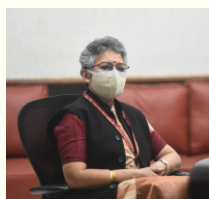


# TEC NEWSLETTER

The quarterly newsletter of Telecommunication Engineering Centre

## MESSAGE



From the desk of....

**Sr. DDG & Head, TEC**

Dear Readers,

Wishing you all a Very Happy, Healthy and Prosperous  
New Year 2022,  
& Happy Republic Day !

The virus, in its new avatar...the 'omicron'... is plaguing  
our lives; thankfully the symptoms are less severe in most  
of us but still we cannot afford to take the new virus for  
granted and throw our guards off.

It gives me immense pleasure in bringing to you the latest  
edition of the TEC Newsletter- infact the first one in the  
New YEAR 2022 !

Hope you find it useful and informative; do send us your  
valuable feedback. Your inputs would help us improve &  
serve you better...

Stay safe.....stay healthy....

Best Wishes & Warm Regards,

**Deepa Tyagi**



## CONTENTS

### 1. GLIMPSES OF SECRETARY (T)'S VISIT TO TEC

### 2. TECHNOLOGY UPDATES

- *Small Cells: Backbone of 5G Network*
- *CAS & SMS for Broadcasting and Cable Services*

### 3. STANDARDIZATION

- *Standards Released*
- *Adoption of Standards*
- *Technical Reports*
- *Contributions to ITU*

### 4. KNOWLEDGE DISSEMINATION

- *Study Papers*
- *Webinars, Talks & Meetings*

### 5. TESTING & CERTIFICATION

- *Mandatory Testing (MTCTE)*
- *Voluntary Testing*

### 6. HR ACTIVITIES

### 7. हिन्दी गतिविधियाँ

### 8. UPDATES

## GLIMPSES OF VISIT OF SECRETARY(T) & CHAIRMAN DCC, TO TEC 🌸 🙏

Secretary (Telecom), & Chairman, Digital Communication Commission, Sh. K. Rajaraman visited TEC on **16th Nov 2021** along with Member (Services), Sh. Deepak Chaturvedi, and senior officers of DOT.



Sr. DDG TEC, Smt. Deepa Tyagi welcoming and felicitating Secretary (T) and Member (S)

### Key highlights of the visit are as follows-



Launch of PPP MII Grievance Portal for Telecom Products



Release of Technical Report on "Optical Fibre & Cable in Indian Telecom Network"



Release of "TEC Handbook 2021- Compendium of TEC activities"



Release of Report on "Emerging Communication Technologies and Use cases in IoT domain"



Inauguration of the Nationwide MTCTE Helpdesk & Evaluation Centre infra and Control Lab in TEC, New Delhi

## TEC Welcomes New Member (Services), DCC, DoT 🌸 🙏



TEC welcomes Sh. Ashok Kumar Mittal as Member (Services), Digital Communication Commission (DCC), on his joining the new assignment on 1st Dec 2021.

Member (Services), Digital Communication Commission (DCC), Sh. A.K. Mittal visited TEC on 24th December 2021.

**TEC bids farewell to Member (Service), Sh. Deepak Chaturvedi on his superannuation from service on 30 November 2021. 🌸 🙏**



## AZADI KA AMRIT MAHOTSAV

On the occasion of 75th Azadi Ka Amrit Mahotsav (AKAM) of Government of India, Telecommunication Engineering Centre (TEC) has organised the following events:

a) A Workshop was organised for Start-ups, Innovators and Research Institutes for awareness about TEC's programs on 11 October 2021.



b) Release of the following documents by Member (Services), Digital Communication Commission (DCC), DoT on 12 October 2021:

- Revised Certification Procedure document and
- Technical report on "IOT/ICT enablement in smart village and agriculture" prepared by IoT division.



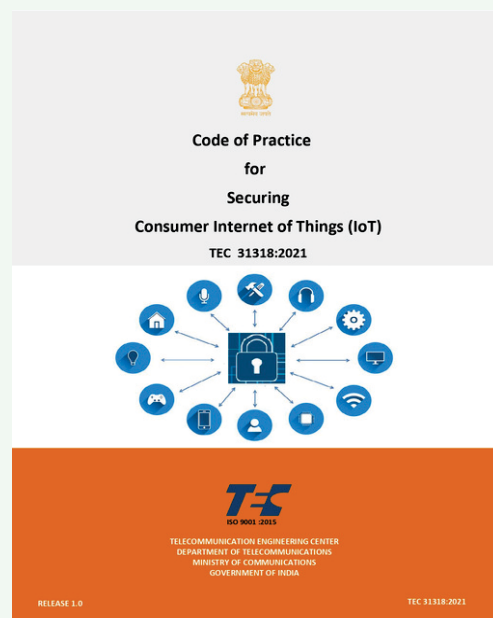
c) Seminar on background of Mandatory Testing & Certification of Telecom Equipment (MTCTE) and investment potential in Telecom Labs due to announcement of MTCTE Phase III and Phase IV on 12.10.2021



## New ITU-T Recommendation based on the TEC's contribution: L.209

Contribution named L.Font-Fibre optics network terminal, submitted and presented by Director (FA), Sh. Abdul Kayum has been consented at ITU-T SG15 Dec 2021 plenary and resulted in to a new ITU-T recommendation with number ITU-T Rec. L.209.

