BIS ACTIVITIES & SAFETY OF MACHINERY SECTIONAL COMMITTEE (MED 40)

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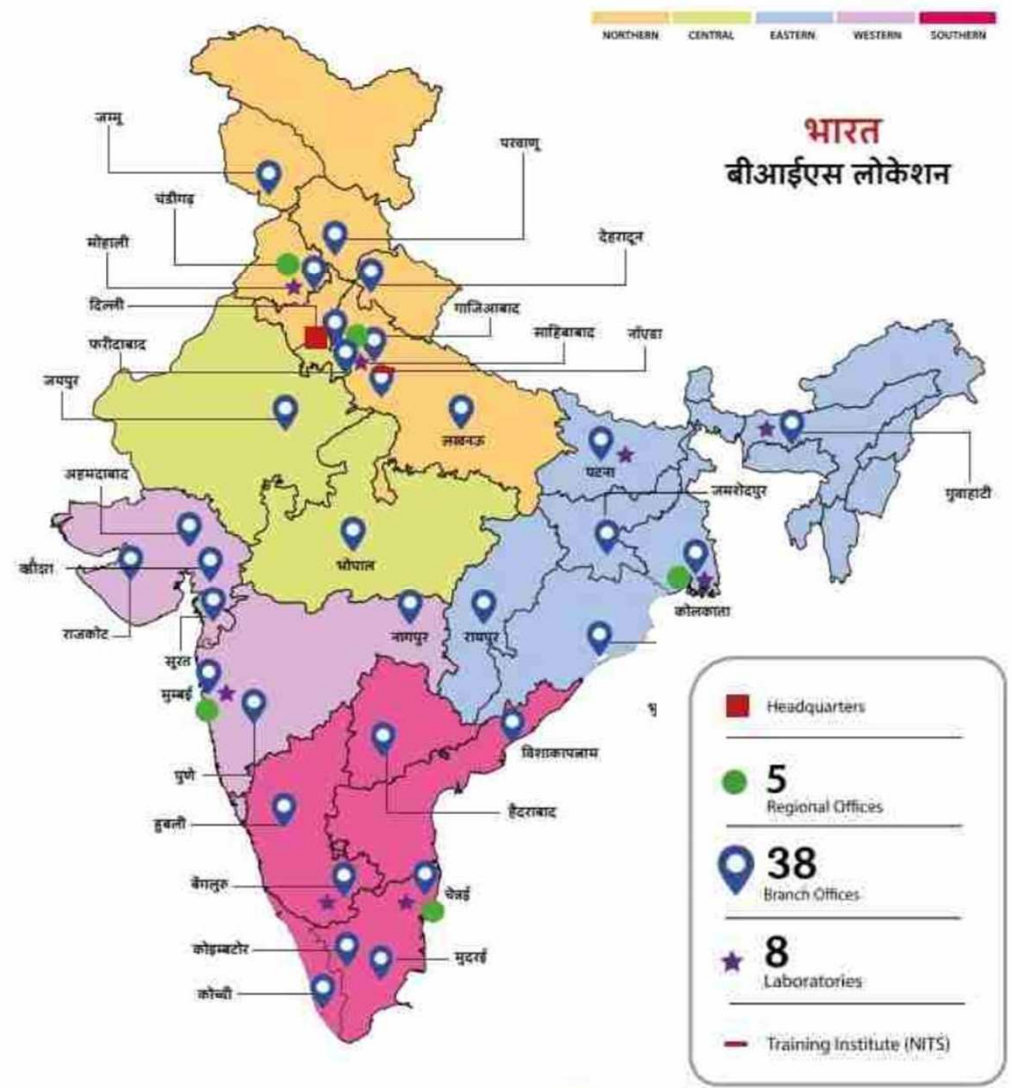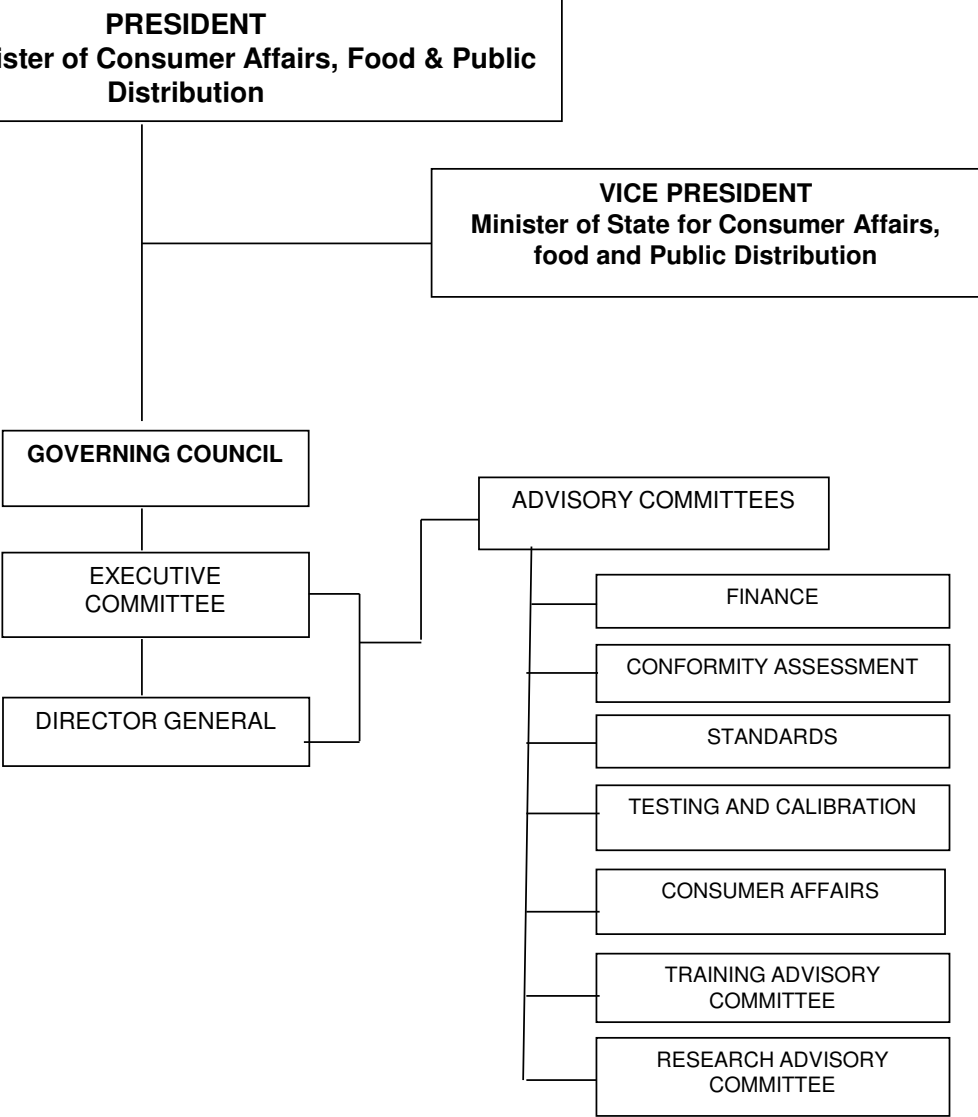
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- ❑ The Indian Standards Institution (ISI) was set up in 1947 as a registered society under a Government of India Resolution.

