TRINIDAD AND TOBAGO
BUREAU OF STANDARDS

NATIONAL STANDARDIZATION STRATEGY

2019 - 2022

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From the desk of the Executive Director

DEREK LUK PAT
Executive Director, TTBS

The Trinidad and Tobago Bureau of Standards (TTBS) which is one of the key institutions under the Ministry of Trade and Industry, has the primary responsibility for National, Regional and International Standardization, based on the Standards Act No. 18 of 1997.

Standardization is well-recognized as one of the fundamental pillars of the National Quality Infrastructure as it is pivotal to driving economic growth and sustainable development. Given the thrust to increase the competitiveness of local manufacturing and service industries in the global arena, standards are essential in improving quality, as well as addressing environmental and societal needs.

One of TTBS' latest accomplishments in 2019 was the development of a National Standardization Strategy (NSS) for the effective identification and prioritization of standards to ensure that we develop market-relevant standards, create a Standards Conscious Society and support the implementation of the National Quality Policy 2018-2030. The NSS was developed in alignment with the methodology developed by the International Organization for Standardization (ISO) and was spearheaded by the Standardization Division of TTBS. It focuses on the development of new standards to support key industries/sectors prioritized by the Government for economic diversification as well as other subject areas identified by stakeholders where there are quality, environment, societal and consumer-related issues. In addition, a significant focus for TTBS is the updating of the existing compulsory National Standards to ensure the effectiveness of our regulatory roles and facilitate conformity assessment activities.

The ultimate objective of the NSS is to create a responsive and flexible standards development framework that will assist our nation in meeting our sustainable development and trade facilitation goals. We are confident that the NSS will assist TTBS to deliver on its key mandates and ensure that we deliver value to the citizens of Trinidad and Tobago via our standards and conformity assessment activities.

Derek Luk Pat

About TTBS

The Trinidad and Tobago Bureau of Standards (TTBS) is a body corporate established on July 8th, 1974 and now governed by the Standards Act No.18 of 1997 and the Metrology Act No. 18 of 2004. It is the National Standards Body with responsibility to develop, promote, enforce and maintain standards.

TRINIDAD AND TOBAGO BUREAU OF STANDARDS

Vision

To be the essential provider of national quality solutions leading to a standards conscious society that is globally competitive.

Mission

To champion the development and implementation of standards, measurement systems and conformity assessment services for competitiveness and sustainability of Trinidad and Tobago.

TTBS is required to establish standards which:

1. *improve goods produced or used in Trinidad and Tobago;*
2. *ensure industrial efficiency and development;*
3. *promote public and industrial welfare, health and safety; and*
4. *protect the environment.*

Note: TTBS' purview does not include standards for food, drugs and cosmetics.

LIST OF ACRONYMS

CARICOM	-	Caribbean Community
COPANT	-	Comisión Panamericana de Normas Técnicas Pan American Standards Commission
CROSQ	-	CARICOM Regional Organisation for Standards and Quality
ICC	-	International Code Council
ICT	-	Information Communications Technology
ISO	-	International Organization for Standardization
MTI	-	Ministry of Trade and Industry
NMC	-	National Mirror Committee
NQI	-	National Quality Infrastructure
NQP	-	National Quality Policy
NSS	-	National Standardization Strategy
SDG	-	Sustainable Development Goal
SPS	-	Sanitary and Phytosanitary
TC	-	Technical Committee
TBT	-	Technical Barrier to Trade
TTBS	-	Trinidad and Tobago Bureau of Standards
WTO	-	World Trade Organization
UN	-	United Nations
UNIDO	-	United Nations Industrial Development Organization

Introduction

The Quality infrastructure comprises the activities including standards development, accreditation, metrology and conformity assessment services including testing, inspection and certification.

A country's socio-economic development is enhanced by its ability to participate in the global trading system. Manufacturers must be able to compete effectively, maximize international trade agreements and penetrate export markets. Therefore standards and quality related requirements are pivotal for effective trade and growth of companies as we seek to diversify our economy.

According to the Massachusetts Institute of Technology (2018) , "promoting health and wellbeing for a growing world population while reducing our global footprint to within Earth's capacity to sustain us, is a defining challenge for the world's citizens in the 21st century". To address this challenge, we need to invent sustainable means to meet our needs for food, energy, materials, health, and access to these resources.

The complex trading environment coupled with significant growth in the services sector, advances in technology and significant global sustainability challenges such as climate change, water security and energy security provide a strong impetus for developing countries to establish quality systems.

Quality Infrastructure

According to UNIDO (2018), creating and sustainably implementing a robust Quality Infrastructure within countries and regions are often crucial steps on the path to developing a thriving economy. This Infrastructure is fundamental to the prosperity and well-being of any country or region and provides the necessary tools to assist in addressing global sustainability issues.

The Quality Infrastructure comprises the activities including standards development, accreditation, metrology and conformity assessment services which also include testing, inspection and certification. These activities are integrated into a policy framework that addresses quality, legal and regulatory issues whilst meeting the objectives of international trading and environmental agreements.