## TEC releases 'Code of Practice for securing consumer Internet of Things(IoT)'



These guidelines to help in securing consumer IoT devices & ecosystem as well as managing vulnerabilities

## 1. SMALL CELLS: BACKBONE OF 5G NETWORKS

### What is Small Cell Technology

Small cells are low-power, short-range wireless transmission systems (or “base stations”) used for indoor/outdoor applications to serve small geographical areas. Small cells are capable of handling high data rates for mobile broadband and consumers and, for IoT, high densities of low-speed, low-power devices. This feature makes them perfect for the 5G rollout that promises ultra-high speeds, a million devices per square mile and latencies in the millisecond range. Major telecommunications providers are set to make heavy use of small cell technology to roll out 5G coverage throughout the country.

Small cells consists of antennas and related equipment that can be placed on structures called street furniture such as streetlights, utility poles.

**Street furniture** is a term used to define objects in public spaces that – in the context of wireless infrastructure – house small-cell units in boxes. Common examples of street furniture outfitted for small-cell networks include billboards, lamp posts, lit signage, electricity poles, utility poles, bus stop shelter, traffic signals and other structures that have a nearby power source.

### How Small Cell Transceivers Work

Small cells work exactly similar to conventional cell concept with advanced techniques like MIMO, beamforming and millimeter waves for transmission.

The backhaul connections are made with fiber, wired and microwave connections. Small cell backhaul describes the transmission connections between a mobile network operator's core network and the small cell.

### Types of Small Cell Tower

There are different types of 5G small cells; femtocells, picocells, and microcells, all providing different coverage limits. Femtocells reach 10 meters, picocells 200 meters, and microcells around two Km.

Type of Small Cell	Coverage Radius	Indoor Outdoor	Transmit Power	Number of Users	Backhaul Type
Femtocells	30 - 165 ft 10 - 50 m	Indoor	100 mW 20 dBm	8 - 16	Wired, Fiber
Picocells	330 - 820 ft 100 - 250 m	Indoor Outdoor	250 mW 24 dBm	32 - 64	Wired, Fiber
Microcells	1600 - 8000 ft 500 - 2500 m	Outdoor	2000 - 5000 mW 33 - 37 dBm	200	Wired, Fiber, Microwave

### Small cell deployment challenges:

This potential challenges for 5G network coverage planning and deployments are as follows-

- Local permission and planning processes
- Acquiring Cell Site Location
- Private owner agreement
- Multi-operator case
- High fees and charges to access street furniture
- Human exposure to Radiofrequency EMF
- Lack of availability of backhaul
- Lack of electricity power supply

### Solutions to overcoming the Challenges:

Since different parties/ stakeholders are involved throughout the deployment process, appropriate regulations and frameworks will be required. Some guidelines and suggestions are listed below:

- Key role to be played by the government and regulators to provide the proper rules and guidelines to avoid unnecessary delay.
- Clear guidelines by the govt. about fees payable for a new cell site or renewal of an old cell site.
- All the rules and regulations established by the local government should be precise and shared with the operator in precise language.
- The local government should have clear guidelines for private owners about rental valuation to avoid excessive rental value.
- A clear regulation for multi-operator and shared resources to avoid the high cost to the operator.
- Small Cell site equipment design matching with the aesthetics of street furniture.

## Enabling 5G small cells in India:

Lengthy and complex processes, excessive fees and outdated policies may slow the development of small cells in India. If the challenges in deploying small cells are not addressed in a timely fashion, many of the benefits which the India hope to derive from 5G – such as smart cities, improved access to healthcare, education & banking and the Industrial IoT – will be severely compromised.

To start commercial roll-out of 5G services, TSPs will have to deploy small cells at a faster pace and at greater density. Since public infrastructure such as street lights, traffic lights, metro pillars, electricity poles, public places are valuable sites for deploying small cells due to their density, it is necessary to ensure that local and national authorities offer easy access to operators to such public infrastructure for the installation of small cell on non-discriminatory terms.

For this, close coordination and collaboration is required between concerned stakeholders such as licensor, administrations, municipal authorities, site owners, TSPs, vendors, infrastructure providers, etc.

Though comprehensive RoW rules 2016 have been declared, necessary steps need to be taken to follow up with the state governments for getting RoW rules 2016 implemented properly. Moreover, keeping with the requirements of small cell deployment, suitable amendments in the RoW rules will be beneficial.

- A committee under the TEC, Department of Telecom with members from all stakeholders has been formed to formulate policy/ standard, keeping in mind the best global practices.

