HRDC) for its support for developing this strategy and I look forward to its fruitful implementation. I trust that the NSDS will help policymakers and leaders of educational and training institutions put in place the investments, incentives and infrastructure that will transform the system for a better future of our country.

This strategy will have served its purpose as a catalyst if it is followed by concrete actions in the schools, universities and workplaces where people’s skills are developed, activated and put to use. Concerted efforts are now needed to connect skills with jobs, with productivity and with prosperity.
Foreword

Skills are the global currency of the 21st century. Prior to the outbreak of the COVID-19 pandemic, the global economy and the world of work in general were already witnessing perpetual changes in the demand for appropriate skills sets. The COVID-19 pandemic has put to the fore the importance of a skills strategy that is structurally responsive to external shocks, as well as flexible enough to accommodate dynamic demands.

Without proper investment in skills, individuals do not make use of their full potential and do not optimally contribute to socio-economic growth, which erodes the competitive edge of economies. While certain hard skills will lose importance over time, other types of skills will be needed to cater for the impacts of technological, digital, socio-economic, geopolitical, and sanitary disruptions. Rapidly evolving skills needs raise challenges for labour market and skills development systems in most countries. Mauritius is no exception, and the supply of appropriate skills is a perpetual challenge. Given the sustained transformation of the economy, skills shortages exist, and stakeholders find it increasingly challenging to craft policies to deal with this situation. Job seekers face difficulties in finding job opportunities matching their qualifications, and employers grapple with the lack of skilled human resources. Consequently, some degree of misalignment between the supply and demand for skills is inevitable, particularly in the short run. However, the costs of persistent mismatch and shortages can be substantial. Individuals are also affected, as skills mismatch can bring about a higher risk of unemployment, lower wages, lower job satisfaction and poorer career prospects besides a decrease in productivity at enterprise level.

The formulation of the National Skills Development Strategy 2022-2026 grows out of the increased need for skills development to contribute towards addressing economic, social and developmental realities. Based on 2019 data, Mauritius was classified as a high-income country (World Bank 2020b) by the World Bank, which now categorises the island as an upper middle-income country (World Bank 2020b; 2022). The sustained supply of appropriate skills will therefore be one of the determining enablers that will contribute to upholding or improving this categorisation. The NSDS aims at underpinning and supporting Mauritius to achieve sustained growth and maintain its competitiveness in the long term. The timely implementation of the actions and targets set out in the strategy will support the development of a well-skilled and adaptable labour force.

Success will necessitate the involvement of all partners within the skills development space, including government, employers, education and training providers, non-governmental organisations and the society at large. An appreciation of the respective roles and responsibilities that each individual must play and shoulder so that our people and our economy can reach its full potential will also be required. The Strategy and its Action plan are the result of the collective effort of Ministries, parastatal bodies, education, training providers and private sector representatives, all vested with the common goal of improving and reforming the skills development system of Mauritius.
Acknowledgements

Steering committee
[February 2018-August 2019]

Chairperson(s)

1. Mr R. P. Ramlugun, Senior Chief Executive, the then Ministry of Education, Human Resource, Tertiary Education and Scientific Research (February 2018).
2. Mr T. Appadu, Permanent Secretary, Prime Minister’s Office (from February 2018 to February 2019).
3. Mr K. Samlall, Deputy Permanent Secretary, Prime Minister’s Office (as from February 2019).

Members

1. Mr R. Meettook, Permanent Secretary, the then Ministry of Education, Human Resource, Tertiary Education and Scientific Research.
3. Mr R. Auckkloo, Director, HRDC.
4. Mrs N. Aumeer, Chief Employment Officer, MLHRDT.
5. Mr S. Bhunjun, Manager, Learner Attainment and Information Services, MQA.
8. Mr P. Joosery, Director, MITD.
9. Dr H. Neeliah, Manager, Research and Projects, HRDC.
10. Mr C. Paddia, Lead Analyst, MoFEPD.
11. Mr A. Patten, Chargé de Projets, AFD
12. Mrs S. Rama, Director, MoFEPD.
14. Ms P. K. Ramtohul, Senior Research and Development Officer, HRDC.
15. Mr A. Valaydon, Ag. Head, Research and Planning Division, HEC.
16. Mrs P. Imrit, Administrative and HRM Officer (Acting as Secretary), HRDC.

Editorial Committee members
[February - May 2019]

1. Dr H. Neeliah, Manager, Research and Projects, HRDC.
3. Dr N. K. Betchoo, Dean of Faculty, Business and Management, Université des Mascareignes.
4. Mr S. Bhunjun, Manager, Learner Attainment and Information Services, Mauritius Qualifications Authority.
5. Dr C. Boodhoo, Lecturer, Department of Curriculum Studies and Evaluation, Mauritius Institute of Education (MIE).
7. Mrs D. Jugoo, Chief Employment Officer, MLHRDT.
8. Mr B. Lotun, Ag. Divisional Manager, Research, Planning & Curriculum Development, Mauritius Institute of Training and Development.
10. Mrs R. D Rampersad, Educational Technologist, University of Mauritius.
11. Ms P. K. Ramtohul, Senior Research and Development Officer, HRDC.
12. Mr A. Valaydon, Ag. Head, Research and Planning Division, HEC.
13. Ms R. Subramanyan, Research and Development Officer, HRDC.

Project Team

1. Dr H. Neeliah, Manager, Research and Projects, HRDC.
2. Ms P. K. Ramtohul, Senior Research and Development Officer, HRDC.
3. Ms R. Subramanyan, Research and Development Officer, HRDC.
4. Mrs A. Ardigier, Direction Ingénierie de Projets, SFERE, Project Management Division.
5. Mr J. Buffenoir, Consultant SFERE.
6. Mr J. L. Marcellin, Consultant SFERE.
7. Mr A. Patten, Chargé de Mission, Agence Régionale pour Maurice et les Seychelles, Agence Française de Développement.
8. Mr V. Seegolam, Consultant SFERE.
9. Mrs P. Imrit, Administrative and HRM Officer (Acting as Secretary), HRDC.

Editing, copyediting and proofreading

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Executive summary

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List of acronyms

AFD  Agence Française de Développement
AI  Artificial Intelligence
BTW  Back To Work
CEDEFOP  Centre Européen pour le Développement de la Formation Professionnelle
CPD  Continuous Professional Development
DTP  Dual Training Programme
E&T  Education and Training
ECTS  European Credit Transfer and Accumulation System
ECVET  European Credit System for Vocational Education and Training
EDB  Economic Development Board
ENIC  European Network of Information Centres (in the European Region)
EOE  Export-Oriented Enterprises
ERASMUS  European Community Action Scheme for the Mobility of University Students
GTES  Graduate Training for Employment Scheme
HE  Higher Education
HEC  Higher Education Commission
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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>HEI</td>
<td>Higher Education Institution</td>
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<td>HIC</td>
<td>High-income countries</td>
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<td>HRDC</td>
<td>Human Resource Development Council</td>
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<td>HSC</td>
<td>Higher School Certificate</td>
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<td>ICT</td>
<td>Information, Communication and Technology</td>
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<td>ILO</td>
<td>International Labour Organization</td>
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<td>ITET</td>
<td>Institute of Technical Education and Technology</td>
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<td>LLL</td>
<td>Lifelong Learning</td>
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<td>LGS</td>
<td>Levy Grant System</td>
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<td>MICT</td>
<td>Ministry of Information Technology, Communication and Innovation</td>
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<td>MIE</td>
<td>Mauritius Institute of Education</td>
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<td>MITD</td>
<td>Mauritius Institute of Training and Development</td>
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<td>MLHRDT</td>
<td>Ministry of Labour, Human Resource Development and Training</td>
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<td>MoETEST</td>
<td>Ministry of Education, Tertiary Education, Science and Technology</td>
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<td>MoIDSC</td>
<td>Ministry of Industrial Development, SMES and Cooperatives</td>
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<td>MOFEPD</td>
<td>Ministry of Finance, Economic Planning and Development</td>
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<td>MOOCs</td>
<td>Massive Open Online Courses</td>
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<td>MQA</td>
<td>Mauritius Qualifications Authority</td>
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<td>MRIC</td>
<td>Mauritius Research and Innovation Council</td>
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<td>MSMEs</td>
<td>Micro, Small and Medium Enterprises</td>
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<td>NAP</td>
<td>National Apprenticeship Programme</td>
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<td>NARIC</td>
<td>National Academic Recognition Information Centres (in the European Union)</td>
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<td>NCF</td>
<td>National Curriculum Framework</td>
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<td>NQF</td>
<td>National Qualifications Framework</td>
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<td>NSDP</td>
<td>National Skills Development Programme</td>
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<td>NTF</td>
<td>National Training Fund</td>
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<td>NCVTS</td>
<td>National Credit Value and Transfer System</td>
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<td>NYCEB</td>
<td>Nine-Year Continuous Basic Education</td>
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<td>NYCS</td>
<td>National Youth Civic Service</td>
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<td>NYS</td>
<td>Nine-Year Schooling</td>
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<td>NZQA</td>
<td>New Zealand Qualifications Authority</td>
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<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
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<td>OS</td>
<td>Occupational Standards</td>
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<td>PFI</td>
<td>Publicly Funded Institutions</td>
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<td>PML</td>
<td>Polytechnics Mauritius Ltd</td>
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<td>PMO</td>
<td>Prime Minister’s Office</td>
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<td>PSAC</td>
<td>Primary School Achievement Certificate</td>
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<td>PSEA</td>
<td>Private Secondary Education Authority</td>
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<td>PSEIs</td>
<td>Private Post-Secondary Educational Institutions</td>
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<td>QAA</td>
<td>Quality Assurance Authority</td>
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<td>QAF</td>
<td>Quality Assurance Framework</td>
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<td>QAS</td>
<td>Quality Assurance System</td>
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<td>Acronym</td>
<td>Full Form</td>
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<td>RPL</td>
<td>Recognition of Prior Learning</td>
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<td>RTI</td>
<td>Registered Training Institution</td>
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<td>SDA</td>
<td>Skills Development Authority</td>
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<td>SDSP</td>
<td>Skills Development Support Programme</td>
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<td>SFERE</td>
<td>Société Française d’Exportation des Ressources Educatives</td>
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<td>SSDS</td>
<td>Sectoral Skills Development Programme</td>
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<tr>
<td>STEM</td>
<td>Science, Technology, Engineering, Mathematics</td>
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<td>STEAM</td>
<td>Science, Technology, Engineering, Arts, Mathematics</td>
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<td>STM</td>
<td>Service to Mauritius Programme</td>
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<td>SIC</td>
<td>Strategy Implementation Committee</td>
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<td>TEC</td>
<td>Tertiary Education Commission</td>
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<td>TVET</td>
<td>Technical and Vocational Education and Training</td>
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<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>VUCA</td>
<td>Volatility, Uncertainty, Complexity and Ambiguity</td>
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<td>WEF</td>
<td>World Economic Forum</td>
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<td>WGSD</td>
<td>Working Group on Skills Development</td>
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<td>WoW</td>
<td>World of Work</td>
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<td>WTO</td>
<td>World Trade Organisation</td>
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<td>YEP</td>
<td>Youth Employment Programme</td>
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Executive summary
Introduction

1. The quality of a nation’s education and training system impacts its long-term economic growth and income distribution, and a country’s improved education and training system can lead to an improved future. Improvements in the skills of a nation’s human capital can have enormous impacts on its economic development and future well-being.

2. The journey of the economic transformation of Mauritius has been remarkable. The country’s economy has made significant strides since independence, and Mauritius has now been conferred the status of an upper-middle income country by the World Bank (World Bank 2022b). Mauritius followed the traditional path of economic development, from primary to secondary to tertiary sectors, and is now paving its way towards a knowledge-based economy. The concept of knowledge economy is based on the view that information, knowledge and high skills are requisites of economic growth and development.

3. The country’s economy is driven by the ‘services’ sector, which accounts for around 76% of GDP. The ‘service’ sector is highly diverse, ranging from infrastructure services such as telecommunications, logistics and financial services, to tourism, ICT & business services, and social services such as health and education. Government policies now seek to stimulate economic growth in several areas, keeping inclusiveness, peace, democracy and governance, security, sustainability, ecology and connectivity central to development. In building the economy of the future, the Government Programme 2020-2024 is premised on the following areas of development: embracing the fourth industrial revolution and investment in cutting-edge technologies, including Artificial Intelligence, robotics, blockchain and Internet of Things; youth empowerment and development, digitalising public services and creating an e-Mauritius; promoting digital entrepreneurship, innovation and Research and Development; investing in technology accelerators and incubators targeted to Micro, Small and Medium Enterprises sector; encouraging the shift to modern organic and niche production in agriculture; boosting the conventional and smart construction sector; rebranding the tourism sector and targeting new markets; developing the fintech eco-system; promoting innovation-led and technology-intensive production to build export competitiveness; developing the blue economy; boosting the creative industry; and developing the circular economy, amongst others. Whilst the competitiveness of Mauritius is based on a large number of factors, the availability of highly skilled labour plays an important role.

4. Because improved education and training affords individuals high-quality knowledge and skills needed for contemporary labour markets, Mauritius recognises that today’s strategic investments in the development of its people are the foundation of tomorrow’s socio-economic development. As a modern nation, Mauritius wants to elevate its people’s skill level to create a workforce with the required competencies for existing and emerging sectors.

5. To be able to achieve these goals, there was a need for an overarching framework that would create the right conditions to develop a skilled and capable workforce that contributes to and benefits from economic growth.

6. Human resources are undoubtedly at the heart of any economic development process, hence the need to foster skills and competencies of people for
competitive economic advantage. The National Skills Development Strategy (NSDS) proposes a framework to create a development system that promotes foresightedness, responsiveness, inclusion and employability. The strategy is responsive to the changing demands of the local and global economy, and helps promote and also sustain social and economic development. It endeavours to build upon existing strengths and opportunities, taking into consideration both international best practices and endogenous knowledge and realities. The NSDS provides the vision and direction for skills development over the coming years, setting out the major commitments and key reforms that government needs to embark on and implement in partnership with relevant institutions, industry, workers and society. The intricate multiple responsibilities of all the different partners for the implementation of the strategies and the specific actions are crucial to the success of the NSDS.

7. The key driving force of this strategy is improving the effectiveness and efficiency of the skills development system. It is recognised that education, training and lifelong learning are fundamental to sustainable economic and social development. These should, therefore, form an integral part of comprehensive economic, social and labour market policies and programmes. The goal of the NSDS is to ensure that all these multiple structures and agents are mobilised towards a common purpose to ensure relevant and quality skills development initiatives in the medium to long term.

