



**Telecommunications
Standards Development
Society, India**

tsds

India's Telecom SDO





WHO ARE WE?

TSDSI is an autonomous, membership based, standards development organization (SDO) for Telecom/ICT products and services in India. We develop standards for access, core, back-haul, and infrastructure systems, solutions and services that best meet India specific Telecom/ICT needs, based on research and innovation in India.

We work closely with global standards' bodies to reflect Indian requirements into International telecom/ICT standards. Department of Telecommunications & Ministry of Electronics and Information Technology, Govt. of India are jointly supporting TSDSI as India's Telecom/ICT SDO.

OUR VISION

"To ensure that Digital Communication Standards increasingly drive domestic economic and policy activities and enhance India's competitiveness for ICT goods and services in global markets. It aims to do this by creating a leadership position through India's participation and contribution to emerging digital communication standards in global SDOs".

OUR OBJECTIVES

Developing, promoting and standardizing India-specific Telecom/ICT requirements and solutions

Taking Indian requirements to global standards organizations

Providing a platform to declare IP and commit for sharing on FRAND terms

Helping create standards based manufacturing expertise in the country

Providing guidance and leadership to developing countries

OUR PHILOSOPHY

Follow a consensus-based approach, enforcing a methodical and transparent, open-to-all-members (Industry, Government and Academia) process while generating standards.

Adhere to the principles of Openness, Transparency, Fairness, Consensus and due Process in conducting its activities.

Maintain technology neutrality and provide a uniform playing field for its members.

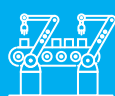
Represent the views of our members to DoT and other Government bodies on matters concerning policy, regulatory and standardization issues in the field of telecom

TSDSI has a sound Intellectual Property Rights (IPR) policy in place. Scan the QR code to view it.



Our Membership

TSDSI attracts membership from all sections of Telecom/ICT ecosystem of the country classified into 11 Verticals. Representatives of Government Departments also participate in the activities of TSDSI.



Manufacturers with Indian IP



Domestic Manufacturers



Telecom Service Providers



Other Service Providers



Semiconductor components designer / manufacturer



Manufacturers of Mobile Device / CPE End User Devices



Government Department / Autonomous bodies



Developers of Application Solution / Service Platform



R&D Organizations



Academic Institutions

There are 3 different types of memberships, namely, corporate, associate and guest members/observers. Key Industry Associations are associate members of TSDSI. We also welcome foreign companies and industry associations, especially those from emerging economies, to join TSDSI to bring the perspectives of their geographies.



Scan the QR code to view our membership categories



Scan the QR code to view our current members

Organization Structure

TSDSI is registered as a Society under Societies Registration Act, 1860. It is a membership-based organization. The General Body, constituting the authorized representatives of all member organisations of TSDSI, is the apex decision making body.

The General Body elects a Governing Council (GC) which acts on behalf of the General Body to steer TSDSI Activities. The GC has members from each membership category to make it as representative as possible. It also includes nominees from DoT, MeitY and BIS. Only corporate members can elect and seek election to the membership of the Governing Council. Each Corporate member has one vote which is exercised by its authorised representative. The General Body also elects a Chair and a Vice Chair to preside over the GB and the GC meetings. Specialised Committees of the GC oversee various activities / initiatives.

