



StandICT Academy webinar on ICT standardisation - focus on INDIA with IEC

“ Opportunities and Challenges for the Cooperation of EU and India in Standardisation ”

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Outline

- Project SESEI
- Standards & Why ICT standard need to be global?
- SDOs in India & EU
- EU-India Partnership Instruments
- Opportunities and Challenges
- Conclusion

Project is a local presence in India

SESEI (Seconded European Standardization Expert in India)
is a local face for the European standardization community in India: Dinesh Chand Sharma



Why SESEI: India is a major trade partners for EU/EFTA, Increasing role of standards to gain market access, evolving & complex nature of regulatory and standardization landscapes, sharing best practices, and work together as partners

Priority Sectors/topics: Aligned with EU-INDIA TTC, Connectivity Partnership

Digitization: Strategic technologies, digital governance, and digital connectivity

Smart Cities/Urban Development, ITS, Quantum Technologies, Smart Grid/Meter, Artificial Intelligence, 5G/6G, Open RAN, M2M/IoT (Cyber-Physical Systems), DECT, Data Privacy, Satellite Communication, Blockchain, Digital Signature, Smart Manufacturing, e-Accessibility, cybersecurity, digital skills, digital platforms including Research and Innovation etc.

Green & Clean technologies : Clean Energy, Energy Efficiency (Green ICT), Environment, Circular Economy including Resource Efficiency, Waste Management, Energy storage technologies, Electric mobility, Green Hydrogen, Advanced biofuels including R&I etc.

Other topics of mutual interests such as Rail, Ropeways, Machinery Safety etc.

www.sesei.eu , www.sesei.in

Standards & Why ICT Standards need to be Global

Standards are :

Document that defines technical or quality requirements with which current or future products, production processes, services or methods may comply

Always voluntary

Consensus based

Established by all
interested parties

Driven mainly by Industry

Drafted by technical experts

Approved by a
recognized,
independent
standardization body



Why ICT Standards need to be global

Global Players are ISO/IEC/JTC1, ITU, 3GPP, oneM2M etc.

- ✓ Common language & understanding
- ✓ Research is local, but standards must be global
- ✓ Interoperability of products, services and International roaming
- ✓ Economies of scale providing affordability
- ✓ Safety & Security always evolving: Secure by Design through cooperation & collaboration
- ✓ Environmental sustainability & Societal aspect are global needs
- ✓ Trade and economic growth in today's connected world demands global requirements

Standards Organizations in Europe

Standards organizations in Europe

Recognized SDOs in the European Union

- Regulation (EU) No 1025/2012 of the European Parliament and of the Council:
 - Designates CEN, CENELEC and ETSI as the European Standardization Organizations (ESOs): Single Market in Europe by bringing NSOs to have a single EN Standards



ETSI Cluster

A Connected World



ETSI: Emerging Technologies

- List of Emerging Technologies standardized by ETSI or touched by our standardization:
 - 3GPP Telecom Management
 - 5G
 - Internet of Things (IoT)
 - Mobile Communications
 - Multi-access Edge Computing (MEC)
 - Securing Artificial Intelligence (SAI)
 - Smart Body Area Networks
 - Smart appliances
 - Smart cities
 - Smart Grids
 - Smart Metering
 - Zero touch network & Service Management (ZSM)
 - Human Factors (HF) and accessibility
 - Augmented Reality
 - automotive Intelligent Transport Systems (ITS)
 - Broadband Satellite Multimedia
 - Broadband Cable Access
 - Broadband Wireless Access
 - Certification Authorities and other Trust Service Providers
 - Cybersecurity
 - Broadcast
 - Digital Enhanced Cordless Telecommunications (DECT)
 - Energy efficiency (EE)
 - Experiential Networked Intelligence (ENI)
 - Environmental Aspects

