INDIAN NATIONAL STRATEGY FOR STANDARDIZATION

INSS

EVOLVING A QUALITY ECOSYSTEM

प्रधान मंत्री
Prime Minister
<u>**MESSAGE**</u>

It is a pleasure to know that the Indian National Strategy for Standardization (INSS) is going to be released in the 5th National Standards Conclave being organized on 18-19 June 2018 in New Delhi.

Propelled by the aspirations and enterprise of our people, a New India is emerging which confidently and constructively engages the global economy and trade. It is appreciable that a new framework of Standardization is being adopted which can provide far reaching benefits to economy and will raise the credibility of 'Made in India' brand in the global market.

In addition to enhancing the competitiveness of respective sectors, INSS will also help us to align the strategy in those sectors with various National priorities and policies as well. I hope that it will leverage the best practices and innovations from across the globe and ensure a facilitating environment for the next leap of transformation for our formal sector.

Best wishes for the launch of the Indian National Strategy for Standardization and for the successful organization of the Conclave to establish a robust quality infrastructure for goods and services in the country.

(Narendra Modi)

मंत्री
वाणिज्य एवं उद्योग;
एवं
नागर विमानन मंत्रालय
भारत सरकार, नई दिल्ली

**MINISTER
COMMERCE & INDUSTRY;
AND
CIVIL AVIATION
GOVERNMENT OF INDIA, NEW DELHI**

MESSAGE

The Indian National Strategy for Standardization (INSS):Evolving a Quality Eco-system is a result of the combined and dedicated efforts of the Ministry of Commerce, Ministry of Consumer Affairs and its able partners from the standards ecosystem as well as the industry.

The strategy is a testament to our commitment to make India a global leader in trade as well as standards setting. It provides a vision for the country to achieve the highest quality standards in production and distribution of goods as well as services and is an attempt to reclaim Brand India. Our aim is not just to emulate but also lead in developing global best practices as our commitment to global trade and consumers.

The most important stakeholders of the quality ecosystem are the consumers and the industry. The INSS provides direction that will not only ensure that our citizens get the best quality products, whether manufactured domestically, or imported, it will also enable our industry to access more markets, and be recognized at par with the best in the world.

The launch of the INSS is the first step on a long road ahead. Its adaption and implementation will have to be a shared effort between government, the standard bodies involved in various aspects of the quality ecosystem, and the industry.

It is my pleasure to dedicate the Indian National Strategy for Standards to our global commitment in the area of technical regulations and standards.

(Suresh Prabhu)

C.R. Chaudhary

C. R. CHAUDHARY, IAS (Retd.)
Minister of State
Commerce & Industry
And
Consumer Affairs, Food & Public Distribution
Government of India
New Delhi-110 107

MESSAGE

I am happy to learn that the the 5th National Standards Conclave is being organised highlighting the implementation of the Indian National Strategy for Standards.

Over a major part of history, India has led global trade riding on the strength of its exotic and renowned commodities and the products of irreplaceable craftsmanship. With the re-emergence ·of India in the 21st century, we aspire and shall strive to regain the position of eminence that we once had. Building a modern and vibrant India with a strong economy requires a re-orientation of our attitudes and thinking as citizens about the way we interact with the global community.

Four years ago, our dynamic Prime Minister launched a campaign of *'zero defect zero effect'.* The time has come to consolidate these efforts in a long-term structure of standards and a stable quality ecosystem that puts environment, safety of human, plant and animal life on an equal keel. Our effort to create this foundation has led to the creation of the Indian *National Strategy for Standardization - Evolving a Quality Ecosystem (INSS).*

The strategy is the result of an intensive dialogue and common understanding fostered through interaction with political leadership, the executive, business and industry, academia, and the consumers. The document sets forth a dynamic and measurable agenda of priorities and actions that we need to take for driving inclusive development, protecting the well-being of our citizens and promoting Brand-India across the globe as a responsible supplier of the high quality products and services.

A good standards regime enables fulfiling the vision of Hon'ble Prime Minister for *"Make in India" campaign.* Our collective endeavor has to be in creating an ecosystem where adoption of appropriate standards leads to a sense of pride and has in-built incentive for the Industry.

(C.R. Chaudhary)

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Indian National Strategy
for Standardization

Foreword

The rapid growth of the Indian economy, its size and emerging relevance in global trade, makes it essential to establish a robust 'Quality Ecosystem' in India with a harmonized, dynamic, and mature standards framework. This would fuel economic growth and enhance the 'Brand India' label. Standards have been widely recognized as catalysts for technical development, industrial growth, the well-being of the society and more recently for convergence of new and emerging technologies. The growing influence of standards and technical regulations, and corresponding conformity assessment procedures on trade and commerce has been recognized worldwide through the Agreements on Technical Barrier to Trade(TBT) and Sanitary and Phytosanitary Measures(SPS) of World Trade Organization(WTO). Countries are accordingly evolving strategies to synergize standardization work with technological, social and economic development at the national level as well as for playing influencing roles in global standardization efforts.

The Indian National Strategy for Standardization (INSS) considers the current state of development across sectors, the existing quality infrastructure and the policy directions in relation to domestic economic developments and for trade in goods and services.

This INSS is the result of a broad consensus arrived over consultations held over a four-year period from 2014 to 2017 through national and regional standards conclaves that attracted wide participation of experts and stakeholders from union and state governments, industry, regulatory bodies, national and overseas standards and conformity assessment bodies, academics, and international fora.
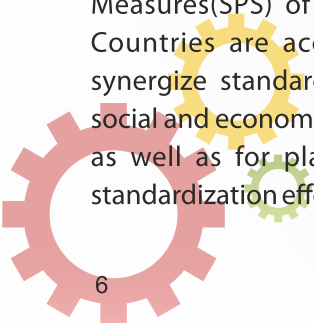
Scope and Approach

The INSS addresses four broad pillars of the Quality Ecosystem viz (I.) Standards Development; (II.) Conformity Assessment and Accreditation; (III.) Technical Regulations and SPS Measures; and (IV.) Awareness and Education. It determines the critical role for each pillar and sets goals thereunder. Each goal is supplemented by a brief description of the background conditions and recommends specific activities that need to be undertaken for its realization. It takes into account the needs and expectations of all stakeholders and accords the interests of MSMEs a high consideration.