National Quality Policy

In 2018, the Government of the Republic of Trinidad and Tobago approved a National Quality Policy (NQP) which was developed in alignment with Trinidad and Tobago's National Development Strategy (Vision 2030) and United

Nations Sustainable Development Goals (SDGs). It was the result of a participatory multi-stakeholder process led by the Ministry of Trade and Industry (MTI) and supported by the Trinidad and Tobago Bureau of Standards (TTBS). It outlines the pathway for the integration and coordination of Trinidad and Tobago's Quality Infrastructure.

Over the last few decades, important elements of the National Quality Infrastructure (NQI) have been developed to contribute to industrial development, trade competitiveness in global markets, the efficient use of natural and human resources, food safety, health, and the protection of the environment. In facing the new challenges of trade globalization and the need for more sustainable economic development, there is a need to readjust and further develop a more integrated NQI.

The implementation of the NQP is expected to realize the development of a quality culture in the nation, improve competitiveness, support the diversification and expansion of the economy, improve productivity, ensure health, safety, security and environmental protection with the long-term goal of improving the well-being of all citizens in Trinidad and Tobago. A proactive, stakeholder-focused approach to standards

development is therefore essential in order to support and realize the strategic goals and objectives of the NQP.

National Standardization Strategy and linkage to the MTI's Strategic Plan 2016-2020

In 2018, TTBS commenced the development of the National Standardization Strategy (NSS) to ensure that the national standards development activities are undertaken to support the national policies established by the Government, and aid manufacturers and service providers in improving the quality of goods and services to boost their global competitiveness, whilst addressing health, safety, security and environmental protection issues.

The NSS supports the five Goals outlined in the Ministry of Trade and Industry's Strategic Plan 2016 to 2020 (see Figure 1).

The MTI's Strategic Plan 2016-2020 highlights the development of a sectoral strategy focused on the competitiveness and economic growth of the non-energy sector and the promotion of business, trade, investment and consumer empowerment. The NSS is directly aligned with this sectoral based approach for the development, promotion and application of standards in areas such as Information and Communication Technologies (ICT), Agriculture and Agro-Processing, Creative Industries, and Tourism.

Vision 2030 – National Development Strategy

The NSS also supports the Government's Vision 2030: The National Development Strategy of Trinidad and Tobago 2016-2030 which incorporates the United Nations Sustainable Development Goals (SDGs). It is also aligned with other critical policy documents aimed at improving the competitiveness and innovative capacity of Trinidad and Tobago such as the National ICT Plan 2018 – 2022 and the environmental sustainability of the country, such as, the 2018 National Environmental Policy.

Creating a Standards Conscious Society

It is critical that we, as a country, establish a Standards Conscious Society in order to effectively implement the National Standardization Strategy (NSS). The NSS affects a diverse number of industries and multi-sectoral issues from education, ICT, manufacturing, tourism to good governance, innovation and sustainability. Therefore, stakeholder engagement activities are pivotal to the execution of a successful NSS and ultimately the NQP. All segments of society must be able to effectively identify, adapt and apply standards in their everyday activities in order to realize the desired socio-economic transformation of our country.

Figure 1 - Five Goals outlined in the Ministry of Trade and Industry's Strategic Plan 2016 to 2020

- ***Goal 1 – Diversified and Competitive Businesses***
- ***Goal 2 – Increased Investment***
- ***Goal 3 – Expanded and Diversified Regional and International Trade***
- ***Goal 4 – Enhanced Protection and Empowerment of Consumers***
- ***Goal 5 – Transformed MTI Performance and Service Delivery***

Improved Stakeholder Engagement via ICT

We now live in a digital era. The operational efficiency in the national standards development process is hinged on the application of ICT tools ranging from social media, electronic tools, databases and communities of practices. The use of these tools would reduce the developmental time for standards, improve outreach to key stakeholder groups, increase stakeholder participation in the process and enhance access to standards via webstores.

Summary

As the TTBS seeks to fulfil its mandate as the National Standards Body for the socio-economic development of our nation, based on the principles of good standardization practice which include openness, effectiveness and relevance, impartiality and consensus, transparency and development dimension, this National Standardization Strategy outlines the three (3) year Strategic Work Plan for 2019-2022, as well as the related goals and objectives of TTBS.

[1] *Massachusetts Institute of Technology (MIT). 2018. Pathway to Sustainability Leadership by MIT: Incubation, Transformation, and Mobilization. http://web.mit.edu/cstfreport/index.html.*

[2] *United Nations Industrial Development Organization (UNIDO). 2018. "Quality Policy: Guiding principles." https://www.unido.org/sites/default/files/files/2018-06/QP_GUIDING_PRINCIPLES_07062018_online.pdf.*

Defining Standards

'A standard is a document that provides technical specifications or other precise criteria to be used constantly as rules, guidelines or definitions of characteristics, to ensure materials, products, processes and services are fit for their intended purposes'.

In the modern world, standards have become the most successful tool to achieve economies of scale and to reduce inefficiencies in the market. Several other benefits have been conferred by standards, such as: streamlining internal processes or scaling up operations and creating or entering new markets for companies, providing for the adoption of better regulations and ensuring safety, quality and value for money to consumers.

'A standard is a document that provides technical specifications or other precise criteria to be used constantly as rules, guidelines or definitions of characteristics, to ensure materials, products, processes and services are fit for their intended purposes'.[3] It is a formal document established by consensus and published by a recognized body.

