



# tsdsi NEWSLETTER

July 2018 | Volume 2 | Issue 2

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## MESSAGES



### From the **CHAIRMAN'S DESK**

Dear Readers,

I am happy to share that our initial proposal on candidate Radio Interface technology (RIT/SRIT) for IMT 2020 technologies, towards improving coverage and spectral efficiency performance, has been accepted in the WP 5D meeting #30 held in Cancun, Mexico. This is a significant step for TSDSI, where the members have come together to propose a new candidate technology for the first time to ITU-R. I would also like to mention that our contributions have been steadily gathering support from other countries at ITU. This has been made possible by the persistent efforts of our members and support from the Govt. of India. I invite all of you to partner with us in our efforts to make the complete submission to ITU-R for IMT2020.

Apart from the progress made in radio technology standardisation, TSDSI is also aligning its activities to address other crucial technological aspects of 5G and next generation networks like Information Centric Networking (ICN), Cloud Interoperability and Portability, Indian Language support on devices etc.

TSDSI and its members are active in various initiatives that are being undertaken by the government and industry forums in India. You might be aware of the High Level Forum formed by the Government of India to develop a comprehensive strategy to build an ecosystem and rollout 5G by 2020. Several experts who are involved in TSDSI are members of the Forum. The forum is also looking at enhancing the participation from Indian Innovators in standardization activities in the country and in the global forums. I am happy to note that our members are championing setting up of 5G use case labs as well as technology evaluation test beds in India. TSDSI is also forging partnerships with global and regional 5G forums like 5GIA, WWRF, ATU, IEEE etc. to promote joint research and development and piloting of next generation technologies.

It is my belief that TSDSI will be playing a crucial role in taking forward the various initiatives in the country and thus in putting India in a strong position to leverage 5G in order to meet the fast-growing needs of Indian market.

**Prof. Abhay Karandikar,**  
Chairman TSDSI

## ANNOUNCEMENTS



**TSDSI's Initial  
Description  
Template for  
RIT/SRIT for  
IMT-2020  
accepted in ITU-R  
SG5 WP 5D  
meeting in  
Cancun, Mexico**

**ITU-T publishes 16  
standards (Y.4500  
series) for M2M  
frameworks based  
on oneM2M  
specifications**

**TSDSI signs an  
MoU with 5GIA**

## MESSAGES



## DG SPEAK

Dear Colleagues,

Thanks again for increasing engagement and participation in TSDSI activities. We have had another very active quarter. The focus areas for 2018 have now been translated to goals and metrics which we shall be tracking throughout the year using a dashboard. The key highlights for this quarter are categorised here under the 2018 focus areas and further detailed in the Newsletter:

### 1. Enhancing Technical Activities:

- Technical Plenaries (TP): We split the plenary into 2 meetings – SG-Networks meeting, hosted by Intel and SG-Services and Solutions meeting hosted by TCS. Both had good participation from the members.
- SG-Networks: Several proposals related to the RIT submission for IMT-2020, 60GHz study, Dual SIM are in discussion. CPRI-Front Haul Standard has been published. NB-IoT is another future work area.
- SG-Services and Solutions: The collaboration with TSDSI on Cloud Interoperability has been very active and the first report is likely to be released in the next quarter. Discussions on Public Protection and Disaster Relief (PPDR), Information Centric Networking (ICN) and Security are moving forward. The Indian Languages Support topic has been revived and a workshop is planned with the next meeting of SG-Services and Solutions.
- Transposition: ITSAR transposition has been completed and we are on track with the 3GPP specifications (1449 nos.) for M.1457, thanks to the guidance from the Transposition Committee.
- Consultations: We provided feedback on the Draft National Digital Communication Policy and have actively contributed to the report of the 5G India 2020 High Level Forum. We are also participating in the discussions on the process for converting TSDSI Standards to National Standards.

### 2. Improving Impact in Global Forums:

- 3GPP RAN and the 3GPP Plenary meetings are being attended by TSDSI members with several contributions being made for Release 15. Support for these has been rallied from DoT, our partners and members.
- ITU-R WP5D also had a strong delegation from TSDSI. TSDSI has been formally accepted as a RIT proponent for IMT2020.
- A framework to enhance participation and contributions from India in Global SDOs is being developed along with DoT.

