



THE FUTURE OF TERTIARY EDUCATION AND SKILLS TRAINING

2015-2025

A NATIONAL
POLICY FRAMEWORK

AUGUST 2015

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AND SKILLS
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MESSAGE



It is with great pleasure that I present, *The Future of Tertiary Education and Skills Training, 2015 – 2025, A National Policy Framework*. Tertiary education and skills training has witnessed unparalleled progress over the last five (5) years. This Policy Framework will act as the road map for sector development, to ensure that the advancements made are sustained, secured and expanded for the following ten (10) years. Further, the Policy Framework will support the next generation of skills and knowledge development towards the 21st century economic imperatives for Trinidad and Tobago.

Governments across the globe will soon endorse the Sustainable Development Goals (SDGs) as the universal development agenda for the next 15 years, which follows the Millennium Development Goals (MDGs). This Policy Framework is seamlessly aligned with Goal 4 of the proposed SDGs: **“to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”**, which is in keeping with Government’s emphasis on prosperity for all.

As Minister, I have led the Ministry’s team toward achieving unprecedented participation in the tertiary education sector, from 42% in 2010 to 65% 2013, which has improved the profile of Trinidad and Tobago within the international community. We continue to add value to the sector with a number of flagship projects/programmes such as the Aviation Institute, Public Access Learning System (PALS), Drilling Academy, UWI South Campus, GATE eService, Ministry Headquarters in Chaguanas and the Point Lisas Industrial Apprenticeship Programme. These initiatives have set the platform for continued innovation and critical thinking for the next decade.

We will build on the range of initiatives introduced over the last five (5) years, to ensure a more systemic and fully integrated, work-relevant and

responsive education and training system. We will create diverse pathways within and across the vocational and academic tracks to promote skills for life. Our overall approach will be grounded in an improved research infrastructure at the institutional and national levels, with increased levels of data reporting and accountability. This will ensure effective monitoring and evaluation of our policy framework.

Further, our students and trainees must possess a range of holistic development skills to compete in a modern economy – creativity, critical thinking, leadership, networking, technological, social and global citizenship, to name a few. In this regard, we will continue to support our educators, administrators, researchers and non-academic staff, while at the same time engaging communities of learners in collaborative ways, to nurture a world class student and trainee. Further, given the increasingly competitive global environment, the future system will prioritise the quality of teaching and learning to transform outcomes across the entire system.

On behalf of the Ministry of Tertiary Education and Skills Training, we commit to delivering on this Policy Framework which will transform the lives of

our future generations and positively impact the socio-economic progress of Trinidad and Tobago. Through the concerted implementation by all internal and external partners, we will surely create a more advanced education and training system. Our future belongs to our children and we all have a role to fulfill in advancing our future graduates and pioneers of development.

I would like to take this opportunity to express my deepest gratitude to the Ministry's personnel for their commitment to developing this policy framework, along with the valuable inputs of the lead consultant, Dr. Lucy Steward, Chairmen, Chief Executive Officers and technocrats of the agencies within and external to the MTEST. I would like to thank all stakeholders with whom the Ministry had consultations on the Policy Framework.



Fazal Karim
Minister
Tertiary Education and Skills Training

ACKNOWLEDGEMENT



This document was born out of a desire to have continued planning for the sector that would not only address current needs but would also chart the course for the Ministry over the next ten (10) years. The process began with the drafting of a preliminary report as developed by the lead consultant, Dr. Lucy Steward. In this regard, I wish to sincerely thank Dr. Steward as well as the agencies of the Ministry and Institutions that would have furnished her with the necessary information to prepare the preliminary report entitled *“Blueprint: An Agenda for Tertiary Education and Skills Training, Policy Considerations (2015 - 2025)”*.

I would also like to make special mention of the management and staff of the National Training Agency who arranged national consultations and the stakeholders who participated in the consultation process and whose invaluable contributions cannot go unrecognized.

I would like to pay special tribute to the dedicated technocrats of the Ministry who prepared this National Policy Framework, *“The Future of Tertiary Education and Skills Training 2015 - 2025”*. My sincere thanks go to all who have contributed to the development of this policy, as I am sure you will be proud of the part you have played in creating the roadmap that outlines the path to our nation’s success well into the first quarter of the twenty-first century.

A handwritten signature in white ink, reading 'Amroodeen Ali', written over a horizontal line.

Amroodeen Ali
Permanent Secretary
Ministry of Tertiary Education and Skills Training

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ACRONYMS

ACP	African Caribbean and Pacific Group of States
ACTI	Association of Caribbean Tertiary Institutions
ACTT	Accreditation Council of Trinidad and Tobago
BIT	Board of Industrial Training
CANQATE	Caribbean Area Network for Quality in Tertiary Education
CANTA	Caribbean Association of National Training Agencies
CARICOM	Caribbean Community
COHSOD	Council for Human and Social Development
COSTAATT	College of Science, Technology and Applied Arts of Trinidad and Tobago
COMPASS	Compensatory and Academic Support Services
CPR	Cardiopulmonary Resuscitation
CSEC	Caribbean Secondary Education Certificate
CSME	CARICOM Single Market and Economy
CSO	Central Statistical Office
CTLPA	Caribbean Tertiary Level Personnel Association
CVQ	Caribbean Vocational Qualification
CWRD	Centre for Workforce Research and Development
ECCE	Early Childhood Care and Education
EDF	European Development Fund
EFA	Education For All
FASP	Financial Assistance (Studies) Programme
FGAD	Funding and Grants Administration Division
GATE	Government Assistance for Tuition Expenses
GDP	Gross Domestic Product
GoRTT	Government of the Republic of Trinidad and Tobago
HELP	Higher Education Loan Programme
HERF	Higher Education Research Fund
HYPE	Helping Youth Prepare for Employment
ICT	Information and Communication Technology
ILO	International Labour Organization
LMI	Labour Market Information
MDGs	Millennium Development Goals
MDI	Medical Design Innovation
MIC-IT	Metal Industries Company – Institute of Technology
MoA	Memorandum of Agreement

MoU	Memorandum of Understanding
MTPF	Medium Term Policy Framework
NCHE	National Commission for Higher Education
NESC	National Energy Skills Center
NIHERST	National Institute of Higher Education, Research, Science and Technology
NIS	National Innovation System
NQCF	National Qualifications and Credit Framework
NSDP	National Skills Development Programme
NTA	National Training Agency
OAS	Organization of American States
ODL	Open and Distance Learning
OECD	Organisation for Economic Co-operation and Development
OJT	On-the-Job Training
PLAR	Prior Learning Assessment and Recognition
PLIAP	Point Lisas Industrial Apprenticeship Programme
PPP	Purchasing Power Parity
PSIP	Public Sector Investment Programme
R&D	Research and Development
RDI	Research and Development Innovation
SDGs	Sustainable Development Goals
SEC	St. Augustine Education City
SECC	St. Augustine Education City Committee
SRLF	Student Revolving Loan Fund
STEAM	Science, Technology, Engineering, Arts (including design) and Mathematics
TLIs	Tertiary Level Institutions
TTHTI	Trinidad and Tobago Hospitality and Tourism Institute
TVET	Technical and Vocational Education and Training
UNDO	United Nations Development Organisation
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USGLF	University Student Guarantee Loan Fund
UTT	University of Trinidad and Tobago
UWI	University of the West Indies
YTEPP	Youth Training and Employment Partnership Programme Limited

EXECUTIVE SUMMARY

Education is a key tenet of national development with tertiary education and skills training playing an integral role in transforming society and the economy through investing in its prime resource, human capital. As the Ministry prepares for the next ten (10) years, it has adopted a visionary outlook for the sector. To this end, **The Future of Tertiary Education and Skills Training 2015 - 2025, A National Policy Framework** has been developed with the objective of guiding the sector to ensure a highly skilled and relevant workforce, educated by institutions operating at international standards within the ambit of an effective and sustainable governance and management structure, to ensure value for money and return on investment.

The Policy Framework maps the comprehensive development of the sector towards the attainment of a knowledge-based economy, in keeping with national, regional and international policy directives. The Policy Framework therefore reviews current performance, recapping the evolution, achievements and challenges of the sector; and presents a future agenda for the next ten (10) years. The sector is discussed under the following thematic areas:

1. Governance and Management
2. Funding
3. Relevance and Responsiveness
4. Quality
5. Access
6. Research and Innovation

The Policy Framework identifies a Road Map for Success to materialise the following sectoral and national impacts by 2025:

1. An overarching legislative and policy framework to ensure effective and comprehensive governance and management of the tertiary education and skills training sector.
2. An equitable funding model characterised by strategic targets, measurable outcomes and aligned to relevant training as determined by government policy and labour market demands.
3. Competent work-ready graduates with the relevant entrepreneurial and leadership skills and attitudes to meet the current industry and economic needs as well as anticipated labour market demands.
4. Institutions of the highest local and international standards, providing quality programmes, delivered by trained instructors who engage in continuous professional development towards the creation of a globally competitive workforce.
5. The provision of opportunities for life-long learning and ensuring equity and inclusiveness by expanding tertiary education and skills training to all citizens, and in particular, disadvantaged groups such as the disabled and the underserved.
6. The supply of a critical mass of scientists and researchers to support research and innovation activities to enhance the competitiveness of existing industries and future industrial development.

Some of the key priorities identified in the Roadmap include:

- Relevant legislative and policy framework
- Enhanced collaboration and consultation
- Rationalisation of funding
- The adoption of more cost-sharing funding models
- Strategic sectors targeted for investment, growth and social impact
- Graduate employability and continuous workforce development
- TVET as an area of choice
- Accreditation and evaluation of quality
- Blended learning and technology-enhanced programme delivery
- Inclusiveness and equity with a focus on under-served groups
- Professional development and lifelong learning opportunities
- Research and education clusters
- Research and education network infrastructure
- Digital ecosystem

Further, the Road Map outlines key initiatives, some of which are:

- Provision of education and training that fulfills current and projected labour market and industry demands as well as national socio-economic priorities and strategies such as the Diversification plan, Green, Blue and Silver Economies.
- Building capacity of the Monitoring and Evaluation systems to ensure effective monitoring, evaluation, compliance and enforcement of agreements related to funding, programmes and projects;

- Expansion of Public-Private-Partnerships, corporate sponsorships, and philanthropy as a means for institutions to become more self-reliant;
- Increased collaboration with industry to inform policy direction, curriculum development and programme delivery;
- Improved capacity for collection of Labour Market information (LMI), research and analytics within the Ministry and its agencies;
- Identification of indicators to measure the 'value for money' and 'return on investment' rating for all funding mechanisms within the sector; and
- Integration of entrepreneurial education and training into programme offerings and expansion of support facilities such as incubators.

The National Policy Framework was informed by a consultative process which involved:

- Critical stakeholder meetings with administrators at public and private institutions and representatives of industry.
- National consultations held at three locations in Trinidad and Tobago.

Further, the successful implementation of this Policy Framework would be dependent on political will, leadership and resources (human, financial and physical). To this end, consultations with relevant stakeholders will inform the development of an Action Plan, to implement the initiatives reflected in the Road Map. Stakeholder input will therefore be instrumental in the realisation and success of this **National Policy Framework: The Future of Tertiary Education and Skills Training for Trinidad and Tobago, 2015 - 2025.**

**“ To earn tomorrow,
You have to learn today. ”**

Dr. Slinger Francisco (Mighty Sparrow)

INTRODUCTION

TO THE TERTIARY EDUCATION AND SKILLS TRAINING SECTOR

CHAPTER 1



The Future of Tertiary Education and Skills Training, 2015 – 2025, is a National Policy Framework designed to meet the challenges of the 21st century, building on the foundations of previous seminal reports and policies. The Policy Framework is focused on ways to develop and further pave the way for the sector’s continuous growth and improvement. It will guide the sector over the next ten (10) years to make it more cost efficient, driven by labour market needs, and geared towards linking higher education with industry through research and innovation. Further, it will ensure that the

investments in the tertiary education and skills training sector, estimated at over TT\$3.5Bn per annum, will lead to poverty reduction/eradication and human capital development, toward the development of a knowledge-based innovative economy.

To advance the sector to 2025, this Policy Framework addresses the critical issues within tertiary education and skills training - governance and management, funding, relevance and responsiveness, access, equity, quality, research and innovation.

1.1 DEFINITION OF TERTIARY EDUCATION AND SKILLS TRAINING

TERTIARY EDUCATION

The teaching and learning process that occurs following successful completion of secondary schooling or its equivalent, and which provides academic credits or competencies that lead to the award of qualifications such as certificates, diplomas and degrees. In Trinidad and Tobago, successful completion of secondary school includes the Caribbean Secondary Education Certificate (CSEC), its national equivalent or technical/vocational equivalent.

SKILLS TRAINING

A comprehensive term referring to Technical and Vocational Education and Training (TVET) and those aspects of the educational process which involve general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life.

Tertiary Education includes Technical and Vocational Education and Training (TVET) at levels 3 and above of the Caribbean Vocational Qualification (CVQ).

1.2 DEVELOPMENTAL IMPERATIVES

1.2.1 *International and Regional Context*

In keeping with UNESCO's 2000 Education for All (EFA) agenda and the United Nation's Millennium Development Goals (MDGs) for 2015, the Ministry of Tertiary Education and Skills Training has achieved vast improvements in the quality of and access to tertiary education and skills training in Trinidad and Tobago over the last fifteen years. As the new global post 2015 agenda is being deliberated, the Sustainable Development Goals (SDGs) have emerged. This agenda highlights the fundamental role of education for sustainable, inclusive and resilient development by 2030. The education goal of the SDGs addresses:

“inclusive and equitable education and the promotion of lifelong learning opportunities for all”

As a Member of the Caribbean Community (CARICOM), the Government of the Republic of Trinidad and Tobago (GoRTT) is cognisant of its role in enabling citizens to acquire the attributes of the Ideal Caribbean Person and empowering them to participate meaningfully in functional cooperation at a regional level. The Ministry acknowledges the importance of tertiary education and skills training in strengthening the capacity of individuals and the society to achieve an improved quality of life, realise individual gains, and contribute to nation building. In this regard, the Policy Framework is guided by these global and regional objectives.

THE IDEAL CARIBBEAN PERSON

should be someone who among other things:

- Demonstrates multiple literacies, independent and critical thinking, questions the beliefs and practices of past and present and brings this to bear on the innovative application of science and technology to problem-solving;
- Demonstrates a positive work ethic;
- Values and displays the creative imagination in its various manifestations and nurtures its development in the economic and entrepreneurial spheres in other areas of life;
- Has developed the capacity to create and take advantage of opportunities to control, improve, maintain and promote physical, mental, social and spiritual well-being and to contribute to the health and welfare of the community and country;
- Is aware of the importance of living in harmony with the environment;
- Has a strong appreciation of family and kinship values, community cohesion, and moral issues including responsibility for and accountability to self and community; and
- Has an informed respect for cultural heritage.

CARICOM Heads of Government,
Montego Bay, 1997

1.2.2 Local Context

The Ministry and its agencies are committed to the provision of a wide range of quality tertiary education and skills training opportunities, aligned with the seven

(7) inter-connected Pillars for sustainable development as identified by the GoRTT, in particular, Pillar 5: *A more diversified, knowledge intensive economy.*



The strategic direction of education is further articulated in The National Performance Framework 2012–2015, particularly Priority 5: Poverty Reduction and Human Capital Development, which states that:

'The ability of the poor and vulnerable to attain employment is one of the main factors in determining whether they will remain in poverty. Developing their skill levels through vocational training, coping and life skills will not only benefit the economy, it will increase their marketability, earning potential and help move them from being dependent on the state to being self-reliant members of society'.

To achieve this mandate, the GoRTT, through the Ministries of Education (MoE) and Tertiary Education and Skills Training, provides free education from Early Childhood Care and Education (ECCE) through primary and secondary schooling to higher education inclusive of tertiary level and skills training. Over the five-year period 2010/2011 to 2014/2015, the GoRTT invested in excess of TT\$46.1Bn in education and training, of which approximately 36% or \$16.7Bn was expended in the tertiary education and skills training sector for which the Ministry has responsibility.

The Ministry and the MoE are working together to ensure that students are given the opportunity to acquire a sound foundation for tertiary education and skills training which includes competencies in literacy and numeracy, and systematic instruction for the acquisition of critical thinking and problem solving skills. Further, the engagement of citizens in education, training, and lifelong learning is a priority for the GoRTT and is based on the fundamentals of people-centred development and the value of education and training for human capital development and poverty eradication. The Ministry has made deliberate strategic interventions to provide tertiary education and skills training across Trinidad and Tobago to enable all citizens, inclusive of disadvantaged groups, to access programmes.

The Ministry set a target of 60% participation in tertiary education by 2015, and by 2013, surpassed this target with a record 65.23%. This significant increase is attributed mainly to the expansion in provision of a wide range of programmes and the assistance provided to students through the various financing programmes. However, the practice of public funding in tertiary education and skills training has been recognised internationally as a major challenge, especially in light of the current global economic climate. More specifically, with falling energy prices in Trinidad and Tobago within recent times, many have questioned the sustainability of funding tertiary education and skills training. These issues will be comprehensively addressed in their entirety in this Policy Framework.

1.3 PHILOSOPHY

The Ministry's philosophy and approach for tertiary education and skills training towards 2025 is embodied in the vision, mission, goal and principles of the sector.

1.3.1 Vision

A knowledgeable and skilled citizenry that is motivated, patriotic, socially and morally responsible and empowered to harness opportunities and to contribute to a more diversified economy for individual gains for the sustainable development of Trinidad and Tobago.

1.3.2 Mission

To ensure that tertiary education and skills training provisions enable citizens to have access to a range of quality programmes to meet a variety of needs, facilities and other resources, for their holistic development and empowerment with the knowledge, skills and attitudes needed for entrepreneurship; to meet the current and anticipated demands of the labour market; and, to cope with changes and embrace opportunities available in the local, regional and international environment.

1.3.3 Overarching Goal

The overarching goal of the Ministry is to implement a tertiary education and skills training system that:

- enables learners to realize their full potential and unleash their creative abilities for self-fulfilment and for the sustainable development of Trinidad and Tobago;
- produces graduates with life skills, transferable skills and employability skills including critical-thinking and problem-solving;
- equips citizens with the knowledge, skills, attitudes and values for responsible citizenship to support a vibrant democracy;
- fosters the creation of new knowledge, entrepreneurship and lifelong learning; and
- relates to and addresses the current and anticipated needs of the labour market at local, regional and international levels.

1.3.4 Principles

To achieve the goals for tertiary education and skills training by 2025, the sector must be driven by the following underlying principles:

1. ACCESSIBILITY

All citizens must have access to participate in tertiary education and skills training, at various sites, through a mix of modalities including the use of Information and Communication Technology (ICT) for Open and Distance Learning (ODL).

2. INNOVATION

Innovation is critical for entrepreneurship, knowledge creation for a better society, wealth creation through diversification and sustainable development and requires an enabling environment, space, facilities, technology and other resources provided by relevant bodies including tertiary education and training institutions.

