

STANDARDS NATIONAL ACTION PLAN



**BUREAU
OF INDIAN
STANDARDS**



Standardisation supports economic growth, enhances competitiveness and fosters technological development. It is a tool to protect consumers and support public policies for promoting trade on one hand and address health, safety, and environmental concerns on the other.

Standardisation also supports innovation. It lends credibility to the innovation and helps it in going to scale. We need to standardize to facilitate our products and services to connect and communicate with products and services available today in market and also with those that will arrive tomorrow.

STANDARDS NATIONAL ACTION PLAN

2019







सत्यमेव जयते

प्रधान मंत्री
Prime Minister

MESSAGE

It is a pleasure to learn that the Bureau of Indian Standards (BIS) has developed a Standards National Action Plan (SNAP) as part of the Indian National Strategy for Standardisation (INSS).

Today, the world is propelled by technological innovations and technology is expanding and evolving at an unimaginable pace. The challenge before us individually, as well as collectively, is to draw up the best global practices and standards. The process of standardisation today extends to all the spheres of activity and every product to ensure high quality and an all-encompassing uniformity.

Another vital aspect of standardisation is creating an enabling environment for research and development and providing the best training to technical personnel. Our Government has launched several initiatives such as Digital India, Skill India and Start Up India to enable every individual to imbibe and develop the necessary skills that leads to excellence in any area of work. I am sure that the Standards National Action Plan will lead to excellence, which in turn will benefit the producers and consumers of various products.

May the Action Plan lead to formulation of standards that set the benchmark for other nations to emulate.

Best wishes for all success in developing Standards National Action Plan and Indian National Strategy for Standardisation.

(Narendra Modi)

New Delhi
01 February, 2019



Standard

Policies

Transparency

Requirement



राम विलास पासवान
RAM VILAS PASWAN



उपभोक्ता मामले,
खाद्य और सार्वजनिक वितरण
मंत्री
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MINISTER
FOR CONSUMER AFFAIRS,
FOOD & PUBLIC DISTRIBUTION
GOVERNMENT OF INDIA
NEW DELHI-110 001

MESSAGE

The role of technical standards in trade and commerce is being increasingly realized by both developed and developing economies of the world. Standards not only consolidate and simplify the technical aspects of goods and services by defining products and process specification and standardizing methods of tests, but also help in creating a level playing field for all kinds of industries. With the advent of state of the art technologies in many of the areas of science and technology, it is necessary that standardization keeps pace with these developments and remain relevant.

I am very glad to know that Bureau of Indian Standards has adopted a proactive and progressive approach for formulation of Indian Standards by coming out with a Standards National Action Plan. This has been done by keeping in view the economic developments and various plans, policies and priorities of the country. Valuable inputs received from elaborate consultations with various stakeholders have been incorporated effectively in formulating Standards National Action Plan.

The Standards National Action Plan is expected to provide direction to the standardization activity at the national level and lead to development of standards that are aligned with the national needs and latest technologies, involving all concerned stakeholders and aimed at benefitting the end consumers of all goods and services.

I congratulate Bureau of Indian Standards for successfully concluding this task and coming out with an implementable Standards National Action Plan. This will definitely give a fillip to various Government initiatives such as Make in India, Digital India and Startup India. I wish Bureau of Indian Standards all the best for their future endeavours.


(Ram Vilas Paswan)





सुरेश प्रभु
SURESH PRABHU



सत्यमेव जयते



MESSAGE

मंत्री
वाणिज्य एवं उद्योग;
एवं
नागर विमानन मंत्रालय
भारत सरकार, नई दिल्ली
**MINISTER
COMMERCE & INDUSTRY;
AND
CIVIL AVIATION
GOVERNMENT OF INDIA, NEW DELHI**

It is heartening to know that the Bureau of Indian Standards has framed a Standards National Action Plan which provides a framework of actionable and measurable standardization priorities that would drive the national standardization work.

I am happy to note that the Implementation of the Standards National Action Plan will be driven by BIS with the support of various stakeholders like industry, consumers, policy makers, research bodies and innovators. This will ensure that the national standardization work is well coordinated and focused on relevant national, social and economic issues, and represents fully the national needs and aspirations. The Standards National Action Plan would also ensure alignment with global standards development and act as an enabler for Indian products and services to be globally competitive. This, therefore, takes forward the vision for the country to achieve the highest quality standards in production of goods and services envisaged in the Indian National Strategy for Standardization (INSS).

I am confident that the Standards National Action Plan would help BIS in fulfilling its role as the National standards body of India in a more effective and efficient manner and in steering the national standardization work.

I wish the Bureau of Indian Standards the very best in their endeavours.


(Suresh Prabhu)

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तथा
उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण
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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 note that the "Standards National Action Plan" has been developed by BIS.

The Standards National Action Plan is based on thorough consideration of socio-economic factors and extensive stakeholder consultation and engagement. The plan will help in synergizing the standardization activities taking place in the country such that national standards development is aligned with the technological, economic and social priorities of the nation, with consumer interests, industrial research and innovation at its core. It will enable India in taking a leading position in the international standardization arena, simplify the process of standards development while increasing awareness of and promoting the use of these. The use of IT enabled processes envisaged under the plan will bring transparency and efficiency for the harmonious development of standards across the country.

The implementation of the Standards National Action Plan is expected to help in development of standards incorporating latest technologies and best practices and thus in quality up-gradation in manufacturing and service sectors. It will also help in supporting our commitment for protection of environment, safety and health and for sustainable development.

I congratulate BIS for making this useful document for the benefit of all stakeholders and to provide a definitive direction to the standards development in the country.


(C R CHAUDHARY)
4.2.19



#startupindia

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AVINASH K. SRIVASTAVA



सचिव
भारत सरकार
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Secretary
Government of India
Department of Consumer Affairs


MESSAGE

Standards play an important role in creating market access and facilitating global trade, driving competitiveness and protecting consumer interests. Standards can also significantly facilitate in technology adoption and support government policies addressing issues of health, safety and environment. It is therefore important that standards development take place with a clear understanding of stakeholder needs and priorities.

BIS being the National Standards Body, has the responsibility to lead and co-ordinate the standardization activities in the country so as to meet the emerging standardization needs and expectations of Indian industry, government and consumers. As India positions itself among the top economies of the world, it is also important for BIS to ensure that India is able to influence and play a leading role in international standardization fora.

With fast paced technological developments being witnessed, it has become imperative to foresee the future needs of standardization so that standards are able to keep pace with technological changes. This approach not only reduces the time lag between technology and standardization, but also instills confidence and encouragement in the industry, consumers and other relevant stake holders.

The Standards National Action Plan of BIS is a right direction in this regard. Developed through extensive consultation with various stakeholders, the action plan would enable standardization that is aligned with the needs and expectations of all stakeholders while addressing national priorities. I congratulate BIS for its efforts in providing the right impetus to standardization work in the country.