8. With the outbreak of the COVID-19 pandemic, the global economy and the World of Work (WoW) have faced significant tremors and have been severely impacted. It is fair to assume that COVID-19 can happen in waves, meaning that actions to counteract its impact within education and training systems and the world of work will also need to be cyclical.

9. The NSDS seeks to promote a skills development system and architecture that effectively responds to the needs of the labour market and also provides the skills needed by the recovering economy. The strategy seeks to establish and promote closer links between the WoW and the world of education and training. Our competitive advantage lies in the quality of our human capital and we therefore need to galvanise the efforts of all stakeholders with a view to creating a national synergy in developing a competent and skilled workforce for the country. The implementation of a fit-for-purpose NSDS will accelerate the process of transforming Mauritius into an increasingly skills-based society.

10. The NSDS seeks to address the local challenges identified at the diagnostic phase of the project. Global drivers also impact skills, thus warranting attention. These drivers comprise demographic changes at the global level, globalisation, changing work patterns, technological advancements and innovation, and higher educational attainment level of people across the world. Besides exerting more pressure on the local Education and Training (E&T) system, these forces have the potential to generate and contribute to a mismatch in skills. This strategy aims at addressing the challenges that are impacting on the ability of our economy to increase our international competitiveness and ensure efficient and effective use of our human resources.
Objectives of the Strategy

11. With the technical support of the Agence Française de Développement (AFD) and collaborating partners, the Human Resource Development Council (HRDC) has developed the National Skills Development Strategy 2022-2026 (NSDS).

12. The main aim of the NSDS is to improve the effectiveness and efficiency of the skills development system in Mauritius so that it is more responsive to the upcoming skills challenges, particularly with the manifold challenges brought about by the outbreak of the COVID-19 pandemic and the Russia-Ukraine conflict. Against this backdrop, the objectives of the NSDS have been mapped out as follows:
   • Chart the pathway for skills development in line with the vision of the government;
   • Assess the current status and set-up of skills development in the country;
   • Identify themes and areas in the skills development system that would require improvement; and
   • Propose actionable recommendations that would improve the current set-up.

Project governance and methodology

13. The Société Française d’Exportation des Ressources Educatives (SFERE) was awarded the contract to provide technical assistance to the HRDC to implement the project.

14. A steering committee comprising both public and private sector stakeholders was set up to oversee the development and formulation of the NSDS.

15. A three-tiered approach was adopted to develop the NSDS. The first phase comprised a thorough diagnosis of the local skills development and education system in order to generate a methodological approach for different technical working groups. Thematic workshops followed in the second phase, whereby stakeholders were engaged in brainstorming sessions and collectively came up with possible ways to address identified issues. In the third phase, the Strategy and Action plans were developed.

16. The Strategy and the Action plan were developed by an Editorial Committee comprising members from both public and private sectors. The Strategy was submitted for consultation to a wide range of stakeholders; and input sought from the public at large. The HRDC has coordinated the consultation and drafting process.
Strategic framework: a common vision for the skills system of Mauritius

17. The NSDS is anchored around three main strategic clusters, namely:
   • Improving skills system effectiveness;
   • Tackling skills imbalances; and
   • Strengthening the E&T system to prepare and empower young people for the future.

18. The strategic clusters and the respective strategies are presented below.

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<tr>
<th>Strategic Cluster</th>
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<tr>
<td>Improving skills system effectiveness</td>
<td>Establish and maintain a centralised and up-to-date repository of occupational and qualification standards to confer operational status to the NQF</td>
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<tr>
<td>Reskill and upskill educators, trainers and lecturers <em>(Primary, Secondary, Tertiary and TVET)</em></td>
<td>Improve articulation between Quality Assurance Frameworks for TVET and Higher Education</td>
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<td>Review framework for curriculum development</td>
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<tr>
<td>Introduce a credit point system to improve articulation between the TVET and HE sectors within the NQF</td>
<td>Improve financial support for relevant training</td>
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Implementation of the NSDS

19. Effective implementation of skills policies at the national level depends on a governance structure that enhances policy coherence and provides strong coordination mechanisms for implementation across the three pillars of developing, activating and using skills.

20. An Action plan has been prepared comprising 65 actions for the operationalisation of the strategies by several stakeholders. The key actions together constitute a strong and coherent platform for new policy development and better implementation of existing skills policies. Achieving them will require the integrated and concerted action of ministries, education and training institutions, the private sector and other stakeholders.

21. A clear understanding of how to effectively implement this strategy is of essence. For this reason, capacity building is a common feature to all the strategies.

22. A centrally coordinated Strategy Implementation Committee (SIC), chaired by the parent Ministry, will oversee the implementation of the strategies under the NSDS. Its membership will comprise stakeholders from the public and private sectors [including Ministry of Labour, Human Resource Development and Training (MLHRDT), Ministry of Education, Tertiary Education, Science and Technology (MoETEST), Ministry of Industrial Development, SMES and Cooperatives (MoIDSC), Business Mauritius, Mauritius Institute of Education (MIE), Mauritius Institute of Training and Development (MITD), Mauritius Qualifications Authority (MQA), SME Mauritius, Economic Development Board (EDB) and the HRDC, among others]. The SIC, in collaboration with various stakeholders, will drive the implementation of the Strategy.
Introduction
1. Introduction

1. The quality of a nation’s education and training system impacts its long-term economic growth and income distribution, and a country’s improved education and training system can lead to an improved future. Improvements in the skills of a nation’s human capital can have enormous impacts on its economic development and future well-being.

2. Because improved education and training affords individuals high-quality knowledge and skills needed for contemporary labour markets, Mauritius recognises that today’s strategic investments in the development of its people are the foundation of tomorrow’s socio-economic development. As a modern nation, Mauritius wants to elevate its people’s skill level to create a workforce that is endowed with the required competencies for existing and emerging sectors. For instance, technology in the construction sector comes with devising innovative ways of constructing whilst the changing future of construction is largely unknown. There are some construction technology trends that are paving the way to certain futuristic construction technologies. Innovative practices such as offsite construction are also taking off, whereby the whole or parts of the building are built offsite and transported onsite. In the agricultural sector, developments have started on protected farming for specific cultures, coupled with developments like modern greenhouse practices, automated production systems, precision agriculture, autonomous tractors, robotic harvesters, automatic watering, vertical farming and seeding robots. In the tourism sector, the movement towards adopting a green and sustainable tourism has started and needs to be reinforced through innovative measures. Concerted effort among key stakeholders is necessary to prepare youth towards the emerging skills needs, taking into consideration the uncertainties in the world.

3. To be able to achieve these goals, there was a need for an overarching framework that would create the right conditions to develop a skilled and capable workforce that contributes to and benefits from economic growth.

4. Human resources are undoubtedly at the heart of any economic development process, hence the need to foster skills and competencies of people for competitive economic advantage. The National Skills Development Strategy (NSDS) proposes a framework to create a development system that promotes foresightedness, responsiveness, inclusion and employability. The strategy is responsive to the changing demands of the local and global economy, and helps promote and also sustain social and economic development. It endeavours to build upon existing strengths and opportunities, taking into consideration both international best practices and endogenous knowledge. The NSDS provides the
vision and direction for skills development over the coming years, setting out the major commitments and key reforms that government needs to embark on and implement in partnership with relevant institutions, industry, workers and society. The intricate multiple responsibilities of all the different partners for the implementation of the strategies and the specific actions are crucial to the success of the NSDS.

5. The key driving force of this Strategy is improving the effectiveness and efficiency of the skills development system. It is recognised that education, training and lifelong learning are fundamental to ensuring sustainable economic and social development. They should, therefore, form an integral part of comprehensive economic, social and labour market policies and programmes. The goal of the NSDS is to ensure that all these multiple structures and agents are mobilised towards a common purpose to ensure relevant and quality skills development initiatives in the medium-to long-term.

6. With the outbreak of the COVID-19 pandemic, the global economy and World of Work (WoW) have faced significant tremors and have been severely impacted. It is fair to assume that such pandemics can happen in waves, meaning that actions to counteract their impact within education and training systems and the world of work will also need to be cyclical.

7. The NSDS seeks to promote a skills development system and architecture that effectively respond to the needs of the labour market and also provide the skills needed by the recovering economy. The Strategy seeks to establish and promote closer links between the WoW and the world of education and training. Our competitive advantage lies in the quality of our human capital, and we therefore need to galvanise the efforts of all stakeholders with a view to creating a national synergy in developing a competent and skilled workforce for the country. The implementation of a fit-for-purpose Strategy will accelerate the process of transforming Mauritius into an increasingly skills-based society.
Objectives, project governance and methodology
2. Objectives of the strategy

8. The main aim of the NSDS is to improve the effectiveness and efficiency of the skills development system in Mauritius so that it is more responsive to the upcoming skills challenges, particularly with the manifold challenges brought about by the outbreak of the COVID-19 pandemic. Against this backdrop, the objectives of the NSDS have been mapped out as depicted in Figure 1.

![Figure 1: Objectives of the strategy](image)

3. Project governance and methodology

9. A Steering Committee comprising both the public and private sector stakeholders was set up to oversee the development of the NSDS.

10. The Société Française d’Exportation des Ressources Educatives (SFERE) was awarded the contract to provide technical assistance to the HRDC to assist in the development of the Strategy.

11. With the support of Agence Française de Développement (AFD) and collaborating partners, the Human Resource Development Council (HRDC) has developed the NSDS 2022-2026.

12. The Strategy and the Action Plan were developed by an Editorial Committee comprising members from both public and private sectors. The draft Strategy and Action Plan were submitted for consultation to a wide range of stakeholders, and the public at large was invited to provide input. The HRDC has coordinated the development, consultation and drafting process. A three-tiered approach was adopted to develop the NSDS (Figure 2). The first phase comprised a thorough
diagnosis of the local education and skills development systems. Thematic workshops followed in the second phase whereby a wide range of stakeholders were engaged in brainstorming sessions and collectively came up with possible ways to address issues identified. In the third phase, the Strategy and Action Plan were developed bearing in mind international best practices and the existing skills ecosystem.

13. From the diagnosis of the current skills development at Phase I, the following five themes emerged for further development:
   1. Labour market skills needs;
   2. R&D, impact of technology and automation on skills needs;
   3. Micro, Small and Medium Enterprises and Skills Development;
   4. The role of education and training systems in skills formation; and
   5. Skills development support infrastructure.

14. At Phase II, thematic working sessions were conducted with relevant stakeholders on the identified themes. The main aim of the working sessions was to brainstorm on the salient features surrounding each theme to collectively identify issues and come up with preliminary proposals.

15. A set of deliverables helped to scaffold the phases of the project.

16. Phase III consisted of the drafting of the Strategy, building on the deliverables and the outcomes of the thematic working groups, as well as developing the Action Plan. An Editorial Committee was set up to expand on the strategies worked out the Project Team and prioritised by the NSDS Steering Committee.

17. A validation workshop was organised to engage a broad range of key stakeholders and extend the consultation process to solicit views and comments for further refinement of the strategy.
A snapshot of the socio-economic context of Mauritius and the challenges ahead
4. A snapshot of the socio-economic context of Mauritius

18. The journey of the economic transformation of Mauritius has been remarkable. The country’s economy has made significant strides since independence and Mauritius has now been conferred the status of a high-income country by the World Bank (World Bank 2020b) and upper middle-income country (World Bank, 2022). Mauritius, which has followed the traditional path of economic development from primary to secondary and tertiary sectors, is now paving its way towards a knowledge-based economy. The concept of knowledge economy is based on the view that information, knowledge and high skills are requisites of economic growth and development.

19. The country’s economy is driven by the Services sector, which accounts for around 76% of GDP. The Service sector is highly diverse, ranging from infrastructure services such as telecommunications, logistics and financial services, to tourism, ICT & business services, and social services such as health and education. Government policies now seek to stimulate economic growth in several areas, while also catering for the following: inclusiveness; peace, democracy and governance; security, sustainability, and connectivity with other countries. In building the economy of the future, the Government Programme 2020-2024 is premised on the following areas of development: embracing the fourth industrial revolution and investment in cutting-edge technologies, including Artificial Intelligence, robotics, blockchain and Internet of Things; youth empowerment and development, digitalising public services and creating an e-Mauritius; promoting digital entrepreneurship, innovation and Research and Development; investing in technology accelerators and incubators targeted to Micro, Small and Medium Enterprises sector; encouraging the shift to modern organic and niche production in agriculture; boosting the conventional and smart construction sector; rebranding the tourism sector and targeting new markets; developing the fintech eco-system; promoting innovation-led and technology-intensive production to build export competitiveness; developing the blue economy; boosting the creative industry; developing the circular economy, amongst others. Whilst the competitiveness of Mauritius is based on many factors, the availability of highly skilled labour plays an important role.
20. The country’s workforce has been the cornerstone of the emergence of local industries in manufacturing, ICT and financial services. However, with the transition to high value-added sectors and advancement in technological innovation, the economic model based on labour arbitrage is likely to be seriously challenged in the future. Mauritius has simultaneously streamlined its processes to improve the ease of doing business and for construction permits, registering property, enforcing contracts and resolving insolvency. As a consequence, Mauritius was ranked 13th with a score of 81.5, just after Malaysia and before Australia (World Bank 2020a), in the ‘Ease of Doing business 2020’ classification.

21. Despite its economic success and social progress, the Mauritian economy is facing several headwinds, including rising unemployment, especially amongst women and the youth. However, the unprecedented adverse impact that the COVID-19 pandemic is having and will have on our country has called into question all projections and further exacerbated pre-COVID-19 challenges. Consequently, a re-thinking is warranted to help the country face the many structural shifts looming ahead, such as an increase in unemployment and a significant GDP contraction. In order to embrace a sustainable and truly inclusive high growth trajectory, Mauritius needs to channel additional resources into more productive sectors. The country needs to simultaneously invest heavily in education, skills development and capacity building to develop its human capital across all socio-economic strata. As a small country with a narrow domestic skills base and an ageing population, improving the skills development system and addressing current constraints to labour participation and productivity will assist in enhancing national wellbeing.

22. Achieving the right skills mix and making sure that these skills are used effectively will underpin Mauritius’ capacity to innovate and drive sustained economic transformation.
4.1. Overview of the population and labour market

23. The Mauritian economy and its workforce are undergoing significant transformation. The population of Mauritius is presently estimated at 1,263,888 with the female population being higher than the male one (Statistics Mauritius 2021).