3. LEADERSHIP

Effective leadership at all levels to manage change and maximise opportunities available through tertiary education and skills training.

4. LIFELONG LEARNING

All relevant stakeholders must contribute to fostering a culture of lifelong learning.

5. LIFE SKILLS FOR ALL

The instruction in life skills must be infused in all tertiary education and skills training programmes.

6. GOOD GOVERNANCE

Good governance including trust, accountability, shared responsibilities and meaningful engagement of all relevant stakeholders.

7. PARTNERSHIPS

Strengthened and balanced partnership arrangements for mutual benefits are necessary for shared responsibility among various partners, including the private sector, for the provision of quality tertiary education and skills training.

8. PARITY OF ESTEEM

Articulation arrangements must be in place for learners in any area or place of study or training to be able to acquire qualifications of equal value and portability for higher levels of education and training, as well as currency in the labour market at local, regional and international levels.

9. QUALITY

Quality is necessary for the portability and currency of certification and the provision of world class education that meets international standards. Institutions also need to implement measures to foster a culture of quality in all tertiary education and skills training activities.

10. TRANSPARENCY

Transparency is necessary for accountability, to build trust and provide an appropriate environment for the fair and equitable participation of all relevant stakeholders.

11. INCLUSIVENESS

Inclusiveness to meet the needs of the vulnerable, disadvantaged and physically and mentally challenged and to achieve social cohesion.

1.4 STAKEHOLDERS

In its belief in people-centred development, the Ministry continues to analyse and assess the unique needs of the various stakeholders and reaffirms its commitment to achieving the following objectives for each category of stakeholder:

Learners

To provide opportunities for learning for all secondary school graduates, adult learners, youth who may be at risk, the physically challenged and other disadvantaged groups.

Teachers/Lecturers/Tutors/Trainers

To ensure a cadre of teaching personnel who assume responsibility for self-improvement, use opportunities for continuing education and professional development, motivate learners, and provide the highest quality of teaching to their students.

Providers

To provide equitable opportunity for learners to access affordable tertiary education and skills training programmes that meet defined quality and other standards, relevant to the needs of learners, aligned to developmental priorities and linked to current and anticipated needs of the workplace.

Managers/Administrators

To create an enabling and caring environment for learners and employees so that teaching, learning and work experiences are enjoyable, productive and rewarding.

Employees

To ensure that all personnel involved in the development, delivery, and servicing of tertiary education and skills training are meaningfully engaged, and work in a conducive industrial relations climate for teaching and learning.

Communities

To engage communities, to provide an enabling environment for training programmes to create a learning society.

Parents and Guardians

To assure parents and guardians that their children receive excellent training in their field of study.

Partners

To ensure balanced and meaningful partnerships for sustainable development and joint efforts for the delivery of a dual system of education and training through sharing of facilities, expertise and other resources for mutual benefits.

Regional Institutions and Agencies

To ensure alignment of national priorities for tertiary education and skills training with regional policies and programmes from the Caribbean Community (CARICOM) and agencies such as the ACTI, CANTA and CANQATE.

International Institutions and Agencies

To share information and benefit from the work being done by international organisations that benchmark local institutions against international standards, and that qualifications provided have validity and currency at regional and international levels.

1.5 IMPLEMENTATION ARM OF THE MINISTRY

The implementation arm of the Ministry comprises nine (9) agencies which provide tertiary education and skills training as well as quality assurance for the sector. These portfolio agencies are as follows:



The Accreditation Council of Trinidad and Tobago (ACTT) was established in 2009 and conducts and advises on the accreditation and recognition of post-secondary and tertiary institutions, programmes and awards, whether local or foreign, and for the promotion of quality and standards for post-secondary and tertiary education in Trinidad and Tobago.



The College of Science, Technology and Applied Arts of Trinidad and Tobago (COSTAATT) was established in 2000 and offers a wide range of specialised, technical and academic programmes at degree, diploma and certificate levels on a wide range of subjects including - radiography, medical laboratory technology, nursing, performing arts, music, library studies, information technology and journalism/public relations.



The MIC Institute of Technology (MIC-IT) was established in 1974 and focuses on the production of Tools, Dies, Moulds, Precision parts and Project Engineering Services and trains and examines persons for Journeyman and Master Craftsman levels in the areas of electrical/electronic, mechanical and manufacturing skills. Craft training in construction is conducted through the Helping Youth Prepare for Employment (HYPE) programme.



The National Training Agency (NTA) was established in 1999 to serve as the single national training agency with full responsibility for planning, coordinating and administering the National Training System for TVET. The NTA is the umbrella agency for effecting reform in TVET in Trinidad and Tobago.



The National Energy Skills Centre (NESC) was established in 1997 as a training provider to meet the needs of the energy and energy-related industries and the industrial sector.



TTHTI

The Trinidad and Tobago Hospitality and Tourism Institute (TTHTI) was established in 1967 and is focused on being the premier hospitality and tourism education and training institution, not only in the country, but also within the region.



The University of Trinidad and Tobago (UTT) was established in 2004 and stemmed from a need to expand the capacity and access to tertiary education, as well as to meet the national requirements for work-ready graduates who were aligned to industry needs.



The University of the West Indies (UWI) is the largest and oldest higher-education institution in the Caribbean. The St. Augustine Campus was established in 1960 as the second of four campuses that now exists. Together, they accommodate more than 40,000 students, serving more than 20 countries in the English-speaking Caribbean.



The Youth Training and Employment Partnership Programme (YTEPP) Limited is a Technical Vocational Skills Training company started in 1988 geared towards addressing the issue of escalating youth unemployment, particularly among persons between the ages of 15 to 25.



The University of the West Indies, South Campus, Penal-Debe

1.6 OUTLINE OF THE NATIONAL POLICY FRAMEWORK

This Framework examines and maps the expansion of the tertiary education and skills training sector, in support of the inclusive, sustainable and resilient development of Trinidad and Tobago. As such, the sector is examined under key thematic areas required to secure the effective growth over the next decade, 2015 - 2025.

The following seven (7) chapters will review the current performance of each thematic area, recapping the evolution and gains made over the years as well as the existing challenges. Further, it will present a clear vision, delineate priorities for the future agenda over the next ten (10) years through to 2025, and outline recommendations on the actions and activities that are required to materialise the sectoral and national impact.



GOVERNANCE AND MANAGEMENT

OF THE TERTIARY EDUCATION AND SKILLS TRAINING SECTOR

CHAPTER 2



With the evolution of tertiary education and skills training globally and within this region, excellent governance is critical for the effective management of the Ministry, its agencies, and the sector as a whole. In this regard, great emphasis has been placed on cohesion in the tertiary education and skills training sector through the creation of several initiatives by the Ministry.

The governance functions of the sector are related to amending and creating legislation and subsidiary regulations, planning and allocation of resources, decision making such as the location of tertiary level institutions (TLIs), policy creation, establishing quality standards, and ensuring access to quality tertiary level

education and skills training to all citizens. Additionally, management functions are more at the operational level which translates policy decisions into programme and implementation mechanisms. This section will address the current governance and management regime of the sector and present the future agenda for 2025 by activating the following:

An overarching legislative and policy framework to ensure effective and comprehensive governance and management of the tertiary education and skills training sector.

2.1 CURRENT PERFORMANCE

2.1.1 Mandate and Composition of The Ministry

The Ministry has overall responsibility for human development at the tertiary education and skills training level in Trinidad and Tobago. The role of the Ministry includes formulation of policy and the legislative agenda, funding, research, monitoring and evaluation, coordination and provision of advice and guidance to its implementing agencies.

Composition of the Ministry	Honourable Minister
	Permanent Secretary
	Deputy Permanent Secretary
	Internal Divisions /Units
	Institutions/Agencies

Each core Division/Unit of the Ministry, through its Head of Department, is charged with ensuring that its respective responsibilities are fulfilled in light of the overarching mandate of the Ministry.

The Divisions/Units of the Ministry

1. Communications Unit
2. Distance Learning Secretariat
3. Finance and Accounting Unit
4. Financial Assistance Studies Programme Unit
5. Funding and Grants Administration Division
6. General Administration Unit
7. Higher Education Services Division
8. Human Resource Services Division
9. Information Technology Unit
10. Internal Audit Unit
11. Legal Services Unit
12. National Examination Council
13. Nursing Education Unit
14. Research, Planning and Technical Services Division
15. Secretariat for the Implementation of Spanish
16. Technical and Vocational Education and Training Division.

Of the Ministry's agencies, the ACTT and the NTA are regulatory bodies, while the remaining seven (7) are designed to implement the programmes and initiatives for which the Ministry has responsibility.

Only two (2) Institutions are currently Statutory Authorities. The ACTT was established by Act No. 16 of 2004 [Chapter 39:06] (the "ACTT Act") and COSTAATT was established by Act No. 77 of 2000

[Chap. 39:56] (the "COSTAATT Act"). With the exception of The UWI, the other Institutions are currently governed under the Companies Act [Chapter 81:01]. The UWI, St. Augustine Campus, is governed by the Royal Charter (1963) through a Campus Council and a University Council. The Board of Industrial Training (BIT) which was established under the Industrial Training Act [Chapter 39:54] is currently disestablished.

The Legal Status of the Ministry's Agencies

INSTITUTION	ESTABLISHMENT & MANAGEMENT
1. ACTT	Established by Act No. 16 of 2004 [Chap. 39:06 - "the ACTT Act"] Managed by - Board of Directors
2. COSTAATT	Established by Act No. 77 of 2000 [Chap. 39:56 - "the COSTAATT Act"] Managed by - Board of Trustees
3. MIC-IT	A limited liability company, incorporated on 11th December, 1974, as a Company under the Companies Ordinance, Chap. 31:01 and continued under the Companies Act, Ch. 81:01. It was established as a joint venture of the Government of Trinidad and Tobago, the United Nations Development Programme/United Nations Development Organisation (UNDP/UNDO) and a number of private local industries. Managed by - Board of Directors
4. NESC	Incorporated on 15th July, 1997 under the Companies Act, Chap. 31:01, as a Non-Profit Company and continued under the Companies Act, Chapter 81:01 Managed by - Board of Governors
5. NTA	Incorporated as Non-Profit Company in 1999 under the Companies Act, Chap. 81:01. Managed by - Board of Directors
6. TTHTI	The TTHTI was incorporated under the Companies Act, Chapter 81:01 on 14th February, 2012 as a Non-Profit Company Managed by - Board of Governors
7. UTT	Incorporated as a Non-Profit Company under the Companies Act [Chap. 81.01] on 14th September, 2004 Managed by - Board of Governors
8. UWI	The Royal Charter of 1963 established the St. Augustine Campus Managed by - University/ Campus Council
9. YTEPP	Established in 1988 as a project and became a Limited Liability Company in October 1990 Managed by - Board of Directors

2.1.2 Committees

The various Cabinet Appointed Committees under the purview of the Ministry such as the National Commission for Higher Education Committee, the St. Augustine Education City Committee and the GATE standing committee are formally constituted to provide advice, guidance and recommendations to the Ministry. The roles of these committees are detailed below.

(i) National Commission for Higher Education (NCHE)

The NCHE was established by Cabinet in October 2011 to facilitate Government's overall tertiary education strategy, rationalise the sector in building efficiency and effectiveness, and support accountability, transparency and synergistic relations within the education system in Trinidad and Tobago.

The NCHE's mandate is to provide advice to the Ministry on policies necessary for Tertiary Education, Skills Training and Lifelong Learning in Trinidad and Tobago. Further to this mandate, the NCHE is required to advise on mechanisms to:

- a. increase the enrolment of traditional and new learners;
- b. increase coordination and collaboration to reduce duplication of programmes among institutions to allow a higher standard of academic quality;
- c. align tertiary programmes to national developmental goals;
- d. develop skilled human capital that is globally competitive; and
- e. optimise the sustainable use of national resources to support the advancement of the country's social and economic goals.

(ii) St. Augustine Education City Committee (SECC)

The SECC was established by Cabinet in May 2011 to guide the development of the St. Augustine Education City (SEC). This SECC oversees the development of

the SEC as an "integrated centre for academic excellence", to foster the growth of a vibrant service sector linked to the academic community and to co-ordinate the establishment of a security infrastructure, accommodation for students, and transportation service for all students coming into the region.

(iii) The Government Assistance for Tuition Expenses (GATE) Standing Committee

The GATE Standing Committee was established by Cabinet in May 2011 and comprises representatives from the Ministry of Tertiary Education and Skills Training, the Ministry of Labour and Small and Micro Enterprises Development, the Ministry of Planning and Sustainable Development, the Ministry of Finance and the Economy, NTA, ACTT and the Trinidad and Tobago Chamber of Industry and Commerce.

The Terms of Reference of the Standing Committee are as follows:

Review applications for GATE funding by institutions and make recommendations to the Minister of TEST;

Develop a more objective and comprehensive method for the determination of tuition fees for programmes delivered by private tertiary level institutions;

Continually develop and review strategies and agreements to increase the level of monitoring, compliance and auditing of GATE approved institutions; and

Continually develop and review strategies to ensure that students fulfill their obligations with respect to the Student Agreement.

The other Cabinet appointed Committees under the purview of the Ministry are the Higher Education Loan Programme (HELP) Standing Committee, Life Skills Steering Committee and the Financial Assistance Selection Committee.

2.1.3 Governance of Institutions

In Trinidad and Tobago, as in many other countries, public institutions have been given autonomy in their mode of operation, such as recruitment of staff, curriculum development and assessment. The relevant Boards are responsible for the strategic direction of their institutions. The Government provides substantial funding to its institutions which are held accountable through the various Boards.

Each institution has to submit its annual Administrative Report to the Ministry for onward submission to the Parliament, as mandated by the Constitution of the Republic of Trinidad and Tobago (Chapter 1:01) and is also required to appear before the Joint Select Committee of Parliament to report on its operations. The conduct of both internal and external audits by the Auditor General's Department is also instrumental to the effective operation of the institutions. Likewise, institutions are encouraged to submit the Minutes of the Meetings of their Board of Directors. This ensures greater accountability and transparency in the management of their affairs.

2.1.4 Agreements amongst Local Public & Private Regional & International Institutions and Organisations

The Ministry and its portfolio institutions have established strategic relationships with local, regional and international bodies through Memoranda of Agreements (MoA) and Memoranda of Understanding (MoU). These partnership arrangements contribute vastly to the strengthening of tertiary education and skills training through the sharing of expertise and other resources. Some examples of these collaborative efforts are listed in the **Appendix 1**.

The expansion of the apprenticeship programme through strategic collaboration with several local organisations has been particularly successful. Partnerships with the Trinidad and Tobago Manufacturers' Association (TTMA), business associations and chambers, several energy industries within the Point Lisas Industrial Estate and other partners has served to enhance citizens' knowledge and skills in key sectors such as manufacturing, printing and packaging, air conditioning and refrigeration and aviation. This achieves short and long term goals of creating jobs and entrepreneurial opportunities for citizens of Trinidad and Tobago.

2.2 FUTURE AGENDA

The Ministry envisions a seamless tertiary education and skills training sector whereby there is easy articulation of students through the different sectors by providing multiple modalities of access and access points. This will be executed through various means such as the implementation of a legislative framework, prudent budgetary allocations for physical infrastructural developments, greater human resource management, policy developments, procurement practices, auditing, access and quality of programmes and “value for money” funding.

The overarching principle of sustainable development will be a key factor in determining the way forward for the sector. As such the following will be critical elements of the 2025 agenda:

1. **Legislative and Policy Framework**
2. **Monitoring and Evaluation**
3. **Rationalisation of Funding Mechanisms**
4. **Collaboration and Consultation**
5. **Data Collection System**
6. **Industrial Relations Practices**
7. **Public Awareness and Marketing**



2.3 ROAD MAP TO SUCCESS

In order to adequately meet the expanding demands of the tertiary education and skills training sector, reform of the current system is mandatory. Therefore, the following measures will be implemented by the Ministry to ensure effective governance and management of the sector:

2.3.1 Legislative Framework

Currently, there is no overarching legislation to govern the sector. The **Education Act [Ch. 39:01]** addresses the primary, secondary and post-secondary phases of the education system in Trinidad and Tobago and falls under the purview of the Ministry of Education. The current pieces of legislation directly related to the Ministry are the **ACTT** and **COSTAATT Acts** (*supra*). Other applicable legislation for the sector include **Legal Profession Act [Chapter 90:03]** and the **Dental Profession Act [Chapter 29:54]**. The **Guarantee of Loans (University of the West Indies) Act [Chapter 71:83]**, the **Industrial Training Act [Chapter 39:54]** and the **University Students (Guarantee Fund) Act [Chapter 39:08]** have become dormant and irrelevant.

As a result, a comprehensive legal framework, involving the revision of existing legislation and creation of new pieces of legislation, is required. This would enable the sector to be more efficiently managed through its line Ministry. Enactment and revision of legislation for tertiary education and skills training is mainly necessary for the following reasons:

- (a) to formalise the functions of the Ministry;
- (b) to grant regulation-making power to the Minister;
- (c) to strengthen the policy framework; and
- (d) to address the requirements for institutional registration, accreditation and recognition of tertiary programmes which are not addressed under the ACTT Act.

2.3.2 Draft Legislation

Submission of the following existing draft legislation to the Office of the Chief Parliamentary Council (CPC) for enactment in Parliament is imperative:

(i) Higher Education and Training Bill

This will govern the entire higher level education sector as it relates to tertiary education and skills training in Trinidad and Tobago. It is also proposed that the NCHE should be established under this legislative provision. The inclusion of a Code of Conduct for teachers, lecturers, instructors and students in the sector will also be crucial as the Education Act (*supra*) is silent on this matter.

(ii) University of Trinidad and Tobago Bill

This will incorporate the University and provide for the governance of its operations.

(iii) National Training Agency Bill

This will incorporate the NTA as a statutory authority, and specify its mandate, inter alia, to award Caribbean and Vocational qualifications, develop national occupational standards, and certify persons. Many of the proposed functions relate to the approval, registration and accreditation of training institutions.

(iv) Accreditation Council of Trinidad and Tobago Act

This will amend the Act to address and improve operational and administrative concerns and limitations in light of local, regional and international developments and create the necessary subsidiary legislation and regulations.

(v) **The Board of Industrial Training**

The GoRTT, as recommended by the Ministry, in April 2015, in order to resolve the issue of the dormancy of the BIT, agreed that the assets, duties and responsibilities previously assigned to the BIT should be absorbed by the NTA and the Industrial Training Act [Chapter 39:54] should be repealed. As such, the appropriate legislative provision must reflect the NTA's new responsibility with regard to the BIT.

(vi) **Revision of the COSTAATT Act**

The Ministry will review the COSTAATT Act to ensure that any operational and administrative deficiencies are adequately addressed, to fulfil its mandate.

