NEWSLETTER

TELECOMMUNICATION ENGINEERING CENTRE

MESSAGE

From the desk of....

ADVISOR TEC

Dear Readers,

It is a matter of great pleasure to release the April-June, 2023 issue of the TEC Newsletter.

Its a great pleasure to share that TEC has successfully organized a "National workshop on enhancing Indian participation in Telecom Global Standards Bodies " at C-DoT, New Delhi on 7th July, 2023. The event was inaugurated by Shri K. Rajaraman Chairman DCC & Secretary (Telecom), DoT , Ministry of Communication , Government of India .

I believe that this newsletter for April - June 2023 months will serve as a window showcasing the complete profile of TEC and its achievements, progress made and curricular activities during the stipulated period.
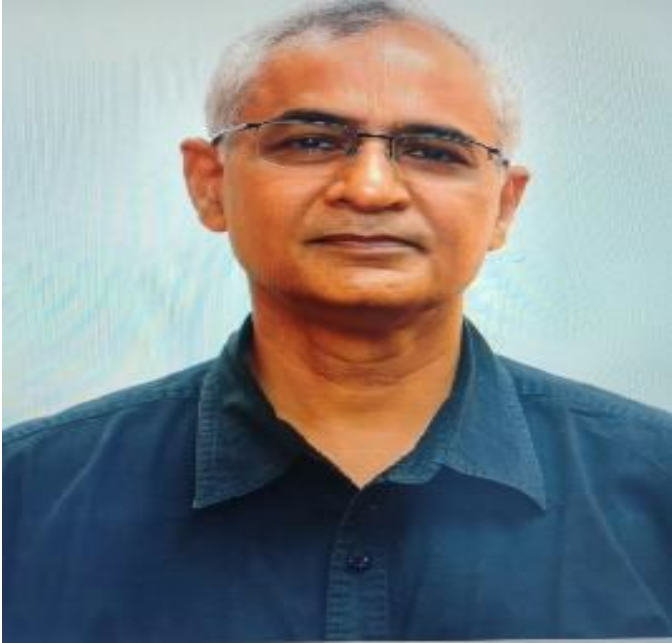
We at TEC are committed to provide an ambience to standardize new telecom technologies and products and strengthen country's testing and certification infrastructure.

I look forward to your continued support and suggestions to further improve the Newsletter.

Best Wishes and Warm Regards,

RITU RANJAN MITTAR

TEC WELCOMES NEW SECRETARY (T) AND MEMBER (SERVICES), DCC

Telecommunication Engineering Centre (TEC), DoT welcomes Dr. Neeraj Mittal as Secretary (Telecom), Department of Telecommunications on his joining the new assignment on 6th September 2023.

Dr. Neeraj Mittal is a senior Indian Administrative Service (IAS) Officer of Tamil Nadu cadre. He is a B. Tech in Electrical Engineering from IIT, Kanpur, MBA from Cranfield University, UK and Ph.D from Ohio State University, USA in Management Information Systems.

He started his career as an IAS Officer in 1992. He has held various administrative positions in the fields of land and revenue management, mines and minerals, IT/Communications, e-governance. During his stint in Central deputation, he worked in Department of Telecom, Ministry of Commerce & Industry and Ministry of Petroleum & Natural Gas. While working as Joint Secretary in the Ministry of Petroleum & Natural Gas, he was instrumental in rolling out the Cash Transfer program in LPG and 'Give It Up' campaign. He has also served as Senior Advisor to the Executive Director in World Bank in Washington DC.

Telecommunication Engineering Centre (TEC), DoT welcomes Shri Ajay Kumar Sahu as Member (Services), Digital Communication Commission (DCC), Department of Telecommunications on his joining the new assignment on 1st August 2023. Shri Ajay Kumar Sahu is an ITS officer of 1985 Batch.

Shri Ajay Kumar Sahu visited TEC on June 08, 2023 and interacted with the officers of TEC. He appreciated the activities being undertaken by TEC and emphasized the need of timely action in the field of Standardization, Security, Testing and Certification .

TEC bids farewell to Member (Service), DCC Shri Uma Shanker Pandey on his superannuation from service on 31 July 2023.

NATIONAL WORKSHOP ON ENHANCING INDIAN PARTICIPATION IN GLOBAL STANDARDS BODIES

In line with Prime Minister Shri Narendra Modi's aspiration to establish India as a frontrunner in the advancement of telecommunications technologies and norms, the Telecommunication Engineering Centre (TEC) in partnership with C-DoT and TSDSI has successfully organized a **National Workshop on Strengthening India's Engagement in Global Telecom Standards Organizations**, on July 7, 2023, at the C-DoT Campus, New Delhi.

During the event Secretary (T) **Shri K Rajaraman** inaugurated the **Standards Coordination Portal**, an innovation of the Telecommunication Engineering Centre (TEC). This platform, drawing upon the expertise of professionals spanning various sectors such as industry, academia, research institutions, and the government, is designed to amplify India's engagement in international standardization endeavors. The portal will serve as a centralized repository for information exchange and collaborative efforts in standardizing telecom and associated ICT domains.

Shri K Rajaraman also released the TEC standard for **"Fairness Assessment and Rating of Artificial Intelligence Systems".** This standard has been developed by TEC through extensive consultations with stakeholders. It delineates comprehensive procedures for evaluating and rating the fairness of artificial intelligence systems, ensuring the ethical and responsible deployment of AI technologies.

