

NEWSLETTER

TELECOMMUNICATION ENGINEERING CENTRE

PAGES 12

MESSAGE



From the desk of....

Sr. DDG & Head, TEC

Dear Readers,

It is a matter of great pleasure and satisfaction that TEC has managed to emerge stronger during and after 2nd wave of COVID-19 and managed to fulfill its vision and mission and here are with the 3rd issue of the TEC Newsletter, since its new avataar.

I sincerely hope that you will enjoy reading it .

I believe that this newsletter will serve as a window through which the complete profile of the TEC and co-curricular activities, achievements and progress made during the stipulated period can be showcased.

We at TEC are committed to creating an ambience to standardize new telecom technologies and products and strengthen country's testing and certification infrastructure.

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

Congratulations to my entire team in TEC for their sincere efforts..

TEC wishes good health to all its readers ; stay safestay healthy.

Best Wishes and Warm Regards,

Deepa Tyagi

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TEC WELCOMES NEW MOC & MOSC



TEC welcomes Hon'ble Minister of Communications, Railways and Electronics & Information Technology, Shri Ashwini Vaishnav and Hon'ble Minister of State for Communications Shri Devusinh Chauhan



**MOC,
SH. ASHWINI VAISHNAV**



**MOSC,
SH. DEVUSINH CHAUHAN**



TEC WELCOMES M(S), M(T), DCC, DOT



Member(S) and Member(T), DCC visited TEC on 14th July 2021. Highlights of the visit are as follows- -

- Visit of NGN Control Lab
- Visit of Green Passport Lab
- Launch of new TEC website
- Distributed appreciation letters to TEC officers.



AN OVERVIEW:

The Indian Telegraph (Amendment) Rules, 2017, provides that every telecom equipment which is used or capable of being used with any telecom equipment established, maintained or worked under the licence granted by the Central Government shall have to undergo prior mandatory testing and certification. Gazette Notification to this effect has been issued vide G.S.R. 1131(E) dated 5th September 2017. All such Telecom equipment shall mandatorily be tested and certified before its sale, import or use in India.

The scope of certification would cover all types of telecom equipment to be sold or imported in India. The technical regulations, called as **Essential Requirements (ER)** will include following:

- i. EMI/EMC : As prescribed by TEC
- ii. Safety : As prescribed by TEC
- iii. Technical requirements: As prescribed by TEC
- iv. Other requirements: As notified by TEC/DoT/any Government Agency from time to time
- v. Security Requirements: As per notification issued by DoT.

TEC is nodal authority for testing and certification of Telecom Equipment under MTCTE. All activities viz. preparation of ERs, designation of labs w.r.t. requirements mentioned above at (i) to (iv) is to be carried out by TEC. Whereas these activities w.r.t security requirements are to be carried out by Security wing, DOT. Certificate shall be issued by TEC on the basis of test reports/test results.

There are two type of schemes i. **Simplified Certified Scheme (SCS)** ii. **General certified Scheme (GCS)**. For Telecom Equipment covered under SCS scheme, Applicant shall submit compliance against each parameter and submit the self-declaration w.r.t conformance of Telecom equipment to the Essential Requirement. For Telecom Equipment covered under GCS scheme, test reports are also to be uploaded in addition to compliance against each parameter.

A MTCTE portal has been developed by CDOT for online administration and management of MTCTE processes.

For smooth implementation of MTCTE, it is being implemented in phased manner. Until now, two Phases of MTCTE have been launched covering 19 Telecom products spanning over 9 ERs. Phase-I comprising 13 products was made mandatory from 1st Oct'19. Phase-II was launched comprising 6 Telecom products variants spanning over 3 ERs vide notification no. TEC/01/2017-TC dated 23rd June'20.

Acceptance of applications for these products commenced w.e.f. 25th June'20. However, certification for these products was made mandatory w.e.f 1st Oct'20. Till date, 130 certificates have been issued. Test reports of labs designated by TEC are acceptable.