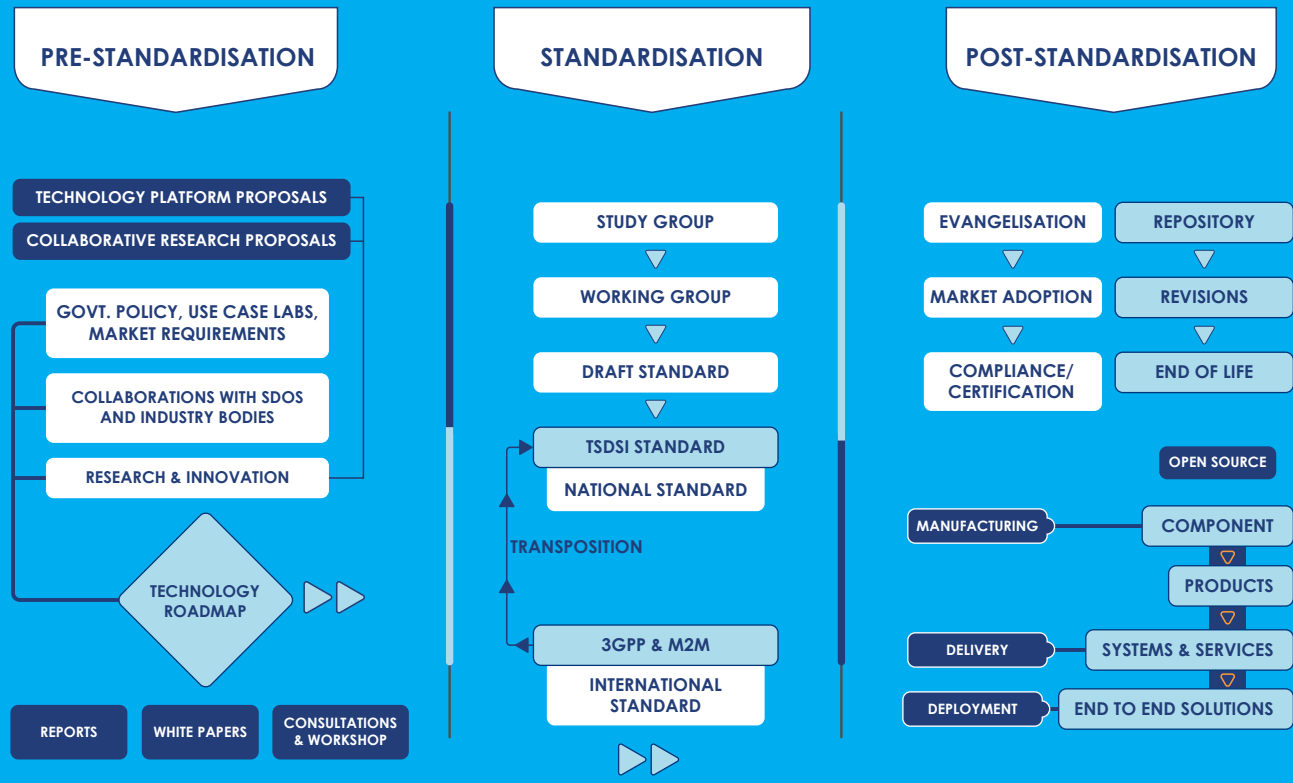
A member organization can participate in any technical activity through its representatives. These technical activities are carried out in specific study groups.

The work of a Study Group may be carried out in dedicated working groups. Study Groups and their constituent Work Group(s) have a Chair and a Vice Chair each, elected in their individual capacities to conduct the activities of the group.

All technical standards developed by the technical groups have to be approved by the General Body.

A Secretariat, headed by Director General (DG), supports the technical groups in carrying out their activities, manages member services, partnerships and alliances on behalf of TSDSI and takes care of the overall functioning of the society.