An **Online Module for Voluntary Certification** of telecom products was also introduced, which shall provide a streamlined process for Telecom certification.

Approval Certificate for Conditional Access System and the **Technology Approval Certificate for Dual Band Outdoor Wi-Fi Access Point**, was handed over to C-DoT, symbolizing their commitment to quality and innovation.

SOME GLIMPSES OF NATIONAL WORKSHOP

The workshop featured esteemed speakers and experts from industries, academia, government organizations, and renowned research and development centers. Engaging discussions revolved around topics such as the step-by-step process of standard-making processes, conversion of patents into Standard Essential Patents (SEPs), and the significant role of academic institutions in fostering a vibrant Standards Community.

The event provided a platform to raise awareness and encourage active Indian participation in international standardization bodies such as ITU, 3GPP, IEEE etc. The workshop emphasized the pivotal role of standardization for businesses and start-ups, particularly through the Standard Essential Patents (SEP) mechanism.

 National Workshop on Enhancing Indian Participation in Telecom Global Standards Bodies shall serve as a catalyst for India's progression towards becoming a global frontrunner in telecom technologies and standardization.

STANDARDIZATION

STANDARDS RELEASED BY TEC:

1. Standard for Generic Requirements (GR) for "**Specific Absorption Rate (SAR) for Wireless Communication Devices used in close proximity to human body (TEC 13016:2020)**" was revised and issued. This standard covers the limits and general requirements including specific measurement criteria, wherever applicable, for assessment of Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to human body.

2. Standard for GR for "**EMF Strength Measuring Instrument in the frequency range of 30 MHz to 3/6 GHz**" has been revised. The revised title reads as follows: "**EMF Strength Measuring Instrument in the frequency range of 30 MHz to 6 GHz and 24.25 GHz to 29.5 GHz**" (**TEC 44060:2023).** This Standard for GR applies to measurements of EMF from operational transmitting equipment to ensure that the transmissions do not constitute a potential hazard to workers or to the general public.

3. Standard for GR for "**Firewall System (TEC 49090:2023)".** This document for Firewall System, appliance based as well as virtual, which is intended to be deployed by various service providers to secure their Information Technology/ Telecommunication infrastructure.

4. Standard for GR For "**Intrusion Detection System for IP Network Security (TEC 49130:2023)".** This document for Intrusion Detection System for IP network security is used to protect the IT infrastructure of any organisation.

5. Standard for GR for "**LAN Switch (TEC 52010:2023)" .** This Standard pertains to a local area networking device operating at Layer 2 (and in some cases Layer 3) of the seven layer ISO OSI model. This document specifies the technical, operational and other Generic requirements of different kinds of LAN Switches that shall be required in service provider networks for Internet, Intranet and other applications environments.

6. Revision of Essential Requirements (ER) for "**E-Band Fixed Radio Relay Systems**".

7. TEC Technical Report **EMF Radiation from IoT/ M2M devices,** was released by Member (S) on 26th July 2023 in presence of Sh. Ajay Kumar Sahu, Advisor (O), DoT; Sh. R. R. Mittar, Advisor & Head, TEC and other officers of TEC.

STANDARDS WITHDRAWN:

The following 02 standards for GRs of IT Division were withdrawn after due process during May 2023:

1. High Speed Data Circuit Testers (TEC 52020:2005)

2. 64 kbps line drivers for use on subscriber loop on 2 wire basis (TEC 52030:2006)

STANDARD ADOPTION:

TEC, DoT has adopted the following 3GPP standards in to National Standards-

1. TSDSI transposed 3GPP Release 13 to 17 standards (total 1546 documents)

2. TSDSI transposed 3GPP Release 15, 16 and 17 standards (total 2579 documents).

TEC has initiated the process by calling public comments for the adoption of following TSDSI transposed 3GPP standards in to National Standards:

1. 3GPP specifications from Release 10 to 17 (total 428 documents)

2. 3GPP specifications towards Rev 6 of ITU-R M.2012 and Rev2 of M.2150

STANDARDIZATION

CONTRIBUTIONS TO ITU:

• ITU-T : SG-5

Total following Six contributions were finalized through the NWG5 and submitted to ITU-T SG5 meeting held during 13-23 June, 2023:

1) New Work item for creation of Supplement to Recommendation **ITU-T L.1700** on the subject of Low cost sustainable telecommunication for rural communications in developing countries enabling SIP based voice calling on Wi-Fi/WLAN (Q12/5).

2) Proposal of content for draft ITU-T Recommendation **K. devices** - on EMF exposure from devices operated in close proximity.

3) Proposal of modification in content for Draft Supplement ITU T **L.Suppl .ICIP** "Best Practices for implementing circular economy in ICT management"

4) Proposal of modification in content of Draft Recommendation ITU-T **L.CArural** "Low cost sustainable ICT solutions for climate change adaptation in rural areas and communities"

5) Proposal of modification in content for draft Rec ITU.T **L.NZ** solutions "Best Practices to achieve Net Zero with ICT"

6) Proposal for update in baseline text of draft revised Rec **K.60** "Emission levels and test methods for wireline telecommunication networks to minimize electromagnetic disturbance of radio services"

• ITU-R WP 5D

National Study Group 5, through multiple rounds of discussions and deliberations, have contributed to ITU-R's **6G Framework,** which has been approved by ITU-R. The contribution has led to India playing a crucial role in getting Ubiquitous Connectivity being accepted as a key usage scenario. Along with that, Ubiquitous Intelligence and Sustainability have also been adopted as key elements of 6G Technology which is in correspondence to India's own 6G Vision document namely **Bharat 6G Vision**, which is based on the principles of Affordability, Sustainability and Ubiquity.