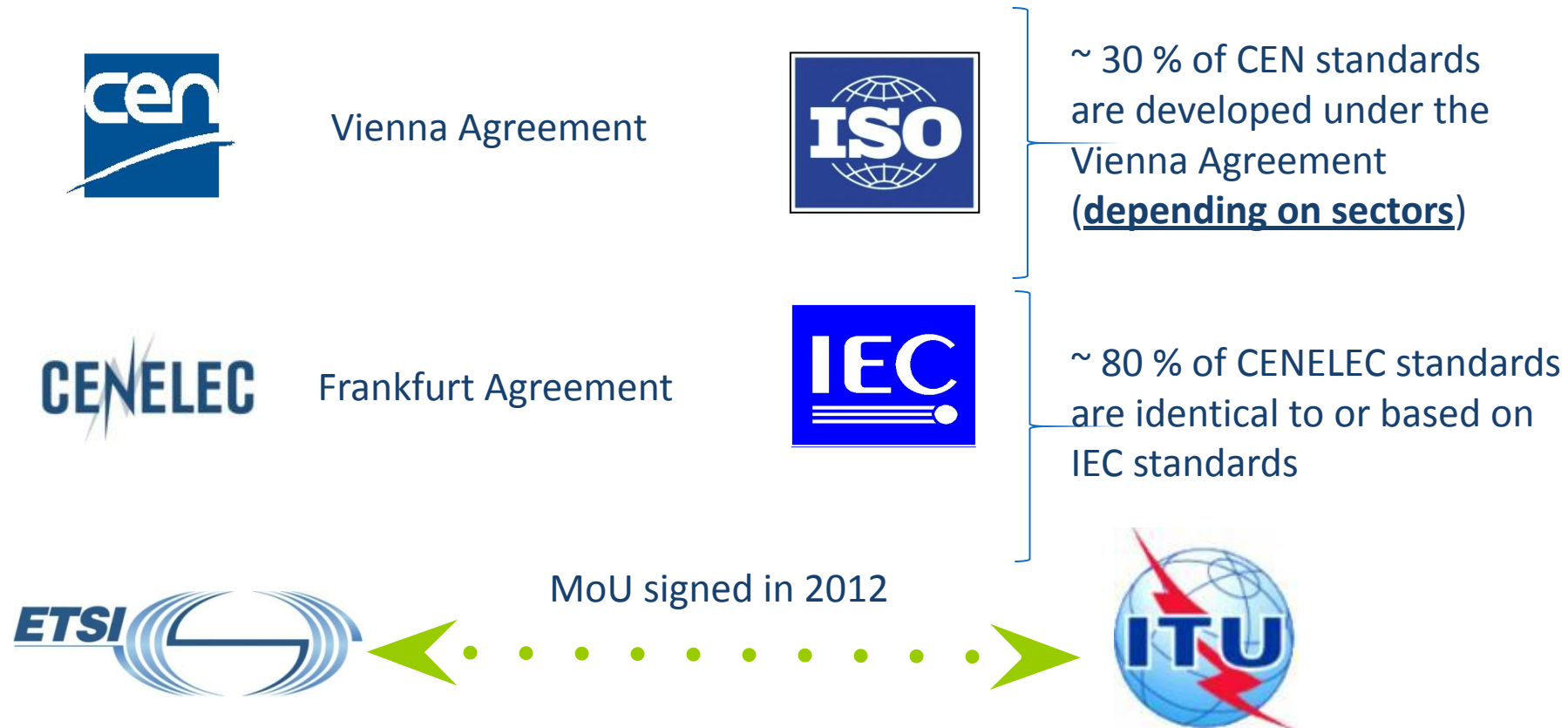
Complete list can be access here

<https://www.etsi.org/technologies>

CEN-CENELEC in ICT

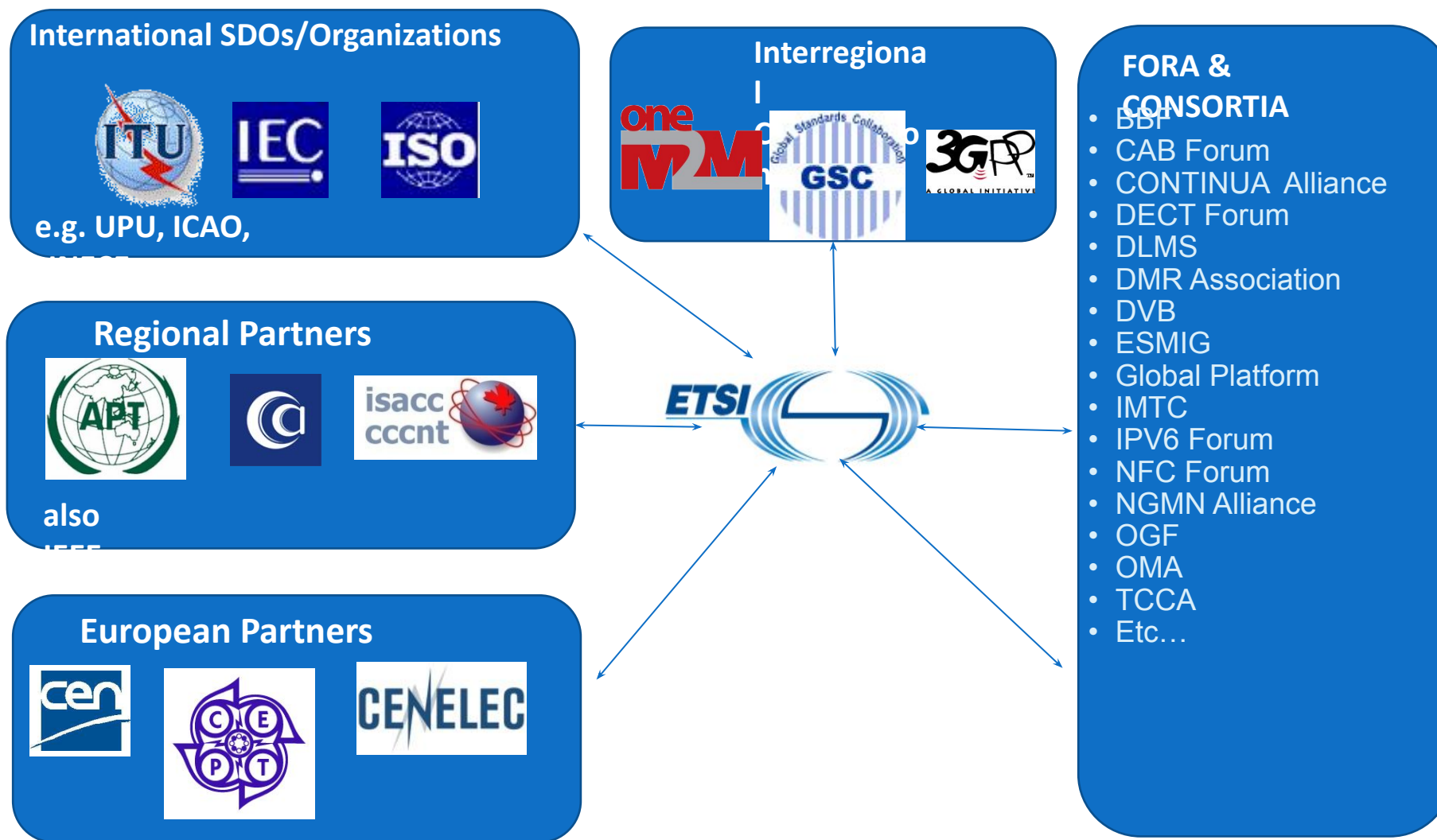
CEN-CENELEC TC	Title
<u>CEN/CLC/JTC 19</u>	Blockchain and Distributed Ledger Technologies
<u>CEN/CLC/JTC 21</u>	Artificial Intelligence
<u>CEN/CLC/JTC 22</u>	Quantum Technologies
<u>CEN/CLC/ETSI/JWG eAcc</u>	eAccessibility
<u>CEN/CLC/JTC 13</u>	Cybersecurity and Data Protection
<u>CEN/TC 428</u>	ICT Professionalism and Digital Competences
<u>CLC/SR SM</u>	Smart Manufacturing
<u>CEN/TC 293</u>	Assistive products and accessibility
<u>CEN/TC 428</u>	ICT Professionalism and Digital Competences
Many More.....	