### 3. Establishing TSDSI as World Class SDO:

- The new IT infrastructure including new website is ready and operational now. The audit process will now be started.
- Refreshed Governing Council Committees are operational, with Roadmap Committee taking the lead to publish the first version of the Roadmap.
- Outreach, MARCOM and Membership development activities are beginning to get streamlined and the impact of this will be felt in the later half of this year.
- A framework for self-reliance of TSDSI in 4 to 6 years is also under discussion with DoT.
- Several MoUs are being refreshed and signed and a framework to activate these is being formed.

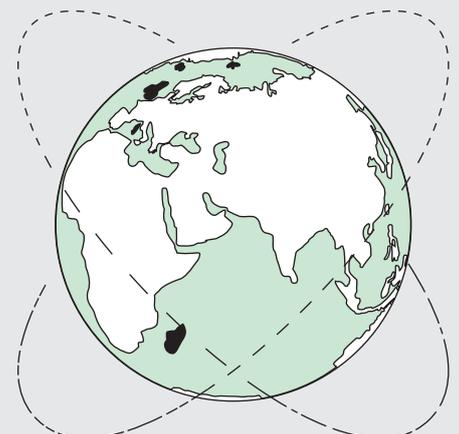
Finally, I would like to congratulate our members for actively practicing "THE ART OF CONSENSUS BUILDING". This has been the primary reason for TSDSI being able to operate effectively and deliver results. In the last few quarters we have seen our members reaching out to each other to resolve conflicts and difference of opinions and find ways to collaborate towards our purpose of "Developing Standards for the National Interest".

Thanks for your continuing support and engagement with TSDSI.

Looking forward to meeting you at the upcoming TSDSI meetings.

Regards

**Pamela Kumar,**  
Director General



**ACTIVITIES**



## Standardization Activities

### TSDSI transposed standards for ITSAR

The draft transposed 3GPP specifications related to security aspects are in final stages of approval. These standards will be further adapted to suit Indian Telecom Security Requirements (ITSAR).

### Transposition of 3GPP Specifications for IMT 2000 Technologies (M.1457)

TSDSI has initiated transposition of select 3GPP (1449 nos.) specifications for IMT M.1457 (IMT 2000) technologies. These are targeted to be published as TSDSI standards by end August 2018. Call for Review comments from Members is being given in a staggered manner. Call for IP declarations in respect of these proposed standards has also been issued to TSDSI members.

### Standard for Cloud Interoperability and Portability

An interim report on Cloud Interoperability and Portability, covering findings from study of technical activities of forums working on the topic is being formalised for release. This activity is being done jointly by TSDSI and CCICI.

### Support for Indian Languages in Devices/User Equipment

A workshop on Indian Languages support in Devices and User Equipment has been planned in September 2018. The agenda will include support for financial transactions and PWS in Indian Languages, database handling and collaboration with relevant forums active in this space. Suggestions and volunteering offers for the workshop maybe sent to [secretariat@tsdsi.in](mailto:secretariat@tsdsi.in).

### Snapshot of Technical Activities:

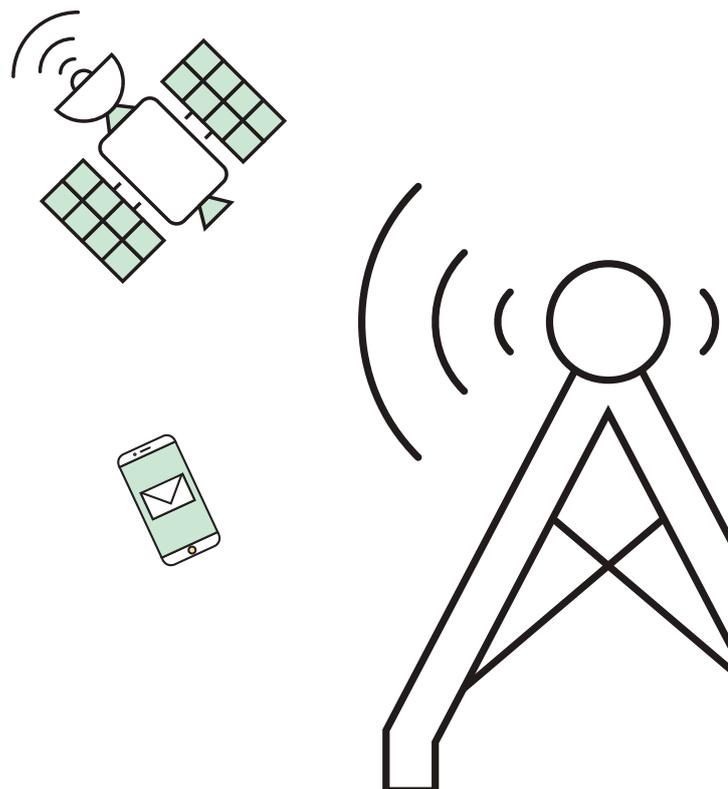
Group Name	SG-Networks	SG-Services & Solutions
Total No. of Technical Reports Released	-	10
No. of Technical Reports in Draft	2	56
Total no. of Standards Released	295	32
No. of Standards in Draft	1	80