(Avinash K. Srivastava)

New Delhi
5th February, 2019

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MESSAGE

Bureau of Indian Standards (BIS), in its previous incarnation – “Indian Standards Institution” was founded in 1947, same year as India became independent.

The organisation has come a long way since then.

Under the BIS Act 2016, with its new status as the National Standards Body, the role and responsibilities of BIS have substantially changed. It has to lead the standardization activities in the country not only with its own human and technical resources but also provide similar leadership to other organizations which are involved in standardization at firm, industry or sectoral level.

BIS has analysed the Indian National Standards Strategy (INSS) framework evolved by Ministry of Commerce and Industry and drawn its own leads for future work. after organizing in-depth consultation with stakeholders of wide range.

“Smart”, “Sustainable” and “Services” are the key focus words for work in future.


‘Smartness’ is getting added to all products, processes and Services with IoT, AI and ML becoming a reality in everyday life. We need to set ‘Standards’ for this, to ensure ‘Smart’ is also safe and serves the user well.

‘Sustainability’ is an overriding concern of society today. For economic as well as non-economic reasons we need to ensure that standards are well established for sustainability parameters and compliance to sustainability requirements become a defining feature of all standards.

“Service” standards are more important than ever today. Services are becoming a major contributor to national income of different nations but also an element of servitization is not only getting added to all products which are more complex than ever. The user today is dependent on service support over product life-cycle. For growth of service sector as also for consumer protection; standardization of services is of key significance.

Standards National Action Plan is a clear and firm statement of work which BIS has developed for itself with priorities as mentioned above. We hope to achieve it as targeted with active support and involvement of all stakeholders.


(SURINA RAJAN)



SN



AP

Introduction

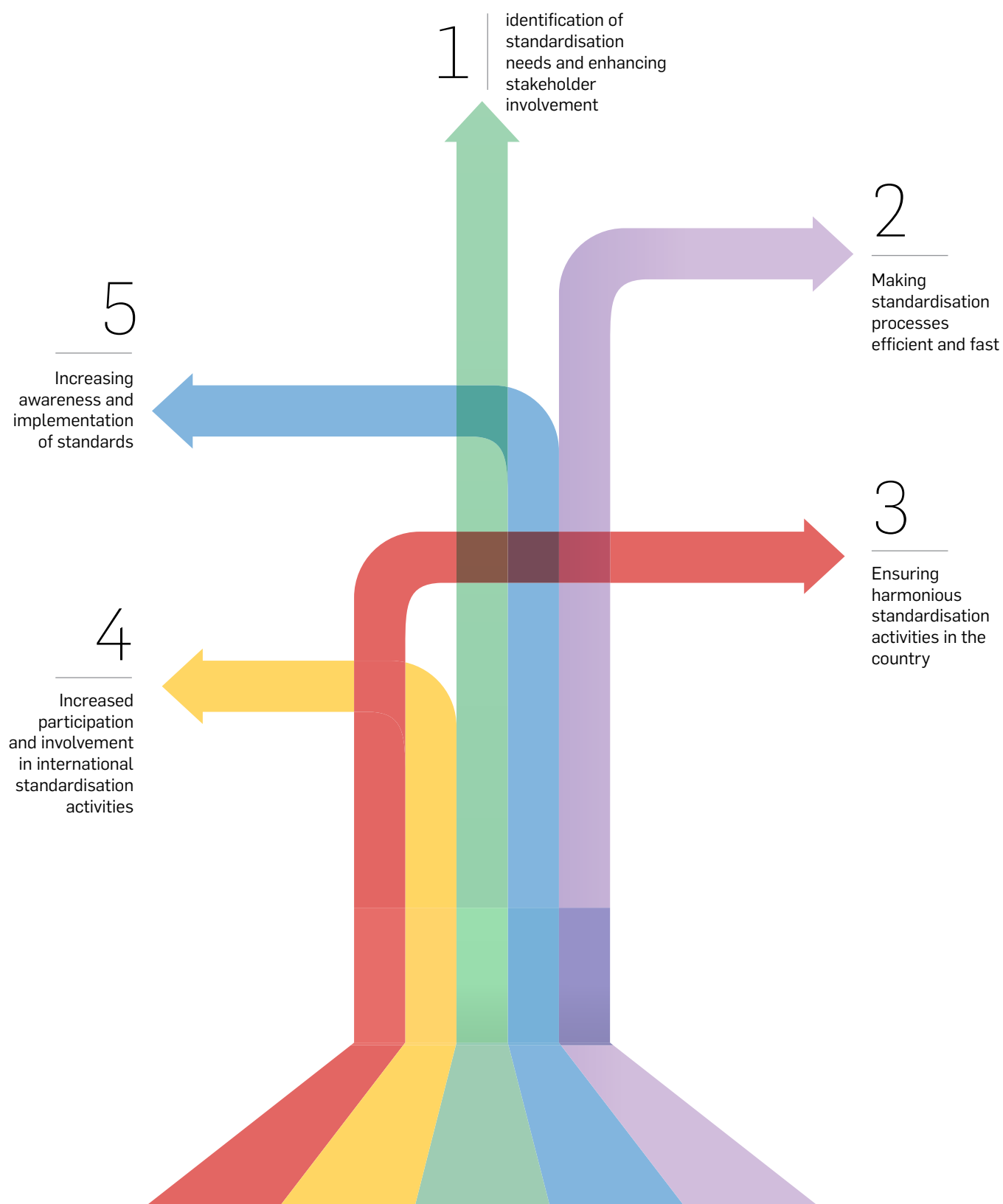
STANDARDS are increasingly influencing trade and commerce and are widely being accepted to support technological developments, economic growth and societal well being. With fast evolving and convergence of technologies, it is imperative that standardisation systems are responsive and efficient in meeting the standardisation needs of all stakeholders. BIS Act, 2016 now positions BIS as the National Standards Body responsible for ensuring harmonious development of standards in the country. It is important for BIS to ensure synergy of the standardisation activities taking place in the country such that national standards development is aligned with the technological, economic and social priorities of the nation. Standardisation activities in BIS are to be based on strong foundation and systems that are aligned to meet the current and anticipated standardisation needs and priorities, coordinated to remain effective and to be able to address emerging standardisation issues.

The Indian National Strategy for Standardisation (INSS) released by Ministry of Commerce & Industry, Govt. of India acknowledges the importance of standardisation as one of the key elements of the quality infrastructure of the country. The INSS has also identified the need for standards to be positioned as a key facilitator of all economic activities. The strategy has further acknowledged the importance of developing a comprehensive ecosystem for standards development in India by adopting the best international practices and creating a response mechanism to meet the standardisation challenges.