(vii) **Reform of the Legal Status of the Ministry's Institutions**

The Ministry will review the Bye-Laws of its various agencies, inclusive of organisational mandates, staff competence, working conditions, organisational structures and relationships which will inevitably lead to improved performance, service delivery, and student/ client satisfaction.

In the long term, the Ministry's institutions which are governed by the Corporation Sole, the Minister of Finance and the Economy, through the Companies Act [Chap. 81:01], should be governed by way of Acts of Parliament. As such, the necessary steps should be taken to implement such change in their legal status to become Statutory Bodies. This would pave the way for greater self-sufficiency, financial autonomy, accountability and transparency in the daily operations and management of the relevant institutions.

2.3.3 Policy Framework

It is also imperative that the Ministry facilitates institutional strengthening via regular consultations with all the relevant stakeholders so as to address any concerns or grievances with a view to improve the sector and develop new policies.

The areas of planning and policy development for the sector are vast and include corporate governance, financial management, procurement, human resource management, performance management, occupational health and safety, records management, disaster management, environmental management, acquisition/leasing of property, infrastructural development (construction of buildings, refurbishment/ expansion of facilities, including libraries and laboratories), facilities management, TVET, foreign students/workers/apprentices, and programme development/ reform for the under-privileged, and student concerns such as accommodation and transportation.

Furthermore, measures should be put in place to ensure that the Ministry reviews and updates its existing policies and its policy agenda. New and effective policies must emerge and which should be in tandem with key policies of other Ministries and governmental bodies.

2.3.4 Monitoring & Evaluation

(i) Programmes & Projects

Monitoring and evaluation of the sector is the engine through which policies are revised and generated to ensure its continued growth and sustainability. It is a major management tool through which the performance of the Ministry and the sector can be assessed. It serves to track implementation and outputs systematically and measure the effectiveness of its programmes. It is also instrumental in the provision of the necessary data to guide strategic planning, the design and implementation of programmes and projects, and the allocation of resources in a more timely, transparent and cost effective manner.

In light of the significant role of monitoring and evaluation, there must be increased mechanisms and frameworks through which this can be accomplished for the sector. Greater data sharing amongst the Ministry, its institutions and the various stakeholders is imperative in order to ensure that the sector is effectively managed. It will also ensure that there are equal opportunities for all citizens to benefit from the services available in the sector. The continuous assessment of the Ministry's various programmes and projects must be underscored, as it will lead to improved service delivery, ensure their relevance, sustainability, and long term benefits for the sector's beneficiaries, and the nation as a whole.

(ii) Funding Mechanisms

The Ministry must ensure that there is a stringent system in place for the effective monitoring, evaluation, compliance and enforcement of agreements made amongst the Ministry, private TLLs and students, pursuant to the various funding agreements such as the GATE Agreement, FASP Agreement and HELP Loan.

Effective monitoring and evaluation will ensure that the established standards that relate to quality, tuition fees, financial accountability, transparency, equity, obligations and compliance with Government's guidelines and policies for tertiary education, are complied with as a matter of priority.

As such, beneficiaries who fail to fulfill their contractual period of service locally or repayment towards a loan, upon completion of their programmes of study, will be more easily detected and be informed of the obligations of failing to do so. This would ensure that there is return on investment through such funding.

Similarly, enforcement measures such as the issuance of non-compliance notices, according to the GATE Agreement, will to be implemented to ensure that private TLLs provide the necessary refunds/reimbursements and relevant data to the Ministry, such as, but not limited to student withdrawals and the number of students graduating annually.

2.3.5 Rationalisation of the Mechanisms for Public Financial Assistance

The rationalisation of the funding mechanisms and the establishment of an over-arching administrative body will provide benefits such as:

Creation of enhanced stability, sustainability, cohesiveness, consolidation, consistency and efficiency in the fiscal/ financial management, quality of service and general administration of the various funding mechanisms under the purview of the Ministry;

Increased data availability on the various programmes which will contribute towards the improvement, establishment and implementation of higher education funding policies, and enhance funding efficiency in the sector;

Minimisation of duplication of grants to students and unnecessary costs incurred by the GoRTT, allowing for equitable and transparent distribution of available funding;

Oversight of the winding-up of the operations of the USGLF and the SRLF and repeal of their legislative provisions as they are dormant. This will adequately address the debt collection efforts and administrative challenges;

Strategic and integrated approach to the provision, evaluation and monitoring of public funding for tertiary education and skills training through the proposed Monitoring and Evaluation Unit.

2.3.6. Enhanced Collaboration and Consultation

There must be increased collaboration and consultation between the Ministry and the various local, regional and international stakeholders to enhance and sustain all tertiary education and skills training programmes. This will result in the development of quality graduates to drive a knowledge intensive economy. The Ministry will continue to ensure that there are also collaborations such as in ICT development and the implementation of Spanish as a second language.

The benefits of such collaboration will include significant improvements in the country's global competitiveness, the provision of advanced technology, and the encouragement of innovation. Collaboration with various Commonwealth associations such as the Council for Education in the Commonwealth, various CARICOM organisations and the United Nations Development Programme (UNDP), for example, are pivotal to the growth of the sector, as various initiatives and reform of the sector can emerge.

2.3.7 System for Data Collection

A comprehensive system will be implemented with appropriate compliance mechanisms to ensure that private and public TLIs submit data to the Ministry and the quality assurance agencies. This will inform policy development. The Ministry will also partner with its institutions, various Government Ministries and agencies, for relevant data collection such as the Ministry with responsibility for labour, the Central Statistical Office (CSO) and the Centre for Workforce Research and Development (CWRD). Data will also be sourced from regional and international organisations such as CARICOM, the UNDP, and the International Labour Organisation (ILO).

2.3.8 Good Industrial Relations Practices

The Ministry will foster an environment in which good industrial relations practices are present at all times in its operations as well as that of its institutions. This would pave the way for successful management and administration, as all parties concerned will function in a peaceful, amicable and productive environment. This will inevitably boost the team spirit and work ethos of staff, students, trainees and apprentices. This will attract qualified employees, foster loyalty and encourage retention.

2.3.9 Public Awareness/ Marketing

The Ministry needs to enhance its publicity and marketing efforts to attract local and foreign students. The branding and development of local programmes and services will reduce the drainage of foreign exchange which results from the delivery of transnational programmes.



Academy of Nursing and Allied Health, El Dorado

“ Learn as if you were to live forever. ”

Mahatma Gandhi

FUNDING

OF THE TERTIARY EDUCATION AND SKILLS TRAINING SECTOR

CHAPTER 3



Funding in tertiary education and skills training is an investment that can stimulate national economic growth, boost productivity, contribute to personal and social development, and reduce social inequality.¹ For this reason, many governments have adopted a primary role in the management and financing of the sector.

Over the past ten (10) years, local tertiary education funding policy has undergone significant revisions which have resulted in vast increases in the amount expended in tertiary education and skills training. These changes in the approach to public funding were, in part, a response to the pursuit of international goals such as the EFA and other sustainable development objectives.

EFA Goal #3

Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programmes

Increased public funding has led to new performance patterns emerging within the sector. The introduction of significant public subsidies for tuition fees at both private and public institutions, has led to exponential increases in student participation. This new pattern of wide-spread student participation marked the transition of the tertiary education and skills training sector from an elite education system, which was accessed by only a few, to a mass education system.²

The GoRTT celebrates the development of the sector and the achievements of several of its stated objectives. Efforts are now being invested into positioning the sector to transition even further into higher levels of achievements and towards more sustainable and efficient funding models. This section will outline the current status of funding within the sector and further discuss the resultant vulnerabilities. A future agenda for 2025 is identified, and recommended initiatives to be undertaken are proffered toward the achievement of the following:

A funding model that is characterised by strategic targets and measurable outcomes, aligned to relevant training, based on socio-economic development, labour market priority areas, and self-employment to ensure efficiency and social equity throughout the system.

¹http://www.utwente.nl/bms/cheps/publications/Publications%202010/MODERN_Funding_Report.pdf.

²<http://www.utwente.nl/bms/cheps/publications/Publications%202010/Veerman%20Committee/CHEPS%201%20International%20trends%20and%20issues%20report.pdf>.

3.1 CURRENT PERFORMANCE

The GoRTT is the primary source of funding in the tertiary education and skills training sector. Public funding within the sector comprises several funding mechanisms and programmes developed and administered by the Ministry with the responsibility for tertiary education and skills training. The Ministry allocates funding for both recurrent and capital expenditure, as well as tuition and non-tuition fees by way of grants, scholarships and soft-loans. Public financial assistance mechanisms in this regard, are outlined as follows:

1. Recurrent and capital expenditure;
2. Government Assistance for Tuition Expenses Programme;
3. Higher Education Loan Programme;
4. Financial Assistance Studies Programme; and
5. Scholarships (*issued at the national level via the Ministry with responsibility for Public Administration and at the institutional level via the agencies, Ministry of Tertiary Education and Skills Training*)

The performance of the tertiary education and skills training sector is assessed, in part, in accordance with the objectives of these financial assistance programmes.

3.1.1 Recurrent and Capital Expenditure

The Ministry allocates recurrent funding to public sector institutions to meet various operational costs. It also provides funding for capital and infrastructural development through the Public Sector Investment Programme (PSIP).

With respect to capital development, since 2010, the Ministry pursued several areas for which expansion was needed. The Ministry also upgraded existing establishments, instituted new establishments where no previous focus existed, and integrated diverse areas of service delivery.

CAPITAL INTENSIVE MAJOR PROJECTS BEING IMPLEMENTED BY THE MINISTRY

- | | |
|--|--|
| 1. UWI South Campus, Penal-Debe | 6. Integrated Training Facility for NESC, MIC and YTEPP Woodford Lodge, Chaguanas |
| 2. The Academy of Nursing and Allied Health, El Dorado | 7. UWI Teaching and Learning Centre, St. Augustine |
| 3. Main Campus for COSTAATT, Chaguanas | 8. UTT Aviation Institute, Camden, Couva |
| 4. Ministry's Administration Complex, Chaguanas | 9. Refurbishment & upgrade of Technology Centres throughout Trinidad and Tobago |
| 5. Integrated Campus for UWI, UTT, and COSTAATT, Tobago | |

An estimated total of \$10,545,529,978 and \$2,721,230,969 have been expended in recurrent and capital expenditure, respectively over the period, fiscal year 2011 to fiscal year 2015. (exclusive of GATE and FASP)



3.1.2 The GATE Programme

The Funding and Grants Administration Division (FGAD) was established in September 2004, with responsibility for the Government Assistance for Tuition Expenses (GATE) Programme and all other financial support mechanisms for the sector.

The GATE Programme provides financial assistance towards the cost of tuition fees for eligible citizens pursuing approved tertiary level programmes at local and regional public and private institutions. Further, several strategic objectives have been established to ensure greater value for money and efficiency within the GATE Programme. Some of these objectives are as follows:

- i. Expand the GATE Programme to more programmes that are within the TVET area;
- ii. Align funding to local socio-economic priority areas;
- iii. Establish more objective and comprehensive determination of tuition fees;
- iv. Institute greater monitoring and compliance measures for student performance; and
- v. Institute greater monitoring, compliance and accountability measures at both public and private institutions.

In May 2011, a GATE Standing Committee was established to provide strategic and operational direction to the GATE Programme further to these strategic objectives.

Funding under the GATE Programme has since been streamlined to provide funding for new academic and TVET programmes based on socio-economic and labour market priority areas. In this regard, since June 2010, ninety two (92) academic programmes and twenty eight (28) TVET programmes have been approved for funding; some of which are CVQs awarded by the NTA.

As the specified targets and objectives under the GATE Programme continue to be realised, the Ministry has narrowed its focus on measures aimed at ensuring that the student body accessing funding via the GATE Programme complies with relevant agreements. The total number of students who have benefited from the GATE Programme since 2004 is 188,023.

To manage this large student population, the FGAD implemented the 'GATE eService' to administer and manage the GATE Programme more efficiently via an online application. This initiative facilitates the processing of applications and monitors the activities of institutions and students' performance. This mechanism has produced immense benefits by improving value for money and accountability for funds expended.

3.1.3 *The Higher Education Loan Programme*

In January 2006, the GoRTT agreed to the establishment and implementation of the Higher Education Loan Programme (HELP) within the FGAD. HELP is a low-interest loan facility which provides financial assistance for tuition and non-tuition fees to students who have been accepted and enrolled in approved programmes.

The objectives of the HELP Programme are as follows:

- i. to provide financial assistance to citizens of Trinidad and Tobago pursuing tertiary education, thereby expanding equitable access to tertiary education;
- ii. to provide a low interest loan facility, approved and disbursed effectively and efficiently and within a reasonable time frame to students in need;
- iii. to assist in increasing the national participatory rate in tertiary education to 60% by 2015; and
- iv. to develop a well-educated, qualified cadre of citizens in identified areas of national development and in line with the goals and objectives of Government.

Each HELP applicant is required to complete a Means Test to determine his/her eligibility for the requested HELP loan. Since 2010, a total of 15,810 loans have been disbursed at a value of \$295,582,694.

3.1.4 *Financial Assistance (Studies) Programme*

Another source of funding for tertiary education and skills training under the Ministry is the Financial Assistance (Studies) Programme (FASP). This Programme provides a 'one time only' supplementary financial grant to those students whose resources are insufficient to meet the costs of post-secondary and tertiary education.

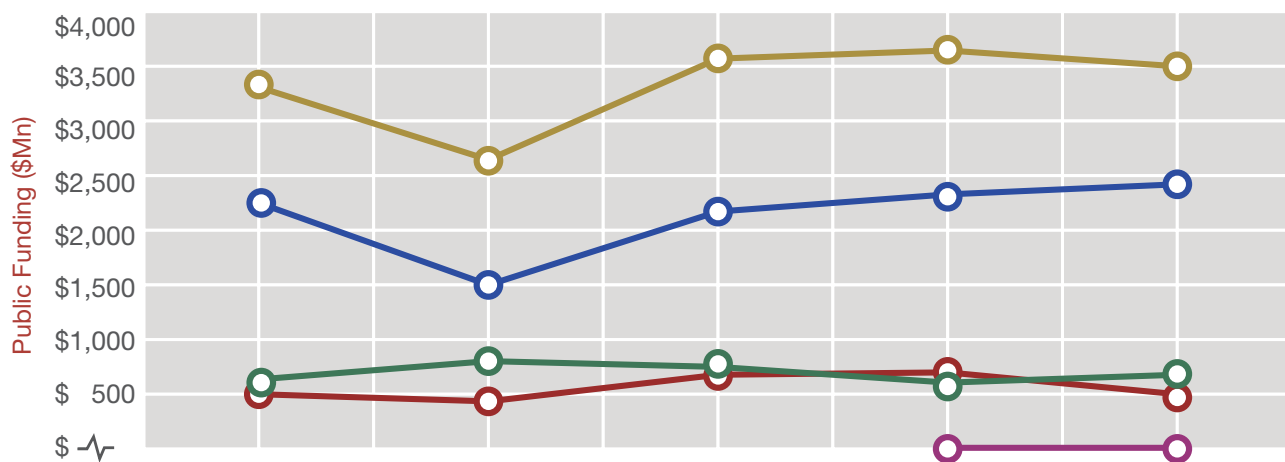
The Cabinet Appointed Selection Committee evaluates all applications in accordance with specified criteria and recommends funding up to a maximum of \$50,000, to be approved by Cabinet. Since November 2013³, a total of 145 grants were disbursed at a cost of \$5,475,015.

³The FASP was originally administered under the Ministry of Community Development. In November 2013, the Programme was placed under the administration of the Ministry of Tertiary Education and Skills Training.

3.1.5 Summary of Funding within the Sector

The primary driver of public funding in the tertiary education and skills training sector is recurrent expenditure to public institutions. Led by this factor, total public funding within the sector has increased from over \$3.3 billion in 2010 to over \$3.5 billion in fiscal 2015.⁴ These figures represent a 7% increase in funding over a five (5) year period.

**Summary of Public Funding in Tertiary Education and Skills Training
Fiscal Years 2010/2011 to 2014/2015 (as at June 2015)**



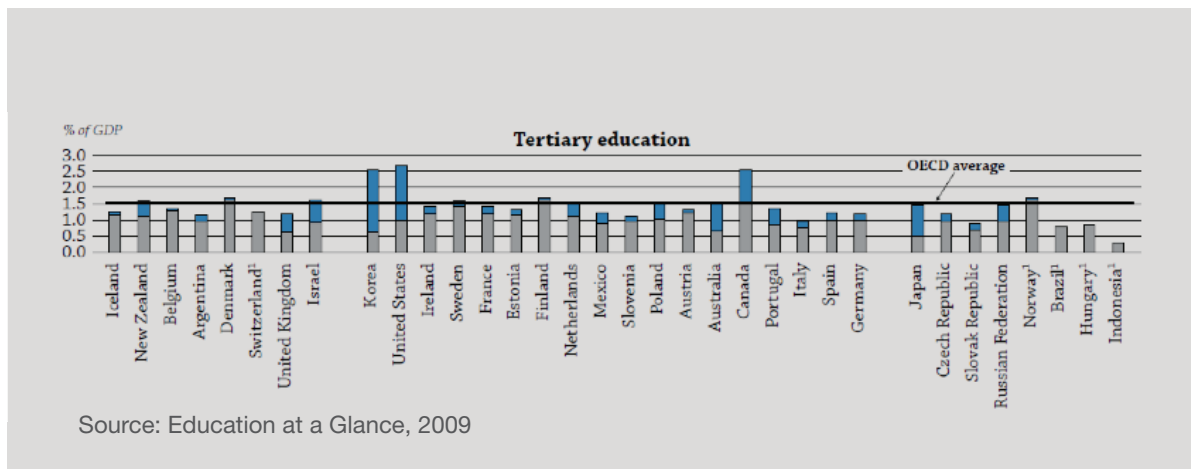
	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
● Recurrent Expenditure	\$2,186,314,384	\$1,493,785,381	\$2,160,259,514	\$2,294,910,858	\$2,410,259,841
● PSIP	\$ 490,786,208	\$ 397,782,205	\$ 661,572,556	\$ 702,890,000	\$ 468,200,000
● GATE Programme	\$ 624,997,024	\$ 757,641,662	\$ 726,535,523	\$ 638,353,301	\$ 650,000,000
● FASP				\$ 2,737,508	\$ 2,737,508
● TOTAL	\$3,302,097,616	\$2,649,209,248	\$3,548,367,593	\$3,638,891,667	\$3,531,197,349

⁴Compiled from the Annual Estimates of Expenditure-Recurrent and Development Programme, Ministry of Finance and the Economy.

According to the *Review of the Economy: Empowering Our People through Sustained Economic Growth and Prosperity, 2014*⁵, the Gross Domestic Product (GDP) was projected to increase from \$175,608.5 million in 2013 to \$179,842.0 million in 2014. With funding for the sector at \$3,638.9 million, it is estimated that the ratio of funding relative to GDP is estimated at 2%.