Standards seek to establish an agreed-upon, repeatable way of achieving a specific output or outcome. A fundamental requirement to the development of an effective standard is ensuring broad input and consensus among the key stakeholders who would be affected by the use of the standard.

Standards can be likened to the operating systems of our mobile devices – always working in the background, but only noticeable when there is a failure. There are many examples of how standards impact our daily life. Standardized phone chargers allow charging across brands and types of phones; standardized ATM cards allow for use, not only between different branches or banks, but also across different countries.

The use of credit cards for shopping and vacations is possible because of international standards for the physical characteristics of credit cards. These standards not only ensure that your credit card can fit in the slot of the card machine but that they can be used across a multiplicity of vendors.

Children can play with toys that are deemed safe by a third party conformity assessment body and driveway gates can be used effectively within their safety parameters.

Standards also assist with the deployment of new technologies such as those employed in renewable energy systems, as well as electric and hybrid vehicles and ICT systems for improved security with information management security and cloud computing. They can also shape the social fabric by influencing practices and systems for good governance of organizations, ethical behaviour, anti-bribery and whistleblowing as organizations and countries seek to be more sustainable and transparent.

Standards, therefore, when applied as intended, allow for the benefits of compatibility, interoperability, safety and quality characteristics of products and services to be passed on to the biggest beneficiary ... YOU!

[3] *International Organization for Standardization*

Delivering Value through Standards

Standards support the three pillars of sustainable development: economic, social and environmental.

Economic - standards facilitate trade, serve as a foundational element in the NQI and support companies via quality, innovative and sustainable business practices.

Social - standards assist in improving the overall well-being of society by addressing healthcare, social inclusion, gender equality, diversity and accessibility.

Environmental - standards encourage the use of more environmentally friendly practices, systems and products. They cover subject areas such as water, climate change, environmental management and energy management systems in order to reduce the environmental impact.

The use and application of standards deliver value to everyone from individuals to organizations, from consumers to regulators advancing public policy and from companies engaged in commerce to countries that have a standards conscious culture.

Individual / Consumer

- Provides improved safety and quality of products and services
- Safeguards consumers interests
- Improves customer confidence
- Impacts quality of life and improves well being

Organizational

- Promotes brand building and product differentiation
- Reduces the cost of production
- Meets regulatory requirements
- Facilitates market access
- Simplifies contractual agreements
- Provides platform for innovation
- Contributes to reducing business risk and improving return on investment

National

- Supports better and more robust regulations
- Stimulates solutions to specific national and policy issues
- Brings national economic benefits by facilitating access to international markets

- Saves resources through provision of information for effective policy-making
- Promotes sustainability and competitiveness
- Promotes economic diversification
- Supports the National Quality Infrastructure
- Encourages a standards conscious society

Types of standards

- ***Voluntary standards***
  A voluntary standard is a document which can be used by stakeholders at their own discretion, and which does not have the force of law, i.e. it is not a document which requires mandatory compliance.

- ***Compulsory standards***
  A compulsory standard is a declared national standard, which has been accorded compulsory status by the Minister responsible for trade and industry, in accordance with Section 18 of the Standards Act No. 18 of 1997. Compliance is mandatory in accordance with Sections 18 and 26 of the Standards Act No. 18 of 1997.

Standards for a more Sustainable World

The UN 2030 Agenda for Sustainable Development provides a "shared blueprint for peace and prosperity for people and the planet, now and into the future."

As we live in a more interconnected global village, countries are facing global challenges ranging from poverty, climate change, environmental degradation, inadequate economic activity, political unrest and social inequality. The United Nations (UN) has established seventeen (17) SDGs in response to these challenges.

The UN 2030 Agenda for Sustainable Development provides a ***"shared blueprint for peace and prosperity for people and the planet, now and into the future"[4]*** **.**

Standards developed at the national, regional and international levels provide a platform for economic, social and environmental issues to be addressed, for the development and deployment of innovative products and services and contribute to the achievement of all of the SDGs.

The Government of the Republic of Trinidad and Tobago has established fifty-six national goals in its Vision 2030 planning framework that are aligned to the SDGs and has also established indicators and targets to drive specific actions to achieve the Vision.

Trinidad and Tobago is a signatory to the UN 2030 Agenda for Sustainable Development and therefore, its national policies must be aligned to the SDGs. Given this mandate, the NSS takes a similar

approach and highlights the alignment of the national standards projects to the SDGs. Therefore, the NSS includes a number of projects related to sustainability including circular economy, renewable energy, energy efficiency and environmental management.

[4] *United Nations. Sustainable Development Goals Knowledge Platform. Accessed April 10, 2019. https://sustainabledevelopment.un.org/sdgs.*

Nationally Developed – Internationally Aligned

TTBS is committed to the adoption and use of international standards in its national standards development process.