With the above strategic considerations in perspective, BIS has developed the **Standards National Action Plan** with the objectives, as indicated in Figure 1:

STANDARDISATION
ACTIVITIES IN BIS
ARE TO BE BASED ON
STRONG FOUNDATION
AND SYSTEMS THAT
ARE ALIGNED TO
MEET THE CURRENT
AND ANTICIPATED
STANDARDISATION
NEEDS AND PRIORITIES,
COORDINATED
TO REMAIN EFFECTIVE
AND TO BE ABLE
TO ADDRESS
EMERGING
STANDARDISATION
ISSUES.

FIGURE 1
OBJECTIVES OF STANDARDS NATIONAL ACTION PLAN





ACTION



Action Plan

BACKGROUND

THIS Action Plan proposes a set of actions that would enable BIS to fulfill the specified objectives and drive the national standardisation work and participation in international standardisation.

The Standards National Action Plan has been evolved following an extensive process of consultation with stakeholders which included industry and industry associations, ministries and government departments/agencies, regulators, research bodies, national technical committee experts, etc. This resulted in identification of some of the key issues that need to be addressed such as:

- i) Gap areas in standardisation and subjects/topics to be taken up for future standards development,
- ii) Evolving mechanism for regular feedback on standards and standardisation needs,
- iii) Constraints faced in participation in standardisation work both at national and international level,
- iv) Difficulties faced in implementation of standards, and
- v) Capacity building needs of stakeholders for effective participation in standards development.

METHODOLOGY

Following the above and in order to prioritise the standardisation work on the identified subjects/topics of standards development, an assessment

of national socio-economic requirements was made through a process of secondary research against the ISO guidelines available in this regard.

Important sectors of the national economy were analysed based on their contribution to Gross Domestic Product (GDP) and contribution to trade (both export and import). Dataset from the period 2011-12 to 2016-17 from National Accounts Statistics 2017, Balance of Payment dataset of Ministry of Commerce and Industry and Export-Import Dataset of Department of Commerce and Export-Import databank were referred. Based on analysis of the data, sectorwise national economic priorities were identified.

To identify the policy priorities, a study of NITI Aayog reports and the three-year action plan, various government developmental programmes, the policy directions of different ministries and various world body reports on India was carried out. The impact of these on aspects such as sustainability, security, health, safety, environment, consumer protection, employment etc., were assessed.

Based on the above findings, the key standardisation subjects/topics identified were mapped with the corresponding sectors, the combined socio-economic priority and other stakeholder priorities (wherever applicable) and the timelines for developing the standards have been drawn for each of the identified standardisation subjects/topics.

The actionable points that emanated from the above mentioned stakeholder consultation are as follows:

THE ACTION PLAN PROPOSES A SET OF ACTIONS THAT WOULD ENABLE BIS TO FULFILL THE SPECIFIC OBJECTIVES, AND DRIVE THE NATIONAL STANDARDISATION WORK AND PARTICIPATION IN INTERNATIONAL STANDARDISATION WORK.



1. Identification of standardisation needs and enhancing stakeholder involvement

BIS has largely been developing standards based on the standardisation needs received from stakeholders. However, this approach is not futuristic as it does not ensure that upcoming standardisation needs get effectively articulated and identified. For developing standards that are relevant and are able to fulfill the emerging market expectations, it is necessary that a proactive mechanism is in place that is able to effectively assess the standardisation needs through multiple stakeholder interfaces so that these can be prioritised for efficient and timely development of standards. This would enable an understanding of the problems and challenges that the stakeholders face, which can get addressed through standards. Mechanisms to facilitate various sectors to

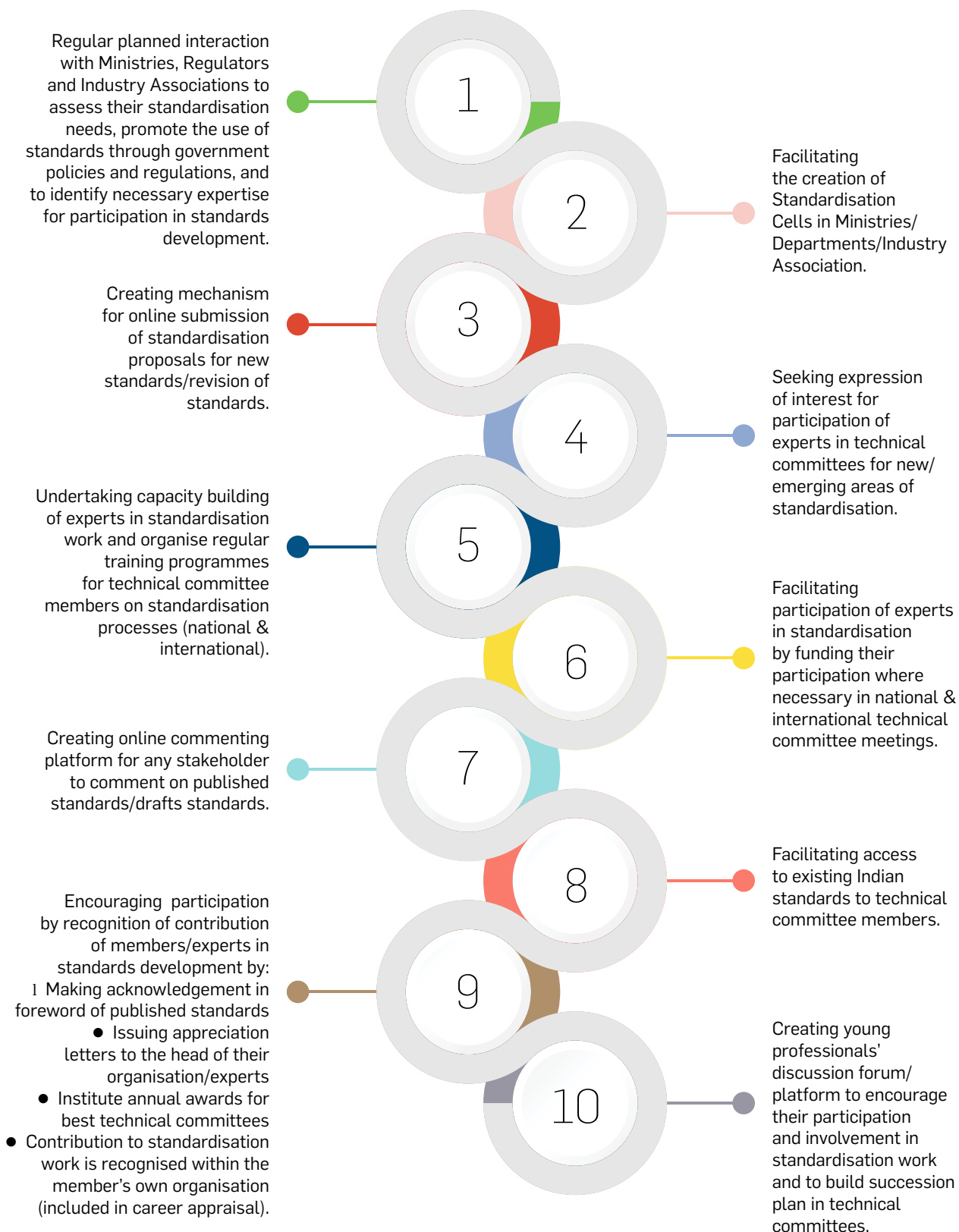
articulate their standardisations needs is required to be in place.