- by FN Division

## Do You Know?

The 5G telecom services are set to be rolled out in selected cities in India in 2022. The cities which are set to get the 5G telecom services in 2022 include Gurugram, Bangalore, Kolkata, Mumbai, Chandigarh, Delhi, Jamnagar, Ahmadabad, Chennai, Hyderabad, Lucknow, Pune, and Gandhinagar.

## 2. CAS & SMS FOR BROADCASTING AND CABLE SERVICES

### Background:

Television viewership in India has grown exponentially in the past few decades mainly through Cable TV and Direct-to-Home (DTH) TV. For orderly growth of the broadcasting sector and based on TRAI recommendations, the Government of India laid down the roadmap for implementation of digitalization in the Cable Television sector in phases and introduced Digital Addressable System (DAS) as a major structural and technology reform in 2011.

DAS environment consists of the Conditional Access System (CAS), the Subscriber Management System (SMS) and other components such as Set Top Box (STB), etc.

Considering the need for developing an overarching framework for standardization, certification and testing of various components of the addressable systems i.e. CAS and SMS, TRAI published a consultation paper on 22-04-2020 and subsequently notified “The Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Third Amendment) Regulations, 2021” on 11-06-2021. These Regulations specify the mandatory as well as the desirable requirements of CAS and SMS; seek compliance by distributors of television channels by deploying such CAS and SMS which conform to these requirements; and ask such distributors to get their CAS and SMS tested and certified within the stipulated timelines.

Telecom Regulatory Authority of India (TRAI) further designated Telecommunication Engineering Centre (TEC) under Department of Telecommunications (DoT) as the Testing and Certification Agency for CAS and SMS used for Broadcasting and Cable TV services as per order dated 21-09-2021.

In response, TEC has set up a Convergence and Broadcasting Division and has initiated consultations with stakeholders for finalising the Test Schedules and Test Procedures (TSTP) for CAS and SMS

## Conditional Access System (CAS):

- By definition, Conditional Access means, “the access is based upon certain condition”. In the pay television distribution framework, an addressable system enables and controls the distribution of television channels by encrypting the signal and ensuring that only the authorized users receive the channels using a STB and TV set.
- CAS ensures that content delivery pipe from the operator to the STB is secure and provides a mechanism of addressing each STB uniquely.
- CAS comprises a combination of scrambling and encryption to prevent unauthorized reception. Scrambling renders the sound, pictures and data unintelligible while encryption provides protection of the secret keys during transmission.

## Subscriber Management System (SMS):

- It acts as the management module. Its main functions are:
- Subscriber related: Subscriber (STB) activation/ deactivation, bulk subscriber suspend/ resume, blacklisting STBs, storing and managing subscriber data. SMS server generates unique customer ID for each subscriber and carries out STB pairing function.
- Billing System: Itemized billing, bill scheduling, supporting multiple tax systems, etc.
- Local Cable Operators (LCO) related: Storing data of the Operators like Operator Code, etc.
- Channel Information: Storing and managing all the information about channels available on the MSO platform, package, bouquet or scheme creation etc. It enables management of channels and program bouquets subscribed by individual subscribers.

## Benefits of DAS / CAS & SMS:

- Brings in transparency among the service providers and meets the ultimate objective of allowing a consumer specific choice of television channels.

- Consumers can choose the channels on a-la-carte (individual) basis and pay only for the channels chosen.
- Brings transparency as the accounting, billing and payment of revenue among stakeholders is now primarily based on actual number of subscribers.
- Enables expanded capacity in terms of number of TV channels providing more choices to consumers.
- Helps a Distribution Platform to take-out various reports as regards the subscriber management and authorisation, broadcaster’s (TV Channel wise) subscription reports, etc.

## Issues related to sub-standard CAS & SMS:

- A sub-standard CAS defeats the very purpose of the Govt. of India’s DAS initiative. Sub-standard CAS/ SMS deployment increases the probability of misreporting the usage and subscription numbers which may result into revenue loss to the operator, broadcaster as well as to the govt. in form of taxes.
- Broadcasters and content developers are impacted directly by deployment of sub-standard CAS/ SMS, as security of their content is compromised. It leads to content piracy and redistribution without the knowledge and permission of the broadcaster and the operator.
- Some security-related issues include STB hacking and cloning, transmission of unencrypted signals, unauthorized transmission of signals, finger printing/ watermarking not supported by the system – thus helping piracy and/ or hampering identification of the source of a breach of security if it happens.
- Sub-standard CAS increases the workload of the operator and creates confusion among the end consumers who may get non-uniform services from the same operator. It may result in frequent disruptions and hence poor Quality of Service (QoS) for the end consumer.
- Besides, there could be operational issues such as, integration issues between CAS and SMS, Absence of creation/ modification logs in the system, absence of blacklisting feature in SMS, etc.