The Strategic Intents

The INSS provides direction for India's political and executive leadership on how best to use standardization, technical regulations, quality infrastructure and related activities to advance the interests and well-being of Indians in a global economy. It is based on the following considerations:

▶ *Positioning standards as a key driver of all economic activities relating to goods and services.*

▶ *Developing a comprehensive ecosystem in India for standards development taking into account the diversity of interests and expertise available.*

▶ *Using standards for providing a level playing field to domestic industry and enhancing the competitiveness of Indian goods and services in domestic and international markets.*

▶ *Adopting best practices in standardization, conformity assessment and accreditation, and technical regulations, and creating an integrated infrastructure, roadmaps, and institutions for their effective management.*

▶ *Playing an active role and taking leadership positions in apex international fora in the related areas.*

▶ *Creating response mechanisms to global developments on standards, technical regulations, and conformity assessment that impact market access of Indian goods and services.*

▶ *Aligning the Strategy with other national policies related to trade and industry, consumers and environment.*

Implementing the INSS

The INSS is intended to be a living document with an implementation plan to ensure positive outcomes in each of the identified areas. Some of the recommended tasks in the INSS do not currently fall under the direct jurisdiction of any of the existing organizations. Once approved, an implementation plan would be prepared to identify the agencies, the related activities to be undertaken by them and the time frames.

While some of the goals and the related activities can be accomplished over a shorter period, it is expected that all elements of the strategy can be undertaken and completed over a five - year period (2018-2023).

The implementation plan would be monitored by a high-level committee with quarterly reviews and the results of the monitoring with the achievements will be published on the India Standards Portal.

STANDARDS DEVELOPMENT

Vision: *Building a national culture of standards for growth and economic leadership*

Mission: *Developing a dynamic, relevant and priority driven standards ecosystem that will drive development across sectors, promote competitiveness of Indian products and services, and foster India's eminence among the global leaders in standardization*

Goal 1: Convergence of all standards development activities in India

India's standards setting process has been led by the Bureau of Indian Standards (BIS), the national standards body, since 1947. Additionally, to a limited extent, sector-specific standardization work is carried out by more than 25 other bodies including ministries, regulatory bodies, public sector undertakings, technical development agencies, commodity boards, industry and professional bodies etc. More recently overseas standards development organizations have established offices in India with a view to engaging experts and to support industries using their standards.

While BIS develops Indian standards through its sectional committees under 14 Division Councils representing sectoral interests, based on the international code of practice for standards development, the other SDOs essentially rely on dedicated expertise for standards writing and follow their own procedures. A system to recognize or integrate their standards as national standards do not exist presently.

In order to expand the base and enhance the pace of the standards setting activity, it is essential to enhance the capacity and resource base of the existing SDOs and also to encourage the setting up of new SDOs in new and emerging areas and cutting-edge technologies notably digital technologies, sustainable practices, clean energy and smart cities. These SDOs must have connections and working arrangements with the respective international bodies to ensure that there is no gap in the availability of standards to the Indian industry.

The Bureau of Indian Standards shall remain the apex national standards body and in accordance with the mandate of the BIS ACT, 2016 continue to oversee the harmonious development of standardization activities under its own umbrella as well as through memoranda of understanding with the other SDOs. Standards thus developed by other SDOs can be adopted/adapted as

Image courtesy: ISRO

national standards as and when required. The adoption of the standards can be in toto (or) relevant part (or) modified to suit India's national requirements and priorities. Such arrangements would ensure that there is no duplication, conflict, or overlap in the standardization activities of multiple agencies. It shall remain their joint responsibility to ensure at all times that the standards in force are relevant and reflect the state of the technology and industrial practices through appropriate market surveys, environmental scans and comparative studies with the standards being developed worldwide.

A recognition scheme for SDOs shall be established to ensure that they implement the WTO codes of practice and principles for standards development and any relevant decision in this regard by the concerned committee.

> ▶ *Enhance capability of SDOs for dynamic and faster development of standards, matching with the pace of technology development.*
>
> ▶ *Encourage setting up of new SDOs in emerging technology areas with international connects.*
>
> ▶ *Adopt the SDO standards as national standards when required.*
>
> ▶ *Set up a recognition scheme for SDOs.*
>
> ▶ *Avoid duplications, conflicts, and overlaps.*
>
> ▶ *Ensure market relevance of standards produced at all times.*

Goal 2: Setting up a dynamic mechanism for new standards identification, development and their revision

Over the past seventy years, more than 20,000 Indian standards have been developed, almost 50% of which are product standards and the rest are support standards such as test methods, terminology, codes of practices etc. The subject matter for taking up new standards or for the adoption of international standards is decided by the respective Division Councils and Technical Committees of BIS, while the other SDOs take similar decisions through committees or through executive decisions.

The present system does not present full opportunity or channels for the articulation of needs by all potential standards users. As a consequence, there is widespread use of standards developed by overseas bodies without their adoption or adaptation in India. There are also large gaps where no standards exist for use, especially in the service sector. In several areas, only guidance standards or codes exist but not the related product standards.

There is an urgent need to create fora and processes to articulate and prioritize needs for standards development in different sectors. The best candidates for articulating the needs are the ministries and policy fora under them, the related industry bodies, export promotion bodies, and the commodity boards wherever present. A standards forum needs to be set up in each of these bodies that would be responsible to set up stakeholder consultations and dialogue fora with businesses and professional bodies and MSMEs to identify the gaps, to collate the needs and to coordinate with BIS and the relevant SDOs for a time-bound development or revision of the required standards.

The prime considerations during stakeholder consultation would be identification of technologies, and the markets and industry sectors, as well as state-level requirements, where standardization can create opportunities for Indian business.

> ► *Make standardization a key priority area across all sectors.*
> ► *Set up dialogue fora and processes to articulate and prioritize needs for standards development.*
> ► *Create opportunities for Indian business through standards.*
> ► *Focus on critical sectors linked to economic, social and sustainable development.*

Goal 3: Inclusive participation of all stakeholders in standards development including States and MSMEs

Effective standards development requires an adequate and continuous participation of all interest groups and subject matter experts. In order to achieve this, it is important to generate widespread interest and awareness in the standards programmes being undertaken by BIS and other SDOs and to attract participation with financial support where funding becomes a restriction, especially for MSMEs, civil society groups including consumer groups, and identified experts.

The Standards Conclaves initiated since 2014 have served as good fora to inform and educate on the relevance of standardization, conformity assessment, and technical regulations. There is a need to continue holding more Standards Conclaves at the Central and State levels on a rotational basis.