The success of standardisation is largely dependent on the voluntary contribution of stakeholders. The best expertise in relevant fields should therefore be identified and engaged in standardisation, both at national and international level. Further, the participation of the experts in standardisation should also be facilitated, encouraged and their contributions acknowledged so that the experts engaged in the work would value their involvement.

Based on the inputs provided in stakeholder consultations and the goals identified in the INSS, BIS would initiate actions as in Figure 2:



FIGURE 2
BIS ACTIONS



2. Making standardisation processes efficient and fast

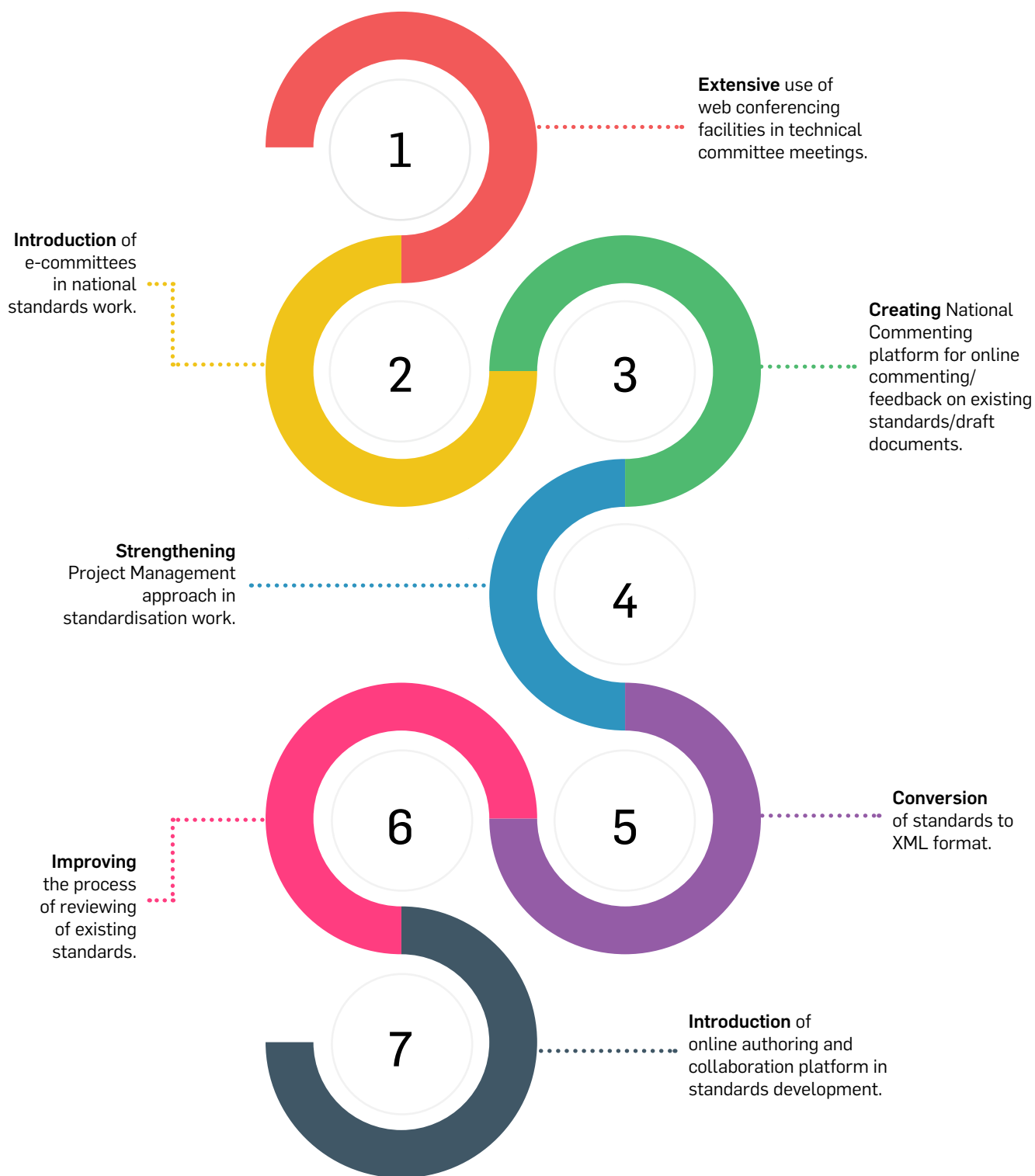
DEVELOPING standards keeping pace with evolving technologies and market needs is a challenge. Conventional ways of standards development through physical meetings is time consuming and is becoming ineffective in addressing the need for faster development of standards. Further, stakeholders particularly the next generation standardisers, are looking for more

flexible means of participation that enables them to work at their convenience with extensive use of IT tools. Technology based solutions that facilitate efficient standards development is therefore the need of the hour.

Based on analysis and to address the above issues, actions would be taken by BIS as in Figure 3:



FIGURE 3
BIS ACTIONS



3. Ensuring harmonious standardisation activities in the country

It is the responsibility of BIS as the National Standards Body, to ensure that there is synergy in the standardisation work taking place in the country and that there is no overlap or duplication of the work carried out by other Standards Developing Bodies in the country. Further, with increasing convergence of technologies there is also a need for better coordination of the work among all standardisation bodies in the country working in different sectors. The INSS has also highlighted the need for convergence of all standards development activities in the country. The national standardisation work can

be accelerated by aggregating and integrating the available capabilities in various organisations engaged in standards development in their specific sectors as well as that residing amongst various industries, scientific and research institutions and academia. With the objective of ensuring one national standard for one subject in the country, a system of accrediting other standards as national standards by BIS needs to be considered.

For BIS to fulfill its role as NSB, actions would be taken as in Figure 4:





FIGURE 4
BIS ACTIONS

01

Introduce a Scheme for Accreditation /
Recognition of SDOs by BIS.

02

Hold regular meetings with other
SDOs in India.

03

Conduct trainings on Good Standardisation
Practices for other SDOs.

4. Increasing participation and involvement in international standardisation activities

HARMONISING national standards with international standards provides opportunities for industries to be globally competitive and improve market access. To facilitate the adoption of international standards, it is necessary that national requirements get projected in international standardisation fora so that these are appropriately addressed when international standards are developed. Participation of Indian experts in international standardisation on continuous basis particularly at the Working Group level is therefore of vital importance.