- ❑ Bureau of Indian Standards (BIS) Act, 1986 gave Statutory Status to BIS on 1 April 1987.

- ❑ The BIS Act, 2016 enforced on 12th October 2017 makes BIS the National Standards Body of India.

OBJECTIVES

- Harmonious development of activities of Standardization, Marking and Quality Certification

- To provide new thrust to Standardization and Quality Control

- To evolve a national strategy for according recognition to standards and integrating them with growth and development of industrial production and exports

STRUCTURE OF BIS

PRESIDENT
Hon'ble Minister of Consumer Affairs, Food & Public Distribution

VICE PRESIDENT
Minister of State for Consumer Affairs, food and Public Distribution

GOVERNING COUNCIL

EXECUTIVE COMMITTEE

DIRECTOR GENERAL

ADVISORY COMMITTEES

- FINANCE
- CONFORMITY ASSESSMENT
- STANDARDS
- TESTING AND CALIBRATION
- CONSUMER AFFAIRS
- TRAINING ADVISORY COMMITTEE
- RESEARCH ADVISORY COMMITTEE

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STANDARDS FORMULATION

Item	As on 21.08.2023
Total number of Standards	22671
Number of new Standards made in 2022-23	586
Number of Standards revised in 2022-23	984
Standards harmonized	88%

STANDARD FORMULATION DEPTs.

– Chemical Engineering Department (CHD)
– Civil Engineering Department (CED)
– Electronics and Information Technology Engineering Department (LITD)
– Electro-technical Engineering Department (ETD)
– Food and Agriculture Engineering Department (FAD)
– Management and Systems Department (MSD)
– Mechanical Engineering Department (MED)
– Medical Equipment and Hospital Planning Department (MHD)
– Metallurgical Engineering Department (MTD)
– Petrochemical, Coal & Related Products Engineering Department (PCD)
– Production and General Engineering (PGD)
– Textile Engineering Department (TXD)
– Transport Engineering Department (TED)
– Water Resources Department (WRD)
– Ayush Department (AD)
– Services Sector Department (SSD)

PRODUCT CERTIFICATION

- Started in 1955 under ISI Certification Marks Act, 1952
- Voluntary in nature
- Mandatory Certification through Quality Control Orders (QCOs) by various Ministries of Government of India
  - 458 products under Product Certification & 83 under Registration Scheme
- Foreign Manufacturers Certification Scheme started in the year 2000

Item	As on 21.08.2023
Products covered under certification	1182
Number of licences (Domestic) issued in 2022-23 (Mandatory & Voluntary)	5304
Number of Operative Licences (Domestic)	41,808
Number of new licences granted under FMCS in 2022-23	363
Number of operative licences under FMCS	1305

COMPULSORY REGISTRATION SCHEME

- **Ministry of Electronics and Information Technology** for electronic products - 63 product categories

- **Ministry of New and Renewable Energy** for photovoltaic systems, devices & components - 05 product categories

- **Ministry of Chemicals & Fertilizers** for Ortho Phosphoric Acid & Polyphosphoric Acid and Trimethyl Phosphite - 03 product categories

- Time norms:
  - Grant of Registration: 20 Working days
  - Grant of Inclusion: 10 Working days

Item	As on 21.08.2023
Total number of operative licences	22,246
Number of new licences granted in 2022-23	5503

HALLMARKING SCHEME

- Launched in 2000 (Gold); 2005 (Silver)

- Grant of certificate to the Jeweller as per IS 1417 for Gold Jewellery/artefacts and IS 2112 for Silver Jewellery/artefacts.

- 100% of the items are tested through XRF. A representative sample per lot is tested by fire assay by AHC.

- Hallmarking of gold items is limited to Six grades 14 K, 18 K, 20 K, 22 K, 23 K & 24 KS(995 fineness) as per IS 1417:2016 for consumer protection.

- 46 Licences granted to Gold Refineries/Mint for refining of gold.

- More than 4.2 lakh jewellery articles are being hallmarked per day.

- More than 25 crore jewellery pieces hallmarked since the launch of mandatory hallmarking

Item	Total
No. of jewelers registered	**1,80,533**
Number of recognized Assaying & HM Centers	**1464**
Number of Referral Assaying Labs	**08**

MANAGEMENT SYSTEMS CERTIFICATION

- Management Systems Certification Scheme in operation since 1991, in accordance with ISO/IEC 17021-1: 2015
  - Quality Management System Certification (QMS) – **IS/ISO 9001**
  - Environmental Management System Certification (EMS) - **IS/ ISO 14001**
  - Occupational Health and Safety Management System (OHSAS) - **IS 18001**
  - Food Safety Management System (FSMS) - **IS/ ISO 22000**
  - Hazard Analysis and Critical Control Points (HACCP) – **IS 15000**
  - Service Quality Management Systems (SQMS) – **IS 15700**
  - Energy Management System Certification (EnMS) – **IS/ISO 50001**

Item	As on 21.08.2023
Total number of operative licences	1303
Number of new licences granted in 2022-23	141

LABORATORY TESTING

❑ Eight BIS laboratories.