TTBS has ensured that its national standards development process is aligned to the international principles defined by the World Trade Organization (WTO) outlined in Figure 2 and good standardization practices as recommended by the International Organization for Standardization (ISO). This international orientation ensures that the national process is robust and credible, fostering confidence in the validity and applicability of standards. ***See Appendix A for the National Standards Development Process.***

The TTBS is the National Enquiry Point under the WTO Agreement on Technical Barriers to Trade (TBT Agreement) and has accepted the Code of Good Practice for the Preparation, Adoption and Application of Standards as contained in Annex 3 to the WTO TBT Agreement[5]. Trinidad and

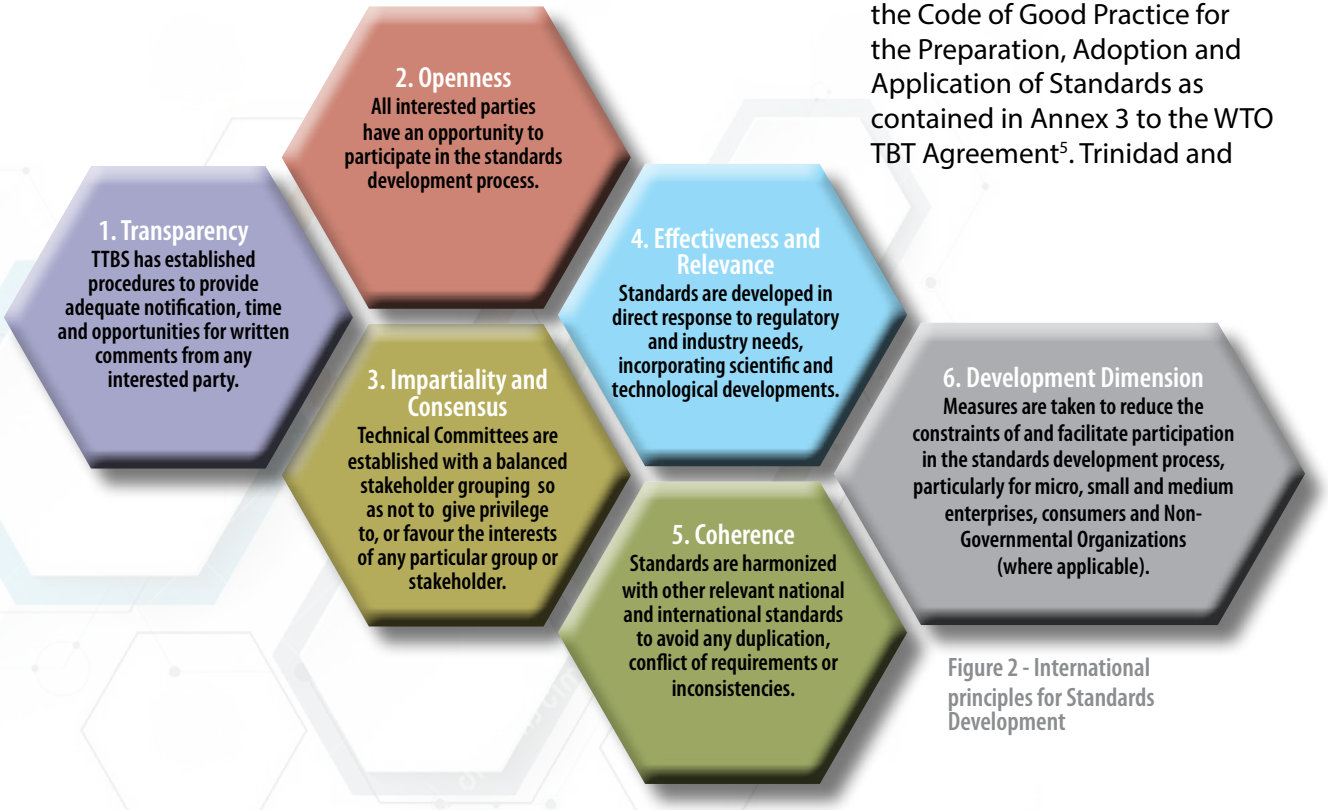


Figure 2 - International principles for Standards Development

Tobago is also a signatory to the WTO Sanitary and Phytosanitary (SPS) Agreement and the WTO Trade Facilitation Agreement.

Both the WTO TBT and SPS Agreements promote the use of international standards (harmonization) and the principle of equivalence in the development of non-tariff measures. In implementing these measures, both agreements promote the concepts of non-discrimination and the avoidance of unnecessary obstacles to trade. TTBS is committed to the adoption and use of international standards in its national standards development process.

TECHNICAL BARRIERS TO TRADE

[5] *World Trade Organization (WTO). Technical barriers to trade. https://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm.*

International and Regional Standards

TTBS is a member of the regional and sub-regional standards development bodies.

TTBS is a participating member of ISO (International Organization for Standardization) which means that TTBS and by extension Trinidad and Tobago has voting rights in the development of international standards. TTBS also participates in the Affiliate Country programme established by the International Electro-technical Commission (IEC) which develops electrical standards. Additionally, TTBS is a member of the regional and sub-regional standards development bodies, viz. the Pan American Standards Commission (COPANT) and the CARICOM Regional Organisation for Standards and Quality (CROSQ).

These memberships allow TTBS to participate in international and regional standards development so that the national perspectives can be reflected in the international and regional standards and therefore be suitable for national adoption and application. It also allows for facilitation of trade, increased access to export markets, harmonization of standards, compliance to the relevant trade agreements and also for national stakeholders to keep abreast of emerging standardization trends.