Following contributions were submitted to ITU-R

WP 5D 44th meeting:

1) Verification of PFD by using Rec **P.372** (Radio Noise) for sharing studies for WRC-23 Agenda item 1.1.

2) Amendment on working document towards a preliminary draft new report ITU-T **M.[IMT.AAS].**

3) Proposal for further update to [preliminary draft new rec or the working document towards a preliminary draft new recommendation] ITU-R **M. [IMT.FRAMEWORKFOR 2030 AND BEYOND**

4) Proposal for development of new ITU-R report on National Approaches for IMT-2020 deployment.

• ITU-T SG-9

Total 07 Contributions were submitted to ITU-T Study Group 9 meeting held on 9-18 May, 2023.

1) **J.TR.WiFiTV**: Technical Report on Secondary distribution of digital television and audiovisual content to portable devices using Wi-Fi (Q1/9)

2) **TR.FSR**: TR on Factual subscriber base reporting and protected content delivery in conditional access system (CAS)' (Q2/9)

3) **J.FSR-REQ** regarding 'Factual subscriber-base reporting and protected content delivery in CAS–Requirements' (Q2/9)

4) **J.FSR-TEST** regarding 'Factual subscriber-base reporting and protected content delivery in CAS-Test Methods' (Q2/9)

5) Revision in existing rec ITU-T **J.298** "Requirements and technical specifications of a cable TV hybrid set-top box compatible with terrestrial and satellite TV transport" (Q6/9)

6) **JSTR.LCAP** TR on Technical advances, challenges, and best practices in live captioning (Q11/9)

• ITU-T SG-11

Following 3 contributions were presented at ITU-T SG11 meeting held from 10-19 May 2023 at Geneva and all were accepted:

STANDARDIZATION

1) Proposal to advance baseline text of draft ITU-T Recommendation **Q.TSRT_IoT** "Test specifications for remote testing of Internet of Things using the probes".

2) Proposal to advance baseline text of draft ITU-T Recommendation **Q.N-att- framework** "Framework of NFV automated testing".

3) Draft Recommendation **Q.CCF- CCSD** "Consumer centric framework for combating counterfeit and stolen ICT mobile devices"

Shri Anshul Kumar Gupta, AD (CA-II), TEC, was also appointed as Rapporteur of Q12/11 of ITU-T SG11.

- **ITU-T SG15**

The following two contributions were presented and accepted during the ITU- T Study Group 15 meeting held at ITU HQ, Geneva from 17–28 April, 2023.

1). A new L-series Supplement, L.Sup.fttx, *"National Experiences for FTTx Network Architectures"* was agreed to be created to cover the Indian experiences on optical access network topologies through FTTX.

2) The *use cases of Li-Fi implemented in Schools and Hospitals by Indian start-ups* were accepted as working text in the technical paper on G.9991 technology.

3) SG15 appreciated the contribution on *FSOC. NWG-15* may submit a revised contribution in the next SG15 meeting or will contribute in the ongoing discussion in the similar contribution on FSOC based on the discussion during the forthcoming correspondence discussion meetings of SG15.

UPCOMING ITU MEETINGS

S. No.	ITU-T SG	Meeting Date
2	ITU-T SG20	13-22 Sep 2023
3	ITU-T SG12	19-28 Sep 2023
5	ITU-T SG11	10-20 Oct 2023
6	ITU-T SG13	20 Oct– 03 Nov 2023
7	ITU-T SG2	06-15 Nov 2023
8	ITU-T SG5	13-22 Nov 2023

For more details about ITU events **click here**

NATIONAL WORKING GROUP MEETINGS/ PROGRESS

NWG-02: Two meetings of NWG-2 were held on 25.04.2023 and 16.06.2023 to discuss and finalize total 05 contributions for ITU-T SG2

NWG-02: One meeting of NWG-5 was conducted on 22.05.2023

NWG –09: One meeting of NWG-9 was conducted on 13.04.2023

NWG -11: Two meetings of NWG-11 were conducted on 10.04.2023 and 17.04.2023 respectively. Total 05 Contributions were presented and discussed during these meetings.

NWG -12: The 7th meeting of NWG-12 was conducted on 15.06.2023. Total 03 contributions and the proposed new work items were discussed during the meeting.

NWG -15 One meeting of NWG-15 was conducted on 25.05.2023

NWG -16: The fourth meeting of NWG-16 was held on 24.05.2023. Two contributions were discussed during the meeting.

NWG–17: Two meetings of NWG17 were held on 08.05.2023 and 28.06.2023.

NWG-20: Three virtual meetings of NWG-20 were held on 16.05.2023, 05.06.2023 and 19.06.2023 to discuss and finalize contributions for the ITU-T SG-20 Regional Group for Asia-Pacific (SG20RG-AP) meeting, 25-26 July 2023.

