



MINUTES OF THE MEETING

<u>16th Meeting</u> Intelligent Transport Systems Sectional Committee TED 28 (Physical) 20.05.2024	Chairperson Smt. SUNITA VERMA Scientist-G, MeitY	<u>Member Secretary</u> Mitra Sen Verma Scientist-D/JD BIS Headquarters
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Item 0 WELCOME AND OPENING REMARKS

0.1 Welcome by Member Secretary (TED 28)

Member secretary welcomed all the members present in the 16th Meeting of TED 28.

0.2 Welcome Remarks by Sc F & Head (TED):

Head, TED Shri Deepak Agarwal, welcomed new chairman Smt Sunita Verma, Sc-G, MeitY and all the members present in the 16th Meeting of TED 28. He emphasized on the importance of Intelligent Transport System being an emerging area where the mechanical systems are integrated with technology through software and interact with each other. He also requested for proactive participation of all the stakeholders to speed up the standard formulation work of TED 28 SC under the chairmanship of Smt Sunita Verma, Sc-G, MeitY.

0.3 Opening Remarks by the Chairperson:

In the 16th Meeting of TED 28, Chairperson Smt Sunita Verma, Sc-G, MeitY extended a warm welcome to all the attending members and appreciated the active participation from Industry. She highlighted the various steps taken for development of various solutions w.r.to technological development and expressed the need to be more proactive to develop the standards incorporating the latest available technology worldwide. It was also highlighted that India is leading in various sectors at ISO level such as in communication, AI, quantum etc and emphasized for more and more proposals from INDIA in ISO for international acceptance of products developed by Indian Industry. She expressed the need to adopt the International Standards which are already published by ISO either directly or in technical equivalence. She also requested to devote more time and frequent meetings for formulation of standard. She requested industry to nominate the peoples those who are having actual hands-on experience in technical research for better contribution and to speed up the work under TED 28 SC. She further requested members to have detailed deliberation during the meeting on agenda items.

Participants in the meeting:

S.No.	Organization	Present (P)/ Absent (A)
1	Ministry of Electronics and Information Technology, New Delhi	P
2	AVVRON, Pune	P
3	Ashok Leyland Limited, Chennai	P
4	Automotive Component Manufactures Association of India, New Delhi	A
5	Automotive Research Association of India, Pune	P
6	C-DAC, Thiruvananthapuram	P
7	Castmaster Mobitec India Private Limited, Faridabad	P
8	Central Institute of Road Transport, Pune	A
9	Delhi Integrated Multi-Modal Transit System Ltd, New Delhi	P
10	Delhi Mumbai Industrial Corridor Development Corporation Limited, New Delhi	P
11	Denso International India Private Limited, Gurugram	P
12	Hero Motocorp Limited, New Delhi	P

13	IL & FS Transportation Networks Limited, Bandra	A
14	Indian Institute of Technology Madras, Chennai	A
15	Institute of Urban Transport India, New Delhi	A
16	International Centre of Automotive Technology, Manesar	P
17	International Institute of Information Technology, Bangalore	A
18	LDRA Technology Private Limited, Bengaluru	P
19	Mahindra and Mahindra Limited, Mumbai	P
20	Maruti Suzuki India Limited, Gurugram	P
21	Minda Industries Limited, Gurugram	A
22	Ministry of Electronics and Information Technology, New Delhi	P
23	Ministry of Heavy Industries and Public Enterprises, Department of Heavy Industry, New Delhi	A
24	Ministry of Housing and Urban Affairs, New Delhi	A
25	Ministry of Road Transport and Highways, New Delhi	A
26	Narnix Technolabs Private Limited, New Delhi	P
27	National Highways Authority of India, New Delhi	A
28	National Informatics Centre, New Delhi	A
29	NextGen Knowledge Solutions Private Limited, New Delhi	A
30	Renault Nissan Technology and Business Centre India Private Limited, Chennai	P
31	Robert Bosch Engineering and Business Solutions, Bengaluru	A
32	Rosmerta Technologies Limited, Gurugram	A
33	School of Planning and Architecture, New Delhi	A
34	Seconded European Standardization Expert for India (SESEI), New Delhi	A
35	Society of Indian Automobile Manufacturers (SIAM), Delhi	P
36	Tata Motors Limited, Pune	P
37	Telecommunication Engineering Center, New Delhi	A
38	Toyota Kirloskar Motor Private Limited, Bidadi	P
39	Volvo Group India Private Limited, Bengaluru	A
40	In Personal Capacity, New Delhi (Shri Shrikant Haragapurkar)	A

Committee deliberated on non-participating members and decided to give them one more chance as all are valuable members. Chairperson requested member secretary to contact non-participating organizations/members to understand the reasons for non-participation. If the members are not interested or remain absent in the next SC meeting, chairman requested member secretary to propose for their removal in the next sectional committee meeting of TED 28.

Chairperson requested member secretary to bring concerned Ministries on board for faster redressal of concerns related to respective ministries.