List of Technical Meetings held in this period is given below:

Group	SG- Networks (SGN)		SG-Services and Solutions (SGSS)
	SGN F2F (in person)	SGN FCC	SGSS F2F (in person)
Meeting	SGN F2F (in person)	SGN FCC	SGSS F2F (in person)
Date	10-11 May, 2018	31 May, 2018	7-8 June, 2018
Venue	Intel, Bengaluru	Formal Conference Call	TCS, Bengaluru
Attendance (Member Organizations*)	14 (28 individuals)	9 (13 individuals)	7 (14 individuals + 5 experts)

\* Includes observer and expert members

TSDSI welcomes volunteering offers from members and organizations to conduct discussion workshops and knowledge sharing webinars on any active study or work items listed on our website. Please contact [secretariat@tsdsi.in](mailto:secretariat@tsdsi.in) for the same.





## Pre-standardization Activities

### Standardization Roadmap

The Standardization Roadmap Committee has created a Roadmap of technical activities for the organisation, categorised into short, medium and long term activities. A few roadmap items like Cloud Interoperability, Information Centric Networking (ICN), vRAN, PPDR, Dual SIM have been incorporated formally into technical study and work items. Discussions with the Study groups for integrating workplans of the roadmap and current technical activities have been started. The Roadmap has been submitted to the Governing Council for approval.

The SG-Networks is drafting a white paper on usage of 60GHz band for access and backhaul for 4G/5G. Discussions on Dual SIM are in progress. Interested members can contact Mr Satish Jamadagni, Chair-SG Networks to participate in these activities.

### Information Centric Networking (ICN)

The SG-Services and Solutions is preparing a white paper on ICN. A workshop on the topic is planned to be conducted tentatively coinciding with the group's next F2F meeting in September 2018.

### Public Protection and Disaster Relief (PPDR)

TSDSI is creating a technical report on PPDR covering salient usage / deployment scenarios and requirements of various Indian Public Protection & Disaster Recovery (PPDR) agencies, gap analysis findings based on available and upcoming technologies /evolving architectures, scaling and interworking of platforms, evolving standards and systems etc. Needs of user agencies in India are being collated through a structured survey questionnaire. Expert groups on this topic in ITU and 3GPP have been invited to share details of work being done in those forums.

### 5G Roadmap

TSDSI members have been contributing actively in the activities of various task forces of the 5G India 2020 High Level Forum, notably, Spectrum; Education, Awareness and Promotion; Application Layer Standards; Use Case Labs and Participation in Global Standards bodies and forums.

### India-EU Partnership Project (PP) on Cooperation for ICT Standardization

The India EU Partnership Project has recently completed the halfway milestone of its duration. Several activities like regular webinars, tutorials, hackathons, workshops, conferences and expert visits have been conducted in this half of the project.



A mid term review of the project to assess outcomes achieved so far and to develop strategy for the remaining period of the project was conducted on 27 April 2018 in New Delhi with the main stakeholders, ETSI and TSDSI. TSDSI members, CDOT and Saankhya Labs joined in the discussions and gave several suggestions for further activities. Recommendations from the workshop discussions were further deliberated in the project Steering Committee meetings, held on 27 April and 22 May 2018. A set of goals with instruments to achieve the same was developed at the workshop. The proposed goals are: Advancing Interoperability using standards, Enhancing Global Impact, and Capacity Building. The project core committee is developing a concrete action plan covering webinars, hackathons and tutorials to cover 5G topics; Joint studies, position papers; incubating centres of excellence in the areas of oneM2M, 5G and Security in India; bringing meetings of global forums to India etc. Suggestions for activities can be sent to [secretariat@tsdsi.in](mailto:secretariat@tsdsi.in).

**PARTNER ACTIVITIES**



**ITU**

A TSDSI delegation, led by Mr A K Mittal, Advisor-Networks, participated in the ITU-R SG5 WP 5D meeting#30 held in Cancun, Mexico from 13 to 20 June 2018.