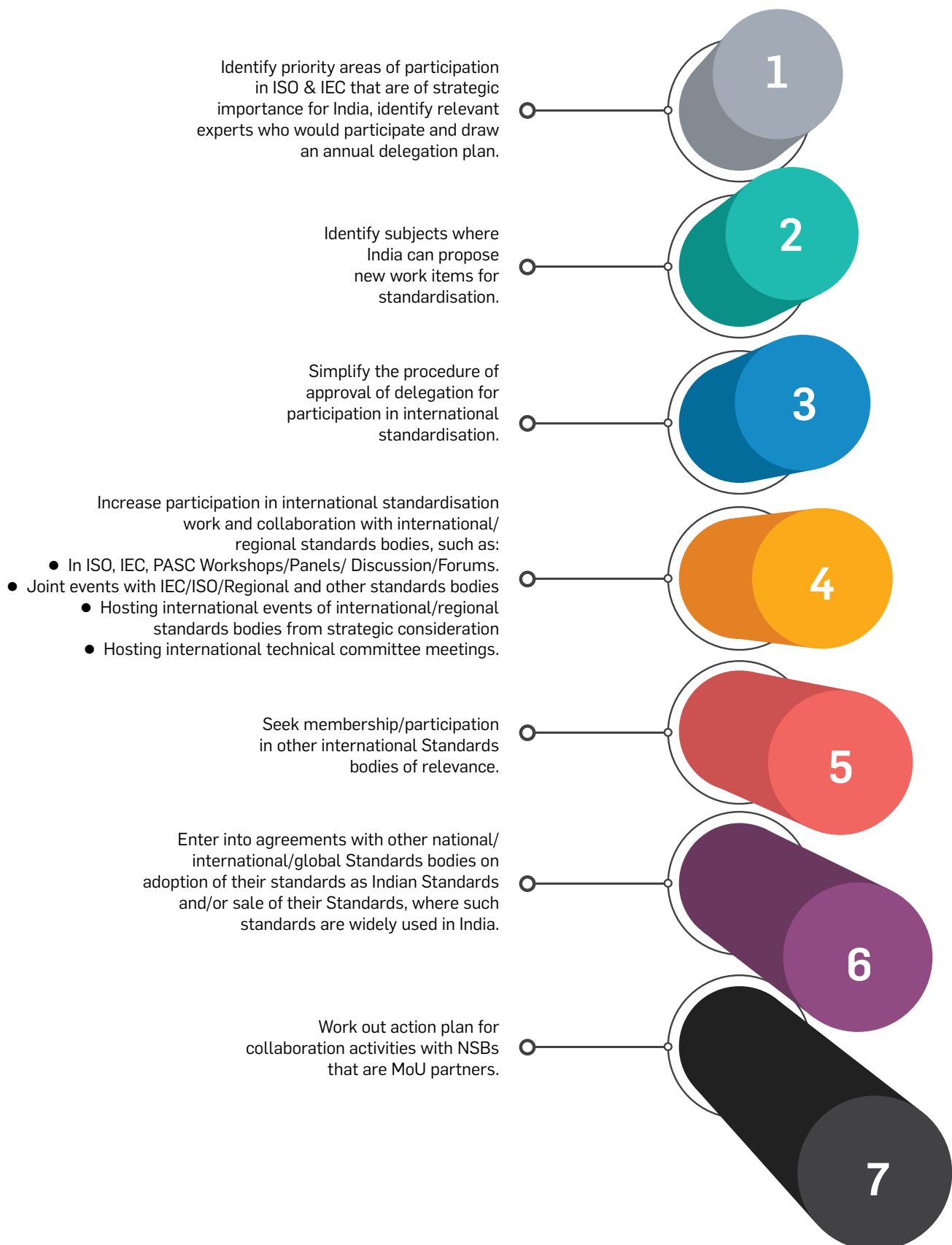
For India to effectively influence international standardisation work, it is also crucial that our participation in the technical committees as well as in policy and governance committees of the

international standardisation bodies is based on strategic considerations. India also needs to look into potential areas of standardisation where the country can play a leadership role. Where relevant, BIS should also look for opportunities for collaboration with other international standards setting bodies especially in the context of technology convergence. Further, opportunities for harnessing the potential of bilateral cooperation with other National Standards Bodies for supporting or collaborating in international standardisation work should also be considered.

Keeping in consideration the feedback received from various quarters, actions as indicated in Figure 5, would be taken by BIS:



FIGURE 5
BIS ACTIONS



5. Increasing awareness and implementation of standards

THE success of standardisation lies in the implementation of standards. Dissemination of information on standards and promotion of the use of standards across various stakeholders such as industry, government policy makers, procurement agencies, regulators, consumers as well as amongst students who are the future

generation of standards users is of utmost importance. Increased awareness on the relevance of standards can also result in increased participation in standards setting work.

Actions would be initiated by BIS as indicated in Figure 6:



FIGURE 6
BIS ACTIONS



Implementation of the Action Plan

THE above actions proposed to be undertaken would be implemented within defined timelines in the next three years and the progress monitored periodically in terms of measures identified against each. **Annex 1** provides the actions along with the measures and the targeted benefits. The review process may result in new initiatives being identified so as to meet the emerging requirements and challenges.

Sustainability, smartness and service standardisation would be the key aspects that would define the future national standardisation work of BIS. Standards are directly or indirectly linked to the UN Sustainable Development Goals. Issues of climate change, environment, clean and affordable energy, clean water, sanitation, health and well being are of vital importance to the country. National standards need to address these issues adequately in order to support sustainability.

Further, smart technologies are making foray into almost all fields and activities. It is to be ensured that smart technologies are safe, secure, resilient and interoperable. As technologies are constantly evolving and are dynamic, standardisation becomes even more complex and even more challenging.

In line with the significant share that services hold in the national economy, services standardisation

would emerge as another focus area of work. This is further substantiated by the increasing influence of service as a component of any product as well as the number of services that are emanating from digitalisation of all sectors. The global importance of services is also growing with increasing trade in services sector.

Keeping the above aspects in view, the outcome of various stakeholder consultations and the assessment of the national socio-economic requirements carried out, key subject areas of standardisation to be taken up by BIS in the next three years along with their priorities have been identified. The key standardisation areas so identified for future standards development are listed in **Annex 2**. The standards development in these areas would also be reviewed periodically to determine the progress and the standardisation requirements would be updated with additional standardisation topics as necessary.

Specific plans and activities/initiatives would further evolve as necessary and appropriate resources are mobilised to support the work and execute the action plan. The National Standards Action Plan would enable BIS to effectively lead the national standardisation work while ensuring it fulfills its objectives of being a National Standards Body.



THE NATIONAL STANDARDS ACTION PLAN WOULD ENABLE BIS TO EFFECTIVELY LEAD THE NATIONAL STANDARDISATION WORK WHILE ENSURING IT FULFILLS ITS OBJECTIVES OF BEING A NATIONAL STANDARDS BODY.