Item 1 Confirmation of Minutes of the last Meeting

The committee confirmed the Minutes of the 15th Meeting of Intelligent Transport Systems Sectional Committee TED 28.

The technical comments received on the minutes of 15th Meeting were discussed. During discussion it is observed that there may be different category/classification/requirements for buses and cars w.r.to. IP requirement of ECU and need more deliberation on this. Committee decided for detailed deliberation on IP requirement and other comments received from M/s Valeo, M/s Nippon, SIAM and ARAI in RPAS panel. The panel to come out with a recommendation for discussion in next sectional committee meeting.

Item 2 Scope and Composition of Committee

2.1 The composition of the committee is enclosed at [Annex-1](#).

Committee deliberated on non-participating members and decided to give them one more chance as all are valuable members. Chairperson requested member secretary to contact non-participating organizations to understand the reasons for non-participation. It is also requested to send a letter before removal stating that you have not attended last two/three consecutive meetings and if you fail to attend next meeting, a decision will be taken for removal from committee. If the members are not interested or remain absent in the next SC meeting, chairman requested member secretary to propose for their removal in the next sectional committee meeting of TED 28. It was also decided to seek area of interest from all the committee members for better placement in the respective panel for their effective contribution.

2.2 Request for co-option has been received from following organizations:

S No	Organization	Name of Representative	Email id	Remarks
1	M/s Engineers India Limited	Shri Manjit Kumar Sahu Shri Manish Singhal	mk.sahu@eil.co.in maniShrisinghal@eil.co.in	Reminder to be sent
2	M/s MassTrans Technologies Pvt Ltd	Shri Vijay Bhatia	Vijay.bhatia@masstrans.in	Letter for area of interest
3	M/s Chemito Infotech Pvt. Ltd.	Mr. Vishwas Punekar Mr. Naresh Mujgude	vpunekar@chemito.net mnareshkumar@chemito.net	Letter for area of interest

Committee deliberated on the Co-option requests received from above organizations and decided to seek their area of Interest giving them 15 days time. If no response is received within the given time may not be considered for inclusion in TED 28 committee. During discussion one nomination received from Shri Sanjay Tank, ACMS for M/s Treel Mobility Solutions, Pune who had already contributed in TPMS panel. Committee decided to incorporate M/s Treel Mobility Solutions, Pune in the committee as per BIS provisions. It was recommended by Prof. P K Sarkar to include members from IIT Bombay and NIT, Surat as they are involved in ITS applications. Committee decided to incorporate both the technical institutions as per BIS initiatives for enhancing representation from Academia.

2.4 Following nominations have been updated since last meeting:

The committee noted the information given in agenda.

Item 3 Issues Arising out of Previous Meetings

The summary of actions taken along with present status on the decisions taken during the last meeting is given below:

S. No.	Panel	Decision during 15th Meeting	Members	Action taken since last meeting.
1	TED 28/P1 Panel on Bus ITS	C-DAC & MeitY requested for some time to put up the draft on various solutions. Convener to coordinate The committee requested SIAM to nominate interested participants for this panel	a. ICAT (Dr. M Joshi) - Convener b. M/s Castmaster Mobitech Pvt Ltd (ShriRaju Agarwal) c. ASRTU d. Volvo Bus e. Ashok Leyland f. Tata Motors g. DIMTS- Shri PrashantTiwari h. C-DAC	Status on 16th Meeting: A panel meeting was held on 12 March 2024. Deliberation in panel meeting on 12 March 2024: It was agreed that an umbrella standard is to be drafted for Bus ITS, which will include the generic description of Bus ITS architecture. • Initially this umbrella standard

				<p>will refer all the existing standards on various technologies of ITS which are already available like LED Destination Board Standard (LDBS) and Automatic Tracking Devices (ATD) etc. And, in future subsequent other technology standards may be included (or may be referred) as and when they are notified.</p> <ul style="list-style-type: none"> • M/s. Castmaster Mobility (Mr. Raju Agarwal) will lead this activity with the support of M/s. Tata Motors, M/s. Ashok Leyland & one ACMA member (to be nominated by Mr. Sanjay Tank). • Draft umbrella standard to be finalized within 1 month from the date of this meeting <p><i>The committee may</i> DELIBERATE</p> <p>Decision in 16th Meeting:</p> <p>Shri Raju Agarwal submitted that the panel meeting to be conducted in structured manner and next panel meeting to be decided in Sectional committee meeting itself. It was also submitted that the members of the panel meeting to be given specific responsibilities to come up with some ideas, technical inputs for discussion in panel and convener to collate the information and bring to the SC meeting.</p> <p>There was a deliberation in the panel meeting that the standards are made by AIS or BIS and it was agreed that the standards will be made by BIS.</p> <p>Shri Raju Agarwal and other members of the panel were requested to list out the agenda points to priorities the work in the panel meeting to submit the recommendation to next TC meeting.</p>
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				Committee decided that the respective panels would identify relevant AIS standards for conversion to Indian Standards.
2	TED 28/P2 Panel on Traffic Management	The committee decided to wide circulate the document for 60 days.	<ul style="list-style-type: none"> a. MEITY - Convener b. CDAC c. DIMTS d. ICAT e. AVVRON f. BIS 	<p>Status on 16th Meeting: The document TED 28 (21134) completed WC stage in Jan 2024 and no technical comment received.</p> <p>F Draft is prepared.</p> <p><i>The committee may DELIBERATE.</i></p> <p>Decision in 16th Meeting:</p> <p>Committee deliberated on the document TED 28 (21134) and members submitted that the requirement of components is restrictive at some points w.r.to technology.</p> <p>Committee decided that DIMTS and CDAC would prepare the documents by incorporating the component specification and submit the documents to BIS within 10 days. Member Secretary shall circulate the document in WC for 30 days.</p> <p>Further, Committee decided that if no comments are received on draft document within the circulation period, document to be processed for Printing and authorized Member Secretary to carry out editorial corrections, if any</p>