TSDSI had indicated its intention to submit its candidate RIT/SRIT technology for IMT 2020 at the ITU-R WP 5D meeting #29 held in Seoul and informed that it will be based on 3GPP release 15 and onwards, which may include enhancements based on Indian requirements and technologies. TSDSI’s submission of initial proposal for candidate Radio Interface technology (RIT/SRIT) of IMT 2020 technologies, related to improving coverage and spectral efficiency performance, was accepted in the WP 5D meeting #30 held in Cancun, Mexico. TSDSI has suggested improvement in the UL modulation based on pi/2 BPSK with spectral shaping for coverage extension in all 5G bands. Possible enhancement to advanced antenna system (through non-linear precoding), control signalling, mobility management, relay/repeaters and UL pilot for coverage improvements have also been indicated. The proposal further adds one missing band viz., n40 (2.3GHz) which is already available in India as an LTE band.



Deadline for final submission of the entire specification along with self-evaluation report in the required format is the July 2019 meeting #32 of ITU-R. TSDSI intends to make a full candidate IMT 2020 submission within the timelines. The technical activities related to RIT/SRIT contribution are being championed by the SG-Networks in TSDSI.

Mr Jishnu Aravindakshan, Vice Chair, SG-Networks, Tejas, attended the JCA-IMT 2020 meeting of ITU-T on 13 April 2018 over teleconference.

**3GPP**

Participation level of representatives from TSDSI member organizations in 3GPP meetings in this period is as follows:

Group	No. of Meetings	No. of Participants
RAN	12	82
SA	12	41
CT	9	34

A TSDSI delegation comprising Prof. Kiran Kuchi, GC member, IIT Hyderabad, and Mr Niranth Amogh, Huawei, participated in the PCG/OP meetings held in Beijing on 11-12 April 2018. The PCG is deliberating on a proposal to not provide any further updates to the next revision(s) of ITU-R M.1457, after Release 14 of 3GPP Specifications. Organizational and Market Representation Partners are required to confirm their acceptance of this proposal at the next PCG meeting (PCG#41) scheduled in Tokyo on 18 October 2018. 3GPP has decided to send a LS to ITU on the support for PPDR in IMT 2020 technologies.

**oneM2M**

oneM2M specifications are gaining traction in various M2M/IoT forums. ITU-T has published 16 standards (Y.4500 series) for M2M frameworks based on oneM2M specifications.

C-DOT participated in oneM2M TP35 meeting held in ETSI, Sophia Antipolis, France from 22 to 25 May, 2018. Thirty three of their contributions in Architecture, Protocol, Security and Test Specifications were agreed in this meeting.

**Other Affiliations**

Subsequent to the signing of MoU between TSDSI and IEEE-SA, both organizations are in talks to jointly organise a series of workshops, tutorials, knowledge sharing webinars etc. The IEEE 5G technology workshop organised on 29 - 30 June 2018 in Bengaluru was the first in this series.



**PARTNER ACTIVITIES**



**Other Affiliations (contd.)**

TSDSI has signed an MoU with 5G Infrastructure Association (5GIA). 5GIA (<https://5g-ppp.eu/>) represents the European Industry in the 5G-PPP Research Programme, a joint initiative between the European Commission and European ICT industry (ICT manufacturers, telecommunications operators, service providers, SMEs and researcher Institutions). A kick off meeting was held between TSDSI and 5GIA in Beijing on the sidelines of the 3GPP PCG/OP meetings. Specific topics of mutual interest were discussed in the meeting. A joint workshop to promote dialog between the two sides is being planned.



Prof. Kiran Kuchi and Mr. Pierre Bienaime at 5GIA - TSDSI kickoff meeting

TSDSI and ETSI held a bilateral workshop on 24 April 2018 in Gurugram to discuss ways of strengthening the cooperation between the two organizations.

An MoU between CCICI (<https://ccici.in/>) and TSDSI is being drafted to further the collaboration between the two organizations on areas of mutual interest, including development of Cloud Interoperability and Portability standards.

An MoU between Broadband India Forum (BIF) and TSDSI is being drafted to collaborate on 5G research and test bed initiatives in India. BIF ([www.broadbandindiaforum.com](http://www.broadbandindiaforum.com)) is a policy forum and a think tank which works towards the propagation of Broadband in India.