Over time, the standards building process should become a layered activity with inputs invited and collated from States and District standards fora. Depending upon the intensity of the industrial or economic activity, the Standards Committees should give representation for direct participation to these fora.

> ► *Enhance awareness on the role and benefits of standards and conformity assessment practices among businesses, government and civil society including consumers.*
> ► *Creation of States and District fora for standards related activities.*
> ► *Set up funding mechanisms to supplement participation costs.*

The funding assistance by Central Government for participation in standards development activity should be broad-based and made more liberal, to fund the participation of MSMEs, individual subject matter experts, non-profit bodies and civil society groups both in national as well as international standards committees. State Governments must be encouraged to fund participation in national standards setting in areas of their interest.

Goal 4: Harmonizing standards with international standards

The need for harmonizing Indian standards with international standards for reducing technical barriers to trade and improving market access for Indian products and services cannot be overemphasized. In order to ensure that Indian businesses remain competitive both in domestic and overseas markets, the goods and services must conform to globally accepted standards, subject to national priorities and requirements. While national considerations should be given due accord, these requirements should be minimal and least trade restrictive. BIS and other Indian standards bodies that participate in international standards bodies {such as ISO, IEC, ITU, Codex Alimentarius Commission, World Organization for Animal Health (OIE), and the International Plant Protection Convention {IPCC}} need to undertake a systematic programme for adopting/adapting and aligning relevant Indian standards with the corresponding international standards. The principal focus should be on product/equipment/hardware standards with concomitant adoption/adaption of related codes of practices, test methods, and protocol standards.

Apart from standards developed by international standards organizations, it is widely recognized that standards developed by several professional and/or private bodies have a significant market presence and user base. BIS and other SDOs engaged in the respective domains need to ensure that their standards do not present conflicts to industry and businesses and endeavour to avoid dissonance with the private standards, especially where there is some form of compulsion on conformance to the national standards.

The advancement of ICT and digital technologies in all spheres of manufacturing and service domains will be presenting new challenges for standards developers. This will call for convergence of multidisciplinary expertise into more and more standards projects in future. Participation from industry having access to international developments in these projects would be imminent. Close collaboration among BIS, Telecommunications Engineering Centre (TEC) and Telecommunications Standards Development

Society, India (TSDSI) would be required to create the necessary synergies and avoid duplication of work.

> ▶ *Harmonize national standards with international standards where possible.*
> ▶ *Avoid dissonance of national standards with market driven standards.*
> ▶ *Special focus and pooling of expertise on converging technologies.*

Goal 5: Identifying sectors where India could pioneer standardization work

Historically, the Indian standardization efforts has been to follow standards developed by other standards bodies. India offers many sectors with significant commercial potential that have remained outside the scope of standardization. Undertaking pioneering standardization work in these areas would not only unleash their commercial potential but also enhance India's contribution to global standardization efforts. These areas can include the Indian system of alternative medicines - Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy(AYUSH), Indian food cuisines, Indian traditional arts, Indian crafts, Indian traditional veterinary systems, etc.

> ▶ *Develop pioneering standards in areas of traditional strength.*
> ▶ *Develop service standards on a time bound programme.*
> ▶ *Develop innovative and cutting-edge standards based on Research & Development.*

With a view to developing cutting-edge standards in spin-off sectors such as space, and life sciences-sectors that can propel Indian businesses as leading suppliers in the global markets-concerted efforts are required to develop innovative standards based on original research and development. Unlike the traditional approach, these standards would be torchbearers and lead commercial development.

Goal 6: Systematic and continuous participation in international and regional standardization work

Participation in international standards setting projects enables the voicing, consideration and possible inclusion of national priorities and concerns. With increased adoption/adaption of international standards by the global community, these are becoming de-facto universal standards impacting competitive positions. It is therefore essential that they do not contain provisions that place Indian suppliers at a disadvantage and this can be secured only through the continuous participation of experts who understand both the technical requirements as well as their impact on trade and commerce.

An essential pre-requisite is the continuity of participation during the lifecycle of the standards project. A firm policy needs to be in place to ensure positive participation in every standards project that is identified to be in India's interest. Each standards body, regulator, and the related Ministry should identify the international fora related to it, and the committees where India's participation on standards setting or compliance mechanisms is essential. For each of these fora, the participation plans should be drawn synchronized with the annual calendar of meetings and suitable technical experts identified for continuous participation. The experts can be drawn from industry, or scientific bodies or in individual capacity. The fund allocation by the government should fully cover the costs for participation in international standards development activity with simplified procedures that allow automatic funding based on agreed principles.

Continuous participation should be gradually translated into taking leadership positions on international standards and project committees as well as governance structures and winning secretarial responsibilities commensurate with India's position as a leading global economy.

> ▶ *Ensure continuous participation in international standards committees by identified experts through liberal funding support.*
>
> ▶ *Take leadership roles in technical committees and governance structures.*
>
> ▶ *Play an active role in development of private standards.*

Particular attention is required for leadership in international fora dealing with development and review of International Standards, Guidelines and Recommendations (ISGRs) with respect to all aspects of SPS measures, especially in light of increasing use of such measures adopted provisionally.

With the increasing influence of private standards, participation in the related fora should be sought and attended following a similar approach as for international fora. Some SDOs invite participation of individual experts. A coordination mechanism needs to be developed under the aegis of BIS to ensure that the individual experts participating in these bodies from India are appropriately sensitized about national priorities and needs.

The South Asian Regional Standards Organization (SARSO) was established in 2010 to achieve and enhance coordination and cooperation among SAARC Member states in the areas of standardization and conformity assessment with the objective to develop harmonized standards for the region, to facilitate intra-regional trade, and to enhance access in the global market for the SAARC Region suppliers. Being the leading economy of the region, India should play an active role in providing leadership both in the development of the standards as well as in trade negotiations for market access of South Asian products and services on behalf of the SAARC member countries.

In addition to the strengthening of SARSO, India may take a lead role in exploring possibilities for further regional cooperation in standards development.

Goal 7: Development of Service Sector Standards

The topic of standardization in services is relatively new and is also weakly addressed in trade law instruments. Further, the inherent characteristics of services (ephemeral nature, heterogeneity, services embedded in goods etc.) make it challenging to standardise them. However, with services accounting for a major share in the Indian and global economy, there is an urgent need to develop standards in services.