The European Standards Organizations (ESOs)



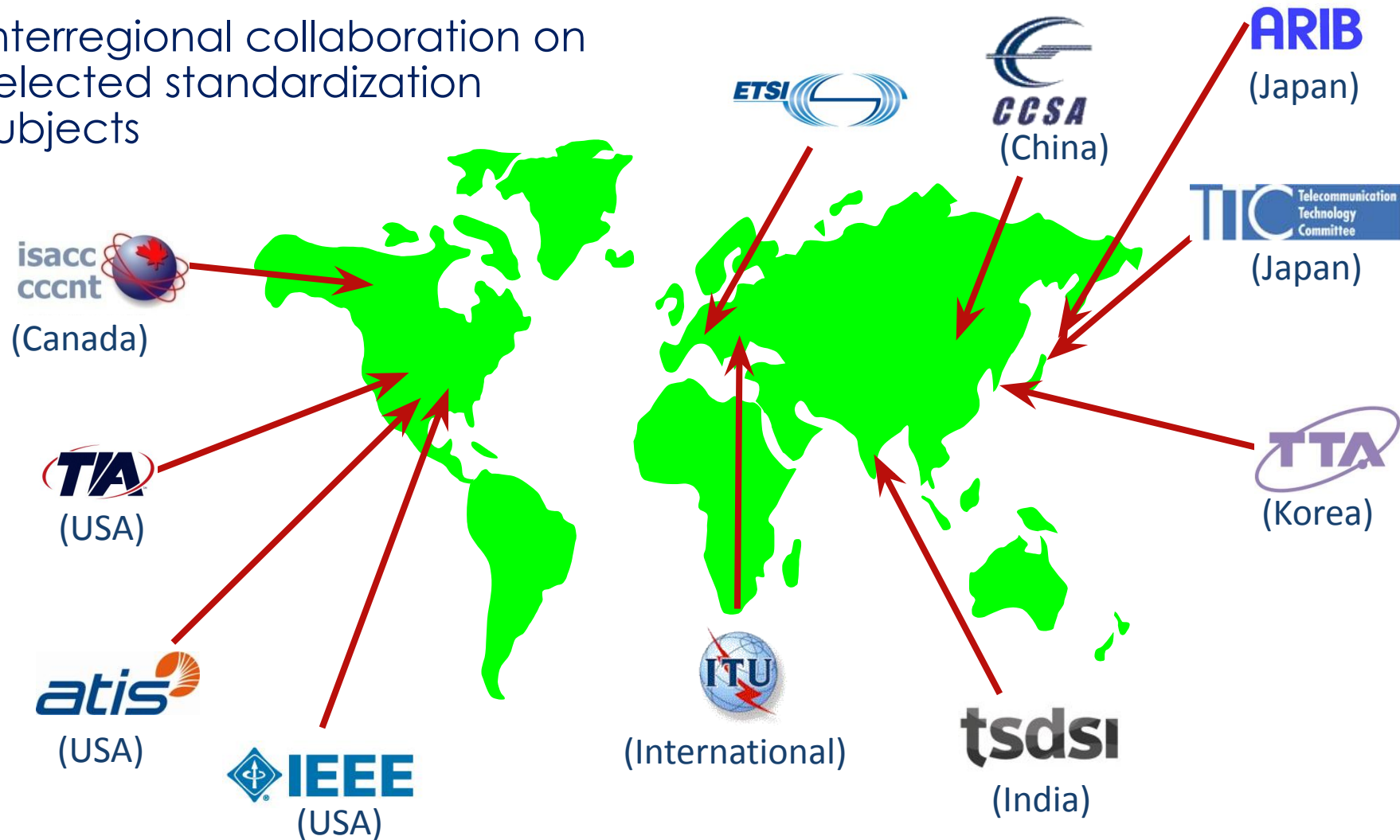
Three European Standards Organizations (ESOs: CEN, CENELEC and ETSI) have appointed a Seconded European Standardization Expert in **India** (SESEI)