....by C&B Division

## STANDARDS RELEASED

1. ER (New) - *ER for Server* (No. TEC30022201)
2. ER (New)- *ER for Hypervisor* (TEC30032201)
3. GR (New) - *XGS-PON (Mini-OLT) system* for FTTx based broadband applications (No. TEC 71100:2021)
4. Test Guide - *5G/ 5Gi* (No. TEC 23006:2021)  
Remarks: Aims at uniform assessment of various use cases in 5G/ 5Gi, which are being trialed by TSPs.
5. Test Guide- *Wi-Fi Access Point* which also includes test procedure for testing various requirements applicable to WANI compliant Wi-Fi Access Point.
6. GR (Amendment) - *Lithium Ion Battery for Telecom Applications* (No. TEC 67030:2016)
7. IR (Addendum)- *VSAT based mobility Services* issued containing technical specifications for C-band hub to be used in AES based network

\* ER- Essential Requirement; GR- Generic Requirement

## STATUS OF STANDARD ADOPTION

### A. Adoption of TSDSI Transposed Standards

#### 1. oneM2M Release 3 standards:

Third meeting of CC for adoption of oneM2M Release 3 standards was held on 16th Nov 2021.

#### 2. TSDSI transposed 3GPP Rel. 16

Telecom Standards Advisory Committee (TSAC) in its meeting held on 29-12-2021 decided to initiate the process for adoption of 3GPP Release 16 standard in to national standard. Public comments on 3GPP Rel 16 has been called by TEC which may be sent by 03 Feb 2022.

### 3. 5G Standards (3GPP Rel 15 and TSDSI's 5Gi):

Till date, 6 CC meetings for adoption of TSDSI' 5Gi and 4 CC meeting for adoption of TSDSI transposed 3GPP Rel. 15 have already been organised.

## TECHNICAL REPORT(S) PUBLISHED

### 1. 'Emerging Communication Technologies and Use Cases in IoT domain', (TEC 31168:2021)



This report covers communication technologies namely 5G, Wi-Fi 6/ 6E, Wi-Fi HaLow and Bluetooth Mesh; and the use cases like Intelligent Transport System (Connected vehicles, C-V2X), private industrial network (Industry 4.0), Smart homes etc. *The recommendations mentioned in this document will provide technical guidance to concerned stakeholders related to spectrum and regulatory aspects and will be quite helpful in the development of ecosystem for IoT domain.*

The report prepared by IoT div, has been released by Secretary (T), Member (S) on 16th Nov 2021.

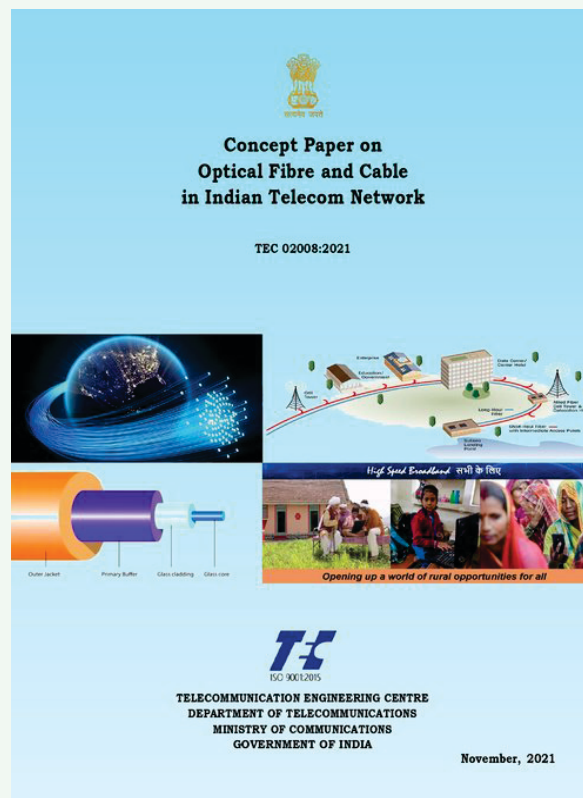
## 2. "Code of Practice for Securing Consumer Internet of Things (IoT)" (No- TEC 31318:2021)

This report is based on international standards and global best practices. *Guidelines available in this report may provide a direction to the related stakeholders in provisioning of secured consumer IoT devices and also help in reducing the vulnerabilities.*

This document intends to address the following stakeholders:

- IoT Device Manufacturers
- IoT Service Providers / System integrators
- Mobile Application Developers
- Retailers

*The report prepared by IoT division, has been released by Member (Services) on 11th Oct 2021.*



## 3. "Concept Paper on Optical Fibre & Cable in Indian Telecom Network" (No-TEC 02008:2021)

This paper aims at presenting a review of the types of most widely used optical fibre cables deployed by different organisations in India to meet their connectivity need.

The objective is to present a unified picture of various important aspects related to optical fibre and cable relevant to the Indian telecom network.

This paper, therefore, will be an introductory guide to the concept of optical fibre cables deployed in Indian Telecom network with an anticipation of improvement of network through dissemination of knowledge to all stakeholders.