Memberships and Affiliations

Why a National Standardization Strategy?

The use of the NSS methodology ensures that the standards development process is more market-driven, flexible and responsive to stakeholder needs.

There is a global recognition of the need to leverage the benefits of standards in the national economic and social construct. The result is the development and publication of NSS documents by several countries with more and more countries adopting a similar approach to the identification and prioritization of national standards projects. The majority of these NSS documents have several areas of commonalities including the emphases on the input of and collaboration with key stakeholders and enhancing national competitiveness.

The NSS outlines the goals and objectives of the TTBS as it pertains to standards development, for the period 2019 to 2022. This standards framework is key to facilitating global trade and economic diversification.

However, the NSS also does not include standards related to food, drugs and cosmetics as these areas are outside the purview of TTBS under the Standards Act No. 18 of 1997. The Chemistry, Food and Drugs Division, Ministry of Health, is responsible for regulating food, drugs and cosmetics.

The development of National Standards is executed by the Standardization Division of TTBS which is mandated to formulate and promote national standards based on national priorities while giving due consideration to emerging regional and international issues. The use of the NSS methodology ensures that the standards development process is more market-driven, flexible and responsive to stakeholder needs.

The NSS seeks to represent broad societal consensus by capturing the interests of government, stakeholders in the economic and social sectors, private and public institutions and ordinary citizens, resulting in the development of timely and effective standards which meet national needs.

The main purposes of the NSS

The main purposes of the NSS are to ensure that:

1. A consistent, proactive approach exists for the establishment of national standards where the development of new or the adoption of already existing standards is based on a clear understanding of national priorities in the fields of the economy and trade, the society, environment or other areas and also takes into account emerging sectors that are expected to gain importance in the future.

2. Stakeholder interests are adequately reflected facilitating the fulfillment of the strategic goals and regulatory mandates of various national entities, governmental or non-governmental.

3. Limited national resources for the development or the adoption of standards are optimally utilized through resource planning which is realistic and transparent.

Main Objectives of the NSS

Better serve the changing needs and expectations of industry, Government and consumers in a responsive and flexible manner.

Main objectives of the NSS are as follows:

- Support the socio-economic development of Trinidad and Tobago and the national diversification efforts
- Improve access to export markets and assist local manufacturers to penetrate new export markets
- Assist key priority industries and sectors through standards, conformity assessment activities, innovation and information transfer
- Encourage regulators to utilize standards for a robust and efficient regulatory system for health, safety and environmental protection
- Increase stakeholder awareness and uptake of standards for economic and societal benefits
- Communicate the benefits of standards and conformity assessment solutions
- Utilize ICT tools to improve the standards development process and sale of standards
- Support the sustainability of standardization in the long-term
- Avoid or minimize technical barriers to trade by the use of appropriate and relevant national, regional and international standards as the basis for technical regulations, to support public policy objectives and facilitate trade
- Build robust relationships with stakeholders and better serve the changing needs and expectations of industry, Government and consumers in a responsive and flexible manner

NSS Methodology

A structured and forward-looking/ predictive/ non-reactive means for standards initiation.

The methodology used in the development of this NSS is that promoted by the International Organization for Standardization (ISO) and which is a most comprehensive method as it incorporates national, regional and international priorities and streamlines stakeholder input in a simplified process (see Figure 3).

It provides a structured and forward-looking, predictive, non-reactive means for standards initiation, allowing for alignment to stakeholder needs and critical national policy documents including:

- *Vision 2030: The National Development Strategy of Trinidad and Tobago 2016-2030;*

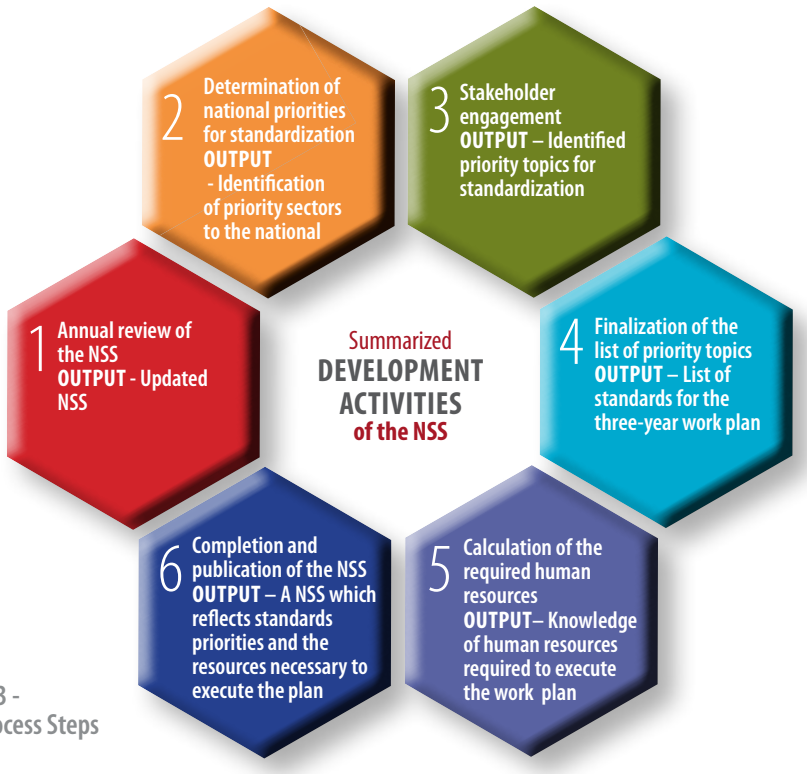


Figure 3 -
NSS Process Steps

- *Tobago Infrastructure Investment Strategy;*
- *MTI's Strategic Plan 2016-2020;*
- *National Trade Policy and Strategy;*
- *2018 National Environmental Policy;*
- *National ICT Plan 2018-2022; and*
- *Other multilateral environmental agreements such as the United Nations 2030 Sustainable Development Goals, the Montreal Protocol and the Paris Agreement.*