ETSI partners



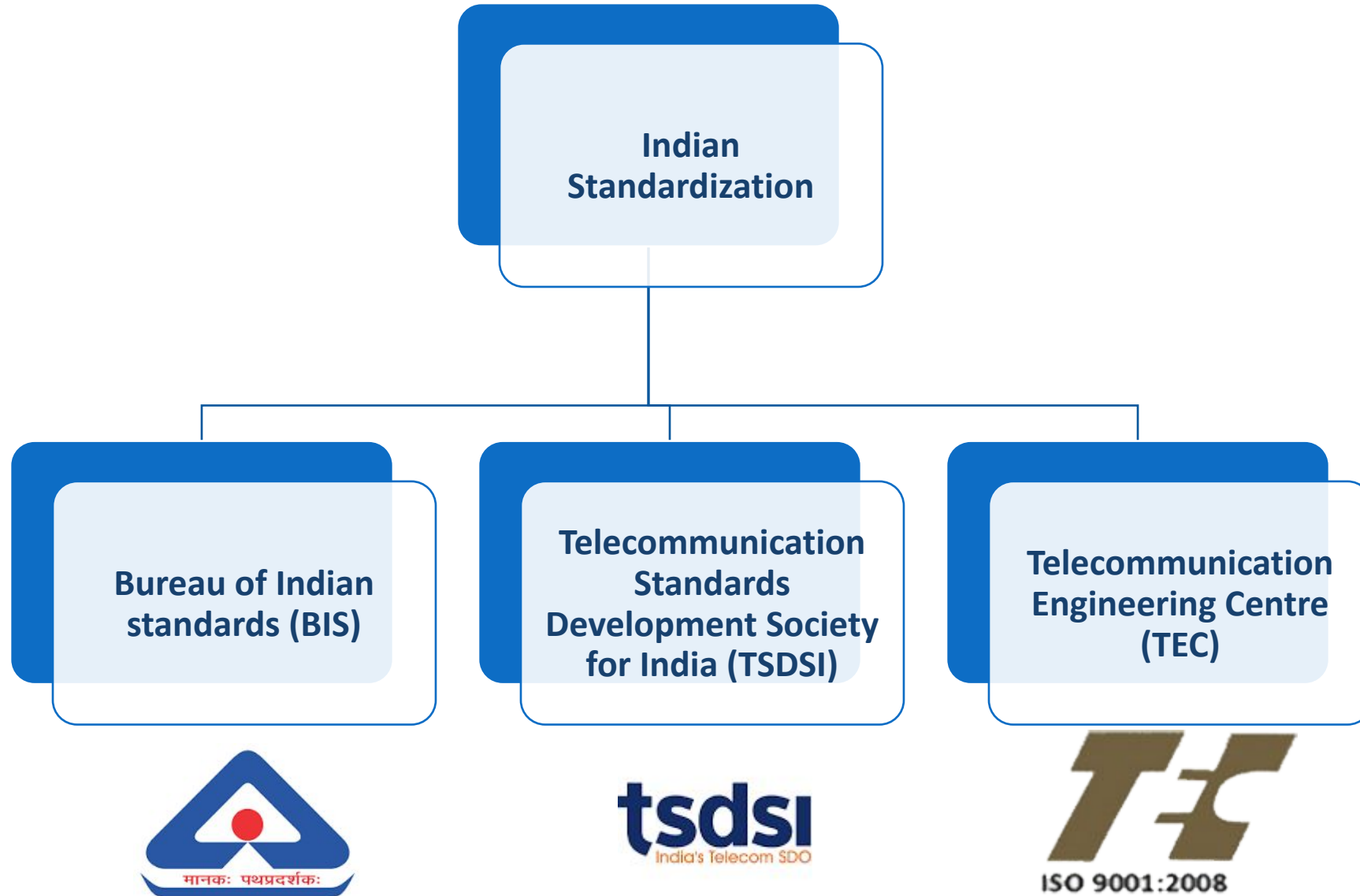
Global Standards Collaboration

Interregional collaboration on selected standardization subjects



Standards Organisations in India

Standardization organizations in India in ICT sector



Indian SDOs: BIS

Bureau of Indian Standards (BIS)