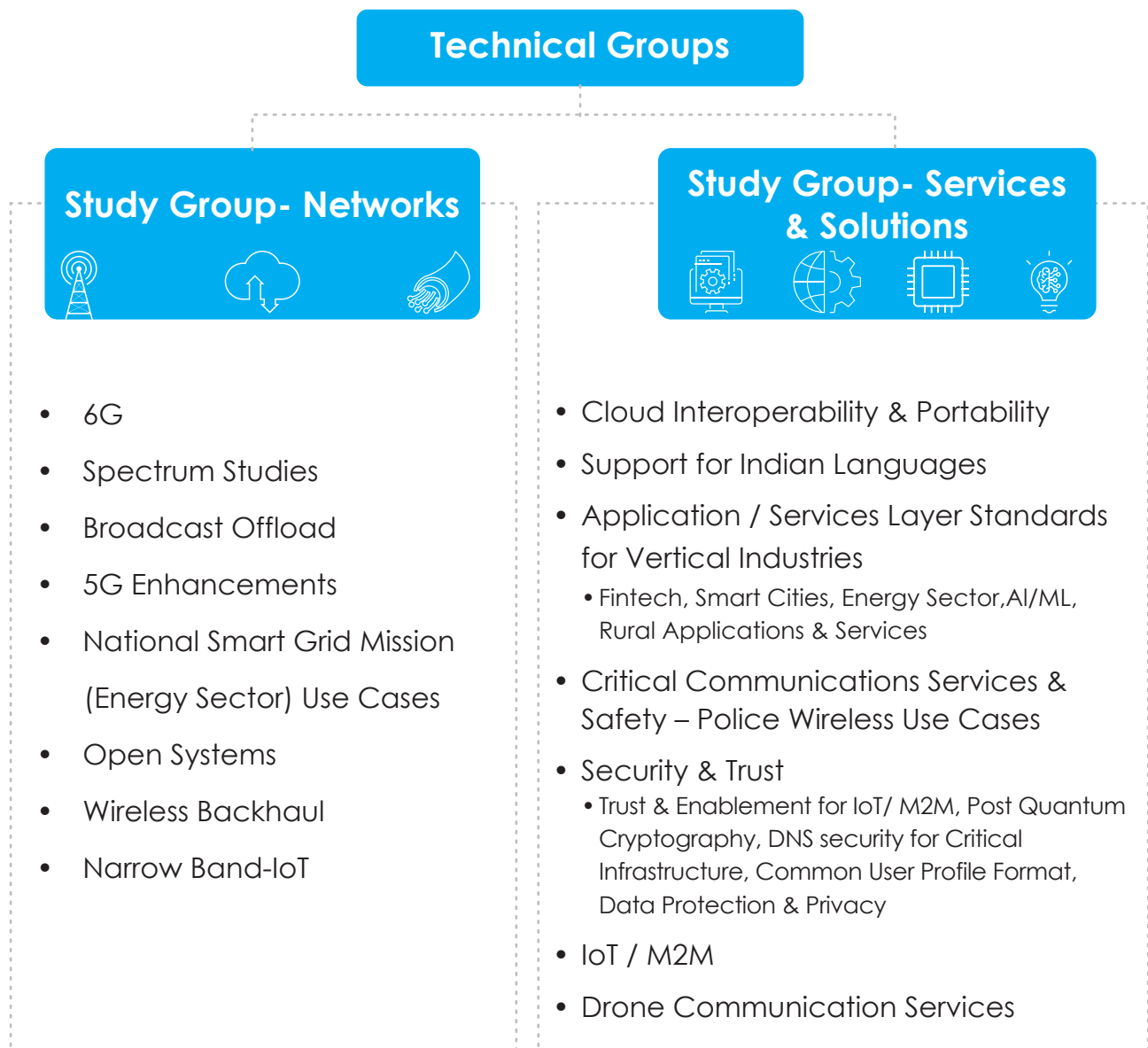
Standardization @ TSDSI



TSDSI, as part of our Strategic Focus on Pre-Standardization activities, has

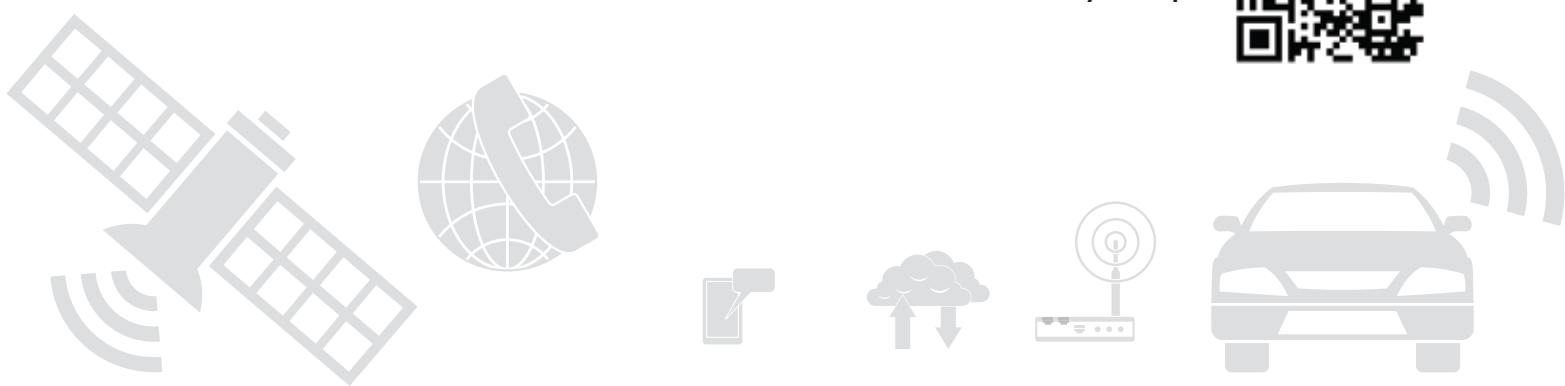
- Drafted a Technology Roadmap V1.0. Click here to view <https://tsdsi.in/roadmap/>
- Promoted Standards Driven Research in the Academia, Research and Startup community
- Engaged with select Verticals like Financial sector, Smart Grids, Broadcasting, Emergency Communications.
- Organized Outreach Engagements with Peer Entities outside India for alignment on Standards development
- Set Up Take Forces for Global SDO Strategy and Startup Engagement
- Published a White Paper on "Status of Telecom Startup Ecosystem in India"

Technical Organisation



Standing Committees for Roadmap, Standardization and Transposition are there to focus on specific aspects.

Scan the QR code to view
Terms of Reference of the Study Groups



Partnerships & Alliances

TSDSI is focussing on strategic engagements with ecosystem players / entities of interest to SG/ Roadmap/Standardization

Our Ecosystem

Alliances



Organisational Partner of 3GPP (3gpp.org)



Partner Type 1 of oneM2M (onem2m.org)



Member of Global Standards Collobaration

Partnership

Adoption Agreements

- The Institute of Electrical and Electronics Engineers Standards Association (IEEE-SA)