The Government of India has identified twelve

INDIA SERVICES

Champion Services Sectors (CSS) for focussed attention so as to realise the potential of these sectors. These include: Information Technology and Information Technology Enabled Services (IT & ITeS), Medical Value Travel, Transport and Logistics Services, Tourism and Hospitality Services, Accounting and Finance Services, Audio Visual Services, Communication Services, Legal Services, Construction and Related Engineering Services, Environmental Services, Financial Services and Education Services.

The interventions in the identified Champion Sectors initiative are based on five pillars aimed at giving an impetus to these sectors. These include inter-alia New Standards, as the role of standards in shaping the export competitiveness of various services sectors is becoming an increasingly important aspect of global trade in services. Accordingly, the departments and concerned ministries have been mandated to take forward the initiative for development of service standards, including both cross-cutting horizontal standards and sector-specific vertical standards in all champion sectors and their adoption in a time-bound and systematic manner through mandatory as well as voluntary routes, so as to enhance competitiveness, service delivery quality and consumer welfare.

India has an advantage in skill-based and labour-based services and has the potential to be an outsourcing destination for many of such services. Ministry of Skills Development and Entrepreneurship is already working on strengthening the necessary regulatory framework and qualification standards and institutional accreditation process for skill development in existing as well as emerging services in line with global standards. This area is critical and needs to be quickly brought in place for promoting the export of various services and creating supportive skilling

> ▶ *Set up a national task force to accelerate service standards development work.*
>
> ▶ *Identify service quality gaps, standards required for related infrastructure and occupational skills.*
>
> ▶ *Develop fast track national standards based on gap analysis.*
>
> ▶ *Take leadership role in international service standards development work.*

infrastructure for the identified Champion Services Sectors, particularly at/around major hubs/clusters.

Presently in India, many of services sectors are governed by statutory standards or buyer-driven service agreements. In select areas, the existing service standards match global norms, however, in most cases, the standards need to be raised significantly to be at par with world-class standards.

In order to accelerate standardization efforts, a National Task Force should be set up with the mandate to:

a) Identify the service quality gaps in each of the Champion Service Sector with the help of experts having global exposure in the respective sectors.

b) Develop service standards, including both cross-cutting horizontal standards and sector-specific vertical standards in all champion sectors to address this gap and to work on their adoption in a time-bound and systematic manner through mandatory as well as voluntary routes.

c) Identify the standards required for service quality and supporting infrastructure.

d) Determine the occupational roles for the development of the related skills standards and creation of a matching training and personnel certification framework, including foreign language skills.

e) Take on the leadership role in standard setting in areas where India is seen as the world leader like in IT/ITeS, traditional systems of medicine, yoga, etc.

The task force may comprise of representatives from Department of Commerce as the nodal agency, Bureau of Indian Standards, Ministry of Skills / NSDC, nodal ministries/ departments of Champion Service Sectors, apex industry bodies, Quality Council of India and invited experts drawn from each sector. The recommendations of the task force should form the inputs for the development of service sector standards by BIS on fast track basis and for providing/upgrading resources by the relevant ministries in line with the standards.

As services sector is the key driver for economies worldwide and especially India, we should take early lead in the development of service sector standards and leverage the efforts to take leadership positions in international standardization work.

Goal 8: Creating an ecosystem to meet the challenges from Private Sustainability Standards

Over the past few years a new set of standards termed as Private Sustainability Standards (PSS), sometimes known as Voluntary Sustainability Standards (VSS), have become popular globally. These are built on three fundamental pillars namely social progress, economic development and environment & climate, in line with the Sustainable Development Goals (SDGs). While PSS are impacting trade in significant terms, these are outside the purview of the existing WTO regime. They are driven either by buyer consortiums or institutions working on sustainable development. A supplier of the respective commodity has little choice but to conform to the requirements even though the cost burden in many cases is significantly high, especially for small operators in developing countries. Most of the PSS come in a package, combining the standards, the conformity assessment procedures and the auditor qualification norms. There is a recognition that approximately 500 plus PSS are operating world over, with more than 30 impacting the Indian market. Many of the PSS does not have mechanisms for global stakeholder consultations and are not participatory or transparent.

There is a need for a mechanism to respond to the challenges posed by such standards at the national level. An initial task would be to identify all PSS that are impacting exports from India and to set up national response structures comprising of experts that could seek membership or be the voice in the standards setting process.

Some of the global programmes on PSS are based on benchmarking schemes that conform to common criteria and rules. Wherever such opportunity exists, at least one national scheme should be developed and supported to get recognized under the programme. Even where benchmarking is not available, developing corresponding schemes in India would enable the creation of the necessary eco-system that would facilitate easier compliance. There is also a need to create resources in the market which can help upgrade industry for such standards and provide the required level of hand-holding/counselling/training support.

> ▶ *Identify all Private Sustainability Standards Programmes that impact exports.*
>
> ▶ *Set up national response structures comprising of experts and seek a voice in the programmes standards setting process.*
>
> ▶ *Create corresponding schemes wherever needed and develop expert resources to evolve national ecosystem and facilitate easier compliance.*

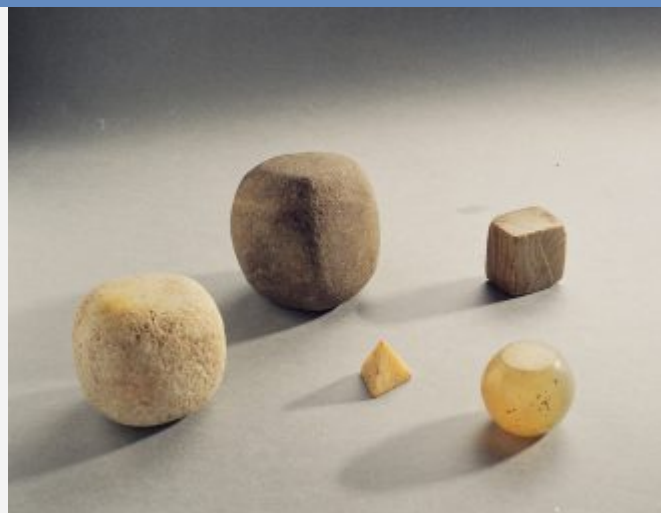# CONFORMITY ASSESSMENT, ACCREDITATION, AND METROLOGY

Vision: *Evolving a credible, competent and robust infrastructure for conformity assessment*

Mission: *Provide confidence to customers and markets, supplement and provide alternates to regulatory oversight and escalate Indian exports.*

Dholavira Weights. Image courtesy: ASI

Goal 1: Enhance credibility of conformity assessment programmes in domestic and foreign markets

The opening up of the Indian economy has led to the simultaneous development of a national quality ecosystem that now includes a full complement of conformity assessment schemes comprising third party inspections, product certification, management systems certification, personnel certification, testing and calibration, self-declaration of conformity etc. Conformity assessment services are being provided by dedicated government appointed organizations, private Conformity Assessment Bodies (CABs), and in some cases, directly by the regulatory bodies. In the same period, the national accreditation boards have enhanced their scopes and consolidated their outreach by accrediting all the major CABs. A significant number of CABs however still operate outside the register of the national accreditation boards that present gaps in their oversight and accountability. As self-compliance levels are still below par, it is important that the entire conformity assessment infrastructure operates with demonstrated high integrity to inspire confidence among domestic and overseas buyers and regulators. Concerted efforts should be made through suitable incentives and mandates to bring all conformity assessment operators within the fold of national accreditation.