3	TED 28/P3 Panel on RPAS	Member secretary informed that a panel meeting was held on 06.09.2023. Only one comment i.e., Pulse in load dump test is yet to be resolved. Dr. Madhusudan Joshi informed that the comment needs to be examined. The committee requested members from Mahindra to discuss the comment with Dr. Joshi and to organize a panel meeting at the earliest to finalize the issue	<p>a. ICAT (Dr. M Joshi) - Convener</p> <p>b. M/s Castmaster Mobitech Pvt Ltd (Shri Raju Agarwal)</p> <p>c. AVVRON</p> <p>d. Masstrans Technologies Pvt Ltd</p>	<p>Status on 16th Meeting: A panel meeting was held on 12 March 2024.</p> <p>Pannel Meeting: 12 March 2024</p> <p>Comments on “Pulse in load dump test” from M/s. Mahindra & Mahindra was rediscussed.</p> <ul style="list-style-type: none"> • M/s. MSIL informed to the members that in this regard a letter has been shared to BIS from SIAM which includes the gist of M/s. Mahindra & Mahindra comment. • It was decided that BIS to share the same letter with all the members or to ICAT and ICAT will further circulate it to all the members. • All members to review the said letter & revert with their comments within 15 days from the date of receiving the letter. • Mr. Mahendra from Nippon to share his comments to all members for review and will be discussed in next panel meeting. <p><u>Letter of SIAM</u> attached.</p> <p><i>The committee may DELIBERATE</i></p> <p>Decision in 16th Meeting:</p> <p>Committee deliberated and decided that the convener of the panel would conduct a meeting within 15 days and submit the recommendation within a month for taking up in the next TC meeting.</p>
		C-DAC and MeitY were	<p>a. Shri Alok Sethi, DIMTS - Convener</p> <p>b. IIT Madras</p> <p>c. ASRTU</p>	<p>Status on 16th Meeting:</p> <p>C-DAC and MeitY may kindly apprise the progress.</p> <p>Committee may</p>

4	TED 28/P4 Traveller Information System	requested to work on the draft submitted by DIMTS on Traveler Information Systems. The committee requested to submit the draft in 2 months. Chairman will review the status after two months.	d. Dr. P K Sarkar e. ICAT f. AVVRON g. VOLVO h. Narnix Technolabs Pvt Ltd i. Ashok Leyland j. BIS	DELEBERATE. Decision in 16th Meeting: Shri Kamlesh Kumar, MeitY apprised the progress to the committee. Committee deliberated and decided that the document prepared by MeitY and CDAC to be shared in the panel with a copy to BIS. Panel will convene a meeting within 10 days and submit their recommendation for taking up in next TC meeting.
5	TED 28/P5 Role of ITS in Autonomous System	The committee decided to arrange a panel meeting to discuss the adoption of the standards. The committee decided to co-opt M/s Mahindra & Mahindra, C-DAC & MeitY in the panel and to assign Shri Kamlesh Kumar, MeitY as convener.	a. Prof. P K Sarkar – convener b. Representative from NHAI c. Ministry of Electronics and Information Technology d. Shri Rajinder Khile e. ICAT f. AVVRON g. IL & FS Transport Networks Limited h. Shri Alok Sethi, DIMTS i. Maruti j. TATA k. Mahindra & Mahindra	Status on 16th Meeting: Convener Shri Kamlesh Kumar, Meit may kindly apprise the progress. <i>The committee may DELIBERATE</i> Decision in 16th Meeting: Committee deliberated on the composition of the panel and decided to appoint Prof. P K Sarkar as a new convener of the panel P5. During meeting M/s Maruti, M/s TATA, M/s Mahindra & Mahindra shown interest to contribute in the panel which was agreed to by the committee. Committee decided that the panel will review the published ISO standards under ISO TC 204 and submit a report in next SC meeting for adoption.