**Liaison Statements:**

Various Liaisons (LS) of TSDSI can be viewed at <https://tinyurl.com/y7uh9dng>. A list of LS in the current reporting period is given below:

LS	Subject
TSDSI to ITU-R	TSDSI LS to ITU-R submitting the initial description template for RIT/SRIT for IMT 2020 technologies. View the LS here ( <a href="https://tinyurl.com/y76nkm4y">https://tinyurl.com/y76nkm4y</a> )

**UPDATES**



**TSDSI  
GENERAL UPDATES**

**Finances**

The Budget and Finance committee is deliberating on various options to become financially self-reliant and develop a healthy corpus. Discussions with DoT to work out a financial support model for the initial crucial years are in progress.

**IT and Website**

New website ([tsdsi.in](http://tsdsi.in)) has been launched.

Members' portal is being revamped based on feedback from members. Suggestions on the website and/or portal can be sent to [secretariat@tsdsi.in](mailto:secretariat@tsdsi.in).

**Outreach and Engagements**

The Outreach Committee has launched a member enrolment initiative to strengthen the membership base, representing all segments of telecom technologies. As part of this exercise, TSDSI conducted an Outreach workshop for the TATA group of companies on 29 May 2018. TSDSI member representatives interacted with the TATA group experts to discuss technology trends and TSDSI activities in 5G, IoT/M2M, Cloud, mobility (Intelligent Transport Systems ITS), PPDR, etc. The workshop was conducted over Video conference, linking the Bengaluru, Gurugram, Pune and Mumbai offices of the TATA group. Similar workshops are in the pipeline for different segments, including one for PSUs. If you are interested in getting an outreach workshop conducted for your organization or your industry segment, please contact [secretariat@tsdsi.in](mailto:secretariat@tsdsi.in).

Mr Satish Jamadagni, Chair, SG-Networks, TSDSI, Reliance JIO, participated in a panel discussion on "Transformation and Successful Business Models for 5G Networks" at the "5G India Congress 2018" Conference held in New Delhi on 20 April 2018.



## UPDATES



Ms Pamela Kumar, DG and Mr A K Mittal, Advisor- Networks, represented TSDSI at the 3<sup>rd</sup> Indo-European Conference on Standards and Emerging Technology held in New Delhi on 26 April 2018.

Mr Amit Gupta, GC member TSDSI, TCS participated in the WTISD and Plenipotentiary preparatory meeting held in New Delhi on 17 May 2018.

TSDSI partnered with BIF and Bharat Exhibitions to organize the “5G India 2018 Conference” in Mumbai on 17-18 May 2018. The role of TSDSI in rallying national standardization efforts and influencing global bodies like 3GPP and ITU was acknowledged at the conference. It was emphasized that the opportunity for India to help set and develop 5G standards is second to none.



## Operational Matters

Composition of the TSDSI Standing Committees has been finalized. This can be viewed at <https://tsdsi.in/tsdsi-standing-committees/>.

Transposition Committee is creating a workflow for carrying out transposition of 3GPP/oneM2M specifications. Roadmap Committee has drafted a Roadmap to steer the technical activities of TSDSI, integrating the strategic items and currently active technical items. This is awaiting formal approval from the Governing Council.

The Rules and Regulations Committee is finalizing recommendations to the Rules and Regulations, based on the experiences gained over the years and suggestions received from members. This includes nomination of an additional fifth member from DoT, preferably from Finance (in addition to four nominated members) in the Governing Council. The IPR committee has held a few meetings to deliberate upon suggestions for updating the IPR policy, based on experiences gained from developing TSDSI standards so far.

Increasing the Membership base and deepening their engagements in TSDSI has been identified as a critical success factor to realise TSDSI objectives. The Outreach Committee has formulated a four pronged strategy revolving around initiatives to increase membership base, leverage technical strengths for thought leadership, mobilise the Standards ecosystem, and follow a structured branding exercise covering website, stakeholder and media engagements.

## Strategy Initiatives

An organisation level goals and metrics mapping exercise was initiated in the 20<sup>th</sup> Governing Council meeting, held on 13 March 2018. Three goals have been identified for the organization, namely, enhancing technical activities, higher impact in global forums and establishing TSDSI as a world class SDO. A metrics based goal monitoring framework has been developed to track progress against the goals.