- Founder member of ISO
- Participating (P) member of 470 committees and Observer (O) member in 194 committees of ISO
 - India holds the Secretariat of 11 ISO committees and Convenorship of 21 ISO working groups.
- Represents India through Indian National Committee (INC) in the IEC as a member
- Participating member of 92 Technical Committees and observer member in 74 Technical Committees of IEC.
 - India holds the Chairmanship of the IEC Systems Committee on 'Low Voltage Direct Current (LVDC) and LVDC for electricity access' and of IEC/TC 33 'Power capacitors and their applications'
- Member of regional standards bodies like Pacific Area Standards Congress (PASC) and South Asian Regional Standards Organization (SARSO).
- 32 Memorandum of Understanding (MoU) & 8 Bilateral Agreements
 - MoU b/w ETSI⇔BIS, CEN-CENELEC⇔BIS and CEN (EN-115)⇔BIS



BIS Committees in the area of ICT

Committee	Title	ISO/IEC
LITD 27	Internet of Things and & Digital Twin	ISO/IEC JTC 1/SC 41
LITD 28	Smart Infrastructure	<u>SyC COMM</u>
LITD 29	Blockchain and Distributed Ledger Technologies	<u>ISO/TC 307</u>
LITD 30	Artificial Intelligence	ISO/IEC JTC 1/SC 42
LITD 31	Cloud Computing, IT & Data Centres	<u>ISO/IEC JTC 1/SC 38</u>
LITD 33	Wearable electronic devices and technologies	<u>IEC/TC 124</u>
LITD 34	Smart Manufacturing	<u>IEC SyC SM</u>
LITD 35	Active Assisted Living	<u>IEC TC SyC AAL</u>
LITDC/P5	Quantum Computing	

Indian SDOs: TSDSI & TEC

• Telecommunication Standards Development Society, India (TSDSI)

- Letter of Intent to Co-operate with ARIB (Japan), ATIS (US), CCSA (China), TTC (Japan)
- Cooperation agreements with international SDOs: ETSI (Europe), Open Connectivity Foundation (OCF)
- MoU with 5G IA, ATSC, GCF, IEEE-SA, TAICS, TIA (US), TTA (Korea), WWRF
- Member of ITU
 - Associate member of ITU-R SG5 and ITU-T SG15.
 - TSDSI members are also contributing to Focus Groups on Machine Learning for Future Networks (FG ML5G) and Autonomous Networks (FG AN).
- Organizational Partner (OP) of 3GPP
 - TSDSI has transposed 3GPP specifications from Release 10 to 17 (total 428 documents) into TSDSI Standards (<https://tsdsi.in/3gpp/>)
 - TSDSI's 5Gi standard has also been formally merged with the 3GPP 5G Standard and implemented into the 3GPP Rel-17 NR specifications.
- Partner Type I of oneM2M
 - TSDSI has Transposed oneM2M Specifications Rel. 2 and Rel. 3 into TSDSI Standards. (<https://tsdsi.in/onem2m/>)
- Constituent SDO of Global Standards Collaboration (GSC)

• Telecommunication Engineering Centre (TEC)

- TEC participates & follow programmes of standardization bodies such as ITU, 3GPP, OneM2M, ETSI, IEEE, IETF, APT, OCEANIS etc. (directly/indirectly)
- 3rd Generation Partnership Project (3GPP): Adopted/adopting 3GPP standards transposed by Indian SDOs like TSDSI
- OneM2M: TEC has approved adoption of TSDSI transposed oneM2M Release 2 in September 2020 and Release 3 in August 2022.
- International Telecommunication Union (ITU): National Working Groups (NWGs) have been constituted in TEC in line with ITU-T Study Groups. Each NWG has members from the industry, academia, government, research organizations etc.



EU – INDIA Partnership

EU-India Partnership Instruments

- EU-India Strategic Partnership: A Roadmap to 2025 , Joint Declaration of May 2021
 - **Cooperation around Standardisation and its harmonisation to International Standards and promotion of existing international standards** is key.
 - Cooperation on digital standards and network security, 5G technology and beyond 5G, Joint Task Force on Artificial Intelligence, Quantum and High-Performance Computing, protection of personal data and privacy, Climate Change, Clean Tech, Renewables, Clean Energy, Circular Economy and Resource Efficiency Partnership, Partnership on Smart and Sustainable Urbanization, Research & Innovation, RAIL etc.
- Establishment of a Trade and Technology Council (TTC) between the two regions
 - Three working groups — on digital governance and connectivity, green tech, and trade,
- EU-India Connectivity Partnership aligned with EU's Global Gateway
 - Support sustainable digital, transport and energy networks, based on Sustainable Development Goals principles and commitment to **implementing relevant international standards**, to ensure a level playing field.
- Re-launch of EU-India Free Trade Agreement negotiations etc.