  ▪ CENTRAL LAB: 01 (Sahibabad - It was first to be set up in 1962)
  ▪ REGIONAL LABS :   04 (Chennai, Kolkata, Mohali & Mumbai)
  ▪ BRANCH LABS: 03 (Bangalore, Guwahati & Patna)

❑ 300 outside recognized laboratories.

❑ More than 260 specialized Government laboratories empaneled by BIS.

❑ 8 Referral laboratories of BIS for Gold/Silver Assaying.

Safety of Machinery Sectional Committee (MED 40)

❑ Recently formed Committee formed under Mechanical Engineering Divisional Council

❑ Scope of Work
   Standardisation of safety of machines in airborne hazardous substances, fire, access to machinery, safe control systems, design and construction, risk reduction.

❑ First meeting held in 2017

❑ Currently, the Committee consists 23 stakeholder organisations

❑ Director, Department of Heavy Industries is the Ex-officio Chairperson. Currently, the post is held by Mr Vikas Dogra.

Participation in International Standards Formulation

❑ MED 40 is the National Mirror Committee for liaising with the ISO Committee on Safety of Machinery ISO/ TC 199

❑ Mode of Participation
- Ballot
- Meeting
- Working Groups

Participation in International Standards Formulation - Ballots

❑ ISO publishes ballots to obtain consensus on draft standards formulated at various stages of document preparation:
  ▪ New Work Item / Preliminary Work Item (NP/PWI)
  ▪ Working Draft (WD)
  ▪ Committee Draft (CD)
  ▪ Draft International Standard (DIS)
  ▪ FDIS (Final Draft International Standard)

❑ Ballots NOT related to draft standards but related to taking decisions in the ISO committee are issued under category *Committee Internal Ballot (CIB)*

Participation in International Standards Formulation - Ballots

❑ Ballots received and response submitted during the period 05 May 2022 (6th meeting) and 03 Aug 2023 (7th meeting)

17	3	12			2
Total Ballots received	**Ballots Open for voting**	**Ballots voted**			**Ballots not voted**
		5	7	0	
		Ballots voted - Affirmative	**Ballots voted - Abstain**	**Ballots voted - Negative**	

Participation in International Standards Formulation - Meetings and Working Groups

❑ India has nominated experts and subject matter experts from stakeholder organisations to ISO Working Groups working on a specific subject or standard.

❑ ISO/TC 199 is hosting its next Plenary in Nov-Dec 2023. National Delegation for the meeting to be decided in upcoming virtual meeting of MED 40 on 05 Oct 2023.

Working Group	Title	Nomination of Indian expert
ISO/TC 199/WG 3	Safety of integrated manufacturing systems	Shri Y. Balaramaiah of M/s IMTMA Shri V. Ravindranath of M/s ITC
ISO/TC 199/WG 5	General principles for the design of machinery and risk assessment	Shri Vinay Girdhar Bansod of M/s PMMAI
ISO/TC 199/WG 6	Safety distances and ergonomic aspects	Shri Girish Alawe of M/s Schmersal India Pvt Ltd
ISO/TC 199/WG 7	Interlocking devices	a) Shri Girish Alawe of M/s Schmersal India Pvt Ltd b) Shri Samir Kanchan of M/s Macsafe
ISO/TC 199/WG 8	Safe Control Systems	a) Shri Girish Alawe of M/s Schmersal India Pvt Ltd b) Shri Siddesh Dalal of M/s Macsafe
ISO/TC 199/WG 10	Fire prevention and protection	Shri V. Ravindranath of M/s ITC
ISO/TC 199/WG 11	Permanent means of access to machinery	No expert nominated
ISO/TC 199/WG 12	Human-machine-interactions	No expert nominated