The Ministry has noted that the ratio within OECD countries was 1.3% in 2009, with 1.1% from public sources and 0.2% from private sources⁶. In light of achieving parity with regard to the level of funding, the Ministry will review funding models to increase the percentage of private funding within the sector.

OECD expenditure on tertiary education as a percentage of GDP, 2008



⁵<http://finance.gov.tt/wp-content/uploads/2014/09/ROTE-2014.pdf>.

⁶Education at a Glance data (OECD, 2009, p. 240) <http://www.oecd.org/education/skills-beyond-school/43636332.pdf> and <http://www.oecd.org/edu/skills-beyond-school/48630884.pdf>.

3.2 FUTURE AGENDA

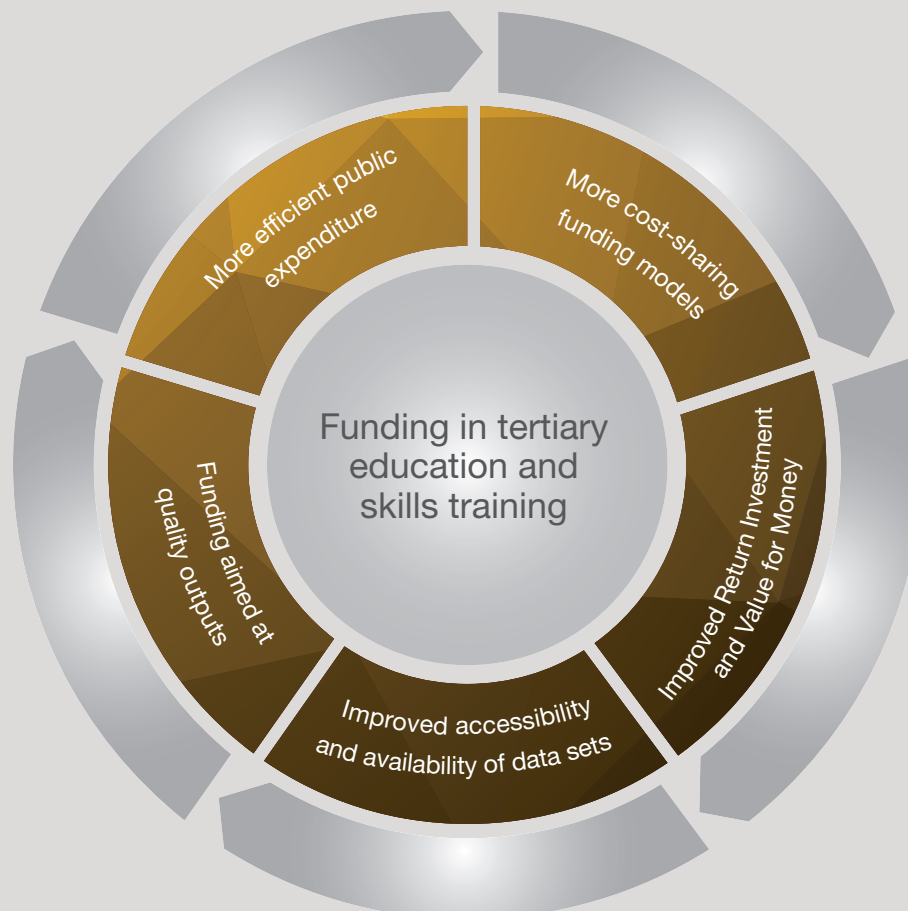
The provision of extensive local public funding in tertiary education and skills training has become a concern, especially in light of uncertain global economic trends. Issues of efficiency, return on investment, value for money and sustainability of public funding have led policy makers to review public funding allocations.

It is noted that public funding within the sector has been utilised as an instrument to achieve national goals, such as increased access and participation. Strategic public funding in this regard will once again be used as a tool to achieve desired ends, such as research, innovation and entrepreneurial activities. As efforts towards funding efficiency are pursued,

maintaining the delicate balance of social equity among key groups will be an imperative.

As the sector journeys to 2025, greater emphasis will be placed on quality and the adoption of proactive policy measures to guard against the impact of economic challenges. In this regard, the following initiatives have been placed on the 2025 agenda:

1. **More efficient public expenditure**
2. **More cost-sharing funding models**
3. **Improved Return on Investment and Value for Money**
4. **Improved accessibility and availability of data sets**
5. **Funding aimed at quality outputs**



3.3 ROAD MAP TO SUCCESS

In pursuit of the action items on the 2025 agenda for funding within the sector, specific initiatives under the major drivers of public funding have been identified for strategic implementation as follows:

3.3.1 Students

A major subset of the national student population in the tertiary education and skills training sector has accessed the GATE Programme. Approximately 58,000 students per year access the GATE Programme, and over 180,000 students have benefited from funding, since inception. Given the composition of population demographics and the number of students completing secondary education, student enrolment numbers are not expected to increase significantly. As such, the sector will now focus efforts on managing and monitoring student population, steering them into programme areas within socio-economic and labour market priority, and developing cost-sharing models of funding with students. In this regard, the following funding strategies will be implemented:

(i) **Institute a cost-sharing mechanism for students**

Student cost-sharing mechanisms such as an Education Saving Plan will be instituted by 2025. This will allow the cost of education at this level to be shared between the state and students. The state will incentivise this mechanism by providing tax breaks based on savings generated, or design an arrangement similar to that of insurance models as practiced with several education saving plans in Malaysia⁷.

(ii) **Institute incentives for excellence and systems for remediation.**

Students will also be closely monitored in relation to agreed performance requirements. The state will further incentivise students who are high performers and introduce appropriate mechanisms to reduce student under-performance and drop-outs.

(iii) **Develop a continuous graduate tracer system**

To evaluate the effect of public funding as an investment, the Ministry will develop a system through which graduate employment status is continuously evaluated. This system will generate direct measures of return on investment and will ensure that the intended funding objectives are being achieved.



⁷http://www.maybank2u.com.my/WebBank/eINS_YippieCare2_bch.pdf.

3.3.2 Institutions

The Ministry has noted that public institutions are the largest beneficiaries of public funding within the sector. As the sector positions itself toward 2025, funding arrangements with institutions will be transformed as follows:

- (i) **Institute and incentivise cost-sharing funding models**

The Ministry will encourage public institutions to devise more cost-sharing arrangements to meet the cost of major projects, such as capital financing and research grants. Strategies to attract public-private-partnerships, corporate sponsorships, and philanthropy will be developed as means for institutions, particularly public institutions, to become more self-reliant.

- (ii) **Develop a pay-for-performance funding mechanism**

One strategic way the Ministry can control costs and increase quality is by instituting a 'pay for performance' funding model. The Ministry will lead the development of a comprehensive ranking system designed to inform how funding is allocated to institutions. Key attention will be placed on capturing valid output measures, particularly for institutions like COSTAATT, where the aim is to provide opportunities for tertiary education for students with challenging learning backgrounds.

- (iii) **Institute more comprehensive methods for determining tuition fees at all institutions**

Tuition fees for programmes will be evaluated through a comprehensive method of determining competitive rates. While institutions may increase tuition fees over the years, the Ministry will align its funding allocation according to measures of fair and competitive tuition fees.

3.3.3 Programmes

Further to the alignment of newly approved teaching programmes to socio-economic and labour market priority areas, the Ministry has noted that thousands of programmes are currently approved for funding via the GATE Programme for which it has not reviewed socio-economic and labour market relevance. Additionally, as efforts to create more efficiency in funding policies are pursued, the Ministry has noted the increasing cost of tertiary education at regional institutions. In this regard, the following strategies will be implemented:

- (i) **Align funding of programmes to priority areas**

Since June 2010, one hundred and twenty (120) new programmes have been approved for funding via the GATE Programme, based on socio-economic and labour market priority areas. The Ministry will review all programmes funded prior to 2010, to ensure alignment to priority areas.

(ii) **Institute funding limits to regional programmes**

The Ministry supports opportunities for region-wide tertiary education experience towards the development of the Ideal Caribbean Person. To this end, funding will continue to be provided for programmes offered at regional campuses, at a value equivalent to local tuition fees. Funding in this regard, will also be based on socio-economic priority areas.

3.3.4 Sector Funding:

The 2025 agenda for funding in the sector is aimed at developing rational and data driven policy initiatives. The following approaches will be pursued in that regard:

- (i) **Identify quantifiable measures to monitor and evaluate funding mechanisms to increase and improve:**
 - a) Value for Money
 - b) Return on Investment

Funding mechanisms must target strategic and measurable outcomes in order to objectively assess the success of initiatives. The Ministry will identify these measures in keeping with wider financing principles of value for money and return on investment.

(ii) **Rationalise funding mechanisms**

In an effort to improve efficiencies in funding and reduce duplications within the sector, strategies to rationalise all funding mechanisms are imperative. The creation of a single database will facilitate these efforts. As the sector advances funding policy toward the 2025 agenda, it is necessary to access and analyse several data sets to inform funding policy. In this regard, there is a need to merge the various relevant databases to support the flow of data regarding funding, students and institutions within the sector.



Boeing 727-200 Jet for UTT Aviation Campus, Camden, Couva

**“ Education is the most powerful weapon
which you can use to change the world. ”**

Nelson Mandela

RELEVANT AND RESPONSIVE

TERTIARY EDUCATION AND SKILLS TRAINING SECTOR

CHAPTER 4



The Ministry’s commitment to human capital development through improving the access to quality higher education and training to all citizens; investment in development projects; and strategic funding policies and programmes, for the most part, has resulted in significant improvements in the lives of citizens and the nation as a whole. While this expansion in education is considerable, greater focus must be placed on ensuring that education and training provision is relevant to national needs, as articulated by current labour market and industry requirements as well as socio-economic objectives. The sector should also be responsive to changing labour market trends and the development trajectory of policy makers.

This section will highlight the current landscape of the tertiary education and skills training sector as it relates to the labour market and the consequences of the expansion in tertiary education and skills training. Further, it will identify the future agenda to 2025 and recommend initiatives to be undertaken to achieve:

The development of competent work-ready graduates with the relevant entrepreneurial and leadership skills and attitudes to meet the current industry and economic needs as well as anticipated labour market demands.

4.1 CURRENT PERFORMANCE

4.1.1 Labour Market Information

Tertiary education and skills training must be relevant and responsive to existing industry and economic needs as well as anticipated labour market demands. As such, Labour Market Information (LMI) is crucial to the effective functioning of the sector. The insufficiency of data and analysis with respect to graduate labour market outcomes:

- impairs student adaptation to labour market signals;
- limits ability of public officials to adapt resource allocation to labour market needs; and
- restricts the ability of tertiary institutions to systematically learn about and respond to labour market needs.⁸

To address these concerns, the Ministry has collaborated with the UWI, St Augustine, on the establishment of the Centre for Workforce Research and Development which has among its functions, ‘to facilitate a more structured system of planning and development within the CSME region, in which the

*Government will be better able to meet the needs of the workforce through more relevant graduate output’.*⁹

The GoRTT has articulated priority sectors and areas for diversification which should inform industry relevance of programmes. Institutions should therefore place greater emphasis on labour market considerations and priority sectors in determining programme offerings.

Sources of labour market information to inform the tertiary education and skills training sector

- Ministry of Labour, Small and Micro Enterprise Development – primary and secondary research
- CSO – census
- NTA – employer surveys
- Institutions – tracer studies

⁸CWRD (2012) macroeconomic aspects of the labour market in T&T and some policy suggestions to create sustainable jobs. UWI, St Augustine.








⁹Memorandum of Understanding between the Ministry of Science, Technology and Tertiary Education, 2011.

4.1.2 Priority Sectors

The MTPF clearly articulates the need to ensure that the capabilities of the tertiary education and skills training sector contribute to the economic diversification efforts to promote new strategic sectors with the potential for contributing to growth, job creation and innovation. The MTPF sets strong

emphasis on the optimisation of the total higher education provision in the country which involves the balance among what institutions deliver, the national and industry needs, and Government's expenditure on education.

New Strategic Sectors Targeted for Investment and Growth (MTPF)

						
Energy	Tourism	Food	ICT	Creativity	Maritime	Finance
<i>renewable energy, green technology, alternate energy</i>	<i>sport, leisure, health, business and conference, culture, eco</i>	<i>agro processing, bio-technology, food production</i>	<i>software design, web development, e-commerce</i>	<i>music, film and television, visual arts, performing arts, fashion</i>	<i>trans-shipment, drydocking, ship repairs, yachting</i>	<i>financial services, offshore banking, call centres</i>

A sound foundation in areas such as Mathematics, English and the Sciences is essential to enable learners to move from lower level to higher level skills. Further, the drive to achieve a knowledge-based society and economy requires students to develop capabilities in science, technology, engineering, arts, and mathematics (STEAM).¹⁰

A major concern is the perception that less academically inclined students pursue TVET. Consequently, TVET is relegated to second class status, as simply providing an intervention strategy or compensatory alternative. TVET, however, has been identified to provide requisite skills and build human capacities needed for economic growth and competitiveness, especially in key priority areas including science, technology and engineering. As such, TVET is a key issue that must be addressed as

we pursue the new agenda of inclusive, sustainable and resilient development.

4.1.3 Graduate Employability

The increased supply of graduates has resulted in a saturated employment market and graduate 'glut' in several disciplines and sectors. A tracer study of the 2010 graduates of the UWI showed that a higher proportion of graduates in Social Sciences (29.6%), Humanities and Education (20.4%), and Science and Agriculture (21.6%) worked as clerical support workers.¹¹ Medical Sciences graduates (79.6%) were more likely than other faculty graduates to hold positions in the Professional category, with Science and Agriculture (43.2%) and Engineering (31.7%) graduates more likely than other respondents to work as Technicians and Associate Professionals. This suggests a mismatch between the current demand and supply of skills.

¹⁰Draft National Innovation Policy of Trinidad and Tobago 2015 – 2025.

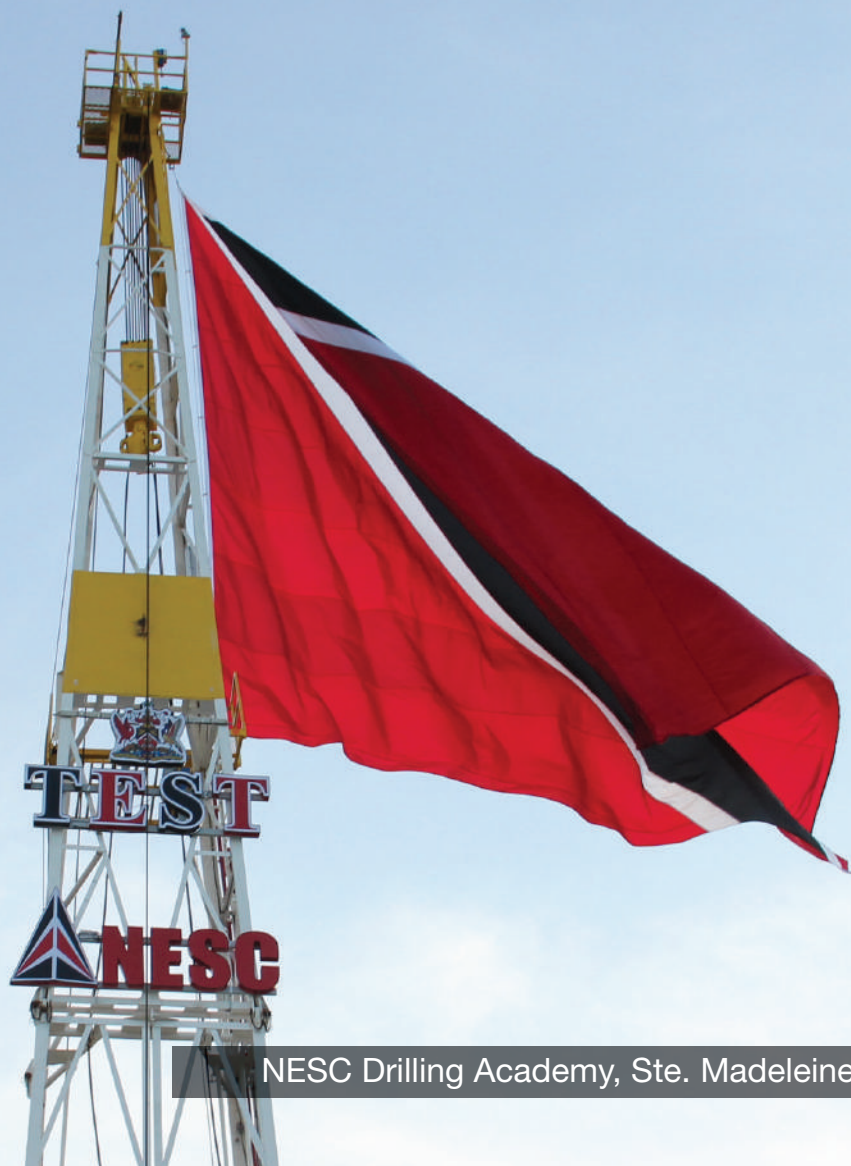
¹¹Berkeley, M. & Singh, R (2010) Report on Graduate Tracer survey 2010: St Augustine Campus. UWI, St Augustine.

4.1.4 Work-based Learning

TLLs have recognised the importance of work experience as a critical component of training and skills acquisitions, and are including work-based training in several programmes to increase the employability of their graduates. The work-based training which involves partnerships and collaborations with local business and industry affords a dual system of education and training with part of the training delivered at the institution and part in the workplace.

Employability Skills¹²

- Collect and analyse information
- Communicate ideas and information
- Plan and organise activities
- Work with others and in a team
- Use mathematical ideas and techniques
- Solve problems
- Use technology



NESC Drilling Academy, Ste. Madeleine

¹²OAS Assessor Training (2007), OAS Hemispheric Project.

EXAMPLES OF WORK-BASED TRAINING

UTT

1. Certificate and Diploma in Security and Public Safety.
2. The Diploma in Food Technology.
3. The National Engineering Technician Diploma (NETD) in Chemical Engineering, Electrical/Electronic Engineering, Instrumentation Engineering, Mechanical Engineering and Petroleum Engineering.
4. Bachelor of Education (TVET specialisation).
5. BSc Natural Science/Maritime Operation and Food Science and Technology.

MIC-IT

1. Engineers in Training programme for Engineering graduates.
2. The HYPE Building Construction programme - practical experience in areas such as Carpentry, Masonry, Plumbing, Domestic Electrical, Welding and Fabrication.

NESC

1. Caterpillar and Tracmac Engineering for specialized training and certification for personnel of the Heavy Equipment Sales and Services Company.
2. Trinidad and Tobago Automotive Dealers, Massy, Southern Sales and Services Company Limited and Toyota Trinidad and Tobago Limited for specialised training and certification in the Automotive Services Industry.
3. UTT and the Energy Institute of Trinidad and Tobago.
4. Petrotrin for the loan of salvage equipment to the NESC Drilling Academy.
5. Public Transport and Service Corporation (PTSC) for the establishment of the PTSC/NESC Trade School Heavy Equipment Programme.
6. Underwater Works Inc. to train and certify persons in scuba diving, underwater welding, surface supplied diving and first aid/CPR/AED.