For more information about National Working Groups (NWGs) activities **click here**
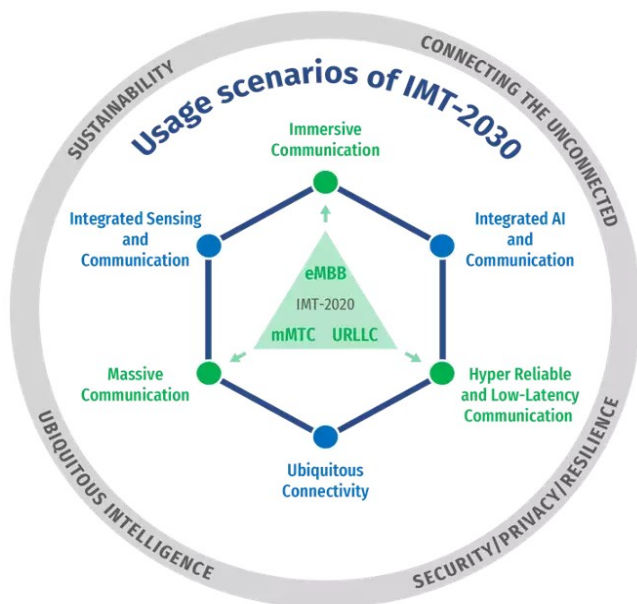
STANDARDIZATION

ITU-R APPROVES 6G VISION FRAMEWORK

The International Telecommunication Union (ITU) has approved the 6G vision framework during its meeting held in Geneva from 12-22 June 2023. The sixth-generation or 6G technology has been named **"IMT-2030"** by the telecoms agency of the **United Nations (UN) .**

Indian delegation led by Shri. V. K. Roy, Director (MT) TEC, played a critical role in getting the ubiquitous connectivity being accepted as a key usage scenario.

The efforts of the Department of Telecommunications, in prioritizing 6G standardization have successfully resulted in adoption of Ubiquitous Connectivity, Ubiquitous Intelligence and Sustainability as key elements of 6G Technology and has also enhanced India's position in the International Telecommunication space.

IUT-T WP 5D Group Photo

ASIA-PACIFIC TELECOMMUNITY (APT) STANDARDIZATION PROGRAM

- Sh. Sushil Kumar, DDG (IoT) and Sh. Avinash Agarwal, DDG (Standardization), TEC participated in 35th Asia-Pacific Telecommunity (APT) Standardization Program Forum (ASTAP-35) meeting and 1st Meeting of APT Preparatory Group for WTSA-24 (APT WTSA24-1), held from 17-21 April 2023 in Bangkok, Thailand.

- This meeting was quite important, as DoT is organizing World Telecommunication Standardization Assembly (WTSA) in 2024. India got various important leadership positions in the APT Preparatory Group for WTSA-24.

The 1st Meeting of APT Preparatory Group for WTSA-24 (APT WTSA24-1)
21 April 2023, Bangkok, Thailand

India has obtained four Vice Chair positions in four different groups for APT-WTSA-2024:

- APT Prepatory group: Sh Sushil Kumar, DDG (IoT), TEC

- WG1: Sh A S Verma, DDG Jharkhand LSA

- WG2: Sh Arun Agarwal, DDG J&K LSA

- WG3: Sh Avinash Agarwal, DDG (C&B),

STANDARDIZATION

ITU-T STUDY GROUP-9 MEETING

Telecommunication Engineering Centre (TEC) in association with the Indian Institute of Science (IISc), Bengaluru successfully hosted the meeting of ITU-T Study Group 9 (SG9) on "Broadband Cable and Television/ Audiovisual content transmission and integrated broadband cable networks" at IISc campus, Bangalore from 9-18 May 2023.
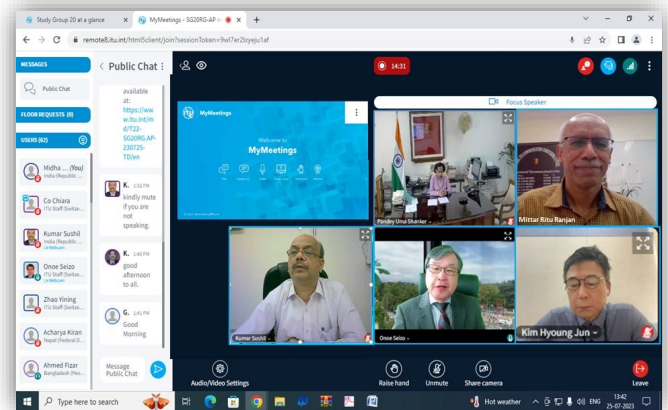
This was also the first time that the SG9 meeting was hosted by India. The meeting was attended in physical/remote mode by delegates and representatives from various countries. In addition, representatives of the International Telecommunication Union (ITU) and many other experts attended the meeting.

During the Study Group meeting, the ITU Workshop on **"The Future of Television for South Asia, Arab and Africa Regions"** was also held on 11 May 2023. The workshop covered regulatory & policy frameworks, emerging and convergent ICT infrastructures and services, as well as user interfaces and human factors. The workshop was held in hybrid mode and was attended by more than 200 participants from over 50 different countries.