TTC – What's in it

WG1: Strategic technologies, digital governance and digital connectivity

Areas to be explored:

- Digital connectivity
- Artificial Intelligence
- 5G/6G
- High performance and Quantum computing
- Semiconductors
- Cloud systems
- Cybersecurity
- Digital skills
- Digital platforms

WG 2: Green & clean technologies

The group will focus on standards, emphasis on research and innovation.

Areas to be explored :

- Research and Innovation
- Wastewater treatment
- Recyclable Plastics
- Waste to Energy
- E-mobility and battery performance and recycling
- Green hydrogen and green ammonia
- Liquid fertilizers

WG 3: Trade, investment and resilient value chains

- ▶ The resilience of supply chains and access to critical components, energy, and raw materials.
- ▶ To resolve identified trade barriers and global trade challenges by promoting cooperation in multilateral fora.
- ▶ Towards promotion of international standards and cooperation on addressing global geopolitical challenges.

Opportunities & Challenges

Opportunities

- **Economic Growth and Trade Enhancement:**

- Aligning standards facilitate easier market access for goods and services, boosting bilateral trade.
- Harmonized standards has potential to attract investments, particularly in sectors like manufacturing, renewable energy, and **digital technologies**.

- **Technological and Industrial Cooperation:**

- Collaborative standardization can enhance joint R&D efforts, leading to technological innovations.
- Sectors like automotive, pharmaceuticals, **IT, and telecommunications** can benefit from common standards, fostering industrial synergies and efficiency.

- **Regulatory Convergence:**

- Businesses benefits from reduced regulatory burdens and simplified compliance procedures.
- Harmonised standards ensure better product quality and safety, protecting consumers.

- **Global Influence and Leadership:**

- Joint efforts in standardisation help setting global benchmarks, influencing international standards and practices.
- Cooperation leads to the adoption of standards that support SDGs, particularly in energy, environment, and health sectors.

- **Digital and Cybersecurity Standards:**

- Collaboration in digital standards can boost the digital economy, enhancing e-commerce, cybersecurity, and data protection.
- Common standards can promote the development of smart cities, leveraging IoT and smart infrastructure technologies.



Challenges

- **Regulatory:**

- Differences in regulatory frameworks and standards pose significant hurdles to harmonization and Trade.
- Adapting to new/different standards is costly for businesses, especially SMEs (small and medium-sized enterprises) and impact consumer price.

- **Political and Economic Priorities:**

- Differing national priorities and interests can impede consensus on standardisation efforts.
- Protectionist measures and trade barriers can limit the scope of cooperation.

- **Capacity and Infrastructure:**

- Disparities in technical expertise and infrastructure can affect the implementation of common standards.
- Limited resources for standard development and enforcement can be a challenge.

- **Cultural and Institutional Differences:**

- Differences in institutional frameworks and decision-making processes can complicate collaborative standardisation efforts.
- Cultural differences in business practices and regulatory approaches can lead to misunderstandings and delays.

- **Stakeholder Coordination:**

- Ensuring active participation from diverse industries and stakeholders can be challenging.
- Effective cooperation between public authorities and private sector entities is crucial for successful standardisation, which may not always be seamless.

Conclusion

- Rapid technological progress necessitates harmonized/global standards, especially in Information and Communications Technologies (ICT).
- ICT Standards need to be global considering the fact of interoperability: SDOs must work together on topic of convergence – ICT
- BIS and CEN/CENELEC/ETSI MoU, TSDSI & ETSI, ETSI & COAI, BIF, CEN-CENELEC-ISGF are instrumental in enhancing the cooperation b/w EU and India
- Integrating research into the standardization (Standards based Research) is crucial to identify and address emerging topics in technology
- New player introducing ICT in their sector (Smart), Convergence, OTT creating a situation of fragmentation, shall be avoided through closure working & exchange between the SDOs in respective regions
 - e.g. CG between CEN-CENELEC-ETSI



Thank you!

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