Presently, there are limited means for post-market testing of the actual level of conformance of the products placed in the market, especially those that are under self-declaration of conformity. As more and more products are expected to be brought under technical regulations, there is a need to establish a national market surveillance programme that would monitor conformity of products placed in the market, whether certified or regulated under self-declaration of conformity. The results of such

> ▶ *Multiple modes of conformity assessment procedures are available.*
>
> ▶ *Encourage all conformity assessment bodies to get accredited by national accreditation boards.*
>
> ▶ *Set up a market surveillance agency to monitor conformity claims both under regulation and self-declarations.*
>
> ▶ *Encourage and recognize voluntary self-regulation mechanisms for delivery of credible conformity assessment services as alternate to regulations.*

surveillance would provide valuable inputs for impact assessment and on the effectiveness of the conformity assessment programmes.

While accreditation boards are responsible for ensuring the competence and independence of the CABs, a supplementary means to raise the credibility of conformity assessment is by the creation of self-regulating, self-managed mechanisms that take responsibility for monitoring the integrity and reliability of the conformity assessment programmes and the CABs that operate them. Responsible CABs and laboratories need to develop such voluntary self-regulating mechanisms and create market pressure for all operators to subscribe to them. The development of such credible mechanisms would reduce the need to regulate and allow markets to operate freely. As an alternative, the registration and operations of CABs in India may be regulated by Department of Industrial Policy and Promotion (DIPP) in an appropriate manner.

Goal 2: Secure and enhance global equivalence through mutual recognition agreements in accreditation and sectoral fora across a broad range of goods and services

National accreditation boards, like NABCB and NABL, have gained full membership across a range of multilateral recognition arrangement in accreditation of conformity assessment programmes within the IAF and ILAC umbrella creating greater inroads and access into foreign markets. This enables the meeting of minimum qualifying criteria for market access by certified products and services within the fold of such accreditations. However, in most cases, regulatory requirements of importing countries require additional conformance conditions that need to be met through equivalence recognition arrangements.

These apply in diverse fields including food, pharma, chemicals, toys, medical devices, electrical and IT equipment, telecommunication equipment as well as services such as IT/ITeS, education and skills certification. It is necessary to map the entire spectrum of products and services that need to meet specific conformity assessment requirements and to systematically install and develop facilities and infrastructure that would help achieve equivalence status. As the department responsible for trade, this initiative should be led and coordinated by the Department of Commerce in association with various relevant ministries/regulators through concerned bodies like the Export Inspection Council, BIS, NABCB, NABL and supplemented by the export promotion councils, commodity boards, accreditation boards and the CABs operating in the respective areas.

Goal 3: Promoting Indian products through a 'Brand India' label for global acceptance

Promotion of Indian products needs to be backed with a visible and credible Brand India certification label that gives assurance of quality and sustainable practices which is also globally acceptable. Several national certification schemes such as the BIS Product certification (ISI Mark), Agmark for agricultural produce, FSSAI Mark for processed foods, Silk Mark for silk products, Star labelling for energy efficiency of appliances are in existence, over some decades. However, in their present forms, they are constrained by legal boundaries in terms of

▶ *Develop a Brand India Label Scheme.*

▶ *Certification to Indian, international and importing country standards.*

▶ *Brand promotion by export promotion organizations, industry bodies, missions, etc.*

territorial application as well as the criteria for certification which is limited to Indian standards. In order to expand the outreach of the products for a global audience, the Brand India label would need to be significantly large in scale and operated on professional lines at par with leading global certification programmes. This would require a scheme based on international best practices with a provision for benchmarking existing national schemes.

The requirements of this approach would entail the following changes:

a) Certification for exported products should be offered to Indian, international and importing country standards according to the needs.

b) Multiple routes for product, process and service certification should be available or permitted by relevant ISO CASCO Standards.

Once the scheme is in place, it should be actively promoted by export promotion organizations, industry bodies, overseas missions with funding assistance from Government for brand promotion.

Goal 4: Minimize costs of conformity assessment, especially for MSMEs to make them globally competitive

There is an urgent need to ease the compliance burden of MSMEs in meeting regulatory and overseas market access requirements. Both Central and State Governments have been providing funding assistance for securing Quality Management Systems certification based on ISO 9001 and in some sectors, such as food testing, costs to set up laboratories. Since compliances are typically based on testing, inspections and product certification, the financial assistance needs to be extended to all types of conformity assessment within the allocated budgetary provisions.

> ▶ *Extend the funding assistance for MSMEs to all types of conformity assessment.*
>
> ▶ *Promote NABCB/ NABL accredited conformity results and domestic equivalent approvals for acceptance by overseas regulators and organized foreign buyers.*
>
> ▶ *Set up common testing facilities for MSME clusters.*

The compliance burden can be further reduced by negotiating with overseas regulators and buyers to accept domestic testing, inspection and certification results backed by accreditation provided by NABCB and NABL. Where capability approval is a pre-requisite, Export Inspection Council, export promotion boards, and other relevant organizations need to set up robust conformity assessment schemes in line with international models and seek approval of overseas regulators, scheme owners, or organized buyers that would authorize them to issue certificates of conformity on similar lines as already achieved in some sectors.

As costs of testing equipment is a major burden on MSMEs, State Governments need to identify common needs especially where MSMEs are present in clusters and assist in setting up common testing facilities that can be run on a cooperative or private basis. All laboratories set up under this programme need to be provided technical assistance in setting up nationally traceable measuring arrangements and getting accredited by NABL.