A key element of the NSS is stakeholder engagement and in this regard, TTBS has extensively engaged various stakeholders including government and state agencies, stakeholders in the economic and social sectors, private and public sector institutions and ordinary citizens.

The development of the NSS involved a number of process steps as shown in Figure 3. Some process steps were repeated to improve the clarity or to refine the output.

Stakeholder Engagement

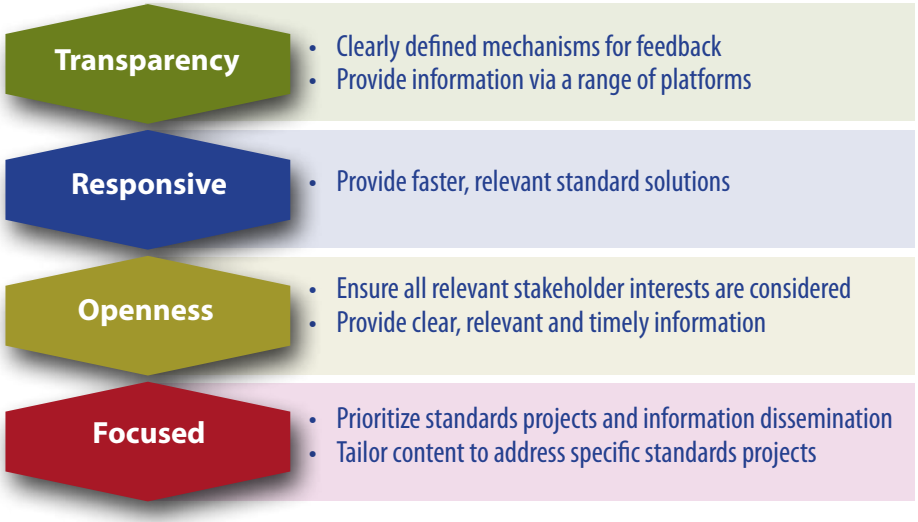
It is critical that we better understand and respond to the needs of our stakeholders so that we can truly bring value via standards and its application via associated conformity assessment schemes.

Overview
Stakeholder engagement is fundamental to the successful development and implementation of the NSS. The standards development process is built on strong collaborative relationships with a diverse group of stakeholders including public sector, private sector, academia, non-governmental organizations, consumer groups and users. See Figure 4.

The overall objective is to improve our engagement with key stakeholders to ensure that their perspectives and needs are represented in the identification and prioritization of standards projects and also to encourage participation in the national, regional and international standardization. Therefore, it is critical that we better understand and respond to the needs of our stakeholders so that we can truly bring value via standards and their application inclusive of associated conformity assessment schemes.

Stakeholder identification
Stakeholder identification is essential to understanding stakeholder needs and expectations. Stakeholder identification has been done at a macro-level via an interested parties matrix based on the TTBS ISO 9001 framework. In addition, stakeholders are identified per standards project.

Figure 4 - The four main principles to guide stakeholder engagements



Stakeholder engagement tools
Based on the specific stakeholder category or group, appropriate stakeholder engagement tools were used including meetings, correspondence, reports, events, telephone, social media, website, newsletters (online), focus group sessions, surveys, webinars, committees etc.

Stakeholder engagement summary
A NSS Task Force was established in August 2017 to provide input from TTBS in the development of the NSS. Additionally, a National Stakeholder Survey was issued over the period December 2017 to January 2018 to key private and public sector organizations with a response rate of 60%.

A Stakeholder Forum was held in July 2018 to validate the findings of the survey and the input received from direct stakeholder engagement meetings with organizations, and thereby confirm the prioritized standard projects listed in the three-year standard work plan.

Monitoring and evaluation
Monitoring and evaluation will be done based on key performance indicators and metrics to evaluate the success of the specific stakeholder engagement initiative. Monitoring will be done on an annual basis.

Strategic Goals, Objectives and Initiatives

It is critical that stakeholders understand the benefits of standards, the value of participating in the standards development and the value of applying the standards.

Main components of the NSS

The main components of the NSS are as follows:

1. The summarized standards work plan; and

2. The action plan for realizing the main goals and objectives of the NSS and the completion of the three-year standards work plan.

Ensure a robust and responsive NSS

The NSS is based on the principles of stakeholder engagement and the development of standards in response to stakeholder needs for enhanced export competiveness, improved service excellence and the sustainable development of the nation. It is critical to ensure that TTBS maintains a credible and internationally recognized standards development process in a collaborative, transparent, open but flexible manner to ensure that the stakeholders can receive the maximum benefits of standards.