ITU-T SG 20 REGIONAL GROUP FOR ASIA -PACIFIC MEETING

The first meeting of ITU-T SG20 Regional Group for Asia-Pacific was successfully organized under the chairmanship of Mr. Sushil Kumar, Chairman of this group & DDG (IoT) TEC on 25-26 July 2023.

This meeting witnessed active participation of around 120 delegates from 15 countries of Asia Pacific region. This regional group, proposed by India was approved in the ITU-T SG20 meeting, Feb 2023.

Mr. Uma Shankar Pandey, Member (Services) DoT; Mr. Seizo Onoe, TSB director and Mr. Hyoung Jun Kim, SG20 Chairman delivered the opening remarks. Mr. R. R. Mittar, Advisor & Head TEC, delivered the closing remarks.

FG-AI4A: Officers of IoT division members from VIT Chennai and ICAR participated in the sixth meeting of ITU/ FAO Focus Group on 'AI and IoT for Digital Agriculture' (FG-AI4A), 22-24 May 2023, virtually. One contribution on the Use case– AI-based Disease Identification in Wheat Crops, based on the project in ICAR, New Delhi, was submitted and presented in this FG-AI4A meeting.

ISO/IEC: DDG (IoT) participated as head of Indian delegation in 13th Plenary WG meetings of ISO/IEC JTC 1/SC 41 (IoT and Digital Twin), virtually, held in hybrid mode at Boston, USA, FROM 12-16th June 2023. This meeting was also attended by officers of IoT division and industry members as delegates.

TESTING AND CERTIFICATION

MANDATORY TESTING (MTCTE)

Indian Telegraph (Amendment) Rules, 2017 provides that telecom equipment are to be mandatorily tested and certified against EMI/EMC, Safety, Technical, Security and other requirements like SAR, IPv6 etc before its sale, import or use in India.

For more details about MTCTE **Click here**

a) **Certificates issued:**

Quarter Q1 = 245	Total = 854

b) **Status of OEM registration:**

Indian OEM	16 (Total=125 till date)
Foreign OEM	19 (Total=171 till date)

CAB DESIGNATION ISSUED:

CAB designations issued -

New = 03	Renewed = 01

Total Designated CABs = 62 (as on 31.03.2023)

IT Safety = 43	EMI/EMC = 32
SAR Testing = 04	Environmental = 25
O.F. Single Mode =02	O.F. Cable =01
Wi-Fi Interface =09	Radio Safety =05
GSM/ GPRS/ EDGE=06	BLE Interface=06
RFID Interface=03	LPWAN LoRA IF=04
LTE or LTE-A IF=06	WCDMA or HSPA IF=06

UPDATES

- TEC has Revised the Scheme for Designating of Domestic Testing and Certification Bodies for Conformity Assessment of Telecom Equipment Issue3- TEC 04019:2023– w.e.f. 19.04.2023.

- Notification dated 23.06.2023 issued for Extension of mandatory date of certification for 32 products (ERs) covered under MTCTE Phase-III & Phase-IV by 3 months i.e. from 01.07.2023 to 01.10.2023.

- Notification dated 23.06.2023 issued for Extension of mandatory date of certification for 12 products (ERs) covered under MTCTE Phase-III & Phase-IV by 6 months i.e. from 01.07.2023 to 01.01.2023.

- Notification dated 23.06.2023 issued for Extension of acceptance of ILAC test reports for 10 products of Phase-III and Phase-IV by 6 months i.e. from 01.07.2023 to 31.12.2023.

- Notification dated 23.06.2023 issued for 7 products covered under Phase-V of MTCTE to be certified mandatorily by 01.07.2024.

- Notification dated 12.06.2023 issued for Extension of mandatory Security testing of WiFi CPE and IP Router by 6 months i.e. from 01.07.2023 to 01.01.2024.

- Notification dated 22.05.2023 issued on revision of labelling guidelines in MTCTE procedure.

- Notification dated 18.04.2023 issued on criteria for certification of Router, LAN Switches and DWDM equipment having specialized test requirements under MTCTE

- One lab designated for **CAS & SMS testing** as per TRAI notification and TEC test guides.

VOLUNTARY TESTING

2 Type Approval and 1 Interface Approval Certificate issued under Voluntary testing scheme during the quarter (Q1 i.e. 01 April-30 June 2023).
Total 36 certificates issued till 30.06.2023 (20 Type Approval, 10 Interface Approval, 1 Certificate of Approval and 5 Technology approvals) since 01.04.2021.

TESTING AND CERTIFICATION

- Shri K. Rajaraman, Secretary (Telecom), released the **Technology Approval certificate** issued by TEC for C-DoT **4G/LTE eNodeB** on 28.07.2023 at a function in BSNL CO. This is a significant step towards Atma Nirbhar Telecom .