- Advanced Television Systems Committee (ATSC)

Co-operation Agreements

- European Telecommunications Standards Institute (ETSI)
- Open Connectivity Foundation (OCF)

MoUs

- 5G Infrastructure Association (5G IA)
- Advanced Television Systems Committee (ATSC)
- Broadband India Forum (BIF)
- Cloud Computing Innovation Council Of India (CCICI)
- Global Certification Forum (GCF)
- The Institute of Electrical and Electronics Engineers Standards Association (IEEE-SA)
- Taiwan Association of Information and Communication Standards (TAICS), Taiwan
- Telecommunications Technology Association (TTA), Korea
- Telecommunications Industry Association (TIA), US
- Wireless World Research Forum (WWRF)

Letter of Intent to Co-operate

- Association of Radio Industries and Businesses (ARIB), Japan
- Alliance for Telecommunications Industry Solutions (ATIS), US
- China Communications Standards Association (CCSA)
- Telecommunications Technology Committee (TTC), Japan

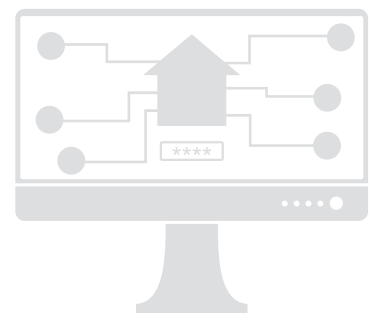
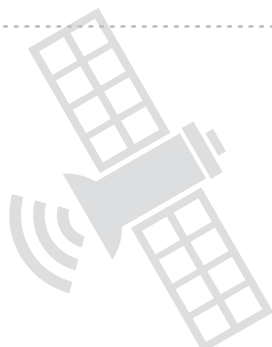
Regional Co-operation

India-EU Cooperation on ICT-Related Standardisation, Policy and Legislation

Anchored by TSDSI and ETSI with the objective of facilitating closer alignment between the regions on standardization activities.