6	TED 28/P6 Panel on ADAS	<p>Panel Meeting: 12 March 2024</p> <p>Members suggested that respective AIS standards to be adopted as IS standards.</p> <ul style="list-style-type: none"> • Convenor of the panel informed that TED panel has already made efforts to create these standards based on EU standards and same were shared with ARAI for their comments. • BIS to check whether any comments received from ARAI or not on ADAS standards. In the meantime, ARAI has shared a list of respective AIS standard which are under formulation and are in draft stage. • BIS to internally discussed with Head BIS and update it to the panel convenor whether panels have to follow the AIS as it is or the drafts created based on EU standards & modified based as per India conditions to be followed. <p>The committee may DELIBERATE.</p>	<ul style="list-style-type: none"> a. ICAT (Dr. M Joshi) - Convener b. Ministry of Electronics and Information Technology c. Dr. P K Sarkar d. Automotive Component Manufacturers Association of India (ACMA) e. Automotive Research Association of India, (ARAI) f. Shri Alok Sethi, DIMTS g. Robert Bosch Engineering & Business Solutions Pvt. Ltd. h. Nippon Audiotronix i. Maruti Suzuki India Ltd. j. Ashok Leyland k. Aptiv l. Continental m. DENSO n. UNO MINDA o. M/s Castmaster Mobitech Pvt Ltd (ShriRaju Agarwal) p. Panasonic 	<p>Decision in 16th Meeting:</p> <p>Committee deliberated and decided that the decision of TEDC regarding transfer of subject to be circulated to panel. Panel to go through the scope of the panel and identify the AIS standards for adoption in to Indian Standards for deliberation in next SC meeting.</p>
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7	<p>TED 28/P8 Panel on 'Automatic Vehicle Identification and fare collection/ associated FasTag issues'</p>	<p>Decision in 15th Meeting: A panel meeting was held on the subject and following was decided: 1. It was decided to develop this standard as Annexure to IS 16833. 2. The title of the Annexure to be renamed as 'Student Safety System for School Buses in Transit'. 3. A white paper on Driver behaviour to be put up by Shri Raju Agrawal and Shri Kush Mehrotra along with ICAT & Dr. P K Sarkar. (Time period -8 weeks) 4. It was decided to remove the annexure of UHF RFID based application and only HF RFID Application to be considered. 5. It was decided to specify frequency as 13.56 MHz for HF application During the meeting, Dr. P K Sarkar submitted that UHF RFID tags are being used in Sharjah and submitted a presentation on the same. He also requested the committee to make the use of camera as optional, instead of removing it. The committee DECIDED to hold a panel meeting at the earliest to resolve this submission and to finalize the draft.</p> <p><i>The committee may NOTE.</i></p> <p>Status on 16th Meeting: Panel meeting: 12 March 2024 ICAT to provide status update to the panel and if any deliberations are required, that will take place in next panel meeting. <i>The committee may DELIBERATE</i></p>	<p>a. ICAT – Convener b. ARAI c. ASRTU d. Dr. P K Sarkar e. M/s CastMaster Mobitech India Pvt Ltd f. BIS</p>	<p>Decision in 16th Meeting:</p> <p>The committee deliberated on 'Student Safety System for School Buses in Transit' in length and decided to take up this as R&D project.</p> <p>The outcome of the project will be discussed in the committee for further drafting as Indian Standard.</p>
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8	TED 28/P10 Panel on E-Ticketing	<p>It was understood that CDAC was doing some work in this area. The committee requested MeitY to take this subject forward and submit the draft within 2 months. Chairman will review the same after that.</p> <p>Status on 16th Meeting: MeitY may kindly update the status. <i>The committee may DELIBERATE</i></p>	<p>a. Ministry of Electronics and Information Technology - Convenor b. STQC c. ICAT d. C-DAC e. SIAM f. Sh Taron Mohan, Nextgen Telesolutions Pvt. Ltd q. Shri Alok Sethi, DIMTS</p>	<p>Decision in 16th Meeting: Committee deliberated and decided that panel would submit the draft within 15 days. BIS to circulate the P-draft to committee members for 30 days. The comments received on the circulated document to be presented in next SC for further deliberation.</p>
9	TED 28/P12 Panel on TPMS	<p>Decision in 15th Meeting: It was pointed out that there were still some pending issues which need to be resolved. BIS was requested to arrange the panel meeting quickly to sort out the same. The committee decided to co opt M/s Maruti Suzuki India Ltd, M/s Mahindra & Mahindra, Shri Raju Agrawal, M/s Renault Nissan in the panel.</p> <p>Status on 16th Meeting:</p> <ul style="list-style-type: none"> • ICAT to provide status update to the panel and if any deliberations are required, that will take place in next panel meeting. • ICAT to circulate the M/s. Renault Nissan comments to all panel members for review. Deliberation on same will take place in next panel meeting. <p><i>The committee may DELIBERATE.</i></p>	<p>a. ICAT (Shri Sonu Kumar Sudrania-Convener) b. SIAM c. Automotive Component Manufacturers Association of India (ACMA) d. ARAI e. Shri Alok Sethi, DIMTS f. Deptt of Telecommunications, Ministry of Communications g. Triton Valves h. Robert Bosch Engineering & Business Solutions Pvt. Ltd. i. Continental j. Sensata k. Renesas l. NXP m. M/s Maruti Suzuki India Ltd n. M/s Mahindra & Mahindra o. Shri Raju Agrawal p. M/s Renault Nissan</p>	<p>Decision in 16th Meeting: Committee deliberated on the convenorship of the panel and felt that Shri Madhusudan Joshi, ICAT is handling many panels and also preoccupied with many other works. To speed up the work Shri Sonu Kumar Sudrana, ICAT is given the responsibility as convener of the panel.</p> <p>Convener of the panel would convene a meeting within 15 days to resolve the issue and submit recommendation within 1 month for taking up in next SC meeting.</p>