- TEC has Revised the Scheme for Designating of Domestic Testing and Certification Bodies for Conformity Assessment of Telecommunication Equipment- Issue 3-TEC 04019:2023 –w. e. f. 19.04.2023. The major reforms made in Revised CAB/CB Designation Scheme are as under:

1. *Labs can also apply for CAB Designation in parallel to applying for accreditation (ISO 17025) to any Indian Accreditation Body, which is a full member of ILAC.*

2. *Provision has been made for enhancement of Scope of Designation with application fee of Rs. 20,000/- per standard. Previously Lab has to pay minimum Rs. 1,00,000/- for upto 05 Standards.*

3. *Renewal Fee for CAB Designation has been reduced by 50 %.*

4. *Special provision has been made for reduction in application fee by 50% for Start-Ups, MSEs & Woman Entrepreneurs.*

5. *Nil application fee for CAB Designation for Govt. (Central/State Govt.) Testing Agencies Organizations/Institutes/IITs and other Government Autonomous Bodies.*

- In reference to signing of MoU with **IITM Parvartak**, a meeting was held on 20.04.2023 with IITM Parvartak under chairmanship of Sr. DDG, TEC for development of Test Schedule and Test Procedures (TSTPs), topology configuration scripts, and capacity building based on the requirements of TEC.

- In reference to **India-Canada FTA**, 7th round of negotiations is held during 3-6 April 2023 in Ottawa, Canada, wherein articles related to FSSAI (article on Ice- Wine), NABCB (Articles under Conformity Assessment), D/o Telecom (Article under Conformity Assessment) and D/o Civil Aviation and D/o Shipping (Articles under Conformity Assessment) were discussed on 04.04.2023. Ms. Jyoti Yadav, Director, Department of Commerce represented Indian delegation Physically whereas, Direct (CA-I), TEC and AD (CA) TEC represented DoT and participated in the meting virtually held on 04.04.2023 on WebEx Platform.

- C&B division issued a procedure for designating domestic testing lab for testing of CAS & SMS Certification procedure for certification of CAS and SMS.

- C&B division issued Certification procedure for certification of CAS and SMS.

- In order to educate the Investors i.e., the existing CABs, new labs seeking designation about the new features/provisions made in the portal, new fee Structure on account of revised CAB Designation Scheme, TEC has arranged a demo session of the CAB Designation Portal under chairmanship of DDG (CA), TEC in online mode on 28.04.2023. In first session, DDG (CA) & Director (CA-I) briefed about the various reforms made in the revised CAB Designation scheme followed by the demo of online portal by Invest India team.

- MTCTE Engineers visited M/s AAEMT Lab Gurugram, M/s Alpha Test House Lab Bahadurgarh and M/s Compliance International Lab Okhla for various MTCTE test reports evaluation activities.

KNOWLEDGE DISSEMINATION

STUDY PAPERS/ WHITE PAPER/REPORT

1. **TEC 91008:2023: Report on First International Quantum Communication Conclave:** On the occasion of World Telecom Day Conference organized by Department of Telecommunications on 17.05.2023, the report on "First International Quantum Communication Conclave" was released by Shri Devusinh Chauhan, Hon'ble Minister of State for Communications. The report puts forward the discussions, deliberations .

2. A Study paper on—"**Strategies and Policies for the Management of WEEE (Waste electrical and electronic Equipment**" released on by FA division. WEEE, also referred as E-waste / electronic waste / e-scrap, is said to be the fastest growing stream of hazardous waste in the world and it is considered dangerous containing hazardous materials. E waste management in India is a great challenge for governments of many developing countries. It is becoming a huge public health issue and is exponentially increasing by the day. There is a significant gap between e-waste generation and collection for recycling, which needs to be assessed to make resource efficiency effective in India. Despite having a regulatory framework to deal with E-waste, the current practices of E-waste management in India encounters many challenges like unsafe conditions of informal recycling, inadequate awareness among consumers and focused efforts on part of the stakeholders to address the issues. This study-paper highlights the various process of E- waste management, global best practices in E – Waste Management, relevant policies of Govt. of India, E-waste valorization phases and further recommends way forward for efficient E-waste management in India. Some of the important recommendations of the study paper are - Incentivizing Formal E-waste Recycling, Policy on Universal Charging Device, Eco-Labelling on products / packaging, Incentives like Green Credit Card and reward points on source segregation and buying eco- friendly products, etc. The paper also emphasized the need of a suitable mechanism to include small units in unorganized sector and large units in organized sector into a single value chain.

3. A White paper on **Human Exposure Requirement for EMF Exposure** in view of **ICNIRP 2020 Regulation** was issued by Radio Division, TEC.

   For details [click here](#)

VISIT BY AN INDIAN DELEGATION TO STUDY THE DIFFERENT OPEN RAN TEST LABS IN UNITED STATES (UNDER ICET ACTION PLAN)

To foster an open, accessible, and secure technology ecosystem, based on mutual trust and confidence, India and US launched the India-U.S. **initiative on Critical and Emerging Technology (iCET)** in May 2022.

Further, to deepen the technology partnership in telecommunications domain, it was decided to launch a public-private dialogue on telecommunications and regulations, during the meeting, led by National security Advisors (NSAs) of the both countries to establish an advance co-operation on research and development in 5G and 6G, facilitating deployment and adoption of Open RAN in India, and fostering global economies of scale within the sector.

Thus as the part of strengthen the Open RAN ecosystem, an Indian delegation visited various Open RAN test labs in USA. TEC was represented by Shri V K Roy, Director (MT).

OTHER ACTIVITIES

TRAINING/ WORKSHOP/ WEBINAR/ TALKS

- A talk on **'IoT Security Post Quantum Computing' was organised by IoT Division** on 22nd May 2023. Sh. R. R. Mittar, Advisor TEC, delivered the opening remarks. Mr. Olivier Nora, M/s Idemia, France, gave a presentation covering verticals like smart metering, automotive, and industrial control systems. He also illustrated the use of e-sim for quantum security and provided a use case of eSiM, emphasizing that it does not necessarily have to be cellular components. The highlighted aspect was securing the edge of devices from remote quantum attackers, rather than the core.