ANNEX 1
ACTION PLAN

Objective	Action	Measure	Targeted Benefit
1. Identification of standardisation needs and enhancing stakeholder involvement	<ul style="list-style-type: none"> Regular & planned interaction with Ministries/Regulators/Industry Associations to assess standardisation needs, promote use of standards through govt. policies and regulations and identify experts for participation in standardisation (national & international) 	One interaction every quarter	<ul style="list-style-type: none"> Availability of timely inputs on standardisation Identification of new subjects for standardisation. Identification of relevant experts. Enhance implementation of standards
	<ul style="list-style-type: none"> Facilitate creation of Standardisation Cells in Ministries/Departments/Industry Associations 	Creation of Standardisation Cells in Ministries/ Departments/ Industry Associations, where requested	<ul style="list-style-type: none"> Availability of timely inputs on standardisation Identification of new subjects for standardisation. Identification of relevant experts. Enhance implementation of standards
	<ul style="list-style-type: none"> Creation of facility for online submission of standardisation proposals. 	IT platform made operational	Increased participation of stakeholders in standardisation
	<ul style="list-style-type: none"> Seek expression of interest for participation of experts in technical committees for new/emerging areas of standardisation. 	Relevant IT platform made operational on BIS website	Identifying and involving right experts in standardisation
	<ul style="list-style-type: none"> Organise regular training programmes for committee members/ experts on standardisation processes (national & international). 	One programme every quarter	Members/experts have understanding of standardisation processes and of their roles & responsibilities for effective participation

ANNEX 1 ACTION PLAN

Objective	Action	Measure	Targeted Benefit
1. Identification of standardisation needs and enhancing stakeholder involvement	● Funding participation of experts in national & international meetings	20 percent increase in number of experts/members funded every year	Increased participation of experts in national and international technical committee meetings
	● Provide access of relevant Indian Standards to technical committee members	Free access provided to all technical committee members.	Facilitate member participation in standardization.
	● Recognition of contribution of members/experts in standardization <ul style="list-style-type: none"> - Acknowledgement in published standards - Appreciation letters to Head of Organization/Experts - Institute annual awards for best technical committees 	<ul style="list-style-type: none"> - Guidelines developed and implemented - Guidelines developed and implemented - An Annual Award instituted 	Motivate and encourage participation in standardization.
	● Contribution to standardization work is recognized within technical committee member's own organization (included in career appraisal and credits in University/Academia).	Relevant organizations approached	Motivate and encourage member participation
	● Create a Young Professionals (YPs)' discussion forum/platform	IT platform with access to YP's made operational	Increase involvement of next generation standardizers

Objective	Action	Measure	Targeted Benefit
2. Making standardisation processes efficient and fast	<ul style="list-style-type: none"> ● Extensive use of web conferencing in Technical Committee meetings 	Web conferencing facilities provided for all Technical Committee meetings	<ul style="list-style-type: none"> ● Increased participation of stakeholders and technical committee members. ● Faster standards development processes.
	<ul style="list-style-type: none"> ● Constitute E-Committees 	E-Committees made functional	<ul style="list-style-type: none"> ● Increased participation of stakeholders and technical committee members. ● Faster standards development processes.
	<ul style="list-style-type: none"> ● Create National Commenting Platform - online commenting/ feedback mechanism on existing standards/ draft documents 	Online commenting platform made operational	<ul style="list-style-type: none"> ● Increased participation of stakeholders and technical committee members. ● Faster standards development processes.
	<ul style="list-style-type: none"> ● Strengthening Project Management approach in standardisation work 	Project Management processes reviewed for improvements	Focussed and fast processing of documents
	<ul style="list-style-type: none"> ● Conversion of standards to XML format 	Conversion to XML format completed	Easy access to standards and better data management.
	<ul style="list-style-type: none"> ● Improve the process of reviewing of standards 	Review process revised, relevant guidelines issued and implemented.	More effective review processes.
	<ul style="list-style-type: none"> ● Create online authoring and collaboration platform 	Online platform made operational	More effective participation in standards development

ANNEX 1 ACTION PLAN

Objective	Action	Measure	Targeted Benefit
3. Ensuring harmonious standardisation activities in the country	<ul style="list-style-type: none"> ● Introduce a Scheme for accreditation/ recognition of Standards Developing Organisations (SDOs) 	Policy framed and scheme launched	<ul style="list-style-type: none"> ● Co-ordinated efforts in national standardisation. ● Harmonised standard development in the country. ● International good standardisation practices followed in the country.
	<ul style="list-style-type: none"> ● Hold regular meetings with other SDOs in India 	All identified SDOs covered	<ul style="list-style-type: none"> ● Co-ordinated efforts in national standardisation. ● Harmonised standard development in the country. ● International good standardisation practices followed in the country.
	<ul style="list-style-type: none"> ● Conduct training on good Standardisation practices for other SDOs in India 	Two programmes held every year	<ul style="list-style-type: none"> ● Co-ordinated efforts in national standardisation. ● Harmonised standard development in the country. ● International good standardisation practices followed in the country.
4. Increased participation and involvement in international standardisation activities	<ul style="list-style-type: none"> ● Identify priority areas of participation in ISO and IEC that are of strategic importance for India, identify relevant experts who would participate and draw an annual delegation plan 	<ul style="list-style-type: none"> ● Strategic plan developed for participation in ISO/IEC technical work. ● Relevant guidelines for participation in international meetings framed and implemented. ● Relevant Technical committees/Working Groups of International Standardisation Bodies along with the relevant experts identified. ● Annual delegation plan developed. 	Focussed and effective participation in international standardisation.

Objective	Action	Measure	Targeted Benefit
	<ul style="list-style-type: none"> ● Identify subjects where India can lead international standardisation and propose New Work Item Proposals (NWIPs) 	At least five subjects identified for NWIPs every year	Increase in leadership role in international standardisation.
	<ul style="list-style-type: none"> ● Simplify the process of approval of delegation for participation in international standardisation. 	Proposal submitted for consideration of Government	Facilitate participation of experts in international meetings.
	<ul style="list-style-type: none"> ● Increase participation in International standardisation work and collaboration with international/regional standards bodies: <ul style="list-style-type: none"> — Participation in Workshops/Panels/Discussion/Forums of ISO, IEC, PASC, etc. — Opportunities for joint seminars with IEC/ISO/other NSBs and Regional Bodies — Hosting international events — Hosting international/regional technical committee meetings — Collaboration with/participation in other International Standardisation Bodies 	Participation in at least one event each year in each of ISO, IEC & PASC, etc At least two program with such organisations every year At least one event every year At least three meetings every year Collaboration initiated/membership obtained	Increased visibility and involvement of India in International standardisation forum.
	<ul style="list-style-type: none"> ● Enter into agreements on adoption of standards/sale of standards of other standardisation bodies 	Dialogue initiated/Agreements concluded	<ul style="list-style-type: none"> ● Increased collaboration with international and regional standards bodies. ● Adoption of other internationally accepted standards as national standards facilitated.
	<ul style="list-style-type: none"> ● Work out action plan for collaboration activities with NSBs that are MoU partner 	Dialogue initiated	<ul style="list-style-type: none"> ● Increased collaboration with MoU partner.
	<ul style="list-style-type: none"> ● Carry out sector wise awareness programme for Industry with focus on MSME 	At least six sector wise programmes held every year	Increased awareness and implementation of standards
5. Increasing awareness and implementation of standards			