GOAL	STUDY GROUPS	SECRETARIAT	GOVERNING COUNCIL
Enhance Technical Activities at TSDSI	4+ contributions in each meeting Focus on India Specific 5G requirements, enhancements and deployment scenarios	WORLD CLASS Technical Plenaries with 15+ members participating per meeting	Publish Roadmap by mid 2018 4+ new Proposals in each SG per year 60+ Members by Q4 2018
Higher Impact in Global Forums	Consistent participation & contributions in 3GPP, oneM2M, ITU-R WP5D, ITU-T SG15 and SG20 meetings	Framework to “Build Pool of Standardisation Experts” Strong delegations for 3GPP, oneM2M, ITU and GSC meetings Transpositions as per pre-define schedules.	
Establishing TSDSI as World Class SDO	<b>SECRETARIAT</b>	<b>GOVERNING COUNCIL</b>	
	World-class accredited Secretariat Special focus on MARCOM and Membership Development	Strategic interventions to establish TSDSI as the ICT SDO of India Rejuvenate GC Committees for better governance Leverage affiliations for global impact	

## EVENTS



### TSDSI Meetings

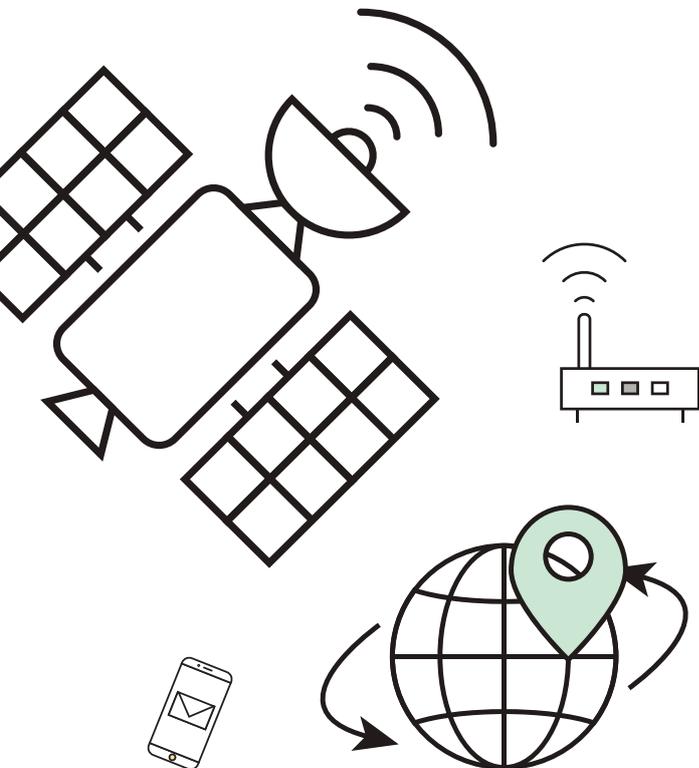
Two (2) meetings of the Technical groups were held in the reporting period, detailed elsewhere in the newsletter. The next TP meeting is scheduled on 6-7 September 2018. The next GC and GBM meetings are scheduled on 16 July 2018. A workshop on Security in IoT space is planned on 17 July 2018. This workshop is open to TSDSI non-members also.

### oneM2M Activities in India

The next oneM2M tutorial and hackathon events are planned in October 2018. Details of the same will be announced shortly.

### 3GPP Activities in India

A series of 3GPP meetings are being planned in India, under the aegis of COAI and IF3. COAI, IF3 and TSDSI are in talks to bring more such meetings to India, so as to facilitate increased levels of participation from Indian experts.



## TSDSI MEMBERSHIP UPDATE

TSDSI welcomes Sooktha Consulting Pvt. Ltd. (<https://www.sooktha.com/>), an organization that is geared to help OEMs, ODMs, and Test & Measurement equipment makers address the migration to 5G technologies across multiple segments such as consumer broadband, enterprise, private industrial networks, public safety, railways, defence, aerospace, and satellite communications.

VIT Chennai (<http://chennai.vit.ac.in/>) and Hetrogenous (<http://www.hetrogenous.com/>) have been granted observer member status w.e.f. 1 April 2018.

TSDSI member list can be viewed here [https://tsdsi.in/present\\_members/](https://tsdsi.in/present_members/).

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To apply for TSDSI membership, please visit <https://tsdsi.in/membership/>.

## ABOUT TSDSI



Telecommunications Standards Development Society, India (TSDSI), aims at developing and promoting India-specific requirements, standardizing solutions for meeting these requirements and contributing these to international standards, contributing to global standardization in the field of telecommunications, maintaining the technical standards and other deliverables of the organization, safe-guarding the related IPR, helping create manufacturing expertise in the country, providing leadership to the developing countries (such as in South Asia, South East Asia, Africa, Middle East, etc.) in terms of their telecommunications-related standardization needs.

TSDSI is recognised by Department of Telecommunications as India's Telecom Standards Development Organisation (SDO).

TSDSI is registered as a Society under the Societies Registration Act (Act XXI of 1860).