Roadmap

TSDSI has adopted a Standardisation Roadmap approach to identify technology topics that are strategically important for carrying out technical studies or developing standards.

Stakeholder engagements, involving members and non-members of TSDSI are conducted periodically to create a list of topics from emerging technology trends, market requirements and policy inputs. Items that secure support from TSDSI members are included in the TSDSI Standardization Technology Roadmap. These act as a guide for contributing new activity proposals in the TSDSI study groups. An item may undergo a further crystallization through a Technology Roadmap Item Proposal activity and/or pre-standardization workshops, involving members and subject matter experts in order to create a well-defined scope for a formal technical activity (study or development of a standard) within TSDSI.

The Roadmap items thus act as a useful funnel of topics for deliberation within TSDSI, over and above and in addition to the ongoing work in the Study Groups or any other item introduced in the Study Groups for development of standards by a member on their own.

Roadmap 1.0 was published for the time horizon of 2018 to 2020. It covered technology areas like PPDR (Public Safety), Rural Broadband Architecture, VRAN using wireless backhaul, Unified Authentication Framework, Cloud Interoperability, etc. Most of the Roadmap topics were taken up in the relevant study groups of TSDSI.

A Roadmap updation exercise was taken up in 2020. A series of well attended public stakeholder workshops to gather inputs on the standardisation requirements in different areas were conducted by the TSDSI Roadmap Committee. Subsequently, a detailed analysis of available standards and ongoing standards development activities, the time horizon and members’ interest for delivering the standards/reports in these areas was carried out.

16 topics out of the total “ideas” received in these workshops, have been included in the TSDSI Roadmap 2.0 valid from 2021 to 2023. These topics have been arranged into 9 clusters - indicative of a broad area of technologies. The topics are aligned with the expected future course of technological development as may be noted from the titles of the clusters like Security, 6G/5G Enhancements, AI/ML, Cloud, Spectrum Studies etc. A few topics have already matured to a stage of having been introduced in TSDSI for formal technical work (Study or Work Item) and others are expected to follow suit in due course.

The TSDSI Roadmap 2.0 is given overleaf.

About TSDSI

Telecommunications Standards Development Society, India (TSDSI), aims at developing and promoting India-specific requirements, standardising 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 organisation, 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 standardisation 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).

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<table>
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<th>ROADMAP 2.0</th>
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| 6G/5G ENHANCEMENTS | • 6G vision: Use cases and services, KPIs, Key Technologies and network architecture and evolution  
• Rural Coverage and Capacity Enhancement  
• Waveform Design for THz Communication  
• Standards for Visible Light Communication |
| AI/ML | • AI/ML in & for Future Networks |
| APPLICATIONS/VERTICALS | • 5G use cases for Verticals  
• Smart IoT Communication |
| CLOUD | • Cloud Resource Management in Future Networks |
| OPEN SYSTEMS | • Open Disaggregated Networks |
| RURAL BROADBAND | • Architectures for Rural Broadband |
| SECURITY | • Security standards for IoT and Machine-to-Machine  
• Quantum Security |
| SPECTRUM STUDIES | • Spectrum Coexistence studies (towards 6G and License Exempt Usage)  
• Flexible Dynamic Spectrum Access architecture |
| WIRELESS BACKHAUL | • UAV based backhaul  
• 4G/5G Fronthaul & Backhaul, Wireless-to-Building (WTTB) |