*The report prepared by RTEC, has been released by Secretary (T), Member (S) on 16 November 2021 (available on <https://tec.gov.in>).*

## Some 5G Security Terms

- 5G-AKA: 5G Authentication and Key Agreement
- EAP-AKA: Extensible Authentication Protocol Authentication and Key Agreement Prime,
- EAP-TLS: Extensible Authentication Protocol – Transport Layer Security.
- FBS: False Base Station protection
- SUPI/SUCI: Subscription Permanent Identifier/Subscription Concealed Identifier for encrypted long-term subscriber identifiers.
- SBA: Secure service-based architecture
- SEPP: Security Edge Protection Proxy at the application layer
- NSSAA: Network Slice Specific Authentication and Authorization
- IPUPS: Inter-PLMN User Plane Security

## TEC CONTRIBUTIONS TO ITU

**1. ITU-T SG 15:** Dir (FA), Sh. Abdul Kayum had submitted contribution named *L.Font-Fibre optics network terminal*. L.font has been consented at ITU-T SG15 Dec 2021 plenary and *resulted in to a new recommendation with number ITU-T Rec. L.209.* 🙌

### This Recommendation -

- Specifies the optical, mechanical, thermal, radio propagation and environmental performance requirements of a fibre optics network terminal enclosure.
- Will be especially helpful to the service providers for FTTx applications in areas where ownership, space, safe custody and availability of power supply are hurdles to deployment. It can be envisioned for use in large scale 5G small cell/ wifi hotspot deployment as well.
- Provides the solution for challenges being faced in Indian environment especially by BBNL at village level deployment of ONT.

**2. ITU-T SG-20:** DDG (IoT), Sh. Sushil Kumar presented the contributions on Y.SRC *"Requirements for deployment of smart services in rural communities"* in the ITU-T SG-20 meeting, 11-21 Oct 2021 and ITU-T SG-20 Q2/20 Rapporteur e-meeting, 14-16 Dec 2021. Contribution with some editorial changes has been accepted as the part of the main document under development.

TEC is already submitting contributions in this work item from July 2020 regularly.

**3. ITU-T SG17:** ITU.T contribution X.1405 related to *Security threats and requirements of digital payment services based on distributed ledger technology* on which India is editor has been approved in August SG 17 meeting.

Work item on it was approved as x.1405 in SG17 Sept 21 meeting. ADG (TS), Ms. Preetika Singh was editor of this work item.

**4. ITU-T SG12:** A contribution on work item E.AIQ: *"Artificial Intelligence Quotient (AI-Q) for indexing and rating AI algorithms"* was submitted and presented to SG12 in its meeting held from 12-21 October 2021.

**Outcome:** This contribution was resulted into creation of new Temporary Document (TD)- *"Updated base text E.AIQ "Artificial Intelligence Quotient (AI-Q) for indexing and rating AI algorithms used in conversational AI systems employed for customer service management, service optimization and management as part of service quality assessment methodologies"* under ITU-T SG12.

**5. ITU-T SG 13:** Virtual meeting of SG13 from 29 Nov-10 Dec 2021 was attended and three contributions were presented and accepted.

- Contribution on a new work item *"Trust Registry for Devices and Applications"*, which is in living list under Q16/13.
- Contribution suggesting modifications to existing work item *"Machine Learning Sandbox for future networks including IMT-2020: requirements and architecture framework"*.
- A contribution proposing extension of the timelines of the FG AN (Focus Group on Autonomous Networks )

## NWG PROCEEDINGS/ MEETINGS:

a) NWG-13 meeting was held on 21-10-2021 to discuss proposed contributions for forthcoming ITU-T SG 13 meeting in 29 Nov-10 Dec 2021.

b) NWG-12 corresponding to ITU-T SG-12 meeting was held on 3rd December 2021 to discuss contributions on ITU-T SG12 work item E.AIQ.

# 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.

### a) Certificates issued:

- Quarter Q3=42 | Total Certificates issued =174

### b) Status of OEM registration:

- Indian OEM = 50 | Foreign OEM =83

Nationwide MTCTE Helpdesk and Evaluation Centre was Inaugurated by Secretary(T) on 16.11.2021

*TC (Telecom Certification) division has been renamed/ redesignated as MTCTE division.*

### Important MTCTE meetings:

- Meeting with COAI was held on 22 Dec. 2021.
- Meeting with MAIT was held on 23 Dec. 2021
- Meeting with Broadband India Forum (BIF) was held on 23 Dec. 2021.

## CAB DESIGNATION ISSUED BY TEC

New CAB Designation Certificate-

- New CAB Issued = 05
- Renewed = 08

Total Designated CABs as on 30.09.2021 = 63

- Safety Testing=46 | EMI/EMC Testing = 33
- SAR Testing = 03 | Environmental Testing = 24
- Technical Parameter = 12

## VOLUNTARY TESTING

### Certificates Issued

- Certificates issued in Q3 = 4 (1 TAC; 2 IAC; 1 CoA)
- Total certificates issues since April 01, 2021 = 09 (3 TAC, 3 IAC, 1 CoA and 2 Technology approval)
- TEC will commence Technology Approval Testing for C-DoT Developed 'XGS-PON mini-OLT system for FTTH applications' by a committee of TEC officials. The validation testing will include lab test, Environmental test, EMC/EMI, Safety test and 4 week field trial test.