- Mr. Sushil Kumar, DDG (IoT) chaired the 24th meeting of BIS LITD 27 on Internet of Things Related Technologies on 8th May 2023 for preparing contributions for the ISO/IEC JTC 1/ SC 41 meeting, 12-16 June 2023. This meeting was attended by several industry members including officers from IoT division.

- DDG (IoT), TEC delivered a talk on M2M/ IoT Standardization and use cases including IoT Security in Regional Workshop on M2M/IoT security and its use cases organized by Delhi LSA on 24th April 2023.

- DDG (IoT), TEC delivered a talk on M2M/ IoT Standardization and use cases including IoT Security in Regional Workshop/Seminar on M2M/ IoT security and use cases organized by Mumbai LSA on 26th May 2023.

- An interactive session on **'Semi-Conductor, Security and SIM Products for Consumer and M2M/ IoT Market'** was organized by IoT division, TEC with Mr. Benoit Collier, Product Engineering Head at Idemia, France, on 13th June 2023. He emphasized the need of end to end security in IoT domain and the importance of device classification based on risk associated with the application. Sh. R. R. Mittar, Advisor & Head TEC delivered the opening remarks. Session was attended by experts from Industry, officers from TEC and DoT in hybrid mode.

- DDG (IoT), TEC delivered a talk on M2M/ IoT Standardization and use cases including IoT Security in the Workshop on M2M/ IoT Security and Use Cases, organized by Karnataka LSA, Bangalore on 2nd June 2023.

- DDG (IoT), TEC delivered a virtual talk on M2M/ IoT Standardization and use cases including IoT Security in the Awareness Workshop on M2M/ IoT Security & Use Cases, organized by Tamilnadu LSA, Chennai on 28 June.

- DDG (IoT) delivered his views in a panel discussion on 6G Research & Standardizations Roadmaps for Future, in a conference on 6G India in New Delhi, 9th May 2023.

- Management Review Meeting (MRM) of TEC for ISO 9001:2015 was held under the Chairmanship of Sr. DDG and Head of TEC.

- CA Division, TEC has organized an e- meeting with various LSA's units on 126.03.2023. A presentation on **Non-Intrusive Surveillance (NIS) Portal** was given by C-DoT team.

- **In order to strengthen security posture of IT infrastructure in TEC**: Hardening of Router, WiFi & end-point devices like PCs, laptops in TEC are completed; Security Audit of all the divisions of TEC is completed; Unified Threat Management / Next Generation Firewall device (UTM/NGFW) installed in TEC network on 06.02.2023.

- Coordination in testing of secure VC solution between TEC and DoT being done by C-DoT.

- About 100 telecom products were evaluated on **trusted telecom portal.**

- Internal Audit for ISO 9001: 2015 was organised from 23 May onwards in compliance to Surveillance Audit requirement.

OTHER ACTIVITIES

Shri U.S. Pandey, Member (Services) along with Sh. A.K. Sahu, Advisor, DOT HQ visited TEC on 26.07.2023 to review the progress of various NWGs corresponding to ITU-T SGs.

Interactive session on "Semi-Conductor, Security and SIM Products for Consumer and M2M/IoT Markets" with Mr. Benoit Collier, Product Engineering Head at Idemia, France, in TEC on 13.06.2023.

Ms. Shubha N Bhambhani, DDG RC spoke on "Building a truly interoperable telecom network" during US-India 5G & Next Gen Networks Workshop organised by USTDA in New Delhi on May 23,2023.

TEC team visited t-hub, Hyderabad and met CEO, Research Innovation Circle Hyderabad(RICH) for creating awareness about ITU-T SGs activities for associate startups, innovators and institutions (15.06.2023)

OTHER ACTIVITIES

- About 120 telecom products were Evaluated on trusted telecom portal.

- 38 product have been reviewed in IPv6 Ready Logo Lab and certificates have been issued to 38 products.

- 4G BSNL PoC testing have been successfully-completed using TEC Control Lab.

- National Informatics Centre (NIC) through its Information and Communication Technology (ICT) Network – NICNET commissioned in TEC on 03.05.2023.

ISO 9001:2015 Quality Management System (External Audit) was held on 26.07.2023 in TEC.

HR ACTIVITIES

TEC WELCOMES ON NEW JOINING

Sh. Binay Kumar Singh,

DDG (TS/ SN),

ITS 1991 Batch

Sh. Shiv Narain,

DDG (NGN),

ITS 1990 Batch

CONGRATULATIONS ON PROMOTION

- Sh. Ritu Ranjan Mittar , Sr DDG TEC to Advisor (TEC)

TEC BIDS FAREWELL ON TRANSFER

- Sh. Abdul Kayum , DDG (6G), transferred to J&K LSA

- Sh. Arun Agarwal , DDG (Radio), transferred to J&K SA

- Sh. Abhay Shanker Verma , DDG (MT), transferred to Jharkhand LSA

- Sh. Harsh Vardhan Singh , DDG (NGN), transferred to MTNL

- Sh. V. K. Roy, Director (MT), transferred to DoT HQ, Delhi

हिन्दी गतिविधियाँ

1. राजभाषा कार्यान्वयन समिति की तिमाही बैठक का आयोजन:

दूरसंचार अभियंत्रिकी केंद्र, नई दिल्ली में दिनांक 29 मई 2023 को श्रीमती शुभा एन. भम्भानी, उप महानिदेशक (आरसी) की अध्यक्षता में राजभाषा कार्यान्वयन समिति की तिमाही बैठक का आयोजन किया गया । इस बैठक का कार्यवृत्त हिंदी में जारी किया गया । इस बैठक में अध्यक्ष महोदया द्वारा कार्यालय का ज्यादा से ज्यादा कार्य हिंदी में करने का आह्वान किया गया ।

2. हिंदी पखवाड़ा का आयोजन:

टी.ई.सी. में दिनांक 14 से 29 सितंबर, 2023 तक हिंदी पखवाड़ा का आयोजन किया जा रहा है । हिंदी पखवाड़ा का उद्घाटन 14.09.2023 को प्रात: 11:00 बजे एवं समापन समारोह दिनांक 29.09.2023 को 02:30 बजे डॉ. अब्दुल कलाम सभागार में सलाहकार एवं कार्यालय प्रमुख/वरिष्ठ उप महानिदेशक, टी.ई.सी. के कर कमलों द्वारा किया जायेगा । हिंदी पखवाड़े के दौरान कुल नौ प्रतियोगिताओं का आयोजन किया जाएगा ।

UPDATES

BHARAT 6G ALLIANCE

Hon'ble MoC Ashwini Vaishnaw alongwith Hon'ble MoSC Shri Devusinh Chauhan launched Bharat 6G Alliance in New Delhi on July 3, 2023. With this launch the market access for Indian telecom technology products &services will increase, enables the country to emerge as a global leader in 6G technology.

IMC 2023 CURTAIN RAISER

Hon'ble MoC Shri Ashwini Vaishnaw and Hon'ble MoSC Shri Devusinh Chauhan inaugurated IMC 2023 curtain raiser on July 12, 2023 in New Delhi. Addl. Secretary(T) Shri VL Kantha Rao, Chairman COAI along with other dignitaries participated in the event.

SANCHAR SAATHI PORTAL

Hon'ble Minister for Communications, Electronics & IT and Railways Shri Ashwini Vaishnaw has launched a citizen centric portal 'SANCHAR SAATHI' on May 16, 2023.

Hon'ble MoC mentioned about the three reforms that are being undertaken in the broad framework of this portal.

- *Central Equipment Identity Register (CEIR) – It will Track and Block the lost or stolen phone anywhere in the country*

- *Know Your Mobile (KYM): Know the number of connections issued in your name by logging in using your mobile number.*

- *ASTR- Artificial Intelligence & Facial Recognition Powered Solution for Telecom SIM Subscriber Verification.*

WORLD TELECOM DAY

Hon'ble Minister of State for Communications Shri Devusinh Chauhan inaugurated World Telecom Day Conference to mark the observance of World Telecom and Information Society Day on **May 17, 2023** at Dr Ambedkar International Centre, New Delhi.

He inaugurated exhibition showcasing innovations in Telecom by start-ups, released Commemorative Stamp on completion of 20 years of USOF. He also launched 'OPEN RAN Test Bed Project' and unveiled USOF India book. Facilitation of top performing Bharat Udyamis was done and report on First International Quantum Communication Conclave was also released. In addition, DoT employees and best-performed Field Units of DoT were awarded for their contribution & outstanding work in the field of Telecom.

ABOUT TEC

- Telecommunication Engineering Centre (TEC) is an ISO 9001:2015 Organization.

- Standards Setting Organization (SSO) for telecom & related ICT sector.

- Designated Authority (DA) for implementation of Mandatory Testing & Certification of Telecom Equipment (MTCTE) and designation of Conformance Assessment Bodies (CAB) & Certifying Bodies (CBs).

- Designated Authority (DA) for testing and certification of Conditional Access System (CAS)/ Subscriber Management System (SMS) used in broadcasting sector as per TRAI notification.

- Designated Authority (DA) for Voluntary Schemes such as Type Approvals/Interface Approvals/ Technology Approvals/Certificate of Approvals.

- National enquiry point for WTO –TBT (Technical Barrier to Trade) for telecom sector.

- Complaint resolution authority for local content under PPP-MII (Public Procurement Preference to Make in India) Policy.

- Technical arm/attached office of DoT, responsible for technical inputs on technology/policy matters to DoT and other Govt. Departments/Regulator.

- Nodal agency for all ITU-T Study Group Activities and ITU-R SG5 activities.

- TEC coordinates and participates in the meetings of standards development organizations, viz., ITU, APT, WRC, 3GPP, ETSI, IEEE etc. TEC also interacts with stakeholders and associations, viz., COAI, BIS, CII, TEMA, CMAI, FICCI, etc.

- Additionally: 5G Pilot Trials- Test Guide finalized in consultation with stakeholders; BSNL 4G Proof of Concept (PoC)- Committee for monitoring of PoC trial being chaired by TEC; oneM2M and 3GPP 5G standards of TSDSI- Adoption as National standards.

SUGGESTIONS/ FEEDBACK ARE WELCOME AND MAY BE SENT AT–

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