ANNEX 1 ACTION PLAN

Objective	Action	Measure	Targeted Benefit
5. Increasing awareness and implementation of standards	● Conduct outreach programmes with Central/State Govt. Depts., Regulators, procurement agencies, etc on use of standards	All relevant ministries/ departments/ regulators/ agencies approached	Increased awareness and implementation of standards
	● Conduct regular awareness programmes for consumer bodies	At least one program every month	Increased awareness and implementation of standards
	● Extensive use of theme based media campaigns – special occasions – new standards – various events	All important occasions / standards /events covered	Increased awareness and implementation of standards
	● Conduct conferences/ seminars/ workshops in partnership with industry bodies/associations, technical and academic institutes/ professional bodies	At least two program held by every technical department in a year	Increased awareness and implementation of standards
	● Conduct product specific training programmes for industry on implementation of standards/testing	At least six programmes held every year	Better implementation of standards.
	● Develop communication materials for publicity	At least one brochure/ catalogue developed for each technical department	Increased awareness and implementation of standards
	● Introduce standards education in academia/academic curriculum	Plan developed and identified institutions approached	Linkages of Standards with Education, Innovation and R&D established.
	● Establish contact/ interaction with innovation centres for supporting innovation through standards	Plan developed and identified institutions approached	Linkages of Standards with Education, Innovation and R&D established.
	● Conduct technical committee meetings in Universities/Technical Institutions	At least three meetings held every year	Linkages of Standards with Education, Innovation and R&D established.

Objective	Action	Measure	Targeted Benefit
	<ul style="list-style-type: none"> ● Fund R&D work for the purpose of standards development 	At least six projects taken up for funding	Linkages of Standards with Education, Innovation and R&D established.
	<ul style="list-style-type: none"> ● Provide limited access of standard referenced in regulation/on subscription basis 	Facilities created and access provided	Easy access and use of standards.
	<ul style="list-style-type: none"> ● Conduct Young Professionals/Young Standardisers Programme 	At least two workshops held every year with follow-up engagements	Interest of next generation in standardisation work generated and they get involved in the work. Facilitate succession planning in technical committees.
	<ul style="list-style-type: none"> ● Create a Registry of Testing Facilities for benefit of industries. 	Registry Created	Access to relevant information to facilitate implementation of standards.
	<ul style="list-style-type: none"> ● Facilitate access to information on availability of standards. 	New search mechanism introduced on BIS website	Improved access to relevant information on standards
	<ul style="list-style-type: none"> ● Introduce multiple options for sale of Indian Standards as per market needs 	Multiple options identified and introduced	Better access and availability of standards.



SPECIFIC PLANS AND ACTIVITIES/INITIATIVES WOULD FURTHER EVOLVE AS NECESSARY AND APPROPRIATE RESOURCES ARE MOBILISED TO SUPPORT THE WORK AND EXECUTE THE ACTION PLAN.

ANNEX 2
KEY STANDARDISATION AREAS

SECTOR	FIELD	SUBJECT AREA	PRIORITY
Aerospace	Aircraft and Aerospace Components	Aerospace Fasteners	2.80
Agriculture	Agriculture - Soil	Soil health	1.00
	Agriculture machinery	Laser leveler	2.00
		Post-harvest processing equipment	2.00
		Sugarcane harvester	2.00
	Fertilisers	Nano formulations in fertilisers	2.40
	Pesticide	Bio-pesticides	2.25
Appliances	Domestic and commercial gas burning appliances	Gas stoves - radiant heat application	2.20
		Gas Stoves and geysers-PNG based	2.20
Automotive	Automotive Vehicles	Inspection & certification vehicles and end of life of vehicles and recycling	2.40
		Spare Parts /automotive components	2.40
	Pneumatic Tyres	Rolling resistance, wet grip, rolling sound	2.40
Building and Construction	Accessibility	Universal design for accessibility	3.00
	Building materials and components	Aggregate testing	2.60
		Bamboo products	2.60
		Builder's hardware including telescopic ball bearing slide, stainless steel door stopper, handrails and panic hardware	2.60
		Cement, Pozzolana and Dry-Mix mortar	2.60
		Cladding materials	2.40
		Concrete and concrete products	2.00
		Geopolymer concrete products	2.60
		Glass Fibre Reinforced Gypsum Panel	2.60
		Grouting materials	2.60
		Plastic and aluminium doors and windows	2.40

SECTOR	FIELD	SUBJECT AREA	PRIORITY
Building and Construction	Building materials and components	Plastic pipes	2.20
	Construction	Good construction practices	2.40
	Disaster Mitigation	Cyclone resistant design of structures	2.00
		Earthquake zoning, design and post-earthquake structural rehabilitation	2.00
		Landslide hazard control, zoning and risk assessment	2.00
	Fire safety	Fire fighting equipments	2.00
		Fire resistance rated building components	3.20
	Housing	Affordable housing	1.50
		New/innovative building materials and technologies	1.50
		Prefab construction	1.50
	Restoration and maintenance of heritage structures	Maintenance of stone masonry and heritage and other structures	1.50
	Structural Safety	Design codes for Plain and Reinforced concrete, Steel and Composite construction	1.50
		Liquid retaining structures, Tall buildings, Cooling towers, Bins/Silos, Baffle walls	1.50
		Machine foundation design and Pile foundation testing	1.50
		Safety during construction	1.50
	Sustainability	Sustainable water supply and sanitation	2.60
Chemicals	Chemicals	Personal hygiene and health safety	3.00
		Speciality chemical products and guidelines for water treatment	2.20
	Cosmetics	Risk assessment methods and test methods for heavy metals	2.60
	Safety practices and devices for handling of chemicals	Safety in storage and handling of hazardous chemicals, material data sheets, work permit systems etc.	2.75