This approach requires the prioritization of standards projects based on the resources available to TTBS for standards development and the building of collaborative mechanisms with key regulatory agencies.

Create a standards conscious society

A standard only has value if it is applied. Therefore, it is critical that stakeholders understand the benefits of standards, the value of participating in standards development and the

value of applying standards. This goal focuses on communicating the value of standards, for example, via a social media strategy, increasing the involvement of stakeholders in the process and educating the next generation of users and professionals within the educational system.

Utilize ICT tools to modernize the standards development process and improve access to standards

Standards are used to spur innovation and promote technological advancement. Some of the key initiatives directly address the use of electronic systems to improve participation, knowledge management, the efficiency of the standards development process and the accessibility of standards in this digital age.

NSS Goals, Objectives and Projections

Strategic goal	Objectives	Projections		
		2019/2020	2020/2021	2021-2022
Ensure a robust and responsive NSS	Prioritize the development of national standards to support the socio-economic development of Trinidad and Tobago, as well as improved export competiveness and service excellence.	Commence the rollout of the annual standards work plan Review of existing national standards portfolio	Commence of the rollout of the annual standards work plan Review of existing national standards portfolio	Commence the rollout of the annual standards work plan Review of existing national standards portfolio
		Develop a costing model for the development of national standards	Rollout the costing model Pursue cost sharing arrangements with regulators requesting standards	Review the costing model
	Continuously engage stakeholders to identify emerging standardization issues and to assist in the prioritization of standards projects	Identify key sectors and host stakeholder engagement sessions	Identify key sectors and host stakeholder engagement sessions	Identify key sectors and host stakeholder engagement sessions
		Develop a stakeholder engagement plan	Monitor progress of and update stakeholder engagement plann	Monitor progress of and update stakeholder plan
			Conduct survey to assess uptake or utilization of standards across sectors	Utilize stakeholder feedback to update the NSS as necessary

NSS Goals, Objectives and Projections (cont'd)

Strategic goal	Objectives	Projections		
		2019/2020	2020/2021	2021/2022
	Review Government's policies to identify potential standards projects	Compile listing of existing and emerging government policies and priorities Identify opportunities for standards development, promotion or application Develop standards in collaboration with key regulatory agencies	Review existing and emerging government policies and priorities Identify opportunities for standards development, promotion or application Develop standards in collaboration with key regulatory agencies	Review existing and emerging government policies and priorities Identify opportunities for standards development, promotion or application Develop standards in collaboration with key regulatory agencies
	Utilize a competency-based approach in standards development	Identify competency gaps Develop professional development plans	Build staff competencies	Review competency framework
	Improve the efficiency of the standards development process	Maintain the Quality Management System Identify process improvements	Maintain the Quality Management System Rollout process improvements	Review the Quality Management System
Create a standards conscious society	Promote the adoption of national, regional and international standards to support trade and regulatory systems	Develop promotional material for online use and social media	Promote the use of standards in public procurement	Review promotional material
		Support the development of a social media strategy	Support the implementation of the social media strategy	Support the implementation of the social media strategy
		Build strategic partnerships with key organizations	Build strategic partnerships with key organizations	Build strategic partnerships with key organizations

NSS Goals, Objectives and Projections (cont'd)

Strategic goal	Objectives	Projections		
		2019/2020	2020/2021	2021/2022
		Encourage regulators to utilize standards to support their regulatory framework	Encourage regulators to utilize standards to support their regulatory framework	Encourage regulators to utilize standards to support their regulatory framework
		Identify three regional standards for adoption	Adopt the three standards	Promote the application of the three standards
	Promote the use of standards to support innovation	Create a National Mirror Committee for ISO TC 279 (Innovation management)	Build capacity for innovation systems Support the development of an innovation system within TTBS	Encourage experts to participate in the standardization process
	Promote the internal application of standards	Create three internal web-based collaborative platforms for ICT, HR and HSE Standards Develop Terms of Reference for Communities of Practice (COP) for these three areas	Promote internal participation in the COPs. Create COPs for Project Management and Knowledge Management	Promote internal participation in the COPs. Create COPs related to Facilities Management and Events Management
	Diffuse knowledge of standardization within the educational system	Initiate discussions with the relevant competent authorities	Develop relevant projects and curricula	Rollout one pilot project
	Leverage on the ISO Membership to deepen participation in international standards development	Create an NMC for ISO TC 283 (Occupational health and safety) Create a NMC for Information and Communication Technology (ICT)	Join one additional ISO TC of strategic importance Create one additional NMC Promote the work of one ISO TC or TTBS NMC	Join one additional ISO TC of strategic importance Create one additional NMC Promote the work of one ISO TC or TTBS NMC

NSS Goals, Objectives and Projections (cont'd)