Goal 5: Active participation in international organizations dealing with Conformity Assessment

India is a participating member of ISO CASCO. A mirror committee has been set up by BIS with participating members drawn from accreditation boards, industry, SDOs, PSUs. CASCO standards have a deep impact on the manner in which conformity assessment programmes are mandated to run worldwide. However, due to cultural differences, the presence or absence of requirements impact the effective implementation of these standards. It is absolutely essential to participate in all CASCO working groups by the

relevant agencies and attend all their meetings to ensure that India's viewpoints are raised and incorporated in the standards developed.

As the accreditation boards are automatic members of IAF/ILAC they also need to ensure that they participate in all meetings of these apex organizations.

Similar active participation should be ensured by National Physical Laboratory (NPL), in the BIPM (the International Bureau for Weights and Measures) and in International Organization of Legal Metrology (OIML) by Department of Legal Metrology.

Whenever an opportunity arises, the key objective should be to occupy leadership positions on the technical committees, working groups and governance structures in these apex bodies.

TECHNICAL REGULATIONS AND SPS MEASURES

Vision: *Securing the highest degree of protection for the well-being and safety of Indian citizens.*

Mission: *Ensuring that technical regulations are aimed to achieve legitimate objectives, minimal, risk based, least burdensome, and effective in meeting the objectives with least disruption to businesses*
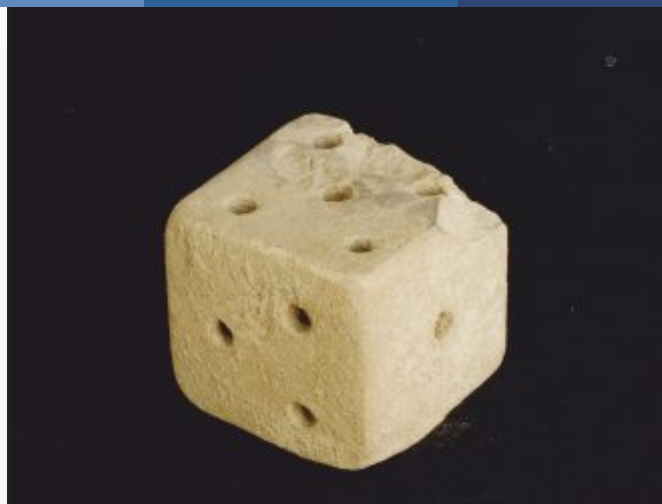
Dholavira Dice. Image courtesy: ASI

Goal 1: Develop a sound understanding of good regulatory practices and regulatory impact assessment

As regulations are issued to protect and balance the needs of civil society and its various interest groups, they need to be precisely calibrated to the risks in context with the times, entail minimal cost burden, should be easy to comply, and be transparently administered. They must not impede social development and economic growth. Inappropriately applied technical regulations may lead to higher prices of goods and services, lack of product innovation and poor service quality. As regulations have the tendency of losing relevance with time, they need to be regularly recalibrated for effectiveness and purpose.

All technical regulations and SPS measures should be based on the principles of good regulatory practices that include a risk based selection of regulatory measures, considerations of regulatory efficiency, i.e. balance between costs of compliance and administration versus gains; effectiveness in compliances; transparency in notification, administration and changes; openness in communications and balancing of interests.

Technical regulations should also be assessed for impact on benefits against costs, economic burden on government, and impacts on the competitiveness of the industry, market openness, small businesses, public sector and potentially affected social groups.

Policy guidelines based on good regulatory practices and regulatory impact assessment need to be established for the development, implementation, review, and revision of Technical Regulations.

> ▶ *Adopt good regulatory practices and issue policy guidelines for development, implementation, review and revision of Technical Regulations and regulatory impact assessment.*
> ▶ *Create coordination and understanding among agencies responsible for notifying and ensuring compliance to technical regulations.*
> ▶ *Conduct regulatory impact assessment for all technical regulations.*

It is also necessary to create a thorough understanding of the importance of following good regulatory practices and regulatory impacts among ministries, regulatory bodies, state governments, enforcement agencies, conformity assessment bodies and social groups. Civil Services Academies should initiate awareness courses and workshops on the subject.

Goal 2: Separation of institutional roles to increase effectiveness and to avoid potential conflicts of interest

Due to historical reasons the roles of line ministries, regulatory bodies, and conformity assessment operations, have become centred within the respective ministries/ departments. However, these often present conflicts of interest. An institutional and progressive separation of roles and retention of only essential functions to strengthen the effectiveness of the regulatory framework is necessary. In order to achieve this goal, the following separation of roles is required:

1. Ministries –

a) For bringing the necessary enabling legislation for a regulatory framework and for establishing the related regulatory body/agency (e.g. FSSAI Act and PNGRB Act).

b) Creating the required policy and enabling rules for the regulatory framework.

2. Regulatory Body –

a) Notifying specific regulations/ orders under the applicable Act.

b) Setting up the necessary market surveillance (including port control), conformity assessment, and enforcement frameworks including conducting search and seizure operations, prosecuting non-compliant manufacturers/ service providers.

3. Accreditation Bodies –

a) To accredit conformity assessment bodies as per international standards and/or requirements prescribed by the regulators.

4. Conformity Assessment Bodies –

a) To provide third party conformity assessment services (certification, inspection, testing) independent of the regulatory body as per requirements prescribed by regulators.

5. Market Surveillance Authorities –

a) To conduct pre and post market testing of products intended to be or placed in the market (including port control).

b) Conducting search and seizure operations, prosecuting non-compliant manufacturers/ service providers.

> ▶ *Identify gaps between India and global practices on technical regulations notified.*
> ▶ *Identify gaps between India and global practices on technical requirements (standards / essential requirements) included in technical regulations.*
> ▶ *Eliminate the gaps through a systematic plan.*

Goal 3: Ensure protection in areas that are widely regulated worldwide

The WTO SPS and TBT agreements provide the enabling considerations based on which technical regulations and measures are notified by countries/ economic unions. The considerations include human health & safety; animal and plant life, and health; the environment, national security; and prevention of deceptive trade practices through suitable technical regulations/ SPS measures. The products and measures are notified on risk-based assessments.

Comparative studies of products and services regulated in India with the majority of other countries have revealed significant gaps both in terms of numbers as well as the technical requirements to which they must conform. The absence of technical regulations and SPS measures adversely impact the protection of consumers, animal, plant and environment from unregulated sub-standard products and services produced or imported into India. Inflow of sub-standard products which are typically cheaper, also impact the competitive position of responsible producers, many of whom have selected voluntary certification. It is also recognized that minimum compliance levels enhance sectoral capabilities and export potential.