5G Multilateral MoU

Between 5G Americas, IMT2020 PG (China), 5GIA (Europe), 5G Forum (Korea) 5GMF (Japan), 5G Brazil and TSDSI for organizing '5G Global event'.



Journey So Far

2020

- 77 members, 2600+ Stds and 84 Reports as in March 2021
- TSDSI's RIT (5Gi) becomes part of ITU-R M.2150
- TEC adopts TSDSI transposed IMT Advanced and oneM2M Rel 2 as National Standards
- Publishes Report on Cloud Interoperability and Portability
- Publish White Paper on "Status of Telecom Startup Ecosystem in India"
- TSDSI Tech Deep Dive (TTDD) acquires global status



2019

- Introduced 3GPP NavIC support as Work Item for 3GPP Rel 16 along with ISRO
- Released TSDSI Vision 2025
- Initiated Standards development dialog with Developing Countries
- Key players from application industries joined TSDSI



2018

- Published 1st TSDSI developed Standard (CPRI-Fronthaul)
- Initial Proposal on RIT/SRIT for IMT2020 accepted in ITU-R
- Initiated work on Cloud Interoperability as per mandate from DoT



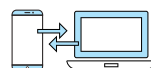
2017

- Organised 5G Vision Workshop
- Contribution on Low Mobility Large Cell (LMLC) incorporated in IMT2020 at ITU
- Published Standardization Roadmap



2016

- Hosted meetings of oneM2M SC, GSC and 3GPP PCG/OP in India
- Initiated Roadmap for Standardization



2015

- Admitted into 3GPP and oneM2M
- Contributed M2M Use Cases to ITU - T SG20

2014

- Registered as a Non-for-Profit Society
- 1st Governing Council meeting on 14 October 2014



Organization Structure

General Body

Chair	NG Subramaniam
Vice Chair	Satish Jamadagni
Treasurer	D K Agarwal

Governing Council (21 elected members + 8 Govt. nominees)	Budget & Finance	D K Agarwal
	Rules & Regulations	R K Pathak
	IPR	NG Subramaniam & Randeep Raina
	Outreach	Sharad Arora & Rajkumar Upadhyay
	Roadmap	Anindya Saha
	Standardization	KVS Hari & Kishore Babu
	Transposition	Klutto Milleth

Technical Groups	Study Group-Networks	
	Chair	Satish Jamadagni
	Vice Chair	R Prakash
	Study Group-Services & Solutions	
	Chair	Akhilesh Srivastava
	Vice Chair	Sharad Arora

Secretariat

Director General	Pamela Kumar
Technical Activities	A K Mittal, Vijay Madan
Operation	Anurag Vibhuti
MARCOM & Partner Relations	Bindoo Srivastava

Join Us

An organization can join TSDSI as a
Corporate member / Associate member / Guest member

Membership type	Membership type	Privileges
CORPORATE MEMBER	Entities registered in India and engaged in telecom related activities e.g.: Telecom Equipment Manufacturers, Mobile Phone/CPE Manufacturers, Service Providers, R&D, Academic Institutions, Value Added Service Providers/ Software Developers, Govt., Societies of Govt., PSUs, Regulatory Bodies etc.	Contribute to Technical Activities Participate in Decision making and voting Hold office bearer positions
ASSOCIATE MEMBER	Industry Associations, Foreign Entities, Foreign Industry Associations	Contribute to Technical Activities
GUEST MEMBER/ OBSERVER	Professional experts, researchers in their individual capacity as Guests. Companies wishing to explore before becoming full members are granted Observer Membership for six months	Participate in Technical Activities and contribute on invitation



Telecommunications Standards Development Society, India

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ADDRESS FOR COMMUNICATION: 304, Bharti School of Telecommunications Technology & Management, IIT Campus, Hauz Khas, New Delhi 110016 INDIA.