Strategic goal	Objectives	Initiatives		
		2019/2020	2020/2021	2021/2022
		Promote the work and standards developed under ISO TC 309 (Governance of organizations)		
Utilize ICT tools to modernize the standards development and improve access to standards	Improve the accessibility of National Standards	Initiate the development of an online store for the sale of standards	Promote the sale of standards via online and social media Support the digitization of national standards and other related documents Update TTBS' Standards Database to highlight alignment to the UN SDGs	Promote the sale of standards via online and social media
	Support knowledge transfer via virtual platforms		Create e-training modules to increase understanding of standards and the standardization process	Support the development of a TTBS Knowledge Management System
	Improve stakeholder participation in standards development via collaborative mechanisms	Identify electronic collaborative mechanism to increase stakeholder participation	Rollout electronic collaborative mechanism	Review effectiveness of the collaborative mechanism

Three-Year Standards Work Plan

SUBJECT	2019-2020	2020-2021	2021-2022
Electrical	• High voltage installations • Electric cables • Lead-acid starter batteries • Review of compulsory standards for electrical appliances	• Panelboards • Review of compulsory standards for electrical appliances • Low voltage code - Revision	• Meter bases • Standby generators
Construction	• Concrete masonry units • Structural steel products • Revision of Small Building Guide • National Plumbing Code • Carbon steel bars • Paint – Water-borne • Paint – Solvent borne • Review of compulsory standards for construction products	• National Building Code • Ready-mix concrete • Concrete aggregates • Cement • Review of compulsory standards for construction products	• National Building Code • Regional Building Code • Hollow clay blocks - Horizontal core
Tourism	• Beach operations • Standard(s) for steelpan industry	• Hotels and guesthouses • Water-based sports and other related activities	• Restaurant service requirements
Consumer Products	• Labelling of goods – General requirements • Labelling of pre-packaged goods – Requirements • Safety of toys – Migration of elements • Laundry detergents	• Automotive engine oil • Review of compulsory standards for consumer products	• Liquid chlorine bleach
Agriculture	• Good Agricultural Practices • Adoption of regional grading standards • Pesticides – Labelling	• Adoption of regional grading standards • Urban pest management • Fertilizer standards	• Building and equipment to support Good Manufacturing Practices (GMP)

SUBJECT	2019-2020	2020-2021	2021-2022
Health, Safety, Security and Environment	• Sizing of garments used in PPE • Occupational health management • Biodegradable products • Flammable refrigerants • Refrigeration code	• Waste management • Risk management • Protective clothing and equipment • Disaster management/mitigation • Refrigeration code	• Indoor air quality • Waste water re-use • Transport of hazardous chemicals
Energy Efficiency and Renewable Energy	• CFLs and LEDs • Refrigerators • Air conditioners • Electric vehicles – Charging stations • National adoption of CARICOM Regional Energy Efficiency Building Code	• Electrical wiring code - Renewable energy systems • Solar water heaters • Electric vehicles - Batteries	• Photovoltaic modules • Auxiliary systems for Electric vehicles
Oil, Gas and Petrochemicals	• Diesel • Gasoline • DME and related products	• Colour coding of pipelines • LPG Storage and use	• Gas cylinders
Information Communication Technology (ICT)	• Information security management systems • Cloud computing • Review of consumer telecommunication standards	• Business continuity • Review of consumer telecommunication standards	
Governance	• Governance of organizations	• Anti- bribery management systems	• Whistleblowing

SUBJECT	2019-2020	2020-2021	2021-2022
Quality	• Management consultancy – Requirements with guidelines for competencies	• Quality management – Public sector/ local government • Excellence in service	• Facilities management
Textiles and Fashion	• Labelling and advertising of textiles	• Size designation • Labelling of footwear	• Labelling of garments
Emerging areas of standardization	• Circular economy • Innovation management	• Sustainability • Climate change • Water management • Clinical laboratories • Road traffic safety management systems • E-commerce	• Smart cities • Sustainable building products

Conclusion

The NSS seeks to increase the understanding of the benefits of standards and the creation of standards conscious society.

The NSS is a three-year plan for the development of national standards. It incorporates the regional and international standards projects based on TTBS' involvement in CROSQ and ISO respectively. The prioritized standards projects reflect the needs identified by key stakeholders from the public and private sector.

The main focus is to assist in improving the international competitiveness of Trinidad and Tobago by supporting areas which have been prioritized for economic diversification by the Government of Trinidad and Tobago via the Ministry of Trade and Industry.

The NSS also emphasizes the sustainability agenda of the nation via the Vision 2030 document and the UN SDGs, as we seek to improve the well-being of society at large.

The NSS will be reviewed on an annual basis to incorporate any new Government priorities and to reflect any emerging trends at the international and regional level. Stakeholder engagements will be undertaken to ensure that the NSS meets their key standardization needs and assists in increasing the uptake of standards within the public and private sectors and also by academia, non-governmental organizations and individuals.

The NSS also seeks to increase the understanding of the benefits of standards and the creation of a standards conscious society. It addresses enhanced participation in the standards development process and also seeks to improve the efficiency of the process via the application of ICT tools.

Appendix A

Standards Development Process

How to Participate in Standards Development

Stakeholders can participate in Standards Development in several ways as follows:

- Propose new areas of standardization
- Become a technical committee member
- Provide comments on draft standards
- Purchase standards
- Help us to keep our standards portfolio current
- Identify standards for revision or withdrawal
- Help us to improve our process by sending your comments

Visit our website for further details.
www.gottbs.com

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STANDARDS DATABASE

The portfolio of national standards is available at:
http://ttstandards.ttbs.org.tt/

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