

STUDY GROUP NETWORKS (SGN)



Telecommunications Standards Development Society, India (TSDSI), is an autonomous 'not for profit' Standards Development Organization for Telecom products and services in India. Our membership comprises stakeholder organizations from all segments of the Telecom Ecosystem in India, Industry, Operators, Service Providers, Manufacturers, R&D and Test Labs, Academia, PSUs and the Government. We are recognised by the Department of Telecommunications, Government of India, as India's Telecom SDO.

Technical activities of TSDSI are conducted in two Study Groups, Study Group - Networks & Study Group - Services and Solutions

The Study Group - Networks handles standardisation activities broadly in areas of:

- Wireless communication systems, including overall system architecture, Radio-based access and Mobile core networks, the functional elements constituting these networks and the interfaces/protocols between these networks, Software Defined Network (SDN) and Network function virtualization (NFV) of the access and core networks.
- Backhaul using wireless & wireline, microwave, optical and/or packet-based transport networks and relate SDN & NFV aspects, systems, equipment, optical fibre cables, along with the related control plane, network management, performance monitoring & reporting, synchronization, interfaces, multi-layer optimization techniques and testing aspects.
- Spectrum studies related to the above areas and technical recommendations.
- Interference studies, including co-channel, adjacent channel and inter-system interference.

KEY FOCUS AREAS AND ACTIVITIES

Key Focus Areas	Development of Standards	Technical Studies
Spectrum Studies		<p>6GHz Spectrum Studies for:</p> <ul style="list-style-type: none"> • license-exempt wireless applications in India • IMT applications in India • Study the coexistence of IMT and Broadcast technologies in TV UHF band 470-610MHz
5G/5Gi Enhancements	Enhancements to 5Gi	<ul style="list-style-type: none"> • Dynamic joint deployment of SDN Controllers and Hypervisors • Improving data capacity & experience as per NDCP vision
6G		<ul style="list-style-type: none"> • Use cases, requirements and technologies towards 6G • VLC/Li-Fi
Open Systems	Virtualization for Open-Disaggregated RAN	
Broadcast Offload	Extension of Broadcast Offload	
Wireless Backhaul	<ul style="list-style-type: none"> • Evaluation of the existing IAB architecture in 5G Networks • Characterization of E-band for 4G/5G Backhaul & Rural Broadband 	

PUBLISHED STANDARDS & REPORTS

Standards	Reports
<ul style="list-style-type: none">• CPRI Fronthaul Standard• 5Gi Standard (suite of technical specifications available at https://bit.ly/3DvpZGU)	<ul style="list-style-type: none">• Broadcast Offload (TSDSI TR 6002 V1.0.0)• Performance Requirement Measurements for Dual SIM (TSDSI TR 6003 V1.0.0)• Channel Characteristics of 60GHz for 4G/5G Backhaul (TSDSI TR 6004 V1.0.0)• NB-IoT Performance Assessment for Metering and SCADA (TSDSI TR 6009 V1.0.0)• Enhancements in flexible UL-DL resource utilization in Release 18 (TSDSI TR 6010 V1.0.0)• Virtualization for Open-Disaggregated RAN (TSDSI TR 6011 V1.0.0)

TRANSPosed STANDARDS

Being an Organizational Partner of 3GPP, TSDSI has transposed the following 3GPP Specifications:

- For IMT Advanced towards ITU-R Recommendation M.2012- Revisions 3, 4 and 5
- For IMT-2000 towards ITU-R Recommendation M.1457 Revision 14
- For IMT-2020 towards ITU-R Recommendation M.2150

The transposed standards are available at <https://tsdsi.in/3gpp>

KEY CONTRIBUTIONS TO GLOBAL STANDARDS

ITU:

TSDSI is an associate member of ITU-R SG5 and ITU-T SG15. TSDSI members are also contributing to the Focus Groups on Machine Learning for Future Networks (FG ML5G) and Autonomous Networks (FG AN).

3GPP:

TSDSI is an Organizational Partner of 3GPP. TSDSI members participate and contribute to 3GPP work on Radio Access Networks, Architectures, Core Networks and Terminals as Individual Members.

For latest updates on technical activities, please read our newsletters at <https://tsdsi.in/newsletter/>