Basket of Standards under MED 40

❑ MED 40 has published 34 standards till date

❑ All of the Indian Standards under MED 40 are harmonised with the corresponding ISO standards, hence, harmonisation status is 100%

❑ ISO Committee has 45 published standards

❑ MED 40 in its last meeting on 03 Aug 2023 decided to adopt remaining 11 ISO standards

45 Total ISO Standards	**33** Latest version of ISO adopted	**1** Older version of ISO adopted
11 ISO standards not adopted	**0** Indigenously developed Standards	**0** Amendment issued by ISO, not adopted

Basket of Standards under MED 40

❑ Some of the recent standards published by MED 40

Title	#
Safety of machinery — Two-hand control devices — Principles for design and selection	IS 16817 : 2020 ISO 13851:2019
Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs	IS 16814 : 2021 ISO 13857:2019
Safety of machinery — Fire prevention and fire protection	IS 16807 : 2020 ISO 19353 : 2019
Safety of machinery — Instruction handbook — General drafting principles	ISO 20607:2019

Omnibus Technical Regulation - Standards

❑ The upcoming OTR includes standards from a wide array of disciplines including Mechanical, Electrical, Production and General Engineering, Textiles, Transport, etc.

❑ Standards related to OTR published by MED 40 are:
  - Type A: 1

IS NO.	IS TITLE	COMMITTEE NO.
IS 16819 : 2018 ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction	MED 40 (Safety of Machinery Sectional Committee)
IS 16504 (Part 1) : 2019 IEC 60204-1 : 2016	Safety of Machinery — Electrical Equipment of Machines Part 1 General Requirements (First Revision)	ETD 44 (Safety Of Machinery-Electrotechnical Aspects Sectional Committee)

Omnibus Technical Regulation - Standards

❑ Standards related to OTR published by MED 40 are:
- Type B: 31

COMMITTEE NO.	#
ETD 01 (Basic Electrotechnical Standards Sectional Committee)	1
ETD 18 (Industrial Process Measurement And Control Sectional Committee)	1
ETD 44 (Safety Of Machinery- Electrotechnical Aspects Sectional Committee)	8
MED 07 (Earth Moving Equipment and Material Handling Sectional Committee)	1
MED 40 (Safety of Machinery Sectional Committee)	**31**
PGD 15 (Ergonomics Sectional Committee)	6
PGD 36 (Fluid Power System Sectional Committee)	2
Grand Total	**50**

Omnibus Technical Regulation - Standards

❑ Type C Standards related to OTR:

COMMITTEE NO.	#
ETD 07 (Low Voltage Switchgear And Controlgear Sectional Committee)	1
ETD 15 (Rotating Machinery Sectional Committee)	3
ETD 16 (Transformers Sectional Committee)	8
ETD 31 (Power Electronics Sectional Committee)	1
MED 07 (Earth Moving Equipment and Material Handling Sectional Committee)	3
MED 14 (Cranes, Lifting Chains And Related Equipment Sectional Committee)	3
MED 17 (Chemical Engineering Plants And Related Equipment Sectional Committee)	1
MED 22 (Turbo Machinery Sectional Committee)	2
PGD 35 (Machine Tools, Machine Tool Elements, and Holding Devices Sectional Committee)	5
TED 02 (Automotive Primemovers, Transmission Systems and Internal Combustion Engine Sectional Committee)	6
TXD 14 (Textile Machinery and Accessories Sectional Committee)	2
Grand Total	**35**

Way Forward

❑ Currently, India has been following the roadmap laid out by ISO Committee for standards on Safety of Machinery

❑ Need of the Hour

   To put India as a leading contributor and driving force in development of future standards at International Platform

❑ How do we achieve it?
   - Identify the stakeholders and subject matter experts, bring them onboard on MED 40
   - Finding the gaps in current standards framework
   - Analyse the emerging areas and their impact on Safety. Eg - Cybersecurity, AI
   - Propose new standards or revision of existing ones on behalf of India
   - A step further
     Holding convenership of ISO working groups for projects proposed indigenously

Thank You!

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