24. With a declining fertility rate of 5.86 in 1968 to a current low of 1.40 in 2020, the population size is expected to remain relatively static for the next 30 years, thereby resulting in an ageing population, and by 2050, over 35% of the population is expected to be over the age of 60 (PwC 2018). Constrained by low birth rates and a rapidly ageing population, the growth of the local workforce is expected to slow substantially in the coming years (see Figure 4). The population is expected to reach to 1,185,525 in 2050, with 28.1% of the population being in the 50-69 years age range.

25. It is imperative to continue to nurture, develop and optimise our human capital into a more productive and future-ready workforce.

Figure 4: The population pyramid until 2050

(Source: populationpyramid.net)

4.2. Labour force, employment and youth unemployment

26. The total labour force for the year 2021 was 532,800 comprising 318,800 males and 214,000 females (Statistics Mauritius 2021). At the end of 2021, the total number of employed persons was 484,400 whilst 48,400 persons were unemployed (see figure 5). The unemployment rate was 9.1% (ibid). The dramatic impact of the COVID-19 pandemic worldwide has unfortunately
not spared Mauritius, with an anticipated increase in unemployment in certain sectors. In the face of current and protracted disruptions, the required skills need to be built to foster shared resilience and the capacity to transact various forms of displacement towards the new normal in the world of work.

Figure 5: Mauritius in figures

27. According to the World Bank (2017), Mauritius features an overall labour market participation rate of around 70% measured over the last decade. Although women’s labour force participation rose steadily over the decade and reached 57% by 2015, women are still severely disadvantaged in accessing the Mauritian labour market. Closing the gender gap remains a challenge. The employment-to-population ratio has increased over the last decade to reach an average of 68% in 2015. Among men, the rate was as high as 85.0%, whereas women still lag behind, at a rate of 51.5%.

28. Unemployment among youth (16-24 years) is one of the most challenging economic and social problems that policymakers are facing around the world. In Mauritius, in 2021, out of the 16,000 unemployed youths, 8,000 were females and 8,000 were males (Statistics Mauritius 2021). Youth unemployment rate was around 19.3% in 2008. It followed an increasing trend to peak at 26.3% in 2015. It declined to 22.8% in 2019 and gradually increased to 27.7% in 2021. The greatest challenge is how to properly nurture the youth to become more employable and highly productive to spearhead the dynamic transformation of the economy.

29. The number of work permits issued by the Ministry of Labour, Human Resource Development and Training (MLHRDT) reached 23,711 in 2021. 70% of work permits were issued for the manufacturing sector while 15% accounted for the Construction sector (MLHRDT 2021). 1,258 occupation permits were issued by the Economic Development Board (EDB) in 2021 for the Professional category (EDB 2022).
4.3. Labour input (employment) and labour productivity

30. From 2011 to 2021, labour input for the whole economy fell by an average of 0.3% annually. In 2021, labour input fell by 6.4%, after declining by 5.5% in 2020, while GVA increased by 4.2% in 2021, after a contraction of 14.4% in 2020. Thus, labour productivity for the economy grew by 11.4% in 2021, after a decline of 9.4% in 2020 (Statistics Mauritius 2021).

31. During the period 2011 to 2021, capital input grew at an average annual rate of 2.5% for the total economy, whereas declines of 3.0% and 2.4% were recorded in manufacturing and EOE respectively. However, capital productivity\(^1\) declined by 3.0% for the economy during the period 2011 to 2021 (Statistics Mauritius 2021).

4.4. Skills mismatch

32. According to the three-year Strategic plan 2018-2020 issued by the Ministry of Finance, Economic Planning and Development, the labour market is characterised by skills mismatch and scarcity of manual workers, with the consequence that the private sector is resorting to foreign labour in certain economic sectors, particularly agriculture, manufacturing and construction (MOFEPD 2018).

33. Various factors contribute to skills mismatch. Shifts in skill demand and supply have been reflected in the stated inability of employers to fill their vacancies with people who possess the appropriate skills. For the foreseeable future, further concerns are discernible as to the capacity of Mauritius to engineer its transformation towards an increasingly digital economy. Technological advances, such as machine learning, big data analytics, the Internet of Things and advanced robotics, together with re-structuring in global value chains, are reshaping the Wow. The new digital frontiers are exerting increased pressure on education and training providers for the timely production of human resource that is capable of taking those positions and fulfil the roles to their maximum potential and in as little time as possible. Simultaneously, there is a similar urgency for enterprises to embrace such technologies to improve their productivity and efficiency.

34. Growing emigration is a phenomenon in Mauritius as Mauritians are seeking better opportunities abroad. The Mauritian Diaspora Scheme has been launched to attract Mauritian investors and skilled professionals living abroad. Some 250 individuals have returned to the island under this scheme (Government Information Service 2019). However, filling the growing skills gap will require numerous innovative initiatives over a period of time.

35. Between 2010 and 2020, the Human Capital Index value for Mauritius increased from 0.60 to 0.62 (World Bank 2020). Mauritius scored 60.34 in 2017 on the WEF Global Human Capital Index 2017 (World Economic Forum 2017).

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\(^{1}\) Capital productivity is defined as the ratio of output to capital input.
5. Key challenges to the current E&T system

5.1. Local challenges

The National Skills Development Strategy seeks to address ten main challenges identified at the diagnostic phase of the project (summarised in Table 1), while attempting to acknowledge the impact of global drivers, geopolitical tensions and pandemics on skills development (Figure 6). This strategy aims at addressing the challenges that are impacting on the ability of our economy to increase our international competitiveness and ensure efficient and effective use of our human resources.

Table 1: Main areas of improvement (local)

<table>
<thead>
<tr>
<th></th>
<th>1) Demographics are constantly changing and will present challenges for the supply of human resources, along with the management of the labour force, and the management of youths with a new adaptable mindset towards the world of work.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2) Acknowledging the extent to which future skills needs can be anticipated and forecasted, particularly given the rapid and perpetual changes in the current local and globalised contexts.</td>
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<td>3) Enhancing the synergy between private and public stakeholders as far as skills development is concerned.</td>
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<td></td>
<td>4) Improving the efficiency in the use of the levy grant in order to address the mismatch of skills and prepare for future skills needs.</td>
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<td>5) Adopting a systemic approach to the development of standards for skills requirements and qualifications at occupational level.</td>
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<td>6) Developing an overall quality assurance framework based on learning outcomes.</td>
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<td></td>
<td>7) Adjusting training supply to respond to skills gap at middle management level.</td>
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<tr>
<td></td>
<td>8) Enhancing the capacity of educators, trainers and lecturers in inductive pedagogy.</td>
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<td></td>
<td>9) Enhancing institutional capacity building to cope with systemic changes and new responsibilities.</td>
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<td></td>
<td>10) Addressing the overlap in the role of institutions involved in the skills development system.</td>
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</tbody>
</table>
5.2. Megatrends

37. Compounded with the micro challenges, the global drivers also impact skills, thus warranting attention. These drivers comprise demographic changes at the global level, globalisation, changing work patterns, technological advancements and innovation, and higher educational attainment level of people across the world. Besides exerting more pressure on the local E&T system, these forces have the potential to generate and contribute to a mismatch in skills. Understanding how the landscape is shifting presents a basis to determine the challenges and opportunities for the skills development system in Mauritius.

38. Globalisation and increasingly technological trends remain a key challenge to the local economy and are impacting the skills sets required to perform jobs. More specifically, the mega-trends impact the quantity and quality of jobs, as well as inclusiveness.

39. The technological pace is transforming business models which in turn will have a profound impact on the employment landscape over the coming years (World Economic Forum 2016; 2020; HRDC 2021). Technological revolution has a continuous impact on the way people live, work and play, and the advancement of ICT has accentuated international connectivity and accelerated the pace of globalisation. Many of the major drivers of transformation are expected to have a significant impact on jobs, disrupting the traditional work pattern: from significant job creation to job displacement, and from heightened labour productivity to widening skills gaps. The adoption of blockchain-backed technologies and other Fintech-related applications is generating significant challenges and opportunities. These new technologies are engendering a demand for new advanced skills sets in the workplace. As a result of these changes, the importance of work-life balance and helping the workforce to integrate their personal and work lives have become an important component of organisational success.

40. Mauritius is no exception and its success in the dynamic technologically-driven space will be directly related to its ability to train and attract the required talent. Availability of skills and access to training that is relevant to labour market needs are important factors for enabling productivity, economic growth and social inclusiveness. Despite increased investment in education and training, as well as increasing educational attainment, Mauritius is continually experiencing a gap between the skills demanded and those available in certain sectors (HRDC 2018; World Bank 2018).

41. These challenges will require a preparation for the jobs of the future by equipping the labour force with the right mix of skills to successfully navigate through ever-changing, technology-rich work environments (OECD 2018; 2020). Workers require a different combination of talents than in the past to succeed in today’s innovation-driven economy. Besides foundation skills such as numeracy and literacy, workers will need to deeply cultivate and exploit collaboration activities, creativity and problem-solving. They also need to possess character qualities, including curiosity and adaptability (UNESCO 2017).
42. Global disruptions such as Brexit, Russia-Ukraine war, Maritime Silk Road, regional and international collaboration, climate change, and changes to the global business environment may further adversely impact the economy.

43. The overall sectoral and macroeconomic consequences would be broadly negative for a tourism-reliant and FDI-dependent country like Mauritius, as presently witnessed with the massive economic downturn resulting from the prolonged shutdowns and break in global supply chains due to the COVID-19 pandemic. The subsequent impact will be felt by productive sectors in Mauritius. Such impacts could provide opportunities in certain sectors and skills development strategies could be an enabler.

*Figure 6: Global drivers impacting skills*
The skills system of Mauritius
at a glance
6. The Mauritian education and skills landscape

6.1. Primary and Secondary education

44. The primary and secondary education that serves as the bedrock for skills development has remained a government priority since independence. The Mauritian education system has been witnessing a major reform since 2015 and implemented as of January 2017. The Nine-Year Continuous Basic Education (NYCBE) currently being implemented aims at strategically transforming the education system to cope with upcoming challenges and realities. The NYCBE concept is an innovative learning pathway that does away with competition at a very early age by engulfing both primary and secondary education up to 15 years of age. Therefore, the Primary School Achievement Certificate (PSAC) in tandem with school-based assessment in a phased manner is counted for the award of the Certificate. Pupils take part in written exams at the end of Grade 6 and modular assessments during Grades 5 and 6.

45. Admission to Grade 7 is effected on a regional basis according to parental choice and overall grading at the PSAC. Table 2 provides the education structure for primary and secondary level students.

46. In the event that a child at the end of Grade 6 has not yet attained the required level, s/he will have the possibility to follow a four-year cycle known as the Extended Programme. A special class of reduced size and reserved for learners requiring special support caters for their needs in every secondary school.

Table 2: Primary and secondary education structure

<table>
<thead>
<tr>
<th>Age</th>
<th>Grade</th>
<th>Level of education</th>
<th>School setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–10 years</td>
<td>1 - 6</td>
<td>Basic education – Primary</td>
<td>Primary schools</td>
</tr>
<tr>
<td>11–13 years</td>
<td>7 - 9</td>
<td>Basic education – Lower Secondary</td>
<td>Regional secondary schools</td>
</tr>
<tr>
<td>14–15 years</td>
<td>10 - 11</td>
<td>Upper secondary</td>
<td>Regional secondary schools/ Academies</td>
</tr>
<tr>
<td>16–17 years</td>
<td>12 - 13</td>
<td>Upper secondary</td>
<td>Regional secondary schools/ Academies/Polytechnics</td>
</tr>
</tbody>
</table>
47. This reform is in line with the UN Sustainable Development Goal 4 on Education, which is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (MoETEST 2015). The introduction of the NYCBE lays a strong foundation for further learning.

48. An Higher School Certificate Professional (HSCPro) qualification has been introduced for students who wish to take on an earlier vocational route to enhance their employability. It is an alternative qualification to the traditional HSC and connects students with the world of work. It provides a pathway to those students who, after their School Certificate, seek a course of study that is geared towards employment, while still keeping open the option of going for higher education.

6.2. Technical and Vocational Education and Training

49. The Technical and Vocational Education and Training (TVET) sector is regulated by the Mauritius Qualifications Authority (MQA). The MQA is responsible for ensuring quality of programmes and recognising the equivalence of technical and vocational qualifications. Despite the proven relevance of TVET to employment, the sector fails to attract talented students. It is noted that TVET is regarded as an inferior educational pathway. This lack of interest in TVET increases the skills gap for the operational level staff of enterprises, leading to increased skills mismatch. The ongoing education reform attempts to revisit and rebrand the TVET to make it a more appealing proposition.

50. Delivering technical education jointly with general education in secondary schools is a viable pathway for the acquisition of skills and competencies and for exposing students to TVET at a tender age. The reform process is expected to allow trainees to move to TVET with a different mindset. In order to respond to the growing skills needs of the economy, the curricula have been reviewed, equipment upgraded, and new programmes designed to respond to the growing skills needs of the economy (MOFEPD 2019a).

51. The Skills Development Authority Authority Act 2019 was enacted in October 2019. This Authority is expected to fill the gap in the skills development ecosystem to confer awarding power to training institutions in congruence with the National qualifications frameworks (NQFs). This institution also has the mandate to act as an independent regulator and ensure quality assurance of training institutions in the TVET sector (MOFEPD 2019b).

52. There are some 550 public and private providers registered with the MQA (MQA 2020). The Mauritius Institute of Training and Development (MITD) is the public provider of TVET programmes, providing courses from level 2 to 6 on the National Qualifications Framework (NQF). The changes in the MQA Act (considering the business facilitation of streamlining of licences) through the budgetary measure 2019/2020 aim to streamline the process for registration of training centres and accreditation of courses.
6.3 Higher Education landscape

53. The introduction of the Higher Education (HE) Act provides the framework for propelling a modern higher education sector. This new legislation creates the right environment for the emergence of the higher education sector as a pillar to support the economy and our ambition to be a regional higher education centre of excellence.

54. The NYCBE model compels the higher education sector to emerge as a strong pillar to support the economy. Higher education providers comprise Publicly-Funded Institutions (PFIs) and private Post-Secondary Educational Institutions (PSEIs).

55. In addition, the higher education landscape has the distinctive advantage of hosting a variety of higher education institutions (HEIs), each with its specificities and contextual approaches to higher education. The Higher Education Commission (HEC) is the regulatory body responsible for streamlining procedures for the implementation, registration and monitoring of HEIs in Mauritius. There are 10 PFIs operating in Mauritius and around 36 PSEIs registered locally that provide tertiary education in diverse fields, ranging from level 6 to 10 on the NQF (HEC 2022). Table 3 depicts the recent changes to the HE legal framework.