10	TED 28/P13 Panel on Road Traffic Safety Management Systems	<p>Decision in 15th Meeting:</p> <p>a. The committee decided to drop the Demand Management subject. b. Shri Alok Sethi was requested to put up a draft on Fleet and Transport Management. c. Further decision on Incident recorder and Driver support & monitoring will be taken once the draft is submitted by C DAC.</p> <p>Status on 16th Meeting: Convener may kindly update the progress.</p> <p><i>The committee may DELIBERATE</i></p>	<p>a. Dr. P K Sarkar-Convener b. ICAT (Shri ShitikantPaddy) c. Alok Sethi d. Shri Shrikant Hargapurkar e. ICAT (Dr. Madhusudan Joshi) f. ARAI (Shri ManojDesai) g. MeITY h. ASRTU i. C-DAC j. Map My India</p>	<p>Decision in 16th Meeting: Convener of the panel convene a meeting within 15 days and submit draft documents with panel recommendation within 1 month for taking up in next SC meeting.</p>
11	TED 28:01 Sub-committee on VTS	<p>Decision in 15th Meeting: The committee decided to hold a sub-committee meeting at the earliest.</p> <p>Status on 16th Meeting: Convener may kindly update the progress. During 16th meeting Mr Rupesh from CDAC apprised committee members that a sub-committee meeting was conducted on 13.10. 2023 in which CDAC was asked to submit a draft to MeitY. As informed, CDAC submitted draft to MeitY.</p>	<p>a. ICAT (Dr. M Joshi) - Convener b. ARAI c. M/s CastMaster Mobitech India Pvt Ltd d. DIMTS e. KPIT f. Tranxit MLPL g. CDAC h. MeitY i. TATA Motors j. Maruti</p>	<p>Decision in 16th Meeting: Convener of the panel would convene a meeting within 15 days and submit draft documents with sub-committee recommendation within 1 month for taking up in next SC meeting.</p> <p>The request of Shri Rupesh, CDAC to be a part of sub-committee was agreed. Committee also agreed the request of M/s TATA Motors and M/s Maruti as a part of sub-committee.</p> <p>It is also decided that Shri Kamlesh Kumar, MeitY will co-ordinate to organize the sub-committee meeting within 15 days.</p>

Item 4 Draft Standards/Amendments for Finalization

The committee noted the information given in Agenda.

Item 5 Draft Standards/Amendments for Approval for Wide Circulation

The committee noted the information given in Agenda.

Item 6 Drafts under Preparation

The committee noted the information given in Agenda.

Item 7 Comments on Published Standards

The committee noted the information given in Agenda.

Item 8 New Subjects

The committee noted the information given in Agenda. Further the committee decided to transfer the NWIP proposal to TED 11 which is the relevant committee.

Item 9 Technical Issues

The committee noted the information given in Agenda.

Item 10 International Activities

10.1 The committee noted the information given in Agenda.

10.2 The 61st meeting of ISO TC 204 was attended by Indian delegation comprising of Shri B Bhanot (Chairman, TED 28), Shri Madhusudan Joshi (ICAT) and Shri Kamlesh Kumar (MeitY). It was decided to circulate the report amongst the committee members for their perusal.

10.3 Committee approved the nomination of following members to attend the ISO TC 204 meetings scheduled on 24 & 25 October 2024 at Cambridge (United States):

- a. Smt. Sunita Verma, Chairman, TED 28
- b. Shri Madhusudan Joshi, ICAT
- c. Shri Kamlesh Kumar, MeitY
- d. Shri Mitra Sen Verma, Sc-D/JD, Member Secretary TED 28

Item 11 Programme of Work (including periodic review of Indian Standards)

The committee noted the information given in Agenda.

Item 12 Date and Place of Next Meeting

Committee decided to hold next meeting in 19 July 2024 at Manak Bhawan, HQ, Delhi.