COSTAATT

COSTAATT also has structured programmes for job placement and has identified several work places for collaboration. Examples of programmes that include internships are in the Ken Gordon School of Journalism, the Academy of Nursing and Allied Health, Social Work, Library and Marketing and Entrepreneurship.

YTEPP

YTEPP also has links with employers, and trainees are able to obtain On-the-Job Training.

TTHTI

The TTHTI has an internship component in almost all of its programmes. The TTHTI has established contacts with various industry partners to place students and to respond to requests for staff in the industry. The TTHTI depends on these contacts which have been established over the years for student placement.

The On-the-Job-Training (OJT) programme represents work-based training for graduates and vacation internship opportunity for enrolled students. It is a major investment of the GoRTT involving mostly Government agencies with relatively minor private sector involvement. This programme is highly subscribed with many applicants still awaiting placement. Further, upon placement, many graduates often lament inappropriate placement. The Ministry has made significant strides in correcting this occurrence through its OJT sectorial initiative which aligns trainees to their area of study and ensures maximum benefit of the OJT to recipients.

In recent years, there has been renewed interest in apprenticeship schemes. This dual system of training involves on-site or workplace training at the employer, and off-site learnings/instructions at public providers of training, resulting in apprenticeship certification. It provides opportunities for the young apprentice to articulate to advanced and higher skills development and learning to enhance marketability and employability either through wage or self-employment endeavours. This regime forges an active joint-venture partnership skills training programme and a culture among the private and public sectors, thus harmonising and optimising resources to achieve national objectives. This type of collaboration supports the acquisition of occupation-specific higher level and employability skills.

Among the most successful apprenticeship programmes is the Point Lisas Industrial Apprenticeship Programme (PLIAP). This programme was developed in response to the needs of industry for more highly qualified people to work in the industries located in the Point Lisas Industrial Estate. The PLIAP is industry-driven and was developed as a collaborative effort among the Ministry of Tertiary Education and Skills Training, the Ministry of Energy and Energy Affairs, the NESCC, the NTA, and industry partners.

4.1.5 Entrepreneurship

The contribution of entrepreneurship to national growth and development as well as the important role of education in promoting more entrepreneurial attitudes and behaviours is widely recognised. However, current self-employment/entrepreneurial activity among graduates is relatively low, as highlighted by a UWI tracer study of 2010 graduates which found that only 2.5% of the sample was self-employed or involved in entrepreneurial activity.

Institutions, however, have begun to integrate entrepreneurship training into their programmes, as a result of increasing labour market pressures, which have changed the dynamic for graduate employability. The UWI has, for example, incorporated aspects of entrepreneurship in a number of programmes, of which one is a new programme in Entrepreneurship in the Faculty of Food and Agriculture. Further, other institutions such as UTT, YTEPP and COSTAATT have implemented comparable initiatives to improve the entrepreneurial competencies in existing programme offerings.

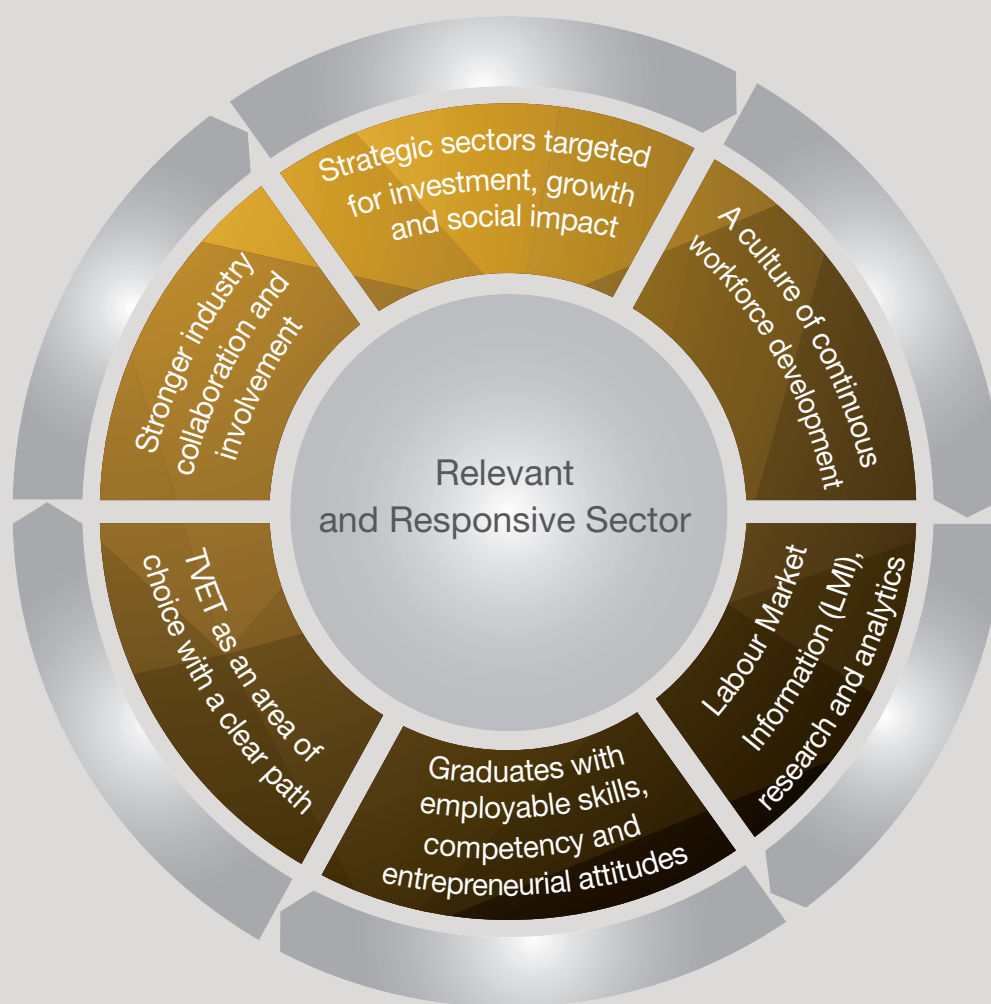
Additionally, the Ministry has been at the forefront of initiatives such as the World Skills Trinidad and Tobago Competition, which has provided a competitive platform, at the national and international level, for trainees to hone their technical abilities and competitive acumen. The NTA, as the lead agency for implementation of this competition, took a further step in supporting the entrepreneurial activities of technicians and artisans through the introduction of the Skills TNT facility. This is a web-based service which provides potential customers/clients with access to a national skills bank which lists local certified skilled persons in technical and vocational occupational areas.

Further, the Tamana InTech Park and UTT's uSTART incubator facilities are just some of the initiatives for providing work space, expertise and equipment, to experiment, develop and strengthen the skills for innovation, entrepreneurship and business development.

4.2 FUTURE AGENDA

As the Ministry looks towards 2025 and its role in achieving inclusive, sustainable and resilient development, the tertiary education and skills training sector must secure and strengthen its ties with the labour market. Education and training provision must be closely linked to the country's economic development priorities, job creation, and the current and anticipated labour market needs. As such, the following priority areas are highlighted for development by 2025:

1. **Strategic sectors targeted for investment, growth and social impact**
2. **A culture of continuous workforce development**
3. **Labour Market Information (LMI), research and analytics**
4. **Graduates with employable skills, competency and entrepreneurial attitudes**
5. **TVET as an area of choice with a clear career path**
6. **Stronger industry collaboration and involvement at all levels of activity within the sector**



4.3 ROADMAP TO SUCCESS

4.3.1 *National needs and priorities*

As emphasised, tertiary education and skills training is a major driver of economic growth and competitiveness. Looking toward 2025, the alignment of the sector to the national economic strategy is important now, more than ever. The Ministry will reform the tertiary education and training systems, targeting institutions to be more relevant and responsive to the current and anticipated needs of society and the economy.

Institutions must therefore provide education and training programmes that fulfil current labour market demands, with graduates possessing the skills and competency standards required. Institutions must collaborate to facilitate the convergence of tertiary education and skills training and the current and future labour market such as the strategic diversification areas, the growth poles, and most recently, The Green, Blue and Sliver Economy¹³ approaches.

Finally, the sector must be committed to responding to the various development challenges facing the society, including sustainable development issues, environmental concerns such as Climate Change and its impacts, social cohesion and inclusiveness, inter alia. Institutions must play their roles via research and knowledge production, teaching and curriculum, community engagement, and building the capacities to address these complex challenges.

4.3.2 *Continuous workforce development*

The globalisation of markets is accelerating the diffusion of technology and the pace of innovation. New occupations are emerging and replacing others. Within each occupation, required skills and competencies are evolving, as the knowledge content of production processes and services is rising. A major challenge is, therefore, enhancing the responsiveness of education and training systems to these changes in skill requirements and improving access of this training to the appropriate workforce cohorts.

Institutions must ensure they are offering education and training to secure a relevant workforce through reskilling, retooling and professional development programmes, inter alia. Further, programme delivery and approaches must be flexible, work-oriented and reflect principles of andragogy.

4.3.3 *Labour market data*

Current labour market demands and forecasting of the future landscape are fundamental to informing a relevant and responsive tertiary education and skills training sector. However, at present, acquisition of this information represents a major limitation within the sector. As such, the capacity to collect and analyse labour market data is an urgent and critical element of the 2025 agenda.

¹³Prime Minister's address, St Helena, Trinidad and Tobago Newsday, Sunday 28th June, 2015.

The CWRD will act as a repository of labour market information with mechanisms for coordinating data from various sources. The Centre also has responsibility to conduct supplementary data collection, where necessary, to support workforce research and analysis for the sector. By 2025, it is expected that the CWRD will be a key source of primary and secondary labour market data for the Ministry. Further, it is expected that the Centre will publish its research, so that labour market information becomes more accessible to institutions and students. The work of the CWRD, however, does not relieve institutions from their responsibility to conduct surveys and tracer studies of graduates. Institutions must track long-term graduate labour market outcomes to revise their programmes and curriculum appropriately, and to satisfy the reporting requirements of the Ministry.

4.3.4 Labour and skills mismatches

As the Ministry pursues initiatives to ensure that institutions provide programmes relevant to the labour market, industry and socio-economic needs, key complementary elements must be addressed in order to align the supply of graduates to areas of need in the labour market. The Ministry must, therefore, institute an effective monitoring and evaluation system for programme outcomes in response to market demands.

Strategies will also be instituted to steer student enrollment in priority programmes, among which will include a national drive, communication campaigns, and career guidance and placement services. Additionally, the career services in tertiary institutions will also be enhanced through access to appropriate data on educational opportunities, labour market requirements, and employment prospects.

4.3.5 Integration of Work-based Learning

The benefits of including work experience and authentic practical activities in tertiary education and skills training programmes are highly recognised, especially in competence-development to enhance employability. Institutions must provide high-level occupational preparation in a more applied and less theoretical way. Work-based learning will be an integral element of education and training by 2025.

The Ministry will encourage institutions to expand the application of work-based learning strategies such as internships, apprenticeship or dual systems for programme delivery. Additionally, the Ministry will lead a collaborative process with institutions to develop mechanisms to harmonise programme delivery and methodologies for the inclusion of work-based learning and attachments as part of programme delivery.

4.3.6 Industry involvement at multiple levels

The critical importance of collaboration with industry to achieve a relevant and responsive sector and workforce cannot be over-emphasised. The Ministry and its agencies will increase the cooperation and partnerships with industry in the following critical areas:

- (i) Policy direction
- (ii) Sector financing
- (iii) Programme and curriculum development
- (iv) Programme delivery

4.3.7 TVET as programmes of choice

TVET is a key policy priority in the 2025 agenda. In spite of concerted efforts by the Ministry, TVET is still largely viewed by the general public as reserved for the non-academically minded student. By 2025, the Ministry, in collaboration with the ACTT, institutions and industry, will implement key strategies to neutralise past negative perceptions of technical occupations and also to address the issues of gender imbalance, including:

- structural reforms in the technical streams;
- information on industry demands in TVET areas; and
- career guidance and scholarship in priority TVET areas.

Moreover, with the establishment of the National Qualifications and Credit Framework (NQCF), prospective TVET students will be able to identify pathways for continuing their education and training at higher levels. The framework will facilitate seamless movement of learners between skills training and

tertiary level education, allowing students to plan a progressive career path in pursuing TVET. The involvement of industry partners will also be a major element in re-branding efforts for TVET. Industry awareness programmes on employability, remuneration, and upward mobility opportunities for graduates of TVET programmes will encourage more persons to choose technical and vocational professions. This approach will ensure the supply of a qualified technical and vocational workforce to meet labour market demands.

4.3.8 Entrepreneurship

Tertiary level institutions must play a lead role in fostering an entrepreneurial culture among students and in expanding the provision and access of entrepreneurship training and education. Thus, there is an urgent need to make entrepreneurship education accessible to all students to encourage innovative business ideas.

Institutions must strengthen and expand entrepreneurial training, including the support services to encourage innovative business start-ups and foster a culture conducive to entrepreneurship and the growth of small and medium-sized enterprises (SMEs). Collaboration with industry partners is seen as instrumental to this venture.

By 2025, all public institutions would have integrated entrepreneurship training in their programme offerings.

QUALITY

IN TERTIARY EDUCATION AND SKILLS TRAINING

CHAPTER 5



Within the last decade there has been an increasing number of tertiary education and skills training institutions in Trinidad and Tobago. This has resulted in learners being provided with numerous options in terms of the variety of programmes offered, the number of institutions offering these programmes and the locations of campus facilities. Recognising the changing landscape and expansion of the sector, the Ministry, over this period, focused greater attention on the quality of institutions and programmes. Institutions were required to place greater emphasis on the quality of programmes, as a criterion for programme recognition and for the enhanced attraction of local,

regional and international students. This section will outline current and potential quality assurance issues and map an agenda towards 2025 for achieving the following objective:

The assurance of institutions of the highest local and international standards, providing quality programmes, delivered by trained instructors who engage in continuous professional development towards the creation of a globally competitive workforce.

5.1 CURRENT PERFORMANCE

5.1.1 Measures of Quality

Currently, there are two agencies of the state which address the issue of quality in tertiary education and skills training, the ACTT and the NTA, respectively.

The following are some of the common measures of quality:



5.1.2 Accreditation Council of Trinidad and Tobago

The ACTT is the legal authority that sets quality standards that must be met by tertiary level institutions. Institutions are required by the ACTT to adopt quality measures for registration, which is mandatory for the operation of an institution and for accreditation which is a voluntary process for improvement of quality. These requirements have resulted in the establishment of systems for quality assurance within each institution. By ensuring that institutions meet prescribed minimum standards, the ACTT is also protecting the interests of students and other stakeholders. The functions of the ACTT include the following:

Seeking to raise the quality of post-secondary and tertiary education delivered in Trinidad and Tobago and to ensure they meet the standards set by the Council;

Providing the public with information about the quality and recognition of programmes and institutions in order to protect the public interest; and

Protecting the interests of students and other stakeholders.

Additionally, ACTT has a comprehensive approach to quality which gives users (students, industry/employers) the assurance that institutions and programmes have met international quality standards.

The ACTT has affiliations with several regional and international agencies including the International Network for Quality Assurance Agencies in Higher Education (INQAAHE); the Caribbean Area Network for Quality Assurance in Tertiary Education (CANQATE); the International Association of Universities (IAU); the American Society for Quality (ASQ); and the Scottish Qualifications Authority (SQA). Through these affiliations, the ACTT ensures that the quality

standards used in Trinidad and Tobago are benchmarked against international standards and that the processes used locally for registration and accreditation can withstand international scrutiny.

List of Accredited Institutions in Trinidad and Tobago¹⁴

Arthur Lok Jack Graduate School of Business - UWI
Caribbean Nazarene College
Cipriani College of Labour and Co-operative Studies
College of Science, Technology & Applied Arts of Trinidad & Tobago
MIC Institute of Technology Limited
St Andrews Theological College
The University of the West Indies
The University of Trinidad and Tobago
Tobago Hospitality & Tourism Institute
Trinidad and Tobago Hospitality and Tourism Institute
University of the Southern Caribbean
West Indies School of Theology

5.1.3 National Training Agency

Through a Memorandum of Agreement between the ACTT and the NTA in 2010, quality assurance of TVET institutions and programmes has been delegated to the NTA by the ACTT. The NTA develops occupational standards for the CVQ programme, to ensure training is industry relevant and of the highest international standards. Further, an institution or skills training provider is required to obtain 'centre approval' from the NTA in order to deliver training. The 'centre approval' process involves the submission and review of documentation from the institution, an audit of facilities and corrective actions, if deficiencies are identified. Once the NTA is satisfied that all requirements are met, the institution is granted centre approval to deliver the particular skills training programme.

¹⁴Accredited as at July 2015.

5.1.4 National Qualifications and Credit Framework (NQCF)

The ACTT in collaboration with stakeholders¹⁵ has drafted a National Qualifications and Credit Framework for the entire education system from early childhood education and care to post-doctoral study. The qualifications framework will define the level of programme which will allow for comparisons to be made with other programmes both locally and internationally. Further, it will facilitate seamless matriculation among all programmes, academic and TVET, within the sector.

5.1.5 International Quality Assurance Bodies and Professional Associations

Institutions that offer programmes certified by other agencies especially transnational programmes, also need to meet the quality requirements of those bodies. Many private tertiary education providers, for example, offer the programmes of foreign universities and are required to develop and meet quality standards as specified by those Universities.

Skills training institutions also offer programmes that are certified by other agencies and institutions. The NESO has an affiliation with Red Deer College in Edmonton, Canada, which certifies some of its

programmes. In 1994, the MIC-IT included in its training activities the National Skills Development Programme (NSDP) for Journeyman and Master Craftsman programmes in engineering-related disciplines. These programmes are accredited by the German Chamber of Crafts and Trades and the ICON Institute of Aachen, Germany.

In addition, institutions are required to meet standards for those programmes approved or accredited by professional bodies such as the Accreditation Council for Business Schools and Programmes (ACBSP); Caribbean Tertiary Level Personnel Association (CTLPA) which is concerned with quality of student services; the Association of Professional Engineers of Trinidad and Tobago (APETT); the Institute for Physics and Engineering in Medicine, UK; and the Institute for the Advancement of Medical Instruments, USA.

¹⁵Stakeholders include MTEST, MoE, NTA

5.2 FUTURE AGENDA

The Ministry remains committed to ensuring that institutions and programmes are of the highest quality standards. As the sector evolves, a comprehensive approach to quality assurance must be adopted, encompassing the following priorities:

1. **Accreditation of institutions**
2. **Evaluation of quality at the level of sector outputs and outcomes**
3. **A comprehensive approach to professional development of staff**
4. **Blended learning and technology-enhanced programme delivery**
5. **Quality assurance of distance learning programmes**
6. **Data analytics to inform the policy direction**



5.3 ROAD MAP TO SUCCESS

5.3.1 More institutions will acquire accreditation status

The Ministry through the ACTT will collaborate with local private tertiary education institutions to build their capacity to develop local programmes as the first step towards the accreditation process. The ACTT will further collaborate with TLIs to establish robust quality assurance and control processes that adhere to the highest local and international standards that will prepare institutions to become accredited.