Table 3: Recent changes to the HE legal framework

<table>
<thead>
<tr>
<th>ITEMS</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education Act 2017</td>
<td>The Higher Education Act 2017 called for a reformed, modern and appropriate legislative framework for the higher education sector in Mauritius. The new Act provides for the establishment of a Higher Education Commission (HEC) and an Independent Quality Assurance Authority (QAA) to replace the Tertiary Education Commission (TEC).</td>
</tr>
<tr>
<td>Quality Assurance Authority</td>
<td>The QAA looks after the quality assurance of the higher education sector in line with international standards. It will carry out regular quality audits of higher education institutions, thereby ensuring continuous improvement in the management of quality within the sector.</td>
</tr>
<tr>
<td>Higher Education Commission</td>
<td>The HEC took over the existing functions of the TEC (except for quality auditing) and extended the scope of its activities to include, inter alia, the accreditation of programmes offered by public higher education institutions. It will also develop and issue a National Credit Value and Transfer System (NCVTS) in order to recognise qualifications and units by awarding credits, as well as facilitate transferability between institutions. The Higher Education Act stipulates that ‘the Commission shall develop and issue a National Credit Value and Transfer System in order to recognise qualifications and units by awarding credits’ (section 18.1) and ‘the credits awarded under the NCVTS shall be transferable in such a manner as the Commission may determine’ (section 18.3).</td>
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6.4 The National Qualifications Framework (NQF)

56. Traditionally, education is highly regarded by Mauritians as the key agent of economic and social advancement. The National Qualifications Framework (NQF) presented at Figure 7 is established and maintained by the MQA. It is a ten-level instrument to classify qualifications according to specified levels of learning achieved (MQA 2020). It is based on a set of criteria and aims at integrating and coordinating qualifications to improve the transparency, access, progress, comparability and quality of qualifications in relation to the labour market and the public. Learners can compare the levels of different qualifications and identify clear progression routes from level 1 [Primary School Achievement Certificate (PSAC) – up to level 10 (PhD)]. The outcome-based qualifications are viewed as independent of specific circumstances in which individual providers offer programmes leading to the same qualification.

Figure 7: The Structure of the National Qualifications Framework

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>PRIMARY/SECONDARY EDUCATION</th>
<th>TVET/WORKPLACE</th>
<th>TERTIARY EDUCATION</th>
<th>LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>Doctorate</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td>Master Degree</td>
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<td></td>
<td>e.g. MA, MSc,</td>
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<td>MPhil, Post-</td>
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<td></td>
<td>Graduate Diploma,</td>
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<td>Post-Graduate</td>
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<td></td>
<td></td>
<td>Certificate</td>
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<td>8</td>
<td></td>
<td></td>
<td>Bachelor Degree</td>
<td>8</td>
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<td></td>
<td></td>
<td></td>
<td>with Honours</td>
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<td>7</td>
<td></td>
<td></td>
<td>Bachelor Degree</td>
<td>7</td>
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<td></td>
<td></td>
<td>(Ordinary Degree)</td>
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<tr>
<td>6</td>
<td></td>
<td>National Diploma level 6</td>
<td>Diploma</td>
<td>6</td>
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<tr>
<td>4</td>
<td></td>
<td>National Certificate level 4</td>
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<td>4</td>
</tr>
<tr>
<td>3</td>
<td>SC/GCE ‘O’ LEVEL</td>
<td>National Certificate level 3</td>
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</tr>
<tr>
<td>1</td>
<td>Primary School Achievement Certificate (PSAC)</td>
<td>National Certificate level 1</td>
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<td>1</td>
</tr>
</tbody>
</table>

(Source: MQA 2020)

57. Any qualification should have a title and a level within the NQF, and should be based on one of the national qualification types and related specifications.

58. The National Qualifications Framework is expected to determine the:
   - Qualification levels and their descriptors (commonly involving features of knowledge and skills, such as their complexity, depth, etc.);
59. The introduction of NQF and standards-based qualifications need to result in the:

- Creation of a new methodology for developing qualifications of various types and levels on the basis of acquired and demonstrated knowledge, skills and competence;
- Reform of the national quality assurance systems, their structures and procedures;
- Reform of the qualification assessment and certification practices to ensure that they are linked to the occupational standards and qualifications specifications;
- Modification of the process in which education and training institutions are registered, accredited, and deliver their programmes;
- Close involvement of industry bodies and education/training providers in the development of standards, qualifications as well as assessment instruments and procedures; and
- Demand for
  i) staff who are competent in the application of new concepts and procedures;
  ii) for educators, trainers and lecturers who can develop and deliver new programmes; and
  iii) for professional assessors.

Note:
Extract of MQA Act 2001 as amended in 2005 and 2019: Section 5(c): to register qualifications, other than those obtained in the primary, secondary and post-secondary educational sectors. It therefore covers a diverse list of qualifications across institutions.

6.5. Shift from the E&T system to the World of Work

60. The transition of students from the E&T system to the WoW needs to be as smooth as possible. This transition is possible when students in the E&T system are equipped with the skills and knowledge attuned to the WoW. Given the dynamic nature of the WoW and considering contextual inadequacies, this transition is not always smooth. Education and training providers at all levels, both public and private, have no choice but to continually adapt and demonstrate responsiveness to the changing employment requirements. Higher education institutions should develop employability readiness strategies for learners.

61. Figures 8 and 9 give an aperçu of the various schemes and the various institutions running them. These schemes can be categorised as pre- and post-employment.
62. With a view to tackling unemployment and skills mismatch, a spectrum of pre-employment programmes have been implemented. These schemes have been devised to ensure that relevant training is provided to (unemployed) youth to promote the development of necessary skills for enhanced employability and employment.

*Figure 8: Spectrum of instruments to increase readiness of new entrants in the world of work*

**Pre-employment schemes**

- **NSDP**
  - Unemployed individuals
  - 16 yrs and should not be above 60 yrs.
  - Training & industrial placement
  - 3-12 mths

- **DTP**
  - Has remained unemployed for a period of at least 30 days before the placement

- **NAP**
  - Off-the-Job Learning
  - 16 years old and above (depending on trade)

- **YEP**
  - Unemployed youths
  - Placement
  - 16 – 35 yrs

- **BTW**
  - Training and placement for women wishing to take up or resume employment

**Diploma holders** or below | **HSC** | **Form III or above** | **HSC and above** | **unemployed women above 35 yrs**
---|---|---|---|---

**GTES**
- Diploma holders/ university degree
- Tailor-made training programme & placement
- No age limit

**SDSP for AI**
- Invest in training, retraining and reskilling programmes to develop an AI-enabled workforce targeted to:
  - Students, fresh graduates, existing professionals, lecturers/trainers, researchers

**NTRS**
- Unemployed individuals including those:
  - benefiting from TUB allowance under the Workfare Programme;
  - registered with LMIS;
  - unemployed registered on the NTRS, NSDP and GTES.

**Training Scheme for Pre-Registration Trainee Engineers**
- Degree holder
- Training of at least two years

**NYCS**
- 12-week youth development programme
63. The importance of training as an integral element of a framework for lifelong learning (LLL) is recognised. From this stems the implementation of the following post-employment programmes (Figure 9) for effective reskilling and upskilling of the workforce.

**Figure 9: Post-employment programmes**

- **NTF**
  - Incentives to employers to develop human resources through training.
  - Employers can recover up to 75% of course fees depending on their annual levy paid.

- **SDDS**
  - Targeting industry associations to meet the skills development needs.
  - Mount, develop and implement specific skills development programmes based on common needs through a clustering approach.

- **SDSS for FDI**
  - As the value proposition that Mauritius offers to investors associated directly with skills development.
  - Creating a more responsive, agile and targeted skills development response to foreign investment.

- **RPL**
  - Provide an alternative for industry practitioners to obtain formal recognition of the knowledge, skills and experience they acquired at the workplace.
  - Facilitate the processes of skills development and promote LLL.

6.6. Skills needs for the Mauritian Economy

64. Mauritius is heading towards a service-oriented and innovation-driven economy. As a result, the knowledge sector will be a catalyst in broadening the Mauritian economy by providing the necessary support to the existing and upcoming sectors. Insufficient skilled and trained workforce can be an impediment to achieve the objective of becoming a knowledge-based economy (United Nations Conference on Trade and Development 2017).

65. The Budget 2020/21 (MOFEPD 2020) made provision for the laying of the foundations for a data-driven economy that would create the right eco-system to accelerate the innovation process from idea to creation.

66. Moreover, as machines become more capable and ubiquitous, the labour markets of the future will privilege the uniquely human competences of critical thinking, creativity, communication and collaborative work, alongside cognitive and professional skills. The McKinsey Global Institute estimates that the likelihood of jobs being automated is greatest in accommodation and food services followed by manufacturing, agriculture, transportation and storage, wholesale and retail trade. The report states that even high-paying occupations in sectors such as financial services are potentially susceptible to automation. In contrast, the activities that are the least threatened by automation are education, management, professional services, information, healthcare, and administration (Manyika 2017).
67. The emergence of new economic sectors and new technologies in Mauritius therefore calls for a restructuring of the country’s education, human resource and skills development systems. The ability of actors at all levels to work in partnership is key to building a skills development paradigm that is constantly responsive to the demands of the new WoW. The dynamic and disruptive nature of global trends will require building flexible and integrative structures that encompass both the education and training sectors. Given the high degree of uncertainty, investing in people’s skills stands out as the best way of preparing for an unpredictable future. Nevertheless, what is known is that tasks that require complex problem solving, critical thinking, creativity, and complex communication will, in all likelihood, continue to be performed by people.

68. In order to ensure that qualifications are transparent, comparable, readable and portable to possible new destinations, curricula need to factor in the international dimension. It is vital to focus on key competences throughout education and working life via comprehensive lifelong learning, including non-formal and informal learning experiences. The changing working pattern requires continuous investment in the training and advancement of employees at all levels to keep pace with change and new demands.

69. The increasingly interdisciplinary nature of the WoW is resulting in overlaps in the skills required across different sectors and occupations. Over the next few years, employees will need a mix of sectoral and cross-sectoral skills also known as transversal skills. Transversal skills are relevant to a broad range of occupations and sectors and are the building blocks for the development of the hard, vocational or technical skills required to succeed in the labour market. Employers have reported a lack of such skills among school leavers as well as graduates (HRDC 2018). The skills vary from problem solving, critical thinking, willingness to learn, digital competencies, adaptability, resilience to intrapreneurial skills.

70. Findings of the HRDC Skills studies highlight the occupational and skill imbalances at sectoral level. While specific sector-specific skills were lacking, transversal skills (for instance, problem-solving, creativity and critical thinking skills) were in high demand across a broad range of occupations, regardless of the specific tasks of the job, industry or sector.

71. Other skills, however, are much more specific, given their applicability and usefulness across different occupations or sectors. The sectoral findings of the HRDC Skills Studies across the ten sectors shed light on the top skills which will be in demand. Demand for higher order cognitive skills, such as creativity, critical thinking and decision making, as well as complex information is increasing. Such skills are generally acquired through Science, Technology, Engineering and Mathematics (STEM) subjects.
Strategies
7. Strategic framework

72. Building the right skills is vital to help the country overcome the unprecedented structural shifts brought about by the disruptions associated with forces such as technological advances, digital revolutions, migration, wars and pandemics. Economic prosperity will indeed rest predominantly on tackling the skills imbalances and strengthening the E&T system without losing sight of the improvements needed in the effectiveness of the systems. With that in mind, a strategic framework has been communally developed representing a shared vision for the skills development system in Mauritius.

73. The NSDS is anchored around three main strategic clusters, namely:
   - Improving skills system effectiveness;
   - Tackling skills imbalances; and
   - Strengthening the E&T system to prepare and empower young people for the future.

74. Each cluster comprises a set of strategies. Figure 10 depicts the strategic clusters and their corresponding strategies.

Figure 10: Main clusters and related strategies
8. Proposed strategies

The strategic clusters and their corresponding ten strategies are presented in Table 4. The report follows the same structure as in the table below.

<table>
<thead>
<tr>
<th>SN</th>
<th>Strategic Clusters</th>
<th>Strategies</th>
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<tbody>
<tr>
<td>8.1</td>
<td>Improving skills system effectiveness</td>
<td>8.1.1 Develop and maintain occupational and qualification standards</td>
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<tr>
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<td></td>
<td>8.1.2 Establish and maintain a centralised and up-to-date repository of occupational and qualification standards to confer operational status to the NQF</td>
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<tr>
<td>8.2</td>
<td>Tackling skills imbalances</td>
<td>8.2.1 Anticipate skills for the future of work</td>
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<tr>
<td></td>
<td></td>
<td>• To develop a mechanism for the anticipation of skills needs through enterprises.</td>
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<td></td>
<td></td>
<td>• To develop a mechanism for the identification of new jobs and supply of emerging skills.</td>
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<td></td>
<td></td>
<td>8.2.2 Upskill workforce at middle management, technical and professional levels</td>
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<td>8.2.3 Develop a mechanism to promote skills development among MSMEs</td>
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<td>8.2.4 Review framework for curriculum development (Primary, Secondary, Tertiary and TVET)</td>
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<td>• To guide and enhance delivery – a move towards inductive pedagogy.</td>
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<td></td>
<td></td>
<td>• To integrate multidisciplinary skills at every level of qualification.</td>
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<td></td>
<td>• To promote collaborative learning.</td>
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<tr>
<td>8.3</td>
<td>Strengthening the education and training system to prepare and empower young people for the future</td>
<td>8.3.1 Reskill and upskill educators, trainers and lecturers</td>
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<td></td>
<td></td>
<td>• Adaptation of educators, trainers and lecturers to the new learning environment.</td>
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<td></td>
<td></td>
<td>8.3.2 Improve articulation between quality assurance frameworks for TVET and Higher Education</td>
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<td></td>
<td>8.3.3 Introduce a credit point system to improve articulation between the TVET and HE sectors within the NQF</td>
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<tr>
<td></td>
<td></td>
<td>• Improve transparency of study programmes, credit awards and learning outcomes.</td>
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<td></td>
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<td>8.3.4 Improve financial support for relevant training.</td>
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</tbody>
</table>

Table 4: The ten strategies
The rest of this document is structured as follows. First, it presents the conceptual challenges associated with skills development per strategic cluster. The strategies are expanded to provide a detailed indication of the methodological implementation and likely outcomes. Respective actions have been worked out for each strategy, with respective methodological implementation and likely outcomes.