Item 13 Any Other Business

There being no business, meeting ended with vote of thanks to all the members

Annex 1

S.No.	Organization	Member Name
1.	Ministry of Electronics and Information Technology, New Delhi	Smt. Sunita Verma
2.	AVVRON, Pune	Shri Rangarajan
3.	Ashok Leyland Limited, Chennai	Shri Ved Prakash Gautam
4.	Ashok Leyland Limited, Chennai	Shri Ayyappan R S
5.	Ashok Leyland Limited, Chennai	Smt. Sasikala
6.	Automotive Component Manufactures Association of India, New Delhi	Smt. Seema Babal
7.	Automotive Component Manufactures Association of India, New Delhi	Shri Sanjay Tank
8.	Automotive Research Association of India, Pune	Shri A. A. Deshpande
9.	Automotive Research Association of India, Pune	Shri M M Desai
10.	Automotive Research Association of India, Pune	Shri Pritesh S Shinkar
11.	C-DAC, Thiruvananthapuram	Shri E B Benoy Gopal
12.	C-DAC, Thiruvananthapuram	Shri Satheesh G
13.	Castmaster Mobitec India Private Limited, Faridabad	Shri Raju Aggarwal
14.	Castmaster Mobitec India Private Limited, Faridabad	Shri Rahul Jain
15.	Central Institute of Road Transport, Pune	Shri Umesh K S
16.	Central Institute of Road Transport, Pune	Smt Shubhangi Dalvi
17.	Central Institute of Road Transport, Pune	Shri Samir S. Sattigeri
18.	Delhi Integrated Multi-Modal Transit System Ltd, New Delhi	Shri Alok Sethi
19.	Delhi Integrated Multi-Modal Transit System Ltd, New Delhi	Shri Abhishek Srivastava
20.	Delhi Mumbai Industrial Corridor Development Corporation Limited, New Delhi	Dr. P. K. Sarkar
21.	Denso International India Private Limited, Gurugram	Shri Prabhakar
22.	Denso International India Private Limited, Gurugram	Shri Noel Alexander Peters
23.	Hero Motocorp Limited, New Delhi	Shri Feroz Ali Khan
24.	Hero Motocorp Limited, New Delhi	Shri Piyush Chowdhry
25.	Hero Motocorp Limited, New Delhi	Shri Varun Kumar Sharma
26.	IL & FS Transportation Networks Limited, Bandra	Shri Jigish Vora
27.	Indian Institute of Technology Madras, Chennai	Dr Lelitha Devi
28.	Indian Institute of Technology Madras, Chennai	Dr Gitakrishnan Ramadurai
29.	Institute of Urban Transport India, New Delhi	M/s Sonia Arora IUT
30.	Institute of Urban Transport India, New Delhi	Shri Ankit Pachouri
31.	International Centre of Automotive Technology, Manesar	Shri Madhusudan Joshi
32.	International Institute of Information Technology, Bangalore	Shri Sachit S. Rao
33.	International Institute of Information Technology, Bangalore	Prof Shrishra Rao
34.	LDRA Technology Private Limited, Bengaluru	Shri Shinto Joseph
35.	LDRA Technology Private Limited, Bengaluru	Shri Raja Pandian
36.	LDRA Technology Private Limited, Bengaluru	Shri Deepu Chandran
37.	Mahindra and Mahindra Limited, Mumbai	Shri Kulkarni Shailesh
38.	Mahindra and Mahindra Limited, Mumbai	Shri Kulkarni Shailesh
39.	Mahindra and Mahindra Limited, Mumbai	Smt. Pathak Pushpanajali
40.	Mahindra and Mahindra Limited, Mumbai	Shri PONNUSAMY VINOTH
41.	Maruti Suzuki India Limited, Gurugram	Shri Gururaj Ravi
42.	Maruti Suzuki India Limited, Gurugram	Shri Sumit Kumar
43.	Maruti Suzuki India Limited, Gurugram	Ms. Buvanewari M
44.	Minda Industries Limited, Gurugram	Shri Rahul Malik
45.	Minda Industries Limited, Gurugram	Smt. Kiran Palve
46.	Ministry of Electronics and Information Technology, New Delhi	Shri Kamlesh Kumar
47.	Ministry of Heavy Industries and Public Enterprises, Department of Heavy Industry, New Delhi	Shri Sushil Lakra
48.	Ministry of Housing and Urban Affairs, New Delhi	Shri R K Singh
49.	Ministry of Road Transport and Highways, New Delhi	Shri Dharkat R Luikang