5.3.2 Focus on quality at the levels of sector output and outcome

The Ministry and its quality assurance agencies will focus on sector output and outcomes as measures of quality within sector, including graduation rates, graduate employability and performance. As such, institutions will be required to conduct tracer studies to track the educational and employment outcomes of their graduates. The Ministry will continue to support projects of this nature through the existing 9th EDF programme and the newly implemented Higher Education Research Fund. The Ministry will also work closely with TLIs to develop and execute research projects related to collecting data on the labour market outcomes of their graduates.

The Ministry will implement a more robust system of Monitoring and Evaluation with the capacity to measure the quality of graduates of the sector and their ability to contribute to national development. The system will also seek to implement other macro indicators of quality and performance of the sector, including country competitiveness, labour efficiency, and entrepreneurial activity.

5.3.3 A comprehensive approach toward the professional development of staff

The Ministry will support institutions to develop continuous professional development programmes geared specifically to lecturers and instructors of the sector. This increased opportunity to acquire pedagogical competences is critical to achieving and maintaining quality since many possess technical competence but have had little or no teacher/instructor training. This will include mechanisms such as eLearning, whereby the majority of lecturers and instructors will be qualified to teach, by the year 2025.

5.3.4 Blended Learning and Technology-enhanced programme delivery

The Ministry will support institutions in promoting the use of ICT tools and resources to effectively integrate ICTs in their programme offerings, to improve the quality of teaching and learning. This transformation will be assisted by online communities of practice, innovative and open learning environments, where teachers and professionals can communicate and share their ideas and experiences. Value will also be ascribed to the creation of teaching networks in which professionals can collaborate in the search for new strategies.

5.3.5 Quality Assurance of distance learning programmes

The ACTT has established successful mechanisms for quality assurance in distance learning programmes through the Statements on Recognition and Programme Approval process. Recognising the growing prominence of Online and Distance Learning Programmes, efforts will be made to ensure that Quality Assurance Agencies develop mechanisms of quality assurance designed specifically for these programmes, and provide a single, convenient access point to existing resources in quality assurance in open and distance learning (ODL).

5.3.6 Role of Quality Assurance agencies in data analytics for the sector

Recognising that the quality assurance process involves the collection and analysis of large amounts of data, quality assurance agencies need to adopt a role as repositories and suppliers of higher education data through establishing mechanisms that would make data more accessible to stakeholders to inform policy and decision making for the sector.



The UWI, St. Augustine Campus Graduation

“ *The roots of education are
bitter but the fruit is sweet.* **”**

Aristotle

ACCESS

TO TERTIARY EDUCATION AND SKILLS TRAINING

CHAPTER 6



The importance of access has driven the tertiary education and skills training sector and the Ministry to undertake several major initiatives to increase the participation of citizens, in an effort to build human capital toward a knowledge-based economy and society. While access has been widely expanded, some segments of society remain disadvantaged and under-served. This section will review the expansion of the opportunities to date and highlight an agenda to fill

the gap by 2025. This agenda will focus on the following:

The provision of opportunities for lifelong learning and ensuring equity and inclusiveness by expanding tertiary education and skills training to all citizens, particularly, disadvantaged groups such as the disabled and the underserved.

6.1 CURRENT PERFORMANCE

6.1.1 Demand and Participation

The demand for tertiary education and skills training has increased in Trinidad and Tobago over the last decade. This increase in demand is derived from a variety of sources: increase in the number of secondary school graduates with acceptable grades for matriculation into a variety of programmes; demands of the workplace for higher level qualifications; increasing aspirations of citizens; and most significantly, access to financial assistance through GATE funding from the GoRTT for tertiary education and skills training.

Other changes that are taking place include the use by learners of various routes to access tertiary education and skills training, for example, through bridging programmes such as the COSTAATT Compensatory Programmes and Academic Support Services (COMPASS) and the growing utilisation of Prior Learning Assessment and Recognition (PLAR) as alternative entry routes. Given the demand for tertiary education and skills training and the financial assistance being provided to access programmes, the number of institutions and programmes has increased at a correspondingly significant rate over the period.

The increases in participation rates in tertiary education have been documented since the inception of the Ministry. The participation rate increased from approximately 7% in 2001, to 15% in 2004, to 40% in 2008.

The most recent calculation of the participation rate was 65.23% in 2013, surpassing the 60% target identified by Ministry to be achieved by 2015. The Ministry utilises the UNESCO definition of the Gross Enrolment Ratio as the measure for participation rate in tertiary education.¹⁷ This represents the number of students enrolled in tertiary education, regardless of age, expressed as a percentage of the population of the five-year age group following on from the secondary school leaving age. **(See Appendix II)** The increases are in alignment with Government's policy initiatives with respect to "Accessible Tertiary Education" through the GATE and financial programmes, and its commitment to diversifying the tertiary education sector to cater to non-state institutions.

In 2012 approximately 90,000 persons were involved in tertiary education and skills training of which approximately 20,000 were trainees in formal registered skills training programmes.

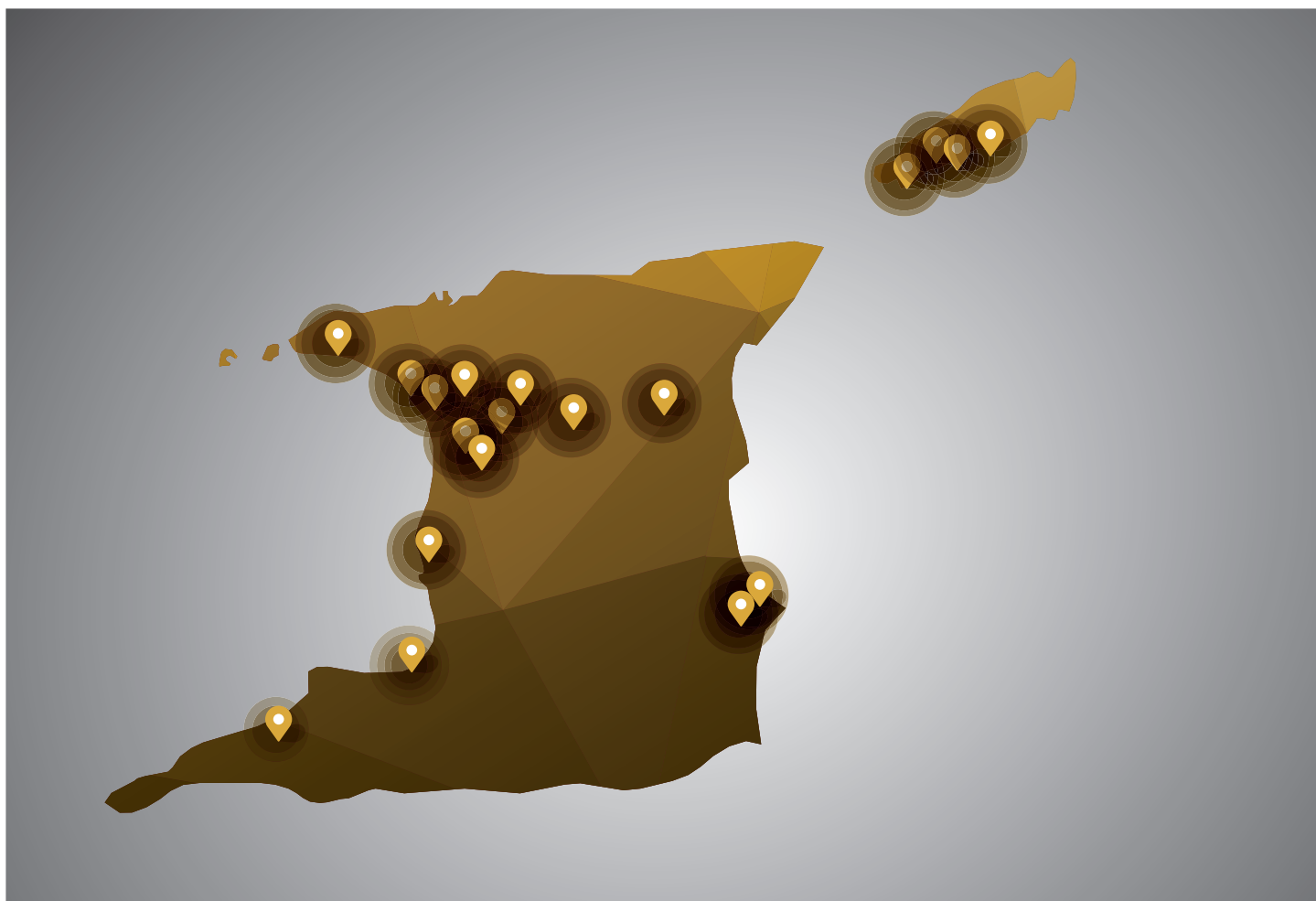
There are currently 70 institutions in Trinidad and Tobago accounted for by the ACTT, 12 of which are accredited, another 49 duly registered, 6 pending continual registration, and 4 new applicants as of June 2015. The NTA has a listing of over 100 training providers that offer skills training.

¹⁶ MTEST Achievement Highlights: 2008-2013.

¹⁷ Total Tertiary Education Enrolment at ISCED Levels 5 and above / Population of 17-21 years old in Trinidad and Tobago x 100.

6.1.2 Geographic Access

Geographic Clusters of ACTT Registered Post-Secondary and Tertiary Level Institutions



As is evident on the map, the highest proportion of post-secondary and tertiary education institutions was based in the east-west corridor of Trinidad, particularly in the Champs Fleurs/St. Augustine area. To that end, the Ministry has designated the area, the St. Augustine Education City. A similar cluster arrangement is noted in Central and South Trinidad and Tobago. While these clustering patterns provide indications of a growing

trend, the lack of quantitative and qualitative data with respect to student and population demographics, however, makes it difficult to identify underserved geographic areas and marginalised groups of society including disabled persons, persons disadvantaged due to the absence of reliable transportation and others with special needs.

6.1.3 Gender Access

Ministry data showed gender bias with respect to enrolment at post-secondary and tertiary institutions, with enrolment skewed towards females in academic year 2011-2012. Female enrolment was 61.6% of total enrolment compared to total male enrolment of 38.4%, which represents a decline in gender bias as the previous data cycle of 2009-2010 had a female enrolment of 64.1%.¹⁸

Harnessing the power of technology can:

- transform teaching, learning and help to improve outcomes through shared ideas, more exciting lessons and on-line help;
- engage 'hard to reach' learners, provide special needs support, deliver more motivating ways of learning and more choices about how and where to learn;
- build an open accessible system with more information and services online for parents, children, young people, adult learners and employees and more cross-organisation collaboration to improve personalised support and choice;
- achieve greater efficiency and effectiveness, access to online research, access to shared ideas and lesson plans, improved systems and processes in students services, and ease of administrative duties.

*Senator The Honourable Fazal Karim
Launch of the Techno Kids at NESCC, Point Lisas
12th July, 2014*

6.1.4 Supply of Tertiary Education and Skills Training

One of the major prevailing trends with respect to the supply side of tertiary education offerings is the advent of evening and weekend programmes designed to meet the needs of the working population desirous of continuing studies. Ministry data reveal that in 2012, part-time students accounted for 56% of all enrolment.

Another trend is the use of technologies to improve access by offering more programmes through blended and fully online means. This move to provide education without walls benefits the institutions because of reduced infrastructural costs and also learners who can study at any place and at any time. The Distance Learning Secretariat at the Ministry has been increasing its efforts to enable institutions to develop a capacity for ODL.

A number of institutions offer programmes via the distance learning modality. The UWI Open Campus currently offers several programmes through ODL, with plans for the expansion of its offerings. COSTAATT also offers its core programme for the Associate Degrees by distance and is putting in place the technology and infrastructure to be able to offer programmes available at the main campus to learners in Sangre Grande and Tobago. Some of the UTT programmes are offered as blended learning. YTEPP is also using technology for the delivery of some of its programmes. Private institutions, through their transnational collaborations, also have blended delivery for components of their programme offerings.

¹⁸MTEST Statistical Digest 2012.

Additionally, the Ministry has seen the significance of Open Educational Resources (OER) in increasing access to a range of programmes developed outside of Trinidad and Tobago. As such, strategic partnerships with OER providers such as Coursera and the Khan Academy have been made to deliver free teaching through the web-based portal, knowledge.tt.

OERs are now easily available from a number of well-established international institutions. However, this resource is generally under-utilised by institutions. As such institutions, should develop strategies to harness OER to support and enhance education and training.



YTEPP's Computer Mobile Training for persons with disabilities

6.2 FUTURE AGENDA

It is globally recognised that for continuous growth to be sustained within the sector, persistent efforts towards widening access are critical. As the Ministry looks towards 2025, the focus shifts to targeted access to ensure inclusive, sustainable and resilient development. In developing the future agenda, the concept of access is interpreted to encompass not

only entry to higher education, but also retention and successful completion.¹⁹ With this in mind, the following are the key priorities for the sector for 2025:

1. **Data and information sharing**
2. **Underserved geographic areas and societal groups**
3. **Inclusiveness and equity**
4. **Lifelong learning opportunities**



¹²This is consistent with the definition used by the European Access Network (EAN). Web-link <http://www.ean-edu.org>.

6.3 ROAD MAP TO SUCCESS

6.3.1 Data and Information Sharing

There is a mismatch among the growth rate of the sector, the data management and reporting mechanisms. Given the magnitude of funding and the significant annual population enrolment, there is a need for greater data collection and reporting to ensure the accountable, efficient and effective operation of the sector. As we move towards 2025, data will be the driving force in determining strategic priorities and initiatives; monitoring and evaluation will be essential in assessing impact through indicators, and funding will be closer aligned to performance. The following will improve the availability of timely data and open sharing among various interest groups:

- (i) Implementing a universal, non-intrusive education management system which will benefit all users of the system and will produce data on a real-time basis.
- (ii) Liaising with international bodies and agencies to report on data of the sector in Trinidad and Tobago and to benefit from the expertise and networks of its members.
- (iii) Partnering with the CSO and other ministries to develop a national data and statistical system.
- (iv) Ensuring legislation is enacted, authorising the Ministry to retrieve data from institutions for the purpose of policy development and monitoring.

6.3.2 Inclusiveness and Equity with a focus on under served groups

The role of the GoRTT, through the Ministry, in promoting inclusiveness and equity in tertiary education and skills training, is an extension of its responsibility for providing universal basic education and expanding post-secondary education opportunities. While the Ministry plays an important role, the role of the institutions is of great importance to the achievement of this goal. As a consequence, the relationship between the Ministry and institutions need to be cooperative with clear demarcation of respective functions and responsibilities. Dialogue is necessary to support results-based incentives and effective and efficient use of resources including competency, infrastructural, and resource-based collaboration. The following will lead to the desired future state of inclusiveness and equity in the tertiary education and training sector:

- (i) Reporting on impact by utilising admission, participation and graduation data for prioritised groups such as: gender, disabled persons, persons in under served regions, foreign students, and socio-economic strata.
- (ii) Commissioning research on the provision of widening the access to academic material in formats such as foreign languages, braille, audio readers and soft copy material to support persons who are underserved within the sector.
- (iii) Awarding incentives by the Ministry to institutions that engage in horizontal collaboration to meet the needs of a targeted underserved group.
- (iv) Providing merit-based placement opportunities for foreign students to attend institutions in Trinidad and Tobago.

6.3.3 Opportunities for Lifelong Learning

Given the increasing availability of ICT for use in education and training, the potential increase in access by learners who need to work and study, and the economies of scale and other benefits associated with distance education, institutions will need to develop and implement strategies for using ICT effectively for the delivery of tertiary education and skills training.

There is significant potential demand for tertiary education and skills training among the adult population, particularly those that entered the labour market out of secondary school before the development of the GATE programme and further funding initiatives. Meeting the needs of those willing to return to further their education will require a collaborative approach to the multiplicity of needs of such individuals.

The following specific strategies will be implemented to increase opportunities for lifelong learning by 2025:

- (i) Expanding the knowledge.tt network, making more programmes available for learners throughout Trinidad and Tobago.
- (ii) Investing in a Centre of Excellence for Open and Distance Learning programme development.
- (iii) Implementing the National Qualification and Credit Framework to assist in smooth and continuous transition from one level to another through articulation agreements.
- (iv) Developing an institution-industry plan to upskill the workforce through training provided to organisations based on needs and competency match of institution(s).
- (v) Introducing a national multimedia communication strategy with targeted promotional campaigns for under-represented groups that will stimulate demand for services.

RESEARCH AND INNOVATION

WITHIN THE TERTIARY EDUCATION AND SKILLS TRAINING SECTOR

CHAPTER 7



Trinidad and Tobago aspires to improve its ability to develop domestic capabilities, diversify the structure of its production base, and become a knowledge-based and innovative economy. There is a further need to transition to a low carbon society through the use of environmentally-friendly technologies and the support for green industries. To accomplish this, the tertiary education and skills training sector has to generate new ideas, processes, and solutions through research and development and innovation, in order to convert knowledge into social goods and economic wealth. This section will highlight

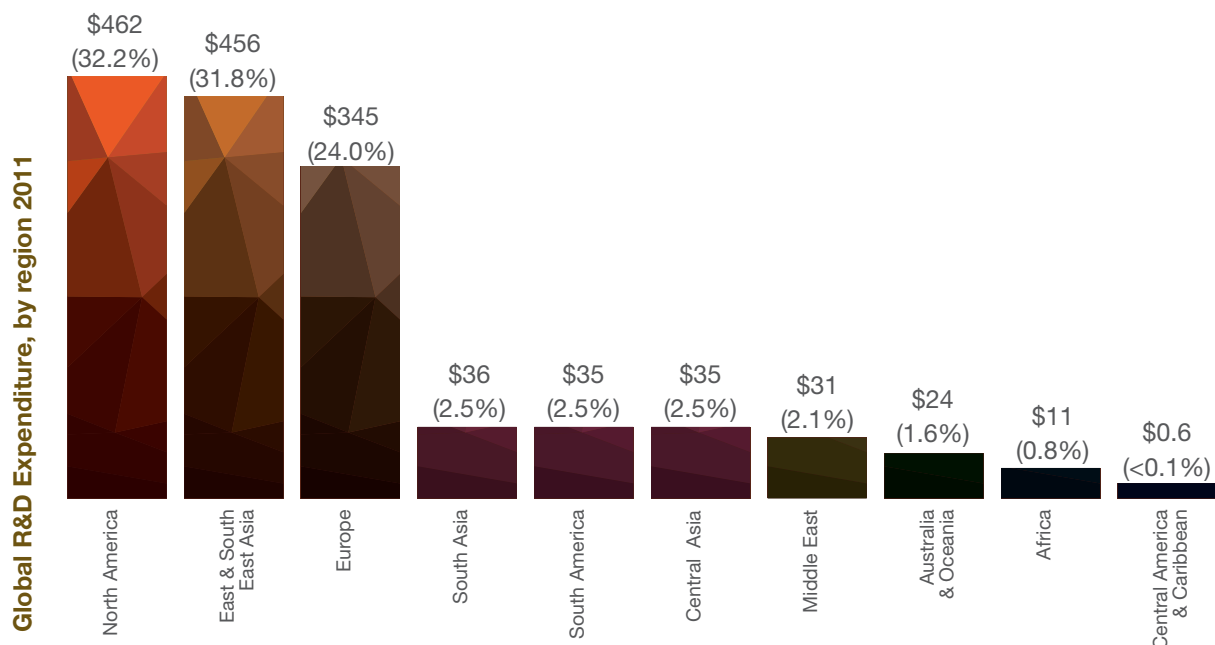
the current innovation and research landscape in the tertiary education and skills training sector. Further, it will outline the pivotal role of the Ministry in facilitating the National Innovation System (NIS) by 2025, and in achieving the following objective:

The supply of a critical mass of scientists and researchers to support research and innovation activities to enhance the competitiveness of existing industries and future industrial development.