8.1. Strategic cluster 1: Improving skills system effectiveness

8.1.1. Strategy 1: Develop and maintain occupational and qualification standards

A. The issue

Skills imbalances take various forms. This imbalance is felt more severely in specific sectors and activities, across specific occupational groups and at different points in time. Many reasons can explain such imbalances, namely:

- Information asymmetry on skills needs;
- Lack of skills needs anticipation at national level;
- Investment in training that does not always rely on systematic skills needs analysis;
- Absence of a professional ecosystem to provide customised training;
- Lack of a systematic framework to augment microlearning in upskilling in specific skills;
- Lack of future skills needs analysis at enterprise level; and
- Lack of harmonisation of data and trend analysis by different institutions for informed policy decisions.

The current E&T system is not flexible enough to allow movement of people from the existing qualifications, competences and educational pathways they have initially embarked upon. The transitions from one learning pathway to another is indeed not seamless. If systems are not permeable, it can be difficult for people to progress, for example from TVET to Higher Education. This can be a barrier to long-term career progression. It can also reinforce negative perceptions surrounding TVET as opposed to general education.

The labour market is also characterised by information asymmetries which lead to a mismatch between the skills offered and the needs of workers and employers. In certain instances, training providers are failing to effectively match supply with demand for skills (HRDC 2018). The need for a nationally consistent approach and methodology is felt so that provision would be made for the skills sets required by enterprises while assisting E&T providers to develop relevant training.

B. The strategy

The development of a skilled workforce requires a comprehensive description of the activities at the workplace for particular occupations in respective sectors. Occupational standards can help bridge the gap between the labour market needs and those who possess skills, knowledge and the output of education or training, or even prior experiences. To this end, the occupational standard
defines the necessary competences to fulfil the tasks inherent to an occupation. Occupational standards would incorporate the voices of employers and could provide a strong basis for an institutional set-up to more efficiently respond to the skills needs in different sectors. This would be a basis for more demand-led training and pave the way for more relevant training programmes. This tool has the potential to lend employers more control over training provision in their area of activity and also provide a system to communicate skills needs.

81. Micro-credentials are short professional qualifications that demonstrate skills, knowledge and experience in a given subject area. These qualifications can be completed as a one-off or may be stacked up towards a higher qualification. Micro-credentials can better structure microlearning. Employers can also rely on micro-credentialing programmes to provide the right type of focused training to new or transitioning employees who need to improve their skills.

C. Explaining the strategy

82. Occupational standards are statements of work performance reflecting the ability to successfully complete the functions required in an occupation, as well as the application of knowledge, skills and understanding in an occupation. In a nutshell, occupational standards describe what needs to be achieved in the workplace and they are specifically related to employment. Occupational standards have proven to relate skills planning and labour market intelligence to educational and training provision.

83. The primary purpose of occupational standards is to set a benchmark of competence, skills and knowledge by which education and training providers develop curriculum and course contents to deliver relevant courses. The development, updating and implementation of qualification standards in Mauritius will allow the education and training system to keep ahead of changing demands from industry and society altogether. Moreover, learners will be equipped with clear expectations of the industry for better career planning.

84. The skills needs of enterprises are translated into a language that can be understood by the main stakeholders in the education and training systems. The goal is to translate the language of action and inputs in employment to the language of inputs in education and training at the right level of qualification, thereby enabling educational professionals to plan and deliver learning programmes. One immediate step that can be taken is to develop learning standards and outcomes that describe what people will be able to do at the end of a learning programme. Consequently, learning outcomes can be linked to employment outcomes defined in occupational standards.

85. Curriculum and course contents are developed from the activities defined in occupational standards. They include learning outcomes and learning activities which ensure that the necessary skills and knowledge are developed by a person to enable him or her to perform an occupation at an agreed level.
86. Apart from their application to develop learning programmes, data from an occupational analysis can be used for:

- Auditing the skills required in an occupation;
- Developing job description;
- Reviewing the relevance of existing training programmes;
- Improving the methods used in an occupation;
- Establishing a basis for accurate staff recruitment;
- Evaluating the performance of staff;
- Planning and problem solving; and
- Writing standards.

D. Methodological implementation

87. Developing an occupational standard requires comprehensive, complete and accurate data on the skills, knowledge and competences necessary for a good performance. The establishment of occupational standards starts with a deep job analysis. Occupational standards should only be developed after the analysis of functions, duties and tasks of the relevant trade has been carried out by experts in the field. This will ensure that any occupational standard developed will be closely aligned with and relevant to current and future labour market needs. The first step is to review and analyse in detail each occupation. The second step will look at predictive new activities or jobs, by either adding complementary tasks to present occupational standards or by creating new occupational standards. Later steps require elaborating on the tasks and detailing the tools and equipment used to perform them.

88. Occupational standards are about performance and they include:

- The ability to successfully complete the functions required in an occupation;
- The application of knowledge and understanding in an occupation; and
- The prioritisation of sectors and/or occupations.

89. Usually, occupational standards are made up of units of competence. A unit refers to a competence which, when applied to a work situation, can logically stand alone. It includes a title, expressed in terms of outcomes, and a description which clarifies the unit title and notes a relationship with other units from the same standard or from related ones. The unit of competence is the smallest part of a qualification which can be categorised with a separate certificate.

90. An occupational analysis comprises four stages:
   1. Identification of occupation.
   2. Development of the skills framework.
   3. Identification of major functions.
   4. Setting up skill, knowledge, activities and performance requirements.

91. The occupational standard starts with employment outcomes and defines the competences required in an occupation.

92. The development of an occupational standard requires comprehensive, complete and accurate data on the skills, knowledge and competences necessary for a good performance. The information can be obtained by analysing the occupation in a rational and structured manner. The occupational analysis is the most important stage in setting up an occupational standard.
93. The occupational analysis is a method of breaking down an occupation into two categories of components. On one hand, there are the activities performed in an occupation and the associated expected outcomes (results). On the other hand, the knowledge, skills, attitudes and performance requirements that are necessary to obtain the expected outcomes are defined.

94. There is a need to review the legal framework to allow training centres deliver training based on micro-credentials.

Notes:
1. For practical and financial reasons, national occupational qualifications are commonly developed for those occupations which constitute large groups in the national economy and across different sectors.
2. Not all the jobs require the development of recognised national qualifications because they may have a narrow basis in terms of the scope of tasks involved. Therefore, the mix of units of occupational standards required for such jobs is insufficient to be recognised as national qualifications. Such narrow job-based mixes of units of standards can be used for selecting, recruiting, training and upgrading staff. Figure 11 illustrates the major components of the qualification system, comprising the analysis of the occupation, the development of the learning outcomes, the implementation of the training and the assessment methods.

Figure 11: Qualification system components

<table>
<thead>
<tr>
<th>Major components</th>
<th>Processes</th>
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<tbody>
<tr>
<td>Analysis</td>
<td>Occupational analysis</td>
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<td></td>
<td>Task analysis (Technical Working Groups)</td>
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<td></td>
<td>Skills and competences</td>
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<td></td>
<td>From Occupational standards to certification standards</td>
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<td></td>
<td>Assessment and performance criteria</td>
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<tr>
<td></td>
<td>Development of the goals of the modules</td>
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<tr>
<td>Development</td>
<td>Development of the learning outcomes</td>
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<tr>
<td></td>
<td>Development of the recommended content</td>
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<tr>
<td></td>
<td>Definition of the teaching place and form</td>
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<tr>
<td></td>
<td>Selection of appropriate teaching methods</td>
</tr>
<tr>
<td>Implementation</td>
<td>Operational plan (sequences and progression)</td>
</tr>
<tr>
<td></td>
<td>Identification of learning activities</td>
</tr>
<tr>
<td>Assessment</td>
<td>Description of formative and summative assessment</td>
</tr>
<tr>
<td></td>
<td>Development of assessment instruments (evidence)</td>
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<tr>
<td></td>
<td>Certification</td>
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</tbody>
</table>
E. Likely outcomes

95. The development of a common format for occupational standards and assessment criteria enables the promotion of national consistency and helps to ensure that standards are easily understood by various users, i.e. employers, higher education (for articulation of qualifications), policymakers, examination/awarding bodies, HR managers, educators, trainers and lecturers, new entrants in the labour market and job seekers.

96. Education and training standards can be developed from the activities defined in occupational standards. They include learning outcomes which describe what people will be able to do at the end of a learning programme. They might also include learning objectives to ensure that the necessary skills and knowledge are developed by a person to enable him or her function at an agreed level in an occupation. Subsequently, training can be better aligned with the technical needs of an occupation, ultimately leading to a reduction in skills mismatch at enterprise level.

97. In addition, programmes leading to qualifications may also include micro-credentials as components of learning, provided the overall design of the programme is coherent and meets the qualification outcomes and strategic purpose. This approach enables a more modular and flexible way to learning whereby micro-credits could potentially be cumulated. Micro-credentials can be a relevant upskilling option in the VUCA (volatile, uncertain, complex, and ambiguous) space. Micro-credentials offer both students and working professionals the opportunity to expand their skills set and become experts in their field.

98. Given the above, investment in training through the levy grant system could be better aligned with the enterprises’ skills needs to move towards high-quality skills.

8.1.2. Strategy 2: Establish and maintain a centralised up-to-date repository of occupational and qualifications standards to confer operational status to the NQF

A. The issue

99. Information asymmetry among, inter alia, E&T system, WoW, employees, youth and the labour market is one of the causes of skills mismatch. The National Qualifications Framework has yet to reach maturity and full operational status to impact policies and practices. The present qualifications listed on the NQF predominantly:

- Lack widespread recognition and are not necessarily used by all training providers, leading to ad hoc training rather than training based on real skills needs;
- Do not consist of sufficiently detailed information for E&T providers to develop curriculum;
- Are developed using a methodology that is not entirely adapted to the local context; and
- Do not reflect the current skills needs of industry.
100. These factors limit the full operationalisation of the NQF and eventually the delivery of relevant training by E&T providers, thereby leading to an inefficient skills development system.

B. The strategy

101. Occupational standards are the foundation for designing TVET qualifications, and they provide the principles and techniques for the assessment of qualifications.

102. The units of competencies need to be unpacked for their critical aspects to be located and interpreted before they are built into the delivery of training and assessment strategies. Unpacking also helps in the selection of assessment methods and tools.

103. Once the qualifications are developed, they will need to be accessible to all. The certification standard contains the assessment criteria that activate the NQF as the national repository of the qualifications. The NQF would then be a dynamic key collaboration interface between the E&T system and the WoW, amongst others, for the development and delivery of relevant training.

C. Explaining the strategy

104. The creation of a national repository of qualification standards will work towards a coordinated approach by the actors of the E&T system and industry for the delivery of demand-driven training. The repository will be a user-friendly online platform construed as a dissemination tool to be used by all. The online repository will:

- be a tool to assist training providers in developing demand-driven training and facilitate orientation for further studies;
- be a common reference to facilitate the recognition and transferability of qualifications covering both TVET and general (secondary and higher) education, based mainly on competences and learning outcomes. This could pave the way for a harmonised QA system that could also incorporate a credit point system that would act as an enabler for the recognition and transferability of qualifications between TVET and higher education;
- provide a reference for the validation of informally acquired competences and improve permeability within education and training systems;
- facilitate the voluntary development of competence-based solutions enabling sectors to address the new education and training challenges caused by the internationalisation of trade and technology; and
- support lifelong learning, as well as constitute a basis for the recognition of prior learning (RPL) and of experiences obtained through non-formal and informal learning.

D. Methodological implementation

105. Figure 12 provides the link between the development of occupational standards from tasks and competencies required to qualification standards. The concept of competency standard lies at the heart of national qualifications. This standard is

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2 A qualification is the result of an accredited programme of learning that leads to the formal certification that a graduate has achieved learning outcomes, as described in the National Qualifications Framework.
augmented by a set of assessment criteria, methods, tools and instructions that come along with the certification standard. Assessment practices should meet the requirements of nationally accredited qualifications. For each qualification, an awarding body is expected to develop a qualification handbook with the details of the qualification and assessment guidance.

106. The concept of qualification: In qualifications systems that apply the outcome-based concept of training and assessment, a qualification is defined as a ‘formally certified statement of possession of knowledge and skills and of capability to (competently and consistently) apply them in defined work contexts in line with the qualifications requirements’ (ILO 2018, p. 20). Therefore, results of learning can only be recognised as a qualification against the specifications established by the NQF. The outcome-based qualifications are different from academic qualifications in the sense that they are based on units of occupational standards and require demonstration of competent performance in conditions equivalent to the workplace (ILO 2018, p. 20).

107. A permanent steering committee will be set up to endorse and validate the new qualification standards for posting on the repository.

108. The repository will take the form of an online interface where the qualification standards will be published.

A. Likely outcomes

109. The aim of this online repository will be to provide information to mainly E&T providers (among other prospective users) to assist them in developing demand-driven training that responds to the needs of the labour market, facilitates orientation for further studies and ensures that assessments are conducted based on competencies.
The implementation of this strategy will minimise the information asymmetry that exists among stakeholders in the skills system. It will allow the development of relevant courses and thereby reduce skills gap at enterprise level. This repository will, inter alia:

- Promote demand-driven training, thereby helping to reduce skills mismatch;
- Allow employers to use the occupational standards to benchmark their HRD strategies; and also
- Be an important source of information for career planning.

8.2. Strategic cluster 2: Tackling skills imbalances

8.2.1. Strategy 3: Anticipate skills for the future of work

A. The issue

The emerging contours of the new WoW are rapidly transforming the experiences of enterprises and workers alike. Education and training systems, labour market policies and business approaches to developing skills need new adaptation strategies to bridge the widening gap between demand and supply of labour.

A number of factors are also influencing the evolution of skills demand and supply, and if left unaddressed, they are likely to contribute to skills mismatch in the future. These factors include:

- Rapid development in (non)technological innovations;
- Ageing population;
- Information asymmetry on skills needs;
- Investment in training that is not based on systematic skills needs analysis (at enterprise level);
- Lack of harmonisation of data and trend analysis by different institutions for informed policy decisions;
- Lack of medium- and long-term outlook on skills needs to guide universities and other training providers on youth preparation for the future of work;
- Lack of prospective studies to guide planners for informed policymaking on skills development and targeted investment to foster skills development;
- Lack of capacity of employers to foresee their skills needs; and
- Black swan events.

Evidence-based information on future skills needs has the potential to inform various policy dimensions and contribute to developing a systematic and comprehensive policy response to imbalances.