50.	Narnix Technolabs Private Limited, New Delhi	Shri Narang N Kishore
51.	National Highways Authority of India, New Delhi	Shri Akhilesh Kumar Srivastava
52.	National Highways Authority of India, New Delhi	Shri Deepak Saxena
53.	National Informatics Centre, New Delhi	Shri Mahesh Chandra
54.	National Informatics Centre, New Delhi	Shri Gautam Ghosh
55.	NextGen Knowledge Solutions Private Limited, New Delhi	Shri Taron Mohan
56.	NextGen Knowledge Solutions Private Limited, New Delhi	Shri Abhishek Kumar
57.	Renault Nissan Technology and Business Centre India Private Limited, Chennai	Shri Rajendra Khile
58.	Renault Nissan Technology and Business Centre India Private Limited, Chennai	Shri Vijay Dinakaran
59.	Renault Nissan Technology and Business Centre India Private Limited, Chennai	Shri Jebin Jowhar
60.	Robert Bosch Engineering and Business Solutions, Bengaluru	Smt Priyamvada Vembar
61.	Robert Bosch Engineering and Business Solutions, Bengaluru	Shri Shashwat Raizada
62.	Rosmerta Technologies Limited, Gurugram	Shri Karan Nagpal
63.	Rosmerta Technologies Limited, Gurugram	Shri Anshuman Roy
64.	School of Planning and Architecture, New Delhi	Shri Vinay Maitri
65.	Seconded European Standardization Expert for India (SESEI), New Delhi	Shri Dinesh Chand Sharma
66.	Seconded European Standardization Expert for India (SESEI), New Delhi	Shri Nitin Sharma
67.	Society of Indian Automobile Manufacturers (SIAM), Delhi	Shri Amit Kumar
68.	Society of Indian Automobile Manufacturers (SIAM), Delhi	Shri Prashant Kumar Banerjee
69.	Tata Motors Limited, Pune	Shri Pallipalayam Gowrishankar
70.	Tata Motors Limited, Pune	Smt Namrata Deb
71.	Tata Motors Limited, Pune	Smt. Shweta Jahagirdar
72.	Telecommunication Engineering Center, New Delhi	Shri Sushil Kumar
73.	Toyota Kirloskar Motor Private Limited, Bidadi	Shri Raju. M
74.	Toyota Kirloskar Motor Private Limited, Bidadi	Shri Vijeth Gatty
75.	Volvo Group India Private Limited, Bengaluru	Shri Pramod Kumar Hugar
76.	Volvo Group India Private Limited, Bengaluru	Shri Jayesh Tendulkar
77.	international Centre for Automotive Technology, Manesar	Shri Sonu Kumar Sudrania
78.	international Centre for Automotive Technology, Manesar	Shri Praval Sharma
79.	In Personal Capacity, New Delhi	Shri Shrikant Haragapurkar

ANNEX A
(Foreword)

COMMITTEE COMPOSITION

INTELLIGENT TRANSPORT SYSTEMS SECTIONAL COMMITTEE, TED 28

13th Meeting	18th December 2020	Virtual
14th Meeting	13th May 2022	Virtual
15th Meeting	7th September 2023	Virtual

Sl. No.	NAME OF THE ORGANIZATION	REPRESENTED BY Principal member (P) Alternate member (A)	ATTENDANCE OF THE LAST THREE MEETINGS			
			13 th	14 th	15 th	Total
1.	IN PERSONAL CAPACITY	Smt Sunita Verma(Chairperson)	Y	Y	Y	3/3
2.	Avvron, Pune	Shri Rangarajan (P)	Y	Y	N	2/3

Sl. No.	NAME OF THE ORGANIZATION	REPRESENTED BY Principal member (P) Alternate member (A)	ATTENDANCE OF THE LAST THREE MEETINGS			
			13 th	14 th	15 th	Total
3.	Ashok Leyland Limited, Chennai	Shri Ved Prakash Gautam (P) Shri Ayyappan R S (A) Smt. Sasikala (YP)	Y	Y	-	2/2
4.	Automotive Component Manufactures Association Of India, New Delhi	Shri Sanjay Tank (P) Ms. Seema Babal (A)	Y	Y	Y	3/3
5.	Automotive Research Association of India, Pune	Shri A. A. Deshpande (P) Shri M M Desai (A) Shri Pritesh S Shinkar (YP)	Y	Y	Y	3/3
6.	C-DAC, Thiruvananthapuram	Shri Satheesh G (P) Shri E B Benoy Gopal (A)	-	-	-	0/0
7.	Castmaster Mobitec India Private Limited, Faridabad	Shri Rahul Jain (P) Shri Raju Aggarwal (A)	Y	Y	Y	3/3
8.	Central Institute of Road Transport, Pune	Shri Samir S. Sattigeri (P) Shri Umesh K S (A) Shri Shubhangi Dalvi (A)	N	Y	N	1/3
9.	Delhi Integrated Multi-Modal Transit System Ltd, New Delhi	Alok Sethi (P) Abhishek Srivastava (A)	Y	Y	Y	3/3
10.	Delhi Mumbai Industrial Corridor Development Corporation Limited, New Delhi	Dr. P. K. Sarkar (P)	-	Y	Y	2/3
11.	Denso International India Private Limited, Gurugram	Noel Alexander Peters (P) Shri Prabhakar (A)	Y	Y	N	2/3
12.	Hero Motocorp Limited, New Delhi	Shri Feroz Ali Khan (P) Shri Piyush Chowdhry (A) Shri Varun Kumar Sharma (YP)	N	Y	Y	1/3
13.	IL & FS Transportation Networks Limited, Bandra	Shri Jigish Vora (P)	N	Y	Y	1/3
14.	Indian Institute of Technology Madras, Chennai	Dr. Lelitha Devi (A) Dr. Gitakrishnan Ramadurai (A)	N	Y	N	1/3
15.	Institute of Urban Transport India, New Delhi	Ms. Sonia Arora IUT (A) Shri Ankit Pachouri (A)	Y	N	N	1/3
16.	International Centre of Automotive Technology, Manesar	Shri Madhusudan Joshi (P) Shri Sonu Kumar Sudrania (A) Shri Praval Sharma (A)	Y	Y	Y	3/3
17.	International Institute of Information Technology, Bangalore	Prof. Shrisha Rao (P) Shri Sachit S. Rao (A)	N	N	N	0/3