It is essential to conduct a gap analysis of areas where technical regulations and SPS measures have been notified by a majority of countries but not done by India. The analysis should be used as the basis to systematically eliminate the gaps while applying the principles of good regulatory practices and impact assessment. For SPS measures, the analysis should include reciprocal arrangements.

A comparative review of standards/ essential requirements notified in Indian technical regulations and SPS measures in light of global practices also needs to be undertaken for suitable modifications and upgradation.

Goal 4: Technical Regulations and SPS measures should be based on appropriate standards/ essential requirements, and conformity assessment procedures commensurate with attendant risks and market conditions

Technical regulations and SPS measures invariably create a burden of compliance on the producers and suppliers of products and services with attendant costs that are borne throughout the supply chain including the consumer, as well as government in

running the enforcement programmes. Regulators therefore need to carefully select the most essential requirements in products, processes or services that would serve the purpose of the regulations. While the adoption of standards professionally developed by standards bodies should be the first preference, regulators must be proactive in the development and revisions of such standards and ensure that their scope is restricted to aspects of safety and security in line with the regulatory intent. Where quality standards are intended to be regulated for deceptive trade practices, the standards should contain performance requirements and should not restrict input materials or process routes. Regulators should also ensure that the standards used for regulations are adopted or closely harmonized with international standards. In cases, where essential requirements are directly incorporated in the technical regulations, these should be drawn by empanelled experts.

Technical regulations should select conformity assessment procedures that are least trade restrictive and burdensome to cover the breadth and magnitude of the safety, security or deception risks and take into account the available conformity assessment bodies/ laboratory infrastructure. Presently regulations that rely on conformity assessment as the means for compliance have, with a few exceptions, chosen product certification routes operated by BIS or by the regulators themselves, which impose a high cost of compliance. As several other conformity assessment routes are available such as self-declaration of conformity, design certification, batch certification, third-party inspection, sample testing, capability approvals, these should be examined for best suitability before selection. Preference may be accorded to self-declaration of conformity, but these should be combined with adequate prior and post-market

testing, and backed by stringent penal provisions in case of wilful default. Technical regulations should be finalized only after wide stakeholder consultation and fulfilment of WTO notification obligations.

Further, SPS measures should be based on ISGRs. If ISGRs are not sufficient to meet the desired level of protection, the SPS measures should be backed by scientific principles and sufficient scientific evidence and be based on risk assessment. Where scientific evidence is not sufficient, measures could be provisionally adopted on the basis of available justification.

Goal 5: Create an overarching regulatory instrument and oversight mechanism for technical regulations, SPS measures, and conformity assessment

Presently technical regulations are notified under different Acts, and under the BIS Act where no sector-specific Act is existing. These Acts have been drafted to serve specific purposes and are limited in their scope. It is essential to enact a new enabling legislation for notifying standards, technical regulations, and conformity assessment procedures in accordance with global good regulatory practices with suitable surveillance and enforcement provisions. This legislation should apply to all those sectors that are presently not covered by sector-specific regulations and should have provision for establishing independent regulators as needed. It should also include provisions for regulatory impact assessment and periodical reviews and sunset clauses.

A suitable regulatory instrument is also required to protect consumers against unsupported claims of conformity by suppliers or conformity assessment bodies that are not accredited and therefore not accountable. The market surveillance mechanism should have a provision for cross-border exchange of information.

Goal 6: Create an effective market surveillance mechanism

Presently market surveillance activities and other enforcement measures are handled by State Government agencies and customs officials at the ports who are not best equipped in terms of technical understanding, resources and

empowerment. As the requirements for post-market surveillance and testing including cyber intelligence are expected to increase in future it is necessary to establish a professional agency for carrying out or coordinating the market surveillance programme (recommended in Conformity Assessment Goal 1) and port control operations. Market surveillance should invariably include testing of products drawn from the market and in cases of wilful deceptive practices, statutory actions to prevent further supplies.

Goal 7: Strengthening response mechanisms to overseas technical regulations and SPS measures

New and revised technical regulations and SPS measures are being regularly notified by countries classified as TBT and SPS notifications. Many of these have a direct or indirect impact on the supply of Indian goods and services. An urgent need exists to develop a dynamic and responsive mechanism that would trigger anticipatory as well as post notification responses. As a first step, a strengthening of institutional arrangements is required along with a creation of a digital platform to analyse all new notifications, bring them to the knowledge of the corresponding regulators and impacted suppliers (including potential suppliers), collate their concerns and issue timely national responses to the notification. The role of and active participation from the subject matter ministries as well as industry bodies is critical in strengthening the national response mechanism. A strengthened response system will also help regulators understand best regulatory practices and the regulatory gap in the country.

Post notification responses include understanding the impact in terms of resources, technology readiness, and quality infrastructure required to meet the compliance requirements. Depending on the magnitude of impact, subject matter ministries, relevant departments, and bodies under them should prepare an impact document indicating the assistance at the government level that should be provided, especially to the MSMEs.
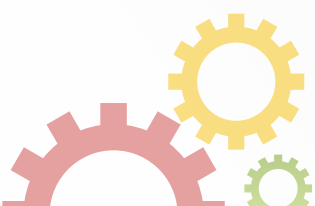
AWARENESS, COUNSELLING, TRAINING AND EDUCATION (ACT & E)

Vision: *Creating a quality mindset nationwide*

Mission: *Make every citizen, organization, and institution understand, and value the benefits that standardization and related activities bring to them*

BIS: Institute of Training

Goal 1: Enhancing awareness among stakeholders

Standards, conformity assessment, and technical regulations when applied are routinely encountered by all citizens, organizations, and institutions in their daily lives and operations. However, lack of awareness on their relevance leads to limited participation in standards setting and conformity assessment processes, and inability to derive their full potential and benefits as suppliers, service providers, consumers, policymakers and regulators. An objective of this strategy for standardization is to widely transmit the message to all stakeholders so that not only do they realize the opportunities but also become responsible role players through active participation. It is also necessary to create awareness of specific sectoral conformity assessment requirements imposed through national and global schemes that have an impact on domestic supply and exports.

The target audience for building awareness should include officials responsible for policy and technical regulations, the enforcement agencies, public procurement agencies both under central and state governments, officials responsible for port controls, trade and industry, and consumer organizations. Consumer awareness should include where and how complaints, disputes, and appeals can be raised.