B. The strategy

In order to inform the E&T system in a prospective manner, the systematic anticipation of skills needs is essential to enable strategic responses and ultimately reduce skill mismatch. Two mechanisms have been identified as feeders to activate the anticipation of skills, namely:

(i) Establish a mechanism for the anticipation of skills needs through enterprises (short to medium term) (mechanism 1); and
(ii) Establish a mechanism for the identification of new jobs and the supply of emerging skills (long term) (mechanism 2).
C. Explaining the strategy

115. Mechanism 1: Collaboration of industry is a cornerstone of skills needs anticipation. Promoting cooperation between employers, industry associations and policymakers fosters the shift from supply-driven training to demand-driven training. A comprehensive tool in collaboration with employers and industry associations (to obtain their buy-in) will be developed to guide and assist employers in providing information on short to medium-term skills needs. The skills needs of enterprises obtained through this strategy will also act as a feeder to develop occupational standards and/or skills development programmes.

116. Mechanism 2: Skills needs anticipation is an essential component of a national skills development strategy. Forward-looking approaches to skills needs should be at the heart of strategic policy mechanisms, with skills development planning being associated with investment, trade, environmental, fiscal, employment and other national strategies and industrial policies. The ILO has identified anticipation of future skills needs as a key preventative measure to avoid skills mismatch, and as the first building block in a strong training and skills development system (ILO 2010).

117. Individuals, businesses, training providers and the government have to make decisions about the education and training investments now in order to maximise future returns on those investments. This means that there is a need to assess the future prospects on the labour market and the potential imbalance between the demand for and the supply of skills.

D. Methodological implementation

118. The approach will help identify relevant data and tools; translate data into indicators, trends and scenarios; analyse these outputs and prepare strategies in direct interaction with key stakeholders. It will also establish institutional arrangements that are conducive to matching demand with supply of skills through systematic skills analysis. Implementing the strategy coherently can lead to the following outcomes:

• Information on industry needs to guide the development of occupational standards;
• Training developed by providers that is closely based on enterprise needs;
• Targeted investment to foster skills development in tune with the long-term vision of the country;
• More informed career decisions taken by youth;
• Competent staff and reduction in skills gap at enterprise level; and
• Improved productivity at enterprise level.

119. Mechanism 1 will be activated through inputs from enterprises to the skills needs platform, with the support of industry associations such as Business Mauritius and other key players in the skills development ecosystem. Figure 13 conceptually represents Mechanism 1.
120. Mechanism 2 comprises a series of methods which can be used to anticipate future skills needs (Figure 14), related – though not limited – to:

- Sector-and occupation-wise quantitative employment forecasts based on modelling;
- Qualitative methods, including focus groups, round tables, expert interviews, foresight and scenario development;
- Input from Mechanism 1;
- Surveys among employers, i.e. Establishments or enterprises; and
- Tracer studies of schools/graduates and school-to-work transition surveys.

*Occupational Standards*
E. Likely outcomes

121. This range of measures will help project labour market prospects for jobseekers in terms of the ease of finding a job, and also for employers, in terms of potential recruitment problems.

122. The results will also be used to inform policymaking and investment decisions in skills development across sectors.

123. The skills needs anticipation can also form the basis for the development of occupational standards. This strategy is based on how to describe the occupations (short- and long-term) in view of putting them into occupational standards.

124. Such information and analysis are conveyed to E&T providers for curriculum development and adjustment and intake in different faculties.

8.2.2. Strategy 4: Upskill workforce at middle management, technical and professional levels

A. The issue

125. The local labour force is faced with increasing competition, and – as reported by enterprises – there is lack of qualified workforce at the supervisory and middle management level across occupational categories such as ‘Managers’, ‘Professionals’ and ‘Associate professionals’. It is imperative to (re)skill and/or upskill the middle management level for them to go beyond project execution skills to product- and solution-definition skills. This will ensure that the middle management level is up to the level with the latest developments in the industry.
126. These occupational categories act as an important interface between the requirements of top management and the operations. The lack of responsiveness of training centres to address this skills gap is a deterrent to skilling individuals at the middle management level.

127. With the advent of new technologies and the fourth industrial revolution, many repetitive tasks will be potentially automated. Upskilling middle managers, technical and other professionals will be a requisite for enterprises, considering automation and the integration of new practices.

128. With these changes in enterprises, the expectations from mid-level staff are changing rapidly. Also, it is yet to be ascertained whether enterprises communicate systematically with the mid-level employees on the types of skills they need to equip themselves with for the future of work.

129. Besides, the digital economy has created a huge shortage of people with the necessary digital skills, and the pandemic has disrupted the modes of learning in both workplaces (including apprenticeships) and classrooms. Individuals in middle management should also be trained to make use of online learning platforms and transfer such training in the workplace.

130. Mid-level employees possessing work experience constitute a vital layer in an organisation. Candidates for recruitment at middle level are not readily available and those in employment need to keep pace with the changing role of their jobs and embrace newer skills that are in global demand.

131. Polytechnics Mauritius Ltd (PML) has been set up by the Ministry of Education, Tertiary Education, Science and Technology (MoETEST) to curb the skills issue at this level. The Ministry has also come up with the establishment of the Institute of Technical Education and Technology (ITET). These institutions are expected to contribute to strengthen the availability of workforce at middle professional level to build the ability of the country to engage more in the higher order skills sector, especially in a COVID-19-induced environment where the traditional low skills markets such as tourism, textile and sugar models are at threat. Yet, skills at the mid-management level require continued attention within the skills development system.

**B. The strategy**

132. Training will focus on those occupational categories from NQF levels 5 to 7 and 8 to 10 (Table 5):  

<table>
<thead>
<tr>
<th>Occupational level/category</th>
<th>NQF Level</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionals and top</td>
<td>Levels 8 to 10</td>
<td>Need continuous retraining and adjustment to new management pattern, CPD</td>
</tr>
<tr>
<td>management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle management – technical</td>
<td>Levels 5 to 7</td>
<td>Need retraining</td>
</tr>
<tr>
<td>Beginners</td>
<td>Levels 3 to 5</td>
<td>Need training</td>
</tr>
<tr>
<td>New entrants</td>
<td>Up to level 2</td>
<td>Need upskilling</td>
</tr>
</tbody>
</table>
C. **Explaining the strategy**

133. The criticality of continuous learning and reskilling of mid-level employees is emphasised as one of the main ways to stay ahead of disruptive changes. Upgrading the existing workforce in the intermediate level (higher level technicians and intermediate managers) and higher technology level professionals will bring an edge at enterprise level.

134. There needs to be a focus on the development of curricula and technical training programmes at NQF levels 5 to 7. People with qualifications at these levels (tactical) are those who translate strategies into actions.

135. Scaling up the (re)(up)skilling of existing mid-level workforce will also promote lifelong learning, transforming enterprises into learning organisations, a prerequisite to compete in today’s global marketplace.

136. People with digital skills can take advantage of an even wider range of opportunities brought about by ongoing advances in digital technologies, platforms, and devices. Digital skills are particularly important when considering the changing nature of the work environment, including the sharp growth in the number of freelancers and people participating in the gig economy, as well as broader structural changes that will profoundly impact the jobs of the future.

137. This fast-changing backdrop makes it important for countries like Mauritius to establish a national digital skills programme to develop those types of skills (such as development of computational thinking skills) that will enable young people to adapt to the increasingly digital world.

138. Establish more schemes for employers/ees to benefit from curated collections of courses to be accessed online. Such courses would provide access to a vast library of courses cutting across several disciplines and subjects and would be a basis for the professional development of middle managers.

D. **Methodological implementation**

139. E&T providers need to develop curricula based on occupational standards which will represent the required skills needs.

140. Local training providers will link with international training providers in areas where they lack expertise to build course structures ahead of demand to better prepare trainees to take up these jobs.

141. Virtual classroom models and real-time instructor-led live tutorials and peer-to-peer talks have to be capitalised on depending on the area. Experiential learning, which can be delivered online or offline (campus), is also the need of the hour.
142. To be effective, the learning experience needs to be as individualised as possible for each worker at the time of training delivery. An assessment of the worker’s level of skills prior to the start of the training will assist in the learner-centred approach to training.

143. Creating an enabling environment to develop the willingness to learn at enterprise level that is focused on long-term learning will provide employees with the initiative and drive to engage in continuous learning. This agile environment will also provide room for advancement and opportunities for building tangible skills sets for career progression.

144. A national digital skills training programme can be worked out to target Mauritians to develop job-ready digital skills.

E. Likely outcomes

145. Middle managers will be able to keep pace with the latest developments. They will be better equipped to adapt to change and improve their own, as well as their organisation’s performance. The mid-level people will also be empowered to take responsibility for their own training as lifelong learners. Besides, upskilling and training can also be seen as key differentiators in attracting and retaining the best staff.

8.2.3. Strategy 5: Develop a mechanism to promote skills development among MSMEs

A. The issue

146. Micro, Small and Medium Enterprises (MSMEs) face particular challenges due to their limited size and resources. They often struggle to keep abreast of and adapt to new developments in information and communication technologies. They also encounter difficulties finding and retaining qualified staff and providing them with adequate training. Given their small size, MSMEs are also reluctant to release staff to attend training during normal working hours, as this may disrupt work activity. They are thus rendered less (HR)D-active. Broad economic trends considerably exacerbate the situation.

147. The set of measures proposed here complement the 10-Year Master Plan for the SME Sector in Mauritius.

B. The strategy

148. It is highlighted that overcoming organisational problems and barriers is a crucial precondition for MSMEs to become more active in training and in developing skills and training. Keeping in mind the specificities of small enterprises, the four main thrusts of the strategy are located in areas depicted in Figure 15.
149. There is a need to support the improvement of the digital quotient (DQ) of MSMEs. MSMEs will then leverage their awareness and application of existing and emerging digital technologies, capabilities, practices and strategies. Digitalisation will accelerate the diffusion of knowledge and support the emergence of new business models, which may enable firms, often with few employees, to scale tangible assets or a geographic footprint very quickly.

150. The levy grant scheme will be amended to factor in the specificities of MSMEs in order to stimulate the upskilling of their labour force through participation in state-of-the-art skills development initiatives (both local and foreign).

C. Explaining the strategy

151. In order to meet regulatory requirements, training in accounting and proper record keeping is essential. This will allow MSMEs to apply for grants and skills development initiatives. Moreover, training and exposure to new markets and new products and/or augmented products through novel and cost-efficient ways are required. Coaching and mentoring (even remotely) by local and foreign professionals will also improve business operations and products.

D. Methodological implementation

152. MSMEs need experts who are able to suggest relevant solutions for current and emerging digital issues pertinent to their specific needs. It is important to appoint mentors and experts in these areas. Proposed programmes include:

- Exchange programmes for MSMEs to learn from best international practices. Training and exposure to new technologies will allow for the early adoption of new and more efficient ways of conducting business.
• The setting up of a technology watch over technical developments in more mature industries to identify techniques which could be adapted to MSMEs.
• The boosting of MSMEs’ innovation capacity by helping position people and their ideas to compete for resources so that they can launch impactful innovations. Linking them with international training providers will help in this endeavour.
• The levy will be rendered cumulative for MSMEs.

E. Likely outcomes

153. The following are the expected outcomes:
• Trained and skilled workforce in the MSME sector;
• Improved retention of employees;
• Improvement of productivity and competitiveness of the MSME sector; and
• Increase in survival rate of MSMEs.

8.2.4. Strategy 6: Review framework for curriculum development (Primary, secondary, Tertiary and TVET)

A. The issue

154. The increasingly complex future requires an education system that moves away from a subject-based, fragmented and compartmentalised approach to knowledge. However, the current system does not measure the acquisition of multi-disciplinary skills. Skills Studies conducted by the HRDC across ten sectors of the economy have shown that school leavers and even graduates generally lack STE(A)M skills. Employers have emphasised the primacy of these skills in order to improve their adaptability to the changing work environment. However, a decline in interest in STEM is noted among students (HRDC 2018).

155. The Mauritian education system needs to equip students with the skills to thrive in a changing world. It is clear that employers increasingly need employees who are capable of working in unstructured, unpredictable and complex situations and environments. The wider society also requires the same flexibility in this time of significant change and unpredictability, as currently witnessed with the devastating multi-pronged effect of the COVID-19 pandemic. Reluctance to change is frequent, but training institutions, schools and universities will need to embrace new approaches to education, including curriculum development, examinations and assessment.

156. The National Curriculum Framework (NCF) 2015 recommends that innovative pedagogies should be adopted for learners to take ownership of their competence acquisition process. Similar to the situation in developed countries, the NCF suggests a shift from a teacher-centred to a learner-centred approach, which includes methods such as active learning, cooperative learning, and inductive teaching and learning. With the learner-centred approach, educators, trainers and lecturers are considered as facilitators, and students are encouraged to conduct their own research, find solutions to problems and exchange their views with their educators, trainers and lecturers. However, this new approach needs to be fast-tracked and mainstreamed to better satisfy the needs of industry, E&T providers and society in general.
157. The provision of interdisciplinary skills, multidisciplinary and transdisciplinary skills such as transversal skills, STE(A)M skills, a higher degree of cognitive abilities, creativity, logical reasoning and problem sensitivity need to be reinforced more holistically into the Nine-Year-Schooling (NYS) curricula and transpire in the delivery. Despite the fact the curriculum makes provision for the development of these skills among primary and secondary level students, the greater focus on exams still eclipses the holistic development of the child. Skills studies survey conducted in 2018 has shown that employers were generally not satisfied with the level of job seekers’ STE(A)M skills, which are essential to operate in today’s and tomorrows’ world of work. It is often reported that students at all levels (primary, secondary, TVET and tertiary) need to demonstrate more creativity and imaginative skills, critical thinking and a better attitude towards work.

158. There is a lack of synergy between the education, training structures and the industry that limits the exposure of educators/lecturers/trainers to the changing nature of work and the pace of this transformation.

159. Technology is transforming how individuals live, work, play and think. Education needs to equip today’s young people with the skills to thrive in tomorrow’s world. Within just a few years, developments in technologies such as artificial intelligence, robotics, nanotechnology and 3D printing are rapidly transforming most occupations. Traditional teaching is deductive in nature, beginning with theories that do not necessarily relate to today’s requirements and proceeding on with the application of those theories.

160. The overwhelming focus on education presently also makes TVET a less attractive option for the youth. There is thus a need to integrate more STE(A)M in education and more education in TVET to be able to bring this much-needed parity of esteem between the two fields and make TVET a fully embraced choice.