7.1 CURRENT PERFORMANCE

Under the Ministry’s direction there are five (5) institutions/agencies and three (3) projects²⁰ involved in the research and innovation landscape of Trinidad and Tobago. The only purpose-based funding mechanism of the Ministry for Research and Innovation is the Higher Education Research Fund (HERF), administered through the National Commission for Higher Education (NCHE). HERF has an annual allocation of \$7 million.

Spending on research in Trinidad and Tobago was reported to be 0.1 per cent of GDP²¹. According to the Global R&D expenditures, by region: 2011²², this was representative of the Central America and Caribbean region where research expenditure for the period was calculated at \$0.6 billion of US PPP (purchasing power parity) dollars or <0.1%. A comparison with other regions unfortunately showed the region to be the lowest performing region in the world, with the closest performer being Africa at \$11 billion of US PPP or 0.8%.



²⁰Institutions/agencies include the University of the West Indies, St. Augustine, the University of Trinidad and Tobago, the University of the Southern Caribbean, MIC-Institute of Technology Limited and the National Commission for Higher Education (research agenda). Projects include the St. Augustine Education City, the Trinidad and Tobago Research and Education Network, knowledge.tt.
²¹2014 Global Innovation Index Report.
²²Science and Engineering Indicators 2014.

Research and Development (R&D) expenditure is an important indicator because R&D expenditure increases human and knowledge capital, laying the groundwork for innovation.

Research and Development Expenditure by Sector, 2008 -2012 (TT \$million)	Sector					Expenditure on Research and Development by Sector, 2008 - 2012
	2008	2009	2010	2011	2012	
Higher Education		16.2	25.1	28.7	26.08	Expenditure on Research and Development by Sector, 2008 - 2012
Research Institutions	15.7	17.6	19.8	21.98	21.98	
Government Departments	21.9	26.0	18.9	17.54	23.93	
Total	53.8	68.7	67.4	65.6	72.52	
Research and Development Expenditure by Sector, 2008 -2012 (TT \$million)	Research and Development as a Percentage of Gross Domestic Product					Expenditure on Research and Development as a Percentage of Gross Domestic Product, 2008 - 2012
	2008	2009	2010	2011	2012	
Research and Development		0.03	0.05	0.05	0.04	Expenditure on Research and Development as a Percentage of Gross Domestic Product, 2008 - 2012
Gross Domestic Product Percentage						

Source: NIHERST Survey of S&T Indicators

Further insight into the country's research and innovation performance for selected sectors revealed that for Chemical and Non-metallic products, approximately one-third (31%) of the establishments surveyed by NIHERST in 2009 indicated that they had undertaken research and development, while 65% responded negatively. This was said to be consistent with the relatively low number of scientists and engineers employed, with 23% of respondents employing no scientists and engineers, and 50% employing between 1 - 3 scientists and engineers. Only one establishment utilised patents to protect its intellectual property.²³

The Assembly-type and related industries of the manufacturing sector was not engaged in product or

process innovation in 2011 – 2012, and only 10% had undertaken research and development activities. The main obstacle to innovation was identified as the high cost of the innovation project, which a quarter (24%) of the respondents stated to be very significant. Approximately one-fifth of the respondents rated domestic economic conditions (20%), lack of financing (18%), lack of skilled/qualified personnel (18%), and weak customer demand (18%) as very significant obstacles to innovation. A half or more of the respondents indicated that lengthy administrative/approval process within the firm (54%), lack of information on technology itself (52%), lack of external technical support (52%), and legislation (50%) were not relevant or appropriate.

Snapshot T&T Science and Technology Indicators ²⁴	INDICATOR	2010
		Expenditure on Science and Technology activities as a % of GDP
	Researchers per 1,000 of labour force	1.59
	Scientific publications per 100,000 persons	14.8
	Number of engineering graduates	379
	S&T personnel (Headcount)	1,351

²³Innovation in the Chemical and Non-metallic Products Industry in 2009, NIHERST.

²⁴Draft National Innovation Policy of Trinidad and Tobago 2015-2025, Ministry of Planning and Sustainable Development.

The World Economic Forum recognises innovation as one of the twelve pillars of competitiveness. Their Global Competitiveness Report (GCR) 2013-2014 promoted Trinidad and Tobago from the category of an “economy in transition” to an “innovation driven economy”, based on the country’s GDP per capita.

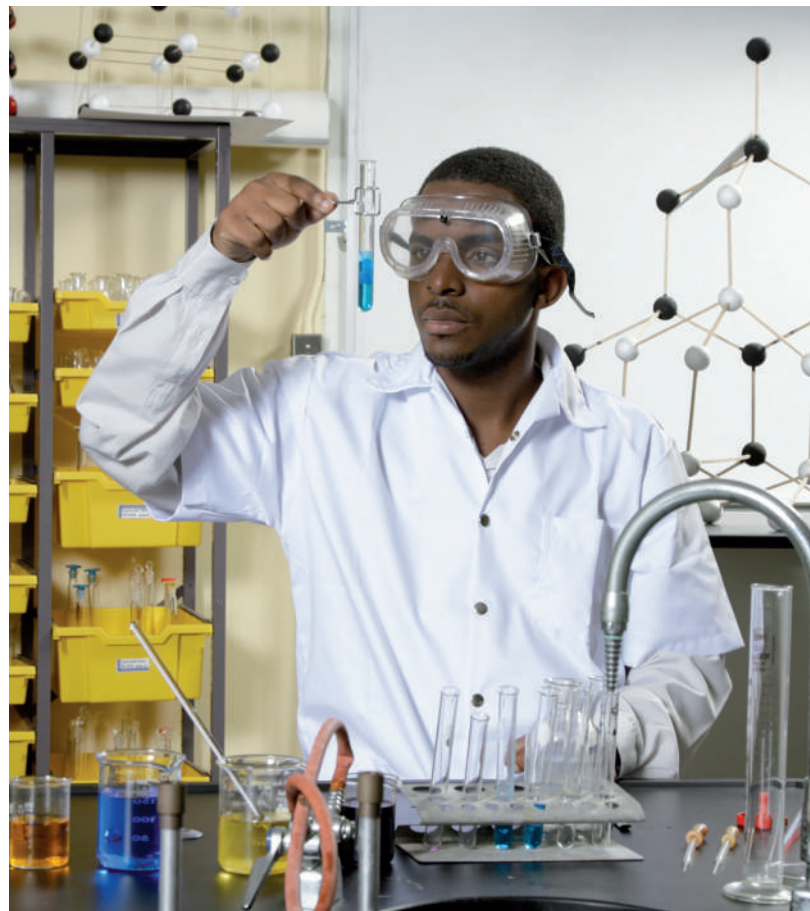
Research and innovation activities have been largely implemented at the university level. For example, UTT’s Medical Design Innovation (MDI) research group has been using 3D printing technology to create accurate physical models of patient anatomy. The MDI group in the Department of Design and Manufacturing successfully printed various test models to demonstrate the utility of computational modelling and 3D printing technology in the local medical sector.

Further, initiatives such as the EUCARINET project have sought to connect Caribbean and European researchers, policy makers and stakeholders in joint research action. Trinidad and Tobago was involved in the programme with the primary focus on the cooperation among the different players of the ‘knowledge triangle’ including firms (innovation), universities/schools (education), and research organisations (research) in the agro-industrial sector, through the University of Trinidad and Tobago and the Caribbean Council for Science and Technology.

There has also been longstanding cooperation between the European Union and The UWI, St. Augustine Campus, particularly partnering through infrastructure and support to various faculties. In 2012, the Cocoa Research Centre (CRC) proposed to leverage the genetic resources of over 2200 varieties

of cocoa held in the International Cocoa Genebank to transform the CRC into a world-renowned research centre. Based on the early research successes of the project, the EU/ACP committed €2.6 million to establish the International Fine Cocoa Innovation Centre.

UWI also has a Research and Development Impact (RDI) Fund which seeks to place knowledge mobilisation, community engagement, and development impact squarely at the centre of the university’s research enterprise. During the 1st Call for Proposals (CfP) in 2012, \$9,004,018 was approved for disbursement to 11 projects. An additional 11 projects were awarded \$5,339,210 during the 2nd CfP in 2013.

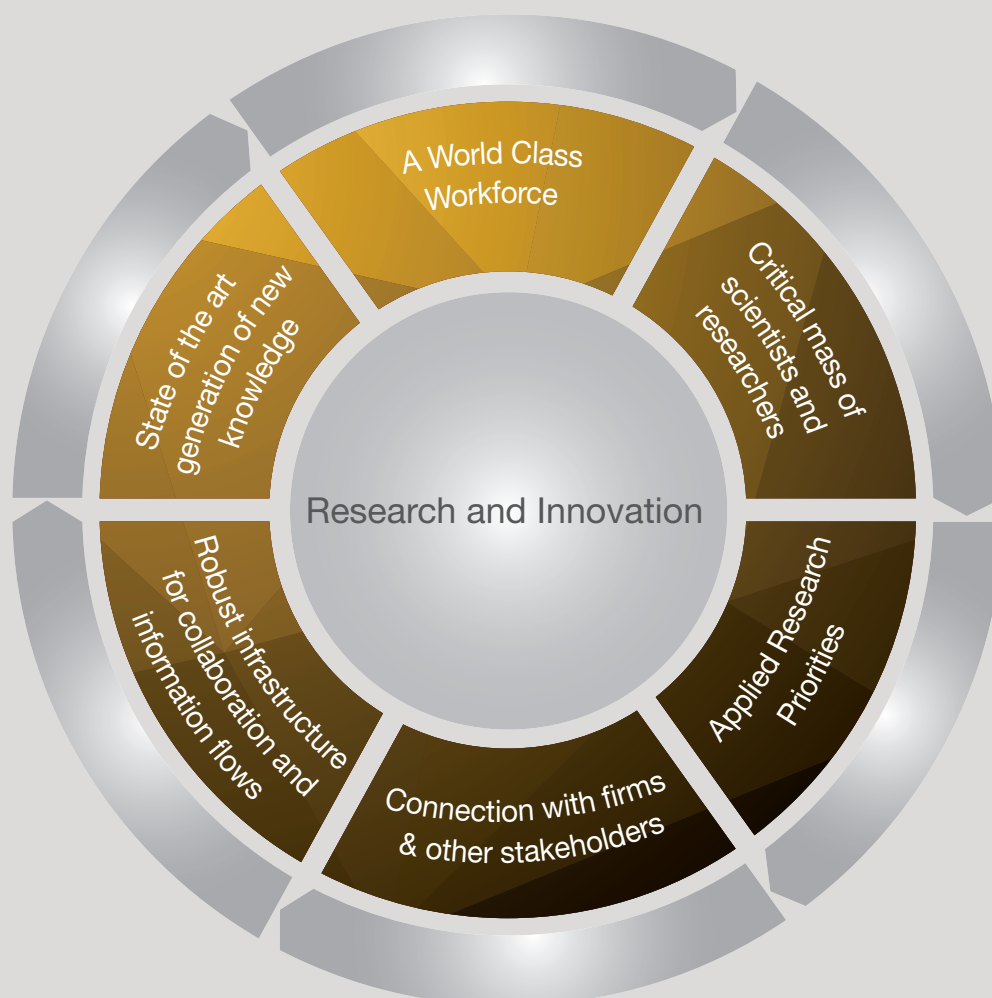


7.2 FUTURE AGENDA

It is envisaged that Trinidad and Tobago will be one of the most innovative countries in the world, supported by a creative society, characterised by new ideas and new ways of doing things, a country where resourceful and creative organisations and persons are given the opportunity to generate profitable innovations, and assist in developing globally sustainable businesses with global reach. Research and innovative activities will focus on the national economic and social priorities towards inclusive, sustainable and resilient development. Working within the plans for a NIS,

which will facilitate structured interaction among the agents of the system, the Ministry foresees that its priorities will converge in the following six (6) key areas:

1. **World class workforce**
2. **Critical mass of scientists and researchers**
3. **Applied research priorities**
4. **Connection with firms & other stakeholders**
5. **Robust infrastructure for collaboration and information flows**
6. **State of the art generation of new knowledge**



7.3 ROAD MAP TO SUCCESS

The initiatives and measures that will assist in realising the goals for the six (6) key areas identified for the Ministry's involvement in research and innovation are as follows:

7.3.1 *World Class Workforce*

Education and training will be of a high standard, pervasive and continuous throughout a person's working life to support human resource development. The workforce will be infused with highly skilled persons who are conversant with what is happening now and futuristic in their thinking. The assessment and recognition of previously acquired knowledge, attributes and skills will be critical to re-tooling and upskilling initiatives to ensure that the cadre of skilled workers possesses the right competencies to support the needs of innovating firms. Further, specific sector-related initiatives between education and training institutions and industry (e.g. apprenticeship programmes; attachments and practicums) will guide the targeted development of skills for priority sectors.

7.3.2 *Critical Mass of Scientists and Researchers*

Innovation and technological change will be supported by an effective cadre of scientists and researchers. In order for science and technology to effectively contribute to sustainable development, Trinidad and Tobago must enhance its basic scientific capacity. The main catalyst will be targeted investment to improve student enrolment in programmes of science, technology, engineering, art (including design) and mathematics (STEAM). In addition, focus will be placed on enhancing the cadre of STEAM teachers for

the primary and secondary levels to ensure that passion and curiosity are instilled and creative and innovative competencies are developed at the early stages of a student's educational development.

7.3.3 *Applied Research Priorities*

Trinidad and Tobago will become an attractive place to conduct research and to generate quality research outputs in key areas through a strong incentive regime informed by a national research agenda and supported by appropriate R&D funding schemes. Special encouragement will be directed to building partnerships between industry and institutions carrying out research and innovative activities to enhance the competitiveness of existing industries and to lay the foundation for future industrial development through the commercialisation of new products and processes.

7.3.4 *Connection with Firms and Other Stakeholders*

Collaboration among universities, research institutions, firms and communities will be encouraged through the development of clusters or regions of high density research-oriented initiatives for the implementation of sector development strategies. These clusters may take the form, for example, of an education city, a technology park, and an incubator zone or business hatchery.

7.3.5 *Robust Infrastructure for Collaboration and Information Flows*

The implementation of an efficient infrastructure, particularly in Information and Communication Technology (ICT), will allow citizens and businesses to

readily and affordably access pertinent information and to collaborate with each other and with regional and international counterparts for research and innovation purposes. A dedicated Research and Education Network will not only foster this collaboration but will also spearhead technological and service innovation in partnership with industry and enhance access to other public sector e-infrastructure such as e-Health, e-Government, e-Learning, e-Innovation and e-Capacity Building.

7.3.6 State of the Art Generation of New Knowledge

The Ministry will build a curated, collaborative and dynamic repository of open digital content for Trinidad and Tobago and the Caribbean that encourages, incentivises, and showcases locally developed content. This ecosystem will change current media content and habits from general passive consumption to more active production and development. Further, the ecosystem will foster the view that research and educational content is a common good rather than a profit tool. By encouraging more widespread content development, the nature of education in Trinidad and Tobago can be shifted to one that is more learner focused and directed towards the development of 21st century skills - creativity, collaboration, communication and critical thinking. Initiatives such as UTT's 21st Century Classroom will lay the ground for this change.

7.3.7 Tracking Measures

The Ministry will use measures, some of which are outlined below, to ensure the progress and impact of initiatives in the areas as follows:

- Investment in human capital tracked by expenditure on education and training by government and business.
- The flow of skilled people tracked by the level of educational attainment of the labour force, the extent of employer training and human capital loss/gain from the economy.
- The stock of skilled persons tracked by information about education and skill levels of the population and the potential stock of qualified persons.
- Investment in R&D and innovation increased to at least 1.0% of GDP by 2025.
- The number of PhD candidates enrolled and graduated.
- The research base and potential for knowledge creation tracked by the performance of basic research, research in relatively new fields, and research by small and medium enterprises.
- Knowledge creation with commercial potential tracked by the number of inventions and patenting activities.
- Innovation tracked by the support for R&D and the provision of venture capital funding; the introduction of new and improved products and processes by businesses and non-technological innovation.
- Knowledge networks and flows tracked by the degree of sharing and dissemination of knowledge within firms and between firms and other organisations (e.g. government and education organisations) including cross border flows of knowledge.
- ICT skill base tracked by the share of ICT workers in the labour force.