Goal 2: Counselling and training regarding standards; conformity assessment; technical regulations, and SPS aspects

The quality ecosystem in India comprises of a sizable body of knowledge in the form of standards, multiple conformity assessment programmes, and national

schemes. There is also an increasing number of technical regulations and SPS measures put in place by the importing countries, besides myriad requirements of a buyer in foreign markets that affect trade. Producers of goods and services, and its importers and exporters may require constant counselling in this regard. Such counselling will be expected to help the exporters to understand the differences between buyer's requirement and mandatory requirements (in the form of directives/technical regulations in the importing country). Trade organizations like CII, FICCI, ASSOCHAM, FIEO etc., will need to calibrate their counselling services to the interested stakeholders aligned with these needs. The Trade portal (managed by FIEO) and India Standards Portal (managed by CII) also need to enhance their scope as hubs of information in this regard.

Given the complexities and the technical nature of the regulatory eco-system in international trade, it is essential that government officials, regulators, enforcement agencies and monitoring agencies are adequately skilled and trained from time to time so as to handle the responsibilities expected of them. The training modules should be the joint responsibility of the regulators, BIS, the accreditation boards, trade promotion boards/councils and the apex industry associations with assistance from the State government academies of administration. The National Institute of Training for Standardization of BIS should be made responsible for creating training and awareness modules for enhancing awareness up to District levels and industrial clusters.

Public procurement officials need to be sensitized on according precedence to national standards and conformity assessment schemes.

A major role in disseminating standards-based information directly to a user is played by professional trainers and consultants. This task is best done in the non-governmental sector, in an environment where the training/counselling sector is free to grow as per market demand. A system for identifying and certification of competent trainers and consultants and creation of a corresponding accreditation system for training/consulting organizations and certification system for trainers/consultants in different sectors exists under the aegis of Quality Council of India, which needs to be enlarged to cover all streams of standards and conformity assessment schemes.

Goal 3: Creating modules for courses on quality related subjects in educational institutions at various levels

One of the most expedient tasks for building the quality mindset into the potential workforce involves building suitable curriculum and its inclusion in the various stages of formal education. This would entail the development of specific modules related to standardization, quality practices, and statutory provisions protecting consumer rights, etc., in educational programmes from primary to higher education levels with commensurate depth. The education as a minimum should include basic standards that impact society at large such as metrology based on SI units, concepts of interoperability, standards addressing human health and safety, and environment.

As standards are extensively used in engineering and industrial applications, it is essential to integrate the related professional courses with the vast contemporary technical knowledge that standards provide. This will enable the students to be 'industry-ready' on graduation. A strong connect between standards bodies and the technical / professional institutes is essential for which policy guidelines need to be issued by the Ministry of Human Resource Development and made part of the course accreditation criteria.
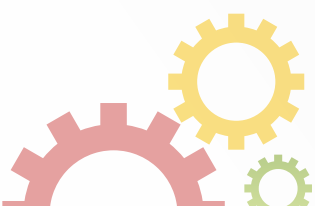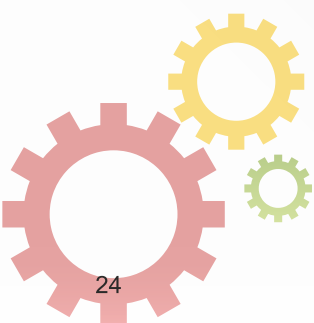
LIST OF ABBREVIATIONS

ASSOCHAM	THE ASSOCIATED CHAMBERS OF COMMERCE AND INDUSTRY OF INDIA
ASI	ARCHAEOLOGICAL SURVEY OF INDIA
BIPM	INTERNATIONAL BUREAU OF WEIGHTS AND MEASURES
BIS	BUREAU OF INDIAN STANDARDS
CAB	CONFORMITY ASSESSMENT BODIES
CASCO	COMMITTEE ON CONFORMITY ASSESSMENT
CII	CONFEDERATION OF INDIAN INDUSTRIES
CTIL	CENTRE FOR TRADE AND INVESTMENT LAW
CWTOS	CENTRE FOR WTO STUDIES
EIC	EXPORT INSPECTION COUNCIL
FICCI	FEDERATION OF INDIAN CHAMBERS OF COMMERCE AND INDUSTRY
FIEO	FEDERATION OF INDIAN EXPORT ORGANISATIONS
FSSAI	FOOD SAFETY AND STANDARDS AUTHORITY OF INDIA
IAF	INTERNATIONAL ACCREDITATION FORUM
IBEF	INDIAN BRAND EQUITY FOUNDATION
IEC	INTERNATIONAL ELECTROTECHNICAL COMMISSION
INSS	INDIAN NATIONAL STRATEGY FOR STANDARDIZATION
IPCC	INTERNATIONAL PLANT PROTECTION CONVENTION
ISGRs	INTERNATIONAL STANDARDS, GUIDELINES AND RECOMMENDATIONS
ISO	INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ISRO	INDIAN SPACE RESEARCH ORGANISATION
ITU	INTERNATIONAL TELECOMMUNICATION UNION
ILAC	INTERNATIONAL LABORATORY ACCREDITATION COOPERATION
MSMEs	MICRO, SMALL, AND MEDIUM ENTERPRISES
NABCB	NATIONAL ACCREDITATION BOARD FOR CERTIFICATION BODIES
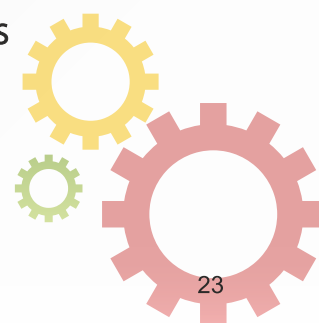
NABL	NATIONAL ACCREDITATION BOARD FOR TESTING AND CALIBRATION LABORATORIES
PSS	PRIVATE SUSTAINABILITY STANDARDS
SAARC	SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION
SARSO	SOUTH ASIAN REGIONAL STANDARDS ORGANIZATION
SDOs	STANDARDS DEVELOPMENT ORGANIZATIONS
SDGs	SUSTAINABLE DEVELOPMENT GOALS
SI	INTERNATIONAL SYSTEM OF UNITS
SPS	AGREEMENT ON SANITARY AND PHYTOSANITARY MEASURES
TBT	AGREEMENT ON TECHNICAL BARRIERS TO TRADE
TPD	TRADE POLICY DIVISION, DEPTT OF COMMERCE
VSS	VOLUNTARY SUSTAINABILITY STANDARDS
WTO	WORLD TRADE ORGANIZATION

ACKNOWLEDGEMENT