B. The strategy

161. To develop and enact the curriculum with a focus on the development of transversal skills, STE(A)M skills, higher degree of cognitive abilities, computational thinking skills, creativity, logical reasoning and problem solving. Given that the educator is the interface between the curriculum and the learner, the delivery style needs to facilitate and accelerate student learning.

162. To build capacity of professional instructional designers (e.g., through industrial placement) that will help develop multi-disciplinary skills among educators, which will transpire in their delivery. The goal of these placements is to familiarise educators, trainers and lecturers with the knowledge and skills used in the workplace, specifically STEM-related workplaces. This initiative can ignite the interest of the future workforce in STEM by bringing the reality of the workplace closer to the school.

163. A new and higher level inter- and multi-disciplinary knowledge base will be essential, with a shift from narrowly focused specialists to flexible individuals with interdisciplinary academic training.
164. Rolling out contemporary teaching and learning approaches more broadly could assist students to integrate numerous disciplines to address global change and apply their knowledge to unpredictable and complex situations.

165. To contribute meaningfully, individuals need to be more versatile in their competencies and more progressive in their thinking. Hence, it is essential that reasoning skills such as logical thinking, critical and creative thinking, and problem-solving skills be developed in primary and secondary education, and mastered thereafter.

C. Explaining the strategy

166. It is therefore proposed to review the framework for curriculum development:
• to guide and enhance curriculum and delivery shifting towards an inductive pedagogy
  • Design inductive instructional activities as part of the training given to educators.
  • Promote inductive teaching approaches such as problem-based learning and discovery learning approaches.
  • Develop soft skills as an integral part of student life.
• to integrate multidisciplinary skills at every level of qualification
  • Students at all levels should be provided with opportunities to develop higher order thinking skills, problem-solving skills, STEM skills, transversal skills, creativity, and soft skills through learning and assessment.
• to work collaboratively at all levels
  • Educators, trainers and lecturers should work collaboratively within and across departments.
  • Students should be allowed opportunities to collaborate with their peers and be involved in self-assessment and peer-assessment.

167. The learning landscape will change to a learner-centred method of teaching with a mix of formative and summative assessments during the studies and final examinations conducted and moderated by assessors.

168. The provision of transversal skills that increase employability such as entrepreneurial initiative, digital skills and skills in foreign languages will be strengthened. Key actions are required to ensure that measures are taken to introduce transversal skills across all curricula, from the early stages of education up to higher education, using innovative and student-centred pedagogical approaches. Assessment tools through which levels of competence can be effectively assessed and evaluated should also be designed.

D. Methodological implementation

169. Collaborative learning is an approach that transforms the traditional lecture or teacher-focused classroom into a student-centred classroom. Collaborative spaces are based on the understanding that interactivity and collaboration in small groups produce stronger solutions that would not have been reached individually. They also encourage the sharing of research for enhanced learning. Besides enhancing problem-solving skills, collaborative learning further encourages trust building, communication, practical learning and application, as well as acceptance. It is recommended that collaboration should come from educators and students alike.
170. Collaboration between trainers and mentors in enterprise is the key point for apprenticeship programmes to flourish. Trainers and mentors in enterprise can learn from each other. While the former can keep abreast of the latest technologies in the company, the latter can remain updated in the new pedagogical trends.

171. Educators have to adopt a facilitator’s role to adjust their teaching approaches to a more inductive design by employing a variety of teaching strategies that are suited to the learners.

172. Topics can be introduced by presenting specific observations, case studies or problems, and by recalling previously taught theories. Students are supported in their discovery of these topics only after the need to know them has been established. Assessments can be directly built into these new forms of teaching, thereby reducing reliance on traditional exams.

173. Discovery learning should be promoted to encourage students to solve problems or explain a set of observations, and then work in a mostly self-directed manner to complete their assigned tasks. In this way, students draw appropriate inferences from the outcomes, ‘discovering’ the desired factual and conceptual knowledge contained in the process. This approach encourages students to build on past experiences and knowledge, use their intuition, imagination and creativity and search for new information to discover facts, correlations and new truths.

174. The curricula could be designed from the registered occupation and competency standards. Within the curricula, there is a need to design the training standards for public and private training providers. The learning outcome approach should be adopted in designing the curricula. The integration of STE(A)M and soft skills approach in TVET is of essence and a shift from deductive to inductive pedagogy is warranted.

175. There will be better alignment of the skills and knowledge of the future workforce with the requirements of the modern workplace, enabling educators to contextualise their teaching and facilitating exchange between industry practitioners and educators. An active connection between industry and education can play a role in improving the STEAM strategies of schools.

176. The curriculum needs to be reinforced towards deploying an inductive pedagogy. The professional development of educators, trainers and lecturers should also be aligned with the curriculum. The priority focus should be on building capacity of MIE lecturers, training centre managers and staff.

177. A more integrated approach also allows for greater teacher creativity and greater agency on the part of both educator and learner. It allows educators to craft their teaching around the needs and interests of their students, and also allows students to explore and deepen their understanding.

178. There is need to establish an occupational standard or professional profile for educators, including trainers in initial and continuing TVET. To support this, the role of the trainer should be clearly defined through competence-based criteria.
179. Collaboration between the MQA and the MITD should be strengthened. The MQA and the MITD should collaborate in designing the certification standard and assessment specifications.

E. Likely outcomes

180. The curriculum should:

- Develop interdisciplinary and transversal skills.
- Equip young people with soft skills (creativity, entrepreneurship and autonomy), in addition to necessary skills for better adaptation to the workplace.
- Link social behaviour (life skills, confidence building, sports activities, higher order thinking skills, and so on) with vocational studies.
- Implement STE(A)M courses in TVET.
- Allow educators, trainers and lecturers to work in team (educators with different specialities). There should also be differentiated mentorship.
- Enable educators, trainers and lecturers to act as facilitators guiding students to learn the method, and not providing them with the solutions.
- Enable educators, trainers and lecturers to adopt inductive teaching approaches.
- Afford students opportunities to work collaboratively.
- Place more emphasis on practical work and continuous assessment.
- Focus on progress and formative assessment.

8.3. Strategic cluster 3: Strengthening the education and training system to prepare and empower young people for the future

8.3.1. Strategy 7: Reskill and upskill educators, trainers and lecturers

A. The issue

181. Enterprises have persistently reported a gap between what is required at the workplace and what is taught by E&T providers. The rigid structure of the curriculum is deplored, as it does not allow the accommodation of improvements to keep pace with the latest developments. A disconnect has often been reported between teaching staff and the latest developments in pedagogy and andragogy as well as industry. This impacts on the mounting of relevant curriculum and delivery of training and may potentially contribute to a lack of preparedness of youth to join the WoW. Educators, trainers and lecturers are responsible for strengthening the links between education and work, establishing new curricula, providing more and high-quality apprenticeships, and other forms of work-based learning. In the coming years, educators, trainers and lecturers will be required to help shape quick and flexible responses to emerging needs with respect to the development of basic, digital and entrepreneurial skills.

B. The strategy

182. The reskilling and upskilling of educators, trainers and lecturers should be part of the culture of the E&T system. Resource persons need to continuously adapt to the changing demands of the workplace and society in general. The training structures of teaching staff should factor in a willingness to learn and increase their portfolio of teaching strategies.
183. An enabling environment such as embedding upskilling and reskilling of the teaching staff in the QA system needs to be strengthened and systematised to further drive the initiated reform of the education system.

C. Explaining the strategy

184. The following measures are proposed:

- Mentoring and shadowing of teaching staff to enrich the process of continuing professional development, not solely at the level of local schools but also regionally or internationally.
- Placement scheme for educators, trainers and lecturers in industry during their training.
- Training/education in mentoring, coaching and supervision for professional learning relationships. This encompasses training/education/upskilling on the importance and worth of soft skills for a professional relationship in the workplace.
- Make use of online platforms for educators to interact and share their best practices to gain rich insights into new classroom strategies, exciting techniques or new developments in their fields. They could thus earn credits for their continuous professional learning and development, as well as participation in communities of practice that will contribute to their upskilling.
- With the participation of the local industry, the (non) technological infrastructure in schools can be enhanced to make learning more relevant and meaningful for the development of skills among young people.

D. Methodological implementation

185. With the change of pedagogy into a learner-centred system (inductive pedagogy), the examination of the specific learning needs and changing role of educators, trainers and lecturers is essential for the continuous updating of their professional skills.

186. Experts within the institutions can be allowed to pass their knowledge, skills and competencies to other members. Mentoring at the workplace is beneficial to both mentors and mentees. Mentors will have the opportunity to hone their leadership skills and other skills, while the mentees gain valuable real-world experience and advice that are difficult to pick up in formal education and training settings.

187. There is a need to ensure that educators, trainers and lecturers develop a profound understanding of their role as mentors, coaches and supervisors.

188. Improvement in educators’, trainers’ and lecturers’ daily practices may not be achieved through traditional methods, such as workshops, but by building school-based learning communities. In some situations, contributions from recognised experts can be brought in through professional learning and development to enhance educators’, trainers’ and lecturers’ practices.

189. Ensure a close working relationship between the teacher’s training Institute and schools, where ‘Qualified Educators’ mentor every new educator for several years. Similarly, tutors are required in industries when trainees are undergoing their placement.
190. Problem-based learning needs to be promoted to increase students’ achievement and motivation. Through problem-based learning, students learn how to use an iterative process of assessing what they know, identifying what they need to know, gathering information and collaborating on the evaluation of hypotheses in light of the data they have collected. Their educators act as coaches and tutors: probing findings, hypotheses, and conclusions; sharing their thinking when students need a model; and attending to metacognitive growth by way of discussions on how thinking is progressing. The crisscrossing of a variety of disciplines helps students to think creatively and imaginatively. These investigations of the connectedness and complexity of real-world problems also nurture collaboration among learners, provide appropriately challenging instructional tasks for targeted students, and promote performance assessments based upon the context of each learning situation. Educators need to be exposed to innovative and stimulating learning environments for effective transfer of skills to the students.

191. An effective learning and teaching environment will be created to widen access to training materials (videos, interactive materials) and pedagogical resources. A flexible research area with access to internet and subject specialists will be put at the disposal of resource persons to nurture a culture of learning. Educators, trainers and lecturers can work at their own pace and time, which is not afforded by face-to-face training and full-day courses. Participants can take quizzes and surveys, watch videos illustrating a particular topic, and even use virtual ‘rooms’ for discussion sessions both synchronously and asynchronously. Online courses can be broken in terms of topics, themes or microlearning and planned as bite-sized learning that suits people’s busy lives.

192. There is a need to promote research in schools, universities and training centres, as well as promote innovation by educators, trainers and lecturers, as well as students at institutional level. Exchange programmes can be enhanced to train educators to become champions of change.

E. Likely outcomes

193. The implementation of this strategy is expected to bring the following changes:

- When educators, trainers and lecturers are linked to the development in the industry, there will be a reduction in skills gap and information asymmetry. The job readiness of young people will be improved.
- Developing professional profiles of educators, trainers and lecturers.
- Talent is identified and nurtured rather than left to chance.
- Mentoring, coaching and supervision will be encouraged.
- Pedagogical training will be provided to educators, trainers and lecturers.
- Promotion of digital use for educators, trainers and lecturers.
- Developing e-learning as a supplement to the traditional way of training/educating.
- A focus on information literacy at every level of education and training.
- A need to shift from unit standard to occupational standard and competency standard.
- All educators, trainers and lecturers will be involved in professional learning and development.
• All educators, trainers and lecturers will be involved in communities of practice.
• All educators will go through an industry placement scheme during their training, comprising refresher placements.

8.3.2. Strategy 8: Improve articulation between Quality Assurance frameworks for TVET and Higher Education

A. The issue
194. Quality Assurance Systems have traditionally been based on audit and control. In Mauritius, the higher education sector is already operating on a self-assessment and peer review mode. The MQA has at this point embarked on the self-assessment approach for registered training institutions. However, there is currently no common framework for policies in quality assurance between TVET and Higher Education. It should be noted that entry requirements have evolved over time, with new qualification pathways in place. This, in turn, demands the development of a systemic quality assurance framework and the review of this framework at regular intervals. Additionally, in the absence of an established credit and level accumulation system, the articulation of TVET qualifications with academic qualifications in Higher Education for comparability and alignment remains a challenge.

195. There is a lack of understanding of quality assurance systems by players.

B. The strategy
196. There is a need to harmonise the accreditation processes between the HEC and the MQA. More synergistic collaboration is required between the MQA and the QAA in order to enhance the quality assurance framework and better integrate TVET and HE. A harmonised self-assessment system is the cornerstone of this strategy.

197. The QA process needs to be granular, starting at the time the learner steps into an RTI with an assessment of her/his level and ending with a tracer study or evaluation, as applicable, approximately one to two months after the training has taken place.

C. Explaining the strategy
198. The major quality assurance standards for services in education and training (EQAVET3, ISO 29990) are now relying on self-evaluation, peer review system, mutual trust and mutual assistance among all the parties. With the growing importance of TVET all over the world and with the advent of the nine-year schooling in Mauritius and in line with Government Programme 2020-2024, the TVET sector will have a much more important role to play in the education system. This will lead to emphasis on learning outcomes with the implementation of the

3 EQAVET is a community of practice bringing together member states, social partners and the European Commission to promote European collaboration in developing and improving quality assurance in VET by using the European Quality Assurance Reference Framework.
new QAF. By ensuring consistency with the developments in the QA systems on the international front, Mauritius can eventually be certified by international networks such as the ENIC-NARIC\(^4\) agreement for recognition of individual foreign qualification.

199. A harmonised quality assurance system works in tandem with a National Credit System. These two entwined systems provide a framework for establishing effective pathways for lifelong learning. They take into consideration the seamless articulation from TVET to HE, progress or transfer to higher or equivalent qualifications without the need to repeat a curriculum, as well as opening access and easing mobility across different local and international institutions.

D. Methodological implementation

200. Build Self-Assessment Models for Quality Assurance of Institutions and build the needed institutional capacity in terms of internal Quality Assurance Systems.

201. There will be a shift from a Quality Assurance model based on processes to one that is more focused on learning outcomes and individual ownership. The self-assessment models for quality assurance of institutions need to be reinforced through capacity building at the level of training centres and MQA.

202. A National Coherent Credit System based on quality indicators and in line with the NQF needs to be established by regulators of E&T. Through this system, relevant tools will be developed to contribute to a solid educational structure targeting both academic and vocational education and training, such as a set of guidelines with a common understanding of the QA process.

203. A uniform credit point system will facilitate the permeability of qualifications and hence mobility of people.

204. Capacity building across all training institutions is important to inculcate a culture of self-assessment in all aspects of training (from pre-training to post-training).