Sl. No.	NAME OF THE ORGANIZATION	REPRESENTED BY Principal member (P) Alternate member (A)	ATTENDANCE OF THE LAST THREE MEETINGS			
			13 th	14 th	15 th	Total
18.	LDRA Technology Private Limited, Bengaluru	Shri Shinto Joseph (P) Shri Raja Pandian (P) Ms. Deepu Chandran (A)	N	Y	Y	2/3
19.	Mahindra and Mahindra Limited, Mumbai	Shri Ponnusamy Vinoth (P) Shri Kulkarni Shailesh (A) Smt Pathak Pushpanajali	-	-	-	0/0
20.	Maruti Suzuki India Limited, Gurugram	Shri Gururaj Ravi (A) Ms. Buvaneswari M (A) Shri Sumit Kumar (Y)	Y	Y	Y	3/3
21.	Minda Industries Limited, Gurugram	Shri Rahul Malik (P) Shri Kiran Palve (A)	Y	N	Y	2/3
22.	Ministry of Electronics and Information Technology, New Delhi	Smt. Sunita Verma (P) Shri Kamlesh Kumar (A)	N	Y	Y	2/3
23.	Ministry of Heavy Industries And Public Enterprises,	Shri Sushil Lakra (P)	N	N	N	0/3
24.	Ministry of Housing and Urban Affairs, New Delhi	Shri R K Singh (A)	N	N	N	0/3
25.	Ministry of Road Transport and Highways, New Delhi	Shri Dharkat R Luikang (P)	N	N	N	0/3
26.	Narnix Technolabs Private Limited, New Delhi	Shri Kishor N. Narang (P)	N	Y	N	1/3
27.	National Highways Authority of India, New Delhi	Shri Akhilesh Kumar Srivastava (P) Shri Deepak Saxena (A)	N	N	N	0/3
28.	National Informatics Centre, New Delhi	Shri Mahesh Chandra (P) Shri Gautam Ghosh (A)	N	N	N	0/3
29.	Nextgen Knowledge Solutions Private Limited, New Delhi	Shri Taron Mohan (P) Shri Abhishek Kumar (A)	Y	Y	N	2/3
30.	Renault Nissan Technology And Business Centre India Private Limited, Chennai	Shri Rajendra Khile (P) Shri Vijay Dinakaran (A) Jebin Jowhar Pulloorshangattil (A)	-	-	Y	1/1
31.	Robert Bosch Engineering and Business Solutions, Bengaluru	Smt. Priyamvada Vembar (P) Shri Shashwat Raizada (A)	Y	Y	Y	3/3
32.	Rosmerta Technologies Limited, Gurugram	Shri Karan Nagpal (P) Shri Anshuman Roy (A)	N	Y	Y	2/3
33.	School of Planning and Architecture, New Delhi	Shri Vinay Maitri (P)	N	N	N	0/3
34.	Seconded European Standardization Expert For India (SESEI), New Delhi	Shri Dinesh Chand Sharma (P) Shri Nitin Sharma (A)	N	Y	N	1/3

Sl. No.	NAME OF THE ORGANIZATION	REPRESENTED BY Principal member (P) Alternate member (A)	ATTENDANCE OF THE LAST THREE MEETINGS			
			13 th	14 th	15 th	Total
35.	Society of Indian AutomobileManufacturers (Siam), Delhi	Shri Prashant Kumar Banerjee(P) Shri Amit Kumar (A)	Y	Y	Y	3/3
36.	Tata Motors Limited, Pune	Shri Prasanta Sarkar (P) Shri Gowrishankar P. S. (A)	Y	Y	Y	3/3
37.	Telecommunication EngineeringCenter, New Delhi	Shri Sushil Kumar (P)	N	N	N	0/3
38.	Toyota Kirloskar Motor Private Limited, Bidadi	Shri Raju. M (A) Shri Vijeth Gatty (A)	N	Y	Y	2/3
39.	Volvo Group India Private Limited, Bengaluru	Shri Jayesh Tendulkar (P) Shri Pramod Kumar Hugar (A)	N	Y	N	1/3
40.	In Personal Capacity	Shri Shrikant Haragapurkar (P)	-	-	-	0/0