ANNEX 2

KEY STANDARDISATION AREAS

SECTOR	FIELD	SUBJECT AREA	PRIORITY
Chemicals	Fragrances and related products	Air/room Freshener	2.60
		GNRAS List for Essential Oils	2.60
		Incense sticks and similar products	2.60
	Glass	Safety glass, speciality glass and glass equipments	2.60
	Organic Chemicals	Colour Intermediates	2.20
	Paint products - safe & environmentally sustainable products	Limit of VOC, toxic and heavy metals on paint raw materials and paints and their test methods	2.60
Coal & related products	Coal & related products	Solid bio-fuels and related test methods	2.80
		Solid mineral fuels	2.80
Electronics	Electronics	Optical fibres	1.75
		PCB Assemblies	2.00
		Display devices & STBs	2.00
		EMI/EMC and Environment testing	2.00
		Security Devices	1.75
Engineering	Bulk handling equipments	Ropeways and amusement parks	2.40
	Machinery	Paper making machinery	1.50
		Industrial sewing machine	2.20
	Pressure vessels and components	Cryogenic valve and containers	2.20
	Pumps & Motors	Submersible, rotodynamic and positive displacement pumps	2.00
	Refrigeration	Refrigerants and refrigerant systems	2.20
Environment	Environment	Air quality and Water quality	1.70
	Sustainable environment and waste management	Carbon footprint and Green house gas quantification	2.00
		Guidelines for zero waste discharge, treatment, disposal and reuse of industrial effluents	1.50
		Test characterisation of waste and Code of Practices for waste management for various sectors	1.50

SECTOR	FIELD	SUBJECT AREA	PRIORITY
Food & Food processing	Food	Fish & Fish products	3.00
		Food Additives	3.20
		Foodgrains	2.40
		Meat & meat products	1.50
		Milk Products	3.20
		Apiary products	3.20
		Oils	2.40
		Ready to Eat Foods	3.20
		Spices	2.60
		Veg and Fruit products	2.40
Health & safety	Occupational health, safety and management practices	Guidelines for grading/rating of PPE, hazard identification and risk analysis, (other than chemical hazards), application of OHMS in agencies dealing with solid waste management, selection of PPE for waste handling, enhancing safety culture in organisations	3.00
		Safety guidelines for Laboratories	1.00
	Sports	Safety in mountaineering activities	2.50
Healthcare	Ayurveda	Ayurvedic ingredients	3.00
	Medical Devices	Cardiology Devices	2.40
		Diagnostic Devices	2.40
		ENT Devices	2.40
		Haematology Devices	2.40
		Jaundice assessment Devices	2.40
		Laboratory Device (Medical)	2.40
		Neonatal Devices	2.40
		Nephrology Devices	2.40
		Ophthalmological Devices	2.40

ANNEX 2
KEY STANDARDISATION AREAS

SECTOR	FIELD	SUBJECT AREA	PRIORITY
Healthcare	Medical Devices	Orthopaedic Devices	2.40
		Paediatric Devices	2.40
		Psychiatric devices	2.40
		Radiological Devices	2.40
		Respiratory Devices	2.40
		Surgical Devices	2.40
		Training Devices (Medical)	2.40
Information Technology	Digital Technologies	Artificial Intelligence	1.60
		Big Data	1.60
		Blockchain and DLT	1.60
		Internet of Things	1.60
	IT Security	Data privacy, security techniques and mobile device security	1.60
	Software and Systems	National Mobility Card and Script grammar	1.60
Leather	Safety Footwear	Safety footwear for armed forces and medical	3.00
		Sustainable manufacture of leather	3.20
Manufacturing	Industrial Production	Anthropometric data for Indian population	1.00
		Bearings and Fasteners	2.00
	Machines & Machine Tools	Industrial automation in machines and machine tools	2.00
	Packaging - Paper packaging	Paper-based packaging for food items and safety standards	3.10
	Sports	Sports equipment	3.00
New & Renewable Energy	Solar Energy	Solar application transformers	2.20
		Solar cables & systems	2.20
		Solar cells and modules	2.20
		Solar Pumps and pumping systems	2.00

SECTOR	FIELD	SUBJECT AREA	PRIORITY
New & Renewable Energy	Wind Energy	Wind application transformers	2.20
Petrochemicals	Polymer - Plastics	Emerging plastic products	2.50
		Life cycle assessment of plastic products	1.50
		Plastic waste management related standards	2.40
	Polymer - Rubber	Emerging rubber products	2.50
		GRAS/GNRAS list for rubber industry	2.60
Petroleum	Lubricants	Bio-degradable and food grade lubricants and their test methods	1.40
		Lubricants applicable for BS VI fuels and alternate fuels and related test methods	1.40
	Petroleum and fuels	Alternate fuels and related test methods	1.40
		Blended/drop-in fuels and related test methods	1.40
Power	E-Mobility	EV charging infrastructure	2.00
	Lighting	Energy efficiency guidelines for lighting	2.20
		Safety, performance, efficiency of LED lamps	2.00
		Smart lighting	2.20
	Power Distribution	Condition monitoring transformers	2.20
		PTB coated insulators	2.20
	Power System	Safety of electrical installations	2.20
		Special cables	2.20
		Smart Grid architecture and power system security	2.20

ANNEX 2

KEY STANDARDISATION AREAS

SECTOR	FIELD	SUBJECT AREA	PRIORITY
Services	Services	Audio-Visual Services	2.60
		Big Data Services	1.60
		Communication Services	2.80
		Construction and Related Engineering Services	1.60
		E-commerce	2.00
		Education Services	2.60
		Environmental Services	1.50
		Financial Services	2.50
		Health Services	2.60
		IT & ITeS	1.60
		Legal Services	2.00
		Medical Value Travel	2.00
		Retail Services	2.80
		Tourism and Hospitality Services	1.50
		Transport and Logistics Services	2.60
Steel	Steel, steel products and other related products	Cold Rolled Steel for electrical applications	2.60
		Iron ore pellets	2.60
		Stainless steel products (cladding material and seamless & welded pipes)	2.70
		Steel bead wire for tyres	2.80
		Steel scrap	2.60
Textiles	Technical Textiles	Agrotech	2.60
		Buildtech	3.20
		Clothtech	3.20
		Geotech	3.20
		Hometech	3.20

SECTOR	FIELD	SUBJECT AREA	PRIORITY
Textiles	Technical Textiles	Indutech	3.20
		Manmade Textile	3.00
		MediTech	2.60
		Mobiltech	3.20
		Packtech	3.20
		Protech	2.80
		Speciality fibres	3.20
		Sporttech	3.20
Transport	Intelligent Transport Systems	Traffic Management System, Electronic Payment System, Advance Driver Assistance System	2.20
Urban development	Smart Cities	Smart and sustainable habitat	1.50
		ICT aspects	1.80
Water resources	Hydro structures	Construction of Hydro structures	1.50
		Safety of hydro structures	1.70
	Hydrometry	Groundwater flow monitoring	1.50
	Water management	Artificial Recharge of ground water	1.50
		Integrated water resource management	1.50
		Springs	1.50
		Urban flooding	2.00
		Water quality management	1.00

Note: In the priority indicated for the subject areas in the above table, a lower value indicates a higher priority



SUSTAINABILITY, SMARTNESS AND SERVICE STANDARDISATION WOULD BE THE KEY ASPECTS THAT WOULD DEFINE THE FUTURE NATIONAL STANDARDISATION WORK OF BIS.

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