E. Likely outcomes

205. This strategy will address the overlap between HEC and MQA systems for accreditation of courses. The QA processes will be less labour-intensive and will empower training centres to take responsibility for their processes.

206. Delivery of relevant training based on skills needs, and curriculum developed based on occupational standards that respond to the local skills demand.

207. The introduction of a quality grading system for training centres (for example from Level 1), i.e. an initial compliance needs to be achievable to potentially raise their level. The transition then needs to be managed to higher levels (2 and 3) through audits. This will assist in increasing the level of courses offered.

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\(^4\) ENIC-NARIC: European Network of Information Centres in the European Region. A network under the European Council and UNESCO. NARIC: National Recognition Information Centres in the European Union. A network under the European Commission. These networks of national centres provide information, advice and assessment of foreign qualifications and help improve the academic recognition of international awards. They also facilitate the integration of national education systems.
by training centres and increase the permeability of qualifications to HE. The implementation of this strategy will also address the following:

- The overlap between HEC and MQA systems for course accreditation.
- Institutional capacity building needed in terms of internal QA systems.
- The need to move from a process-oriented Quality Assurance model in Mauritius to one that is more focused on learning outcomes and individual ownership.
- Strengthening Quality Assurance for all courses offered by private or public providers.
- The need for a National Coherent Credit Systems (based on quality indicators).
- Theme-based audits conducted at RTIs.
- Help local systems to link with ECTS\(^5\) and ECVET\(^6\).

8.3.3. Strategy 9: Introduce a credit point system to improve articulation between the TVET and HE sectors within the NQF

A. The issue

208. Historically, the Mauritian education system is based on the British education system, with a focus on qualifications (exam-based). The dramatic expansion of access to higher education has contributed to an erosion of vocational education, limiting the possibility to move across streams.

209. Each university has its own credit system that does not provide a common point of reference for entry requirements. This can be a barrier to long-term career progression.

210. There is a lack of permeability of qualifications, particularly from vocational to HE, because of the lack of transparency in respective QA systems.

211. The present system is not flexible enough to enable learners to move within and across education, training and employment. As their careers unfold, people are not able to adapt their learning pathway to suit their interests and abilities.

212. The lack of a coherent credit system limits the possibilities for local E&T providers to establish linkages, bi or multilateral agreements with foreign institutions to foster exchanges for the sharing of knowledge and skills.

B. The strategy

213. This shift in the preference of people to opt for HE rather than TVET qualification is leading to a skills gap at level 6 of the NQF. There is therefore a need to come up with a system that would facilitate articulation between higher education and TVET for the enhanced mobility of individuals between these two realms.

\(^5\) The ECTS is a learner-centred system for credit accumulation and transfer based on the transparency of learning outcomes and learning processes. It aims at facilitating planning, delivery, evaluation, recognition and validation of qualifications and units of learning as well as student mobility. The ECTS is widely used in formal higher education and can be applied to other lifelong learning activities.

\(^6\) The ECVET is a technical framework for transfer, recognition and, where appropriate, accumulation of individual learning outcomes to achieve a qualification. ECVET tools and methodology comprise the description of qualifications in units of learning outcomes with associated points, a transfer and accumulation process and complementary documents such as learning agreements and transcripts of records.
C. **Explaining the strategy**

214. Besides the fact that there is a need to attract people towards TVET, this articulation will potentially promote lifelong learning. To achieve this objective, the currently used quality assurance system in higher education (based on self-assessment) also needs to be ‘transposed’ to TVET. The latter needs to move towards a robust quality assurance system for permeability of qualifications.

215. TVET and higher education need to build a solid relationship based on a credit point system. A credit system is a bridge to connect HE to TVET and allow movement of people. Additionally, there is limited mobility between formal education and vocational training due to, among others, a lack of equivalent recognition for the latter. A student enrolled in vocational training often cannot move easily to higher education. In this respect, a fully harmonised and operational credit point system is expected to enable multiple-entry and exit between vocational education, skills training, general education, technical education, oversees education and labour market.

D. **Methodological implementation**

216. The MQA and HEC, together with the MoETEST, will work out a set of guidelines in line with the quality assurance frameworks to build a common framework for the credit point system.

217. The potential for credit systems entails facilitating learning which is student-centred and contributory to lifelong learning. The development of credit arrangements must be undertaken, using for e.g. the European Credit Transfer System (ECTS) in higher education and the European Credit system for Vocational Education and Training (ECVET) in vocational education and training.

E. **Likely outcomes**

218. The likely outcomes of the strategy are:
- Better articulation between TVET and HE for enhanced mobility of students within and across types of qualifications and across borders;
- Promotion of lifelong learning among individuals and enterprises;
- Exchange and sharing of resources with foreign institutions, like ECTS and ECVET, for the conversion of qualifications using credits;
- More transparency in E&T systems; and
- Valorisation of TVET and trades.

8.3.4. **Strategy 10: Improve financial support for relevant training**

A. **The issue**

219. An increasing challenge in training systems is that enterprises are under-training their staff in (high) technical skills. The consequent shortages of well-trained, skilled workers in the formal sector may hamper productivity growth, competitiveness and economic development.

220. Despite investment in the training of employees through the Levy grant system (LGS) and the Sectoral Skills Development Scheme, skills mismatch is a perpetual and persistent issue in specific sectors and across specific occupational groups at enterprise level.
221. The system is inadequately structured to ensure that relevant training is being purposefully, systematically and sustainably delivered.

B. The strategy

222. Funding will increasingly be tied to the whole training cycle from skills needs assessment to evaluation of training. Financial support for training that is linked to registered occupational/competency standards and based on learning outcomes will be improved.

223. The foundation for the operationalisation of this strategy lies in the development of occupational standards for which funding needs to be allocated.

224. Funding will be attached to programmes having QA embedded in all aspects of training, the moment a trainee steps into a registered training institution (RTI) to the point where s/he secures employment, e.g. Pre-training and post-training assessment.

225. Funding of a skills development system where there is evidence of skills needs (quantitative and qualitative data) and of impact (tracer studies, evaluation of training).

226. Funding of new equipment and machine acquisition for the development of strategic emerging sectors such as automation in the world of work, sustainable development and ocean economy, are based on solid and evidence-based data.

227. Funding for promoting sophisticated technological adoption at training centres for blended forms of learning to promote LLL, especially among employees of MSMEs and the youth.

228. Development of relevant training emanating from a systematic skills needs assessment. Funding will be tied to i) the analysis of skills needs; ii) delivery of training; and ultimately iii) the evaluation of training to measure its impact.

229. Eventually, the skills development system will hinge on skills needs and on the curriculum that will be based on occupational standards/competencies. Within this structure, the learner can aspire to obtain a full qualification linked to credit points.

C. Explaining the strategy

230. Investment in training is attached to a proper skills needs analysis by enterprises. To be more effective, financial incentives and training provision will need to be accompanied by adequate support for the assessment of skills needs at the enterprise and sector levels.

231. Eligibility for training refund will be conditional on identified needs. Innovative forms of learning will be supported. Part of the refund will be effected after the evaluation of the training.
D. **Methodological implementation**

232. The existing levy grant system could be reviewed to reflect the requirements of the enterprises and ensure that high-quality training is meeting the needs of industry and employers, both in existing and emerging sectors. A working group on skills development will be set up to oversee the investment in skills development projects. The new, emerging and priority sectors wherein funds should be allocated for the provision of training would be determined through:

(i) the capture of current skills needs of enterprises to link refund of training with evaluation of training needs at the place of work;
(ii) studies to anticipate future and emerging skills needs; and
(iii) the development of occupational standards.

E. **Likely outcomes**

233. Funding will be better aligned with the skills needs of enterprises, which may include new requirements to improve the quality of online and workplace-based training.
Implementation of the NSDS
9. Implementation of the NSDS

234. The Strategy was approved by the Cabinet on 13 May 2022. The effective implementation of skills policies at national level depends on a governance structure that enhances policy coherence and provides strong coordination mechanisms for implementation across the three pillars of developing, activating and using skills.

235. An action plan has been prepared for the operationalisation of the strategies. The key actions together constitute a strong and coherent platform for new policy development and better implementation of existing skills policies. Achieving them will require the integrated and concerted action of ministries, education and training institutions, industry associations and other stakeholders.

236. A clear understanding of how to effectively implement this strategy is of essence. For this reason, capacity building is a common feature to all the strategies.

237. A centrally coordinated Strategy Implementation Committee (SIC), chaired by the parent Ministry, will oversee the implementation of the strategies under the NSDS. Its membership will comprise stakeholders from the public and private sectors (including MLHRDT, MoETEST, MoIDSC, Business Mauritius, MIE, MITD, MQA, SME Mauritius, EDB and the HRDC, among others). The SIC in collaboration with various stakeholders will drive the implementation of the Strategy.

238. The opening of the economy to high skills will bring the country with demographic dividend to address the problem of ageing population. To be able to innovate, enterprises require access to high-skilled workers through global search for talent to stay ahead of their competitors and prosper. This widening of access is partially driven by the policies of governments as well as the quality of life within the countries’ borders. According to the WEF (2019), Switzerland and Singapore are the top two countries for attaining and keeping high-skilled workers. The subcategory ranks are defined as follows:
- Enable: Status of regulatory and market landscapes in the country.
- Attract: Ability to attract companies and people with the needed competencies.
- Grow: Ability to offer high-quality education, apprenticeships and training.
- Retain: Indicates quality of life in the country.

239. Concerted efforts need to be exercised with a view to removing inefficiencies in the labour market, which are largely due to skills mismatch and structural changes to be able to attain and keep high-skilled workers.

240. Policy coherence is always a challenging objective to attain, be it vertically or horizontally. Yet, effective cooperation between all stakeholders is key to attaining it. For this to happen, stakeholders need to be clear about their own responsibilities and what they stand to gain, and, of course there needs to be trust between them. Stakeholders should follow common policy objectives and align systems of funding, accreditation and quality assurance. Also, stakeholders like the MoETEST, the MoIDSC, and the MLHRDT should share concepts, processes and outcomes.
10. References


## Annex: Glossary of technical terms

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<th>Term</th>
<th>Definition</th>
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<tr>
<td>1. Certification standard</td>
<td>This standard determines the level of the competences and the process for the awarding of a qualification (degree, diploma or certificate). The certification standard is closely linked with the descriptors of the National Qualifications Framework.</td>
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<td>2. Competency standard</td>
<td>This standard (often mixed with the occupational standard) is the translation of the tasks and duties into competencies needed by the holder to apply his/her skills for related jobs. The competency standard is used for designing the curricula (or training programmes) based on learning outcomes. The certification standard is closely linked with the competency standard by grouping competencies into skills sets or blocks of competencies that are evaluated either through formative or summative assessment processes or a combination of both.</td>
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| 3. Credit system                   | An instrument designed to enable accumulation of learning outcomes gained in formal, non-formal and/or informal settings, and ease their transfer from one setting to another for validation. A credit system can be designed by describing:  
• an education or training programme and by attaching points (credits) to its components (modules, courses, placements, dissertation work, etc.); or  
• a qualification using units of learning outcomes and attaching credit points to every unit. |
| 4. Inductive teaching and learning | Inductive teaching and learning encompass a range of teaching methods including inquiry-based learning, discovery learning, problem-based learning, project-based learning, case-based teaching, and learning cycle-based teaching. The key attributes of this approach enable students to experience the processes of knowledge creation comprising a set of common characteristics such as student-centred approaches, active learning, development of self-directed learning, and a constructivist theoretical basis. |
| 5. Learning outcomes               | Statements of what a learner knows, understands and is able to do on completion of a learning process defined in terms of knowledge, skills and competence.                                                                       |
| 6. National Qualifications Framework (NQF) | It is a ten-level instrument to develop and classify qualifications according to specified levels of learning achieved. It is based on set criteria (e.g. using descriptors) and aims at integrating and coordinating qualifications to improve the transparency, access, progress, comparability and quality of qualifications in relation to the labour market and the pub. |
| 7. Micro-credentials                | A micro-credential certifies achievement of a coherent set of skills and knowledge; and is specified by a statement of purpose, learning outcomes, and strong evidence of need by industry. It tends to be narrower in range than traditional qualifications like diplomas or degrees.  
Micro-credentials are certification-style qualifications that individuals choose to study to improve a skill found in a particular industry area (Adapted from New Zealand Qualifications Authority (NZQA)). |
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<tr>
<td>8. Occupational standard</td>
<td>This standard describes the duties and the tasks of an occupation at a given level of responsibilities and autonomy. It can also be called job profile.</td>
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<td>9. Permeability of education and training systems</td>
<td>The capacity of education and training systems to enable learners to: • access and move along different pathways (programmes, levels) and training systems; • validate learning outcomes acquired in another system or in non-formal/informal settings.</td>
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<tr>
<td>10. Qualification descriptors</td>
<td>Generic statements of the outcomes of study or prior experience. They provide clear points of reference that describe the main outcomes of a qualification often with reference to national levels.</td>
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| 11. Qualification standard | It is the description of the minimum requirements necessary to perform work of a particular occupation successfully and safely. These minimum requirements may include specific job-related work experience, education, medical or physical standards, training, security, and/or licensure.
Qualification standards comprise three elements: The occupational standard, the competency standard, and the certification standard.
According to the EU definition (CEDEFOP), the national qualifications frameworks (NQFs) classify qualifications by level, based on learning outcomes. This classification reflects the content and profile of qualifications, i.e. what the holder of a certificate or diploma is expected to know, understand, and be able to do. |
| 12. Tracer studies and employment surveys | The general objective of tracer studies is to evaluate the medium- to long-term impact of education programmes.
In decentralised tracer studies, the focus is on getting feedback for the provider to improve the training programme. This feedback for curriculum development and learning conditions is often the most important aspect of institutional tracer studies. In this type of tracer studies, the role of the education/training institution is foregrounded.
Employment surveys (which are a centralised form of tracer studies) are conducted by a national body such as HEC. The main objective of this type of studies is to inform ministries and other central bodies about the labour market success of graduates. They can be a valid instrument for analysing skills mismatch at national level, in combination with information from other sources. |
| 13. Unit standard | A unit standard means a qualification component that may be formally recognised as an award independently of the award of the qualification. It is the smallest unit that can be credited to a learner and comprises mainly learning outcomes and assessment criteria.
The unit standard belongs to a qualification system mixing training with competency, regardless of learning outcomes. The RPL (recognition of prior learning) is difficult to apply with the Unit Standard. |
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