\*TAC= Type Approval Certificate;  
IAC- Interface Approval Certificate  
CoA= Certificate of Approval

## Telecom Trusted Portal:

As a part of National Security Directive on Telecom Sector, TS division has evaluated the results of 81 devices in Trusted Telecom Portal.



### Zero Trust Security:

Rooted in the principle of “trust nothing, verify everything”, Zero Trust is designed to protect modern environments and enable digital transformation by using strong authentication methods, leveraging network segmentation, preventing lateral movement, “least access”, Multi-factor authentication (MFA), Micro-segmentation policies.

ZTNA (Zero Trust Network Access) is the main technology (part of new paradigm- build defense into the network, like an antibody) associated with Zero Trust architecture.

## STUDY PAPERS RELEASED

### 1. Concept paper on Open RAN - Action Points for promotion of Open RAN in India:

The concept paper is aimed at providing action points for promotion of Open RAN while giving a glimpse of different standardization activities and government support worldwide.

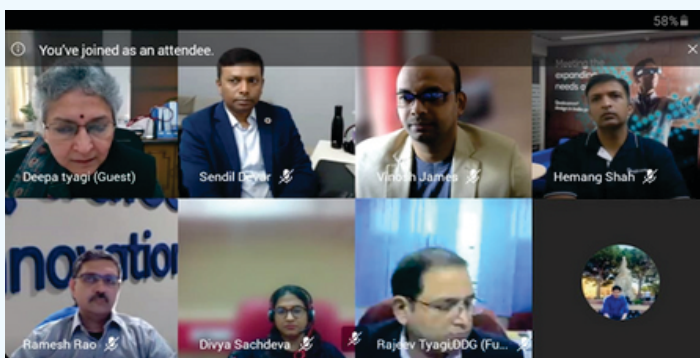
### 2. Approach paper on small cell and Street furniture deployment in rolling out 5G:

The paper as above was prepared by FN division and sent to Secretary (T), highlighting the small cell deployment challenges at global level and some of the important policy decisions, regulations and frameworks which have been adopted by some developed countries in order to overcome the challenges faced during small cell deployment.

## WEBINARS-

**1. "Smart Transport" ;** Date: 30th Nov 2021; Focus Area: smart transportation framework, global trials in the smart transportation using cellular connectivity and role of connectivity inside a car; Speakers: Experts from M/s Qualcomm, M/s Ericsson.

- by FN Division



**2. "5G Security";** Date: 26 October 2021; Speakers: Standardisation experts from M/s Nokia. Agenda: The Webinar focused on 3GPP 5G Security Architecture and new Security concepts introduced in 5G Networks keeping in view of its different use cases and their underlying technologies.

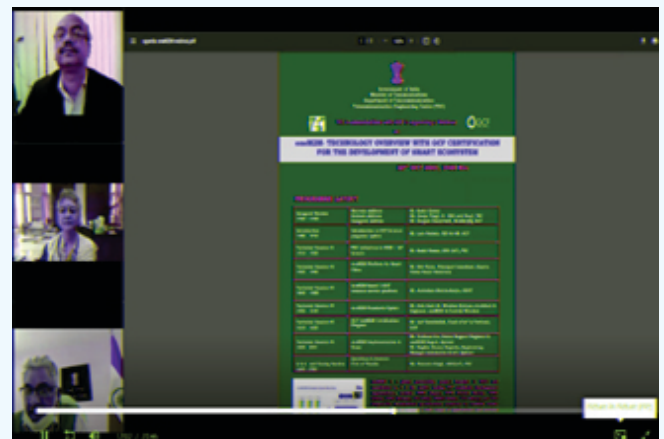
-by TS Division

**3. oneM2M- Technology Overview with GCF Certification for the Development of Smart Ecosystem"** in association with GCF (Global Certification Forum);- by IoT division; Date: 22nd Oct 2021

Agenda: to develop the knowledge base among industry stakeholders about the oneM2M standards, importance of standardized ecosystem in the country and GCF oneM2M certification programme.

Speakers: Member (S), Sr. DDG TEC, expert from GCF, oneM2M, Spirent, C-DOT etc.

- by IoT Division



*Highlights of Telecom Subscription Data as on 30th November, 2021*

Particulars	Wireless	Wireline	(Wireless+ Wireline)
Total Telephone Subscribers (Million)	1167.50	23.55	1191.05
Overall Tele-density (%)	85.18%	1.72%	86.90%
Broadband Subscribers (Million)			

## IMPORTANT TALKS & MEETINGS

### 1. PM Gati Shakti:

A panel discussion on “M2M/ IoT & 5G enabling Smart Infrastructure” was organized by TEC as a part of the DoT breakout session at the launch of PM Gati Shakti, National Master Plan for Multi-modal connectivity on 13th Oct 2021. Moderated by Sr. DDG TEC and having panel members - DDG (IoT), JS MoHUA and from industries.

oneM2M as an important standard for Smart City platform was also discussed in this panel. Important recommendations of the discussion have been included in the takeaways of this programme.