**“ An investment in knowledge
pays the best interest. ”**
Benjamin Franklin

ROAD MAP TO SUCCESS BY 2025

THE TERTIARY EDUCATION AND SKILLS TRAINING SECTOR

CHAPTER 8



ROAD MAP TO SUCCESS BY 2025

THE TERTIARY EDUCATION AND SKILLS TRAINING SECTOR

PRIORITIES **INITIATIVES** **IMPACTS**

GOVERNANCE AND MANAGEMENT

Legislative and Policy Framework

Submit the following existing draft legislation to the Office of the Chief Parliamentary Council (CPC) for enactment in Parliament:

- Higher Education and Training Bill
- University of Trinidad and Tobago Bill
- National Training Agency Bill

Amend the Accreditation Council of Trinidad and Tobago Act with passage of Regulations under the Act

Amend the COSTAATT Act

Reform of the legal status of the Ministry's Institutions

Revise the Institutions' Bye-Laws

Revise and update of the Ministry's existing policies and policy agenda

Monitoring and Evaluation (M&E)

Build capacity of the M&E system within the Ministry to ensure effective monitoring, evaluation, compliance and enforcement of agreements related to funding, programmes and projects

Rationalisation of funding mechanisms

Rationalise the funding mechanisms of the Ministry

Establish one over-arching administrative body

Collaboration and consultation

Increase collaboration and consultation among the Ministry and the various local, regional and international stakeholders

Data collection system

Develop a comprehensive system with appropriate compliance mechanisms to ensure private and public TIs submit data to the Ministry, the Accreditation Council of Trinidad and Tobago (ACTT) and the NTA (where applicable)

Partner with institutions, various Government Ministries and agencies to source and share relevant data

Utilise data from regional and international organisations such as CARICOM and the United Nations Development Programme (UNDP) and the International Labour Organisation (ILO)

Industrial Relations

Foster of an environment of good industrial relations practices within the Ministry and its institutions

IMPACT

An overarching legislative and policy framework to ensure effective and comprehensive governance and management of the tertiary education and skills training sector

FUNDING

Funding of students

Institute a cost-sharing mechanism for students benefiting from financial assistance by way of grants or stipends

Develop a continuous graduate tracer system to monitor and evaluate the outcomes of various funding mechanisms

Institute incentives for excellence and systems for remediation

Funding of institutions

Implement a cost-sharing arrangement for institutions to meet the cost of major projects, such as capital financing and research grants

Increase public-private-partnerships, corporate sponsorships, and philanthropy as a means for institutions, particularly public institutions, to become more self-reliant

Develop a pay-for-performance funding mechanism for all institutions

Establish comprehensive methods to determine fair and competitive tuition fees

Funding of programmes

Align funding throughout the sector to programmes within labour market and socio-economic priority areas

Sector funding

Identify indicators to measure the 'value for money' and 'return on investment' rating for all funding mechanisms within the sector

IMPACT

A funding model that is characterised by strategic targets and measurable outcomes, aligned to relevant training, based on socio-economic development, labour market priority areas, and self-employment to ensure efficiency and social equity throughout the system

RELEVANT AND RESPONSIVE SECTOR

Strategic sectors targeted for investment, growth and social impact

Provide education and training that fulfills current and projected demands of the labour market, as targeted by the national economic strategies eg. Diversification plan, Green, Blue and Silver Economies

Ensure that research, education and training respond to various societal and environmental issues such as sustainable development, climate change, social cohesion

Ensure greater collaboration among institutions aimed at convergence of tertiary education and skills training and the relevance of the sector

Culture of entrepreneurship

Integrate entrepreneurial education and training into current and future programmes

Strengthen linkages to industry partners

Expand entrepreneurship incubators and support facilities such as uSTART and Skills TNT

Graduate employability and continuous workforce development

Provide reskilling, retooling and professional development programmes

Develop programme delivery and approaches that are flexible, work-oriented and reflect andragogy principles

Institute strategies to steer students' choices towards critical and priority areas

Labour Market Information (LMI), research and analytics

Develop data-driven sector policies and reforms

Provide primary and secondary data, research and analytics to inform the sector as led by the CWRD

Ensure that tracer studies and surveys are conducted by

institutions and that they track long-term graduate labour market outcomes

Stronger industry collaboration and involvement

Consult industry to inform policy direction, curriculum development and programme delivery

Expand the accessibility of internships, apprenticeships and dual systems for programme delivery

Lead collaboration among Ministries, institutions and industry to develop mechanisms to harmonise programmes and methodologies for the inclusion of work experience and work based learning strategies in programmes

TVET as an area of choice

Re-brand TVET to diminish the negative prejudices against technical occupations and gender imbalance within the TVET sector

- Implement the following initiatives:
- structural reforms in the technical streams
 - information on industry demands in TVET areas
 - career guidance and scholarship in priority TVET areas

Establish the National Qualifications and Credit Framework to ensure TVET pathways for continued education and training

IMPACT

Competent work-ready graduates with the relevant entrepreneurial and leadership skills and attitudes to meet the current industry and economic needs as well as anticipated labour market demands

QUALITY

Accreditation

Encourage more institutions to acquire accreditation status

Assist local private tertiary education institutions in building their capacity to develop more local programmes

Evaluation of quality

Ensure the implementation of a system of monitoring and evaluation that will focus on quality at the levels of sector output and outcome, including quality of graduates of the sector and their ability to contribute to national development. The system should also seek to implement other macro indicators of the quality and performance of the sector including, country competitiveness, labour efficiency, entrepreneurial activity

Professional Development

Devise a comprehensive approach toward the professional development of teaching and non-teaching staff for all institutions

Blended learning and technology-enhanced programme delivery

Promote increased use of technology-enhanced programme delivery and methods of blended learning to improve the quality of teaching and learning

Distance learning programmes

Adopt a comprehensive approach to the Quality Assurance of programmes that are offered via distance learning

Sector data and analytics

Ensure that all quality assurance agencies adopt a greater role in data sharing and analytics to inform policy and decision making for the sector

IMPACT

Institutions of the highest local and international standards, providing quality programmes, delivered by trained instructors who engage in continuous professional development towards the creation of a globally competitive workforce that would be a driver of economic diversification and national transformation

ACCESS

Inclusiveness and equity with a focus on underserved groups

Report on impact of initiatives for improved access with respect to admission, participation and graduation data for prioritised groups such as, gender, disabled persons, persons in underserved regions, foreign students and socio-economic strata

Commission research on the provision of widening the access to academic material in formats (such as a braille, audio readers and soft copy material) to support persons who are underserved within the tertiary education and training sector

Provide incentives to institutions that meet the needs of a targeted underserved group

Data and information sharing

Implement a universal, non-intrusive education management system which will benefit all users of the system and will produce real-time data

Liaise with international bodies and agencies to report on data of the sector and to also benefit from the expertise and networks of its members

Partner with the CSO and other Ministries to develop a national data and statistical system

Create legislation that gives the Ministry authority to retrieve data from institutions for the purpose of policy development and monitoring

IMPACT

The provision of opportunities for lifelong learning and ensuring equity and inclusiveness by expanding tertiary education and skills training to all citizens, and in particular, disadvantaged groups such as the disabled and the underserved

Lifelong learning opportunities

Expand the knowledge.tt network by making more programmes available for learners throughout Trinidad and Tobago

Invest in a Centre of Excellence for Open and Distance Learning programme development

Implement the National Qualifications and Credit Framework to assist in smooth and continuous transition from one level to a next through articulation agreements

Develop an institution-industry plan to upskill the workforce through training provided by organisations based on the needs and competency of institution(s)

Establish a national multimedia communication strategy that will introduce targeted promotional campaigns for under-represented groups that will stimulate demand for services

IMPACT

Expansion of knowledge.tt network and targeted training, based on socio-economic development, labour market priority areas, and self-employment to ensure efficiency and social equity throughout the system

RESEARCH AND INNOVATION

Workforce

Provide targeted incentives to employers of eligible apprentices to encourage and provide opportunities for skill-based training and development

Scientists and researchers

Raise STEAM graduation rates

Provide training for STEAM teachers at all education levels and incentives for top performers

Encourage curricula review to ensure that opportunities are provided for learners to acquire and demonstrate skills of creativity and innovation

Build capacity and capability specifically in art and design, so that concepts and finished products can be fashioned, licensed and scaled-up for mass production

Retain gifted citizens

Attract diaspora & highly skilled immigrants

Introduce programmes that significantly increase the amount of persons with highly specialised degrees and PhDs as well as the number of arrangements for the transfer of knowledge with elite universities that possess state-of-the-art technologies and other relevant skills

Applied research

Contribute to increased investments in R&D and innovation to at least 1.0% of GDP

Improve and upgrade existing research infrastructure and develop new research facilities where necessary

Incentivise institutions engaged in research responsive to national demands, including sustainable development practices; developing a greening agenda and the promoting alternative and renewable energy

Promote cooperative agreements and exchanges with foreign universities and research centres for joint research and capacity building, particularly in priority areas

Research and education network infrastructure

Ensure institutions focus on areas where they have a comparative advantage or use the network to collaborate with other institutions to conduct joint research projects in order to share expertise and other resources

Expand the ICT infrastructure and access

Provide access to advanced world-leading facilities; scientific services; unique training environments; and world leading expertise. T&T needs to be deeply connected with international science and ensure that research organisations are not only excellent at keeping abreast of leading edge science and emerging technologies, but also excel at adapting and transforming research into commercial opportunities for firms

Digital ecosystem

Promote the development of digital content, sharing of best practices and successful innovations, and integrating programmes such as robotics and coding into the school curriculum at an early stage

Disseminate research findings to appropriate groups to provide information that could be of utilitarian value or used to inform decisions, and to also contribute to developing and strengthening support for research activities

IMPACT

The supply of a critical mass of scientists and researchers to support research and innovation activities to enhance the competitiveness of existing industries and future industrial development

2025

CONCLUSION

As the Ministry evaluates the progress made towards the Education For All agenda and the education related Millennium Development Goals, the citizens of Trinidad and Tobago can be proud of the accomplishments within the tertiary education and skills training sector. The GoRTT's significant and sustained investment in the sector has been transformational with dramatic progress in the access to and quality of tertiary education and training. This commitment to human capital development will only expand, as the country pursues the Sustainable Development Goals for education to *“secure inclusive and equitable quality education and promote life-long learning opportunities for all.”*

This National Policy Framework provides policy makers, institutions, corporate and civil society, industry and other stakeholders, with an agenda of future priorities and strategies for the further development and strengthening of tertiary education and skills training over the next ten (10) years. The education system will develop citizens and ensure they are equipped with the knowledge, skills and attitudes to achieve self-fulfillment; meet the needs of the current and anticipated needs of the workplace; embrace the opportunities and meet the challenges of the evolving local, regional and international environment.

The Ministry is committed to the comprehensive development of the sector, providing an enabling environment for the establishment of balanced partnerships to facilitate inclusive, sustainable and resilient development of the country. To this end, this Framework will guide the sector towards ensuring value for money, better return on investment, seamlessness and increased interconnection among stakeholders and greater industry involvement. By 2025, this National Policy Framework will generate the following impacts:

1. An overarching legislative and policy framework to ensure effective and comprehensive governance and management of the tertiary education and skills training sector.
2. A funding model that is characterised by strategic targets and measurable outcomes, aligned to relevant training based on socio-economic development, labour market priority areas and self-employment, to ensure efficiency and social equity throughout the system.
3. Development of competent work-ready graduates with the relevant entrepreneurial and leadership skills and attitudes to meet the current industry and economic needs as well as anticipated labour market demands.
4. Assurance of institutions of the highest local and international standards, providing quality programmes, delivered by trained instructors who engage in continuous professional development towards the creation of a globally competitive workforce.
5. Provision of opportunities for lifelong learning and ensuring equity and inclusiveness by expanding tertiary education and skills training to all citizens, and in particular, disadvantaged groups such as the disabled and the under served.
6. The supply of a critical mass of scientists and researchers to support research and innovation activities to enhance the competitiveness of existing industries and future industrial development.

Ultimately, the full impact of this National Policy Framework is dependent upon the ensuing Action Plan, which will be developed through collaboration with relevant stakeholders, in accordance with the outlined Roadmap to Success, 2015 – 2025. Further, the responsiveness of the key players in fulfilling their role through the implementation of the initiatives identified in the Roadmap will be critical to success. This will require vigorous and concerted efforts. Portfolio agencies will be required to align their strategic plans to this Framework and private institutions should also chart their development trajectory in alliance with the 2025 agenda.

Further, the successful implementation of this Policy Framework would be dependent upon political will, leadership and resources (human, financial and physical). Synergistic cooperation is critical to accelerate the creation of an innovative, skilled and knowledge-based workforce and society.

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GLOSSARY

Access:

Opportunities made available to all, freeing them from constraints of time and place.

Accredit:

To evaluate and determine whether a registered institution, its programmes or awards meet established quality standards and accreditation shall be construed accordingly.

Andragogy:

The science and techniques related to the teaching and learning strategies of adults. It is also referred to as Adult Education, and is associated with terms such as Continuous Education, Professional Development and Lifelong Learning, which are often related but are specific concepts in themselves. There is a distinction between TVET and informal adult education geared towards the acquisition of skills for personal development.

Blended Learning:

A formal education programme in which a student learns at least in part through delivery of content and instruction via digital and online media with some element of student control over time, place, path, or pace.

Blue Economy:

The harnessing of the country's water and marine resources where there are activities and opportunities to create jobs in fishing and fish processing, tourism, beach resorts and restaurants, dry docking, marinas, shipping, ship repair and more.

Caribbean Vocational Qualification:

An award that represents achievement of a set of competencies which define core work practices of an occupational area, consistent

with the levels articulated within the Regional Qualifications Framework.

Diploma Mills:

An institution or organisation that grants large numbers of educational degrees based on inadequate or inferior education and assessment of the recipients.

Distance Learning:

A form of study where the learner spends all or most of his time physically separated from his teacher(s). Teaching is accessed through the use of a variety of technologies. This variety means that distance programmes vary considerably in the mix of media.

Graduation Rate:

This indicator shows the current tertiary graduate output of education systems, that is, the percentage of the population in the typical age cohort for tertiary education that successfully completes tertiary programmes, as well as the distribution of tertiary graduates across fields of education.

Green Economy:

Activities which facilitate low carbon, resource efficient and socially inclusive through the conversion of fossil fuel resources to renewable ones and opportunities to create jobs in the areas such as retail, distribution, construction for engineers, technicians, and many others in the establishment of new energy resource system.

Lifelong Learning:

All learning activity undertaken throughout life, with the aim of improving knowledge, skills, and competence within a personal, civic, social and/or employment-related perspective.

Open and Distance Learning:

The provision of flexible educational opportunities in terms of access and multiple modes of knowledge acquisition.

Participation Rate:

The accessibility of tertiary education and the perceived value of attending tertiary programmes.

Post-secondary:

All education and training programmes which are not classified as tertiary level but are offered to secondary school leavers to meet their vocational or continuing education needs.

Quality Assurance:

The maintenance of a desired level of quality in a service or product, especially by means of attention to every stage of the process of delivery or production.

Recognise:

To evaluate and approve the quality of foreign awards.

Register:

To confer legal authority to operate a post-secondary or tertiary level institution in accordance with established standards and criteria.

Silver Economy:

Activities for citizens 60 years and over, who wish to continue working. This strategy will also provide goods and services to cater to the needs of the 60+ citizenry. The target fields include medical specialists, pension administration, actuarial service and more.

Skill gap:

A significant gap between an organisation's current capabilities and skills it needs to achieve its goals. At the macroeconomic level, it can be interpreted as the gap between the skill endowment of the economy and the required skill base given the growth objective of the economy. It is the point at which an organisation can no longer grow or remain competitive because it cannot fill critical jobs with employees who have the right knowledge, skills, and abilities.

Technical Vocational Education and Training (TVET):

Programmes that provide for acquisition, improvement or redirection of citizens' knowledge, skills and competencies that prepare them for specific employment opportunities, mainly at the sub-professional level.

Training:

The acquisition, improvement or redirection of, skills and competencies which usually complement the acquisition of knowledge and the application of theoretical principles.

APPENDICES

APPENDIX I: LIST OF KEY AGREEMENTS BY THE MINISTRY

- MoU – MTEST, UWI-Arthur Lok Jack Graduate School of Business and the National Training Agency – “Cluster Mapping” for the tourism and entertainment sectors (July 2015)
- MoU – MTEST, NESC, NTA, MIC-IT, YTEPP, Air Conditioning and Refrigeration Industry Association and Peake Technologies Limited for an Air Conditioning and Refrigeration Apprenticeship Programme (June 2015)
- MoU among MTEST, Ministry of Public Utilities and Ministry of Trade, Industry, Investment and Communication to promote the advancement in the quality of training delivered in Trinidad and Tobago through the Trinidad and Tobago Printing and Packaging Institute (TTPPI) (May 2015)
- MoU among MTEST, UTT and MASSY Technologies INFOCOM (Trinidad) Ltd. – “Classroom of the Future” (June 2015)
- MoU among MTEST, COSTAATT, the Ministry of Health and Regional Health Authorities for clinical internship (February 2015)
- MoU with NESC and National Gas Company Ltd. for the establishment of the CNG Maintenance Technician Training Programme (October 2014)
- MoU between MIC-IT and Uganda Industrial Research Institute (May 2014)
- MoU between MIC-IT and the Petroleum Institute of Kigumba (May 2014)
- MoU between YTEPP and Vancouver Island University, Canada (February 2014)
- MoU between MIC and Suffolk Community College (May 2013)
- MoU between MTEST and Trinidad and Tobago Manufacturers’ Association (July 2013)
- MoU between MTEST and the Employers’ Consultative Association of Trinidad and Tobago (July 2013)
- MoU between MTEST and the Trinidad and Tobago Local Content Chamber (July 2013)
- MoU between MTEST and the Trinidad and Tobago Chamber of Industry and Commerce (August 2013)
- MoU between MTEST and the Trinidad and Tobago Coalition of Services Industries (August 2013)
- MoU between the MTEST and the Couva-Point Lisas Chamber of Commerce (August 2013)
- MoU between the MTEST and the Chaguanas Chamber of Industry and Commerce (August 2013)
- Point Lisas Industrial Apprenticeship Programme (PLIAP) Memorandum of Agreement - with MTEST and Ministry of Energy and Energy Affairs, NTA, NESC and various stakeholders (October 2013)
- MoU with the United Nations System in Trinidad and Tobago (October 2013)
- MoU among the MTEST, COSTAATT and the UWI for the shared use of the Academy of Nursing and Allied Health, El Dorado (ANAH) (October 2013)
- MoU with the Ministry of Gender, Youth and Child Development for the MYPART (Military Led Apprenticeship) Programme (July 2013)
- MoU between NESC and Automotive Dealers Association of Trinidad and Tobago and Tracmac Engineering Ltd. (May 2012)
- MoU among UTT and MIC Institute of Technology Ltd. (formerly MIC Ltd.), Caribbean Airlines, National Helicopters Services Limited and Trinidad and Tobago Civil Aviation Authority (May 2012)

APPENDIX II: GROSS ENROLMENT RATIO FOR TERTIARY EDUCATION

Data Required

- (i) Total Tertiary Education Enrolment at ISCED Levels 5 and above.
- (ii) Population size of the five-year age group following on from Secondary School Leaving Age i.e. 17-21 yrs. in Trinidad and Tobago.

Assumptions

- (i) The majority of students leave secondary school at the typical age of 16 yrs.
- (ii) Majority of the Tertiary Enrolment comes from Secondary School System (inherent assumption of the Gross Enrollment Ratio as defined by UNESCO).
- (iii) All Bridging programmes, ODL programmes and TVET programmes at ISCED level 5 and above will be included.
- (iv) There is an even balance of transfers of students to and from Trinidad and Tobago. This therefore assumes that the number of Trinidad and Tobago nationals studying abroad equals the number of Foreign Nationals studying in Trinidad and Tobago.

Limitations

- (i) Not all Tertiary Education Institutions complete the data collection survey.
- (ii) Data from the GATE database only includes GATE approved programmes.
- (iii) An established National Qualifications and Credit Framework is not yet established and assumptions have to be made to determine the level of a programme as matched against the ISCED levels of education.

Calculation

- (i) $\text{Total Tertiary Education Enrolment} / \text{Population for Age Group 17-21} \times 100.$

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