### 2. Meeting of 5G Working Group (WG-5) for SMART HEALTHCARE:

The 3rd meeting (online) of “Working Group (WG-5) for Smart Healthcare” constituted by TEC, was held on 17 Dec 2021, to discuss the preparation of draft report of the Working Group

### 3. ISO/ IEC:

DDG (IoT), Sh. Sushil Kumar participated as head of Indian delegation in 10th virtual plenary of ISO/ IEC JTC 1/ SC 41 (IoT and Digital Twin), 29 Nov- 10th Dec 2021, which was attended by several industry members including Dir (IoT) and ADG (IoT) as delegates.

### 4. Meeting for CAS & SMS:

A virtual meeting was held on 27.10.2021 for interaction with the stakeholders for inputs on Testing and Certification of CAS and SMS.

### 5. Digital transformation for Cities and communities:

DDG(IoT), Sh. Sushil Kumar delivered a talk on Deploying Smart Services in Rural communities in the session on IoT-enabled verticals and related IoT network capabilities in the international webinar series organised by ITU-T SG-20 on DT4CC (Digital transformation for Cities and communities) on 18th Nov 2021.

### 6. Digital Water Twin:

DDG (IoT) delivered his views in a webinar on Digital Water Twin organized by IET, 17th December 2021.

### 7. IoT and M2M:

DDG (IoT) delivered a talk on IoT and M2M Communication in a webinar organized by Siddaganga Institute of Technology, Karnataka, 22nd Dec 2021.

8. DDG (IoT) participated in a panel discussion in the workshop on 'Made in India for the World - BIS Contribution to International Standardization' organized by BIS, 23rd Dec 2021.

9. DDG (IoT) chaired the meeting of LITD-27, BIS on IoT and Digital Twin on 28th Oct 2021, attended by several industry members including all the officers of IoT division, in which the contributions for ISO/ IEC JTC1 SC41 meeting, Nov-Dec 2021 were discussed.

10. A meeting was held on 7th Dec 2021 with C-DAC Trivandrum to discuss the modalities in oneM2M based implementation in Adaptive traffic control system installed by C-DAC in Hubli. C-DOT also participated in the meeting.

## HR ACTIVITIES

### TEC WELCOMES ON NEW JOINING 🙏🌸

- Sh. Kulwinder Kumar, DDG (TSD)
- Sh. Krishna Lal Chabra, DDG (Tx)
- Sh. K.B. Gupta, DDG (IC)
- Sh. P.K. Panda, Dir (IOT-II & OSD)
- Sh. Hoshier Singh, Dir(AL)

### TEC BIDS FAREWELL ON TRANSFER 🌸

- Sh. Pradeep Kumar Misra, Dir(Admin-II) relieved for further reporting to BBNL on Foreign Deputation basis

### TEC CONGRATULATES ON PROMOTION 🌸

- Ms. Bhoomika Gaur, ADG (Radio)- for regular promotion in STS

## TRAINING

TEC in collaboration with NABL Conducted 03 days Orientation Training Program on ISO 17025:2017 for 25 TEC officers from 10 – 12 November 2021.

### हिंदी गतिविधियाँ

- कार्यान्वयन समिति की त्रैमासिक बैठक का आयोजन 29 दिसंबर 2021 किया
- कार्यान्वयन समिति की त्रैमासिक बैठक का कार्यवृत्त जारी किया

### क्या आप जानते हैं ?

विश्व हिन्दी दिवस 10 जनवरी को मनाया जाता है। इसका उद्देश्य विश्व में हिंदी के प्रचार-प्रसार के लिये जागरूकता पैदा करना तथा हिन्दी को अन्तरराष्ट्रीय भाषा के रूप में पेश करना है।

## GLIMPSES OF ACTIVITIES



Secretary (T), Member (S), Sr. DDG TEC & other senior officers; Date- 16.12.2021



Secretary (T), Member (S), visit to IoT Experience Centre; Date- 16.12.2021



Secretary (T) & Member (S) in interaction with senior officers of TEC; Date: 16.11.2021



Certificate distribution by Member (S) to participants in NABL 3-days training programme; Date: 24.12.2021



Member (S) interaction with senior officers of TEC; Date: 24.12.2021

## 5Gi Merger with 3GPP's 5G Standard

3GPP in an official statement said that *"A plan of action was agreed at the 3GPP TSG RAN plenary (RAN#94-e), to allow the merger of 5Gi into 5G, with specific milestones set for both 3GPP and TSDSI"*. This decision was taken in the recently concluded 3GPP TSG RAN plenary session.

In response to this decision, TSDSI has committed to the merger of 5Gi into 3GPP along with the roadmap of pursuing merged 3GPP 5G specifications in India with no further 5Gi updates in ITU-R.

## National Broadband Mission Directorate:

The government has established a National Broadband Mission (NBM) directorate to track time-bound meeting of countrywide broadband connectivity expansion targets as part of efforts to bridge the digital divide.

The directorate will create a central dashboard on the telecom department's portal, which will offer monthly updates on actual progress levels around meeting national broadband expansion goals, including setting up of digital communications infrastructure and providing affordable universal broadband services across India.

## World Telecom/ICT Policy Forum

WTPF is hosted by the International Telecommunication Union (ITU). It facilitates sharing of ideas and information around emerging issues resulting from technological advancements and the changing telecommunication landscape. The sixth WTPF-21 fully virtual event as scheduled on 16-18 Dec 2021 was addressed by Secretary (Telecom).

## 6G Technology Innovation Group

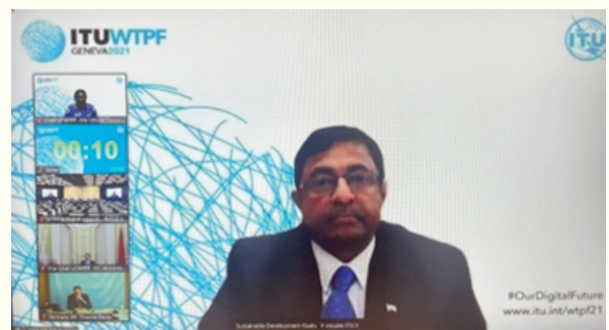
A 6G Technology Innovation Group (TIG) is constituted by DoT with the objective to co-create and participate in the development of 6G technology ecosystem through increased participation in capability description, standards development at international standard setting bodies. This would be necessary to prepare India's manufacturing and services ecosystem to capitalise on 6G opportunity.

6G TIG, comprises members from Government, Academia, Industry Associations and TSDSI. Taskforce are formed to make recommendations on aspects viz. Mapping of global 6G activities; India's competencies and potential pre-Standardization activities; Mission 6G program; Research views on IMT for 2030 and beyond; with regard to Networks, Devices, Spectrum, multi-disciplinary innovative solutions.

## India-ITU joint CyberDrill

DoT and ITU have commenced India-ITU Joint Cyberdrill 2021, a four day event starting from 30 Nov to 3 Dec 2021. This Cyberdrill is intended for Indian entities especially Critical Network Infrastructure operators.

Telecom Secretary Mr. K. Rajaraman emphasises need to work towards development of trusted manufacturing base and trusted supply chains.




Over 400 participants participate from critical sectors, like power, insurance, finance, CERT-In and CSIRT, industry, academia, telecom sector

TEC wishes all its readers

# Happy Republic Day





सत्यमेव जयते

## THE CONSTITUTION OF INDIA

### PREAMBLE

**WE, THE PEOPLE OF INDIA**, having solemnly resolved to constitute India into a **SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens:

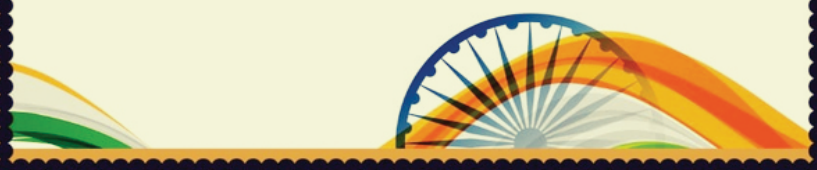
**JUSTICE**, social, economic and political;

**LIBERTY** of thought, expression, belief, faith and worship;

**EQUALITY** of status and of opportunity; and to promote among them all

**FRATERNITY** assuring the dignity of the individual and the unity and integrity of the Nation;

**IN OUR CONSTITUENT ASSEMBLY** this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**



- 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 for Testing and certification of Conditional Access System (CAS)/ Subscriber Management System (SMS) in broadcasting sector as per TRAI notification
- Designated Authority for Voluntary Scheme such as Type Approvals/Interface Approvals/Technology Approvals
- Designated 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 to DoT and other Govt. Departments/Regulator on all technology/policy matters
- Nodal point for all ITU-T Study Groups Activities and ITU-R SG 5.
- 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, AUSPI, ISPAI, SAI, TEMA, CMAI, FICCI, CII, etc
- In addition:
  - 5G Pilot Trials- Test Guide finalised by in consultation with stakeholders
  - BSNL 4G Proof of Concept (PoC)- committee for monitoring of PoC trial being chaired by TEC
  - 5G standards of 3GPP and TSDSI currently under discussion for adoption as National standards
  - oneM2M Rel. 3 standards transposed by TSDSI currently under discussion for adoption as National standards



**Talk to yourself once in a day, otherwise you may miss meeting an intelligent person in this world." —Swami Vivekananda**

**TEC wishes all its readers....  
Happy New Year 2022**

**Suggestions/ feedback are welcome  
and may be sent at-**

Email: [ddgn.tec@gov.in](mailto:ddgn.tec@gov.in)

Website: [www.tec.gov.in](http://www.tec.gov.in)

Office Address: K.L Bhawan, Janpath,  
New Delhi- 110001



#### **NEWSLETTER COMMITTEE:**

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