PHASE-I:

• Applications status:

- 108 applications registered
- 95 certificates issued
- 2 applications rejected.
- 3 applications at applicant's end (pending for test report upload by applicant)
- 8 are at different stages of certifications

PHASE-II:

• Applications status:

- 88 applications registered
- 25 certificates issued
- 10 Applications rejected
- 36 are at different stages of certifications
- 17 at applicant end for uploading test reports



For MTCTE updates visit: <https://www.mtcte.tec.gov.in/>



OPEN RAN

Open RAN is the generic term for an open radio access network architecture which includes open hardware, software and interoperable interfaces. This new approach to RAN architecture aims to provide future benefits such as lower deployment cost (commoditized hardware) and increased supply chain diversity (more vendors). Open RAN uses 3GPP interfaces where available like between RAN and core network and overall functionality of the RAN remains as per 3GPP. As per 3GPP Release 15 specifications for RAN, the base station implementation allows split into Remote unit, Central unit (CU) and distributed unit (DU). However, in implementation, with the increased use of virtualisation and the RRH-CU (Central Unit)-DU (Distributed Unit) split, these interfaces also need to be standardised for interoperability amongst vendors and these are done by the O-RAN Alliance. Thus, with Open RAN operators could deploy networks with a mix-and-match of remote unit (RU) and distributed unit (DU) and central unit (CU) vendors.

Open RAN Standardisation

While the 3GPP process focuses on the global specifications, the O-RAN Alliance and other consortia such as the Telecom Infra Project (TIP) are developing specifications for interfaces between specific elements within the RAN that had not been addressed by 3GPP.

Open RAN Policy Coalition

The Open RAN Policy Coalition is a new Open RAN group that was announced in 2020. The Open RAN Policy Coalition represents a group of companies formed to promote policies that will advance the adoption of open and interoperable solutions in the RAN as a means to create innovation, spur competition and expand the supply chain for advanced wireless technologies, including 5G.

O-RAN Alliance

O-RAN Alliance, founded in February 2018, consists of vendors, operators etc. and develops, drives and enforces standards to ensure that equipment from multiple vendors inter-operate with each other. It creates standards where none are available - for example, the Fronthaul specifications. In addition, it creates profiles for interoperability testing where standards are available - for example, X2 interface.

O-RAN Alliance is currently engaged in the definition of various open interfaces such as A1 (between RAN and management system), O1 (between RAN and management system), F1 (between DU-CU), E1 (between CU-CP and CU-UP), W1 (between 4G CU and DU), X2 (between eNB and

gNB), Xn (between gNB and gNB), E2 (between CU-CP high and low), lower-layer split, or LLS (between DU and RU). The O-RAN architecture supports both the Higher Layer Split (HLS) being specified by 3GPP, but also a Lower Layer Split (LLS) which was studied by 3GPP in 38.801 [2], but which is not currently being specified by 3GPP.

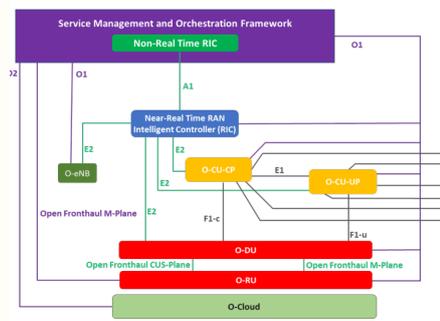


Figure: Logical O-RAN Architecture (O-RAN Alliance)

Telecom Infra Project (TIP)

TIP, formed in 2016, consists of operators, vendors, developers, integrators, startups and other entities. It concentrates on deployment and execution. They encourage Plugfests and live deployments in the field. TIP enables the Open RAN ecosystem, ensures different vendor's software and hardware equipment works with each other, is responsible for generation of use cases, and facilitates trials, field testing and deployment.

Deployments:

1. In January 2021, Telefonica, Deutsche Telekom, Orange and Vodafone have signed a MoU to back Open RAN systems that take advantage of new open virtualized architectures, software and hardware with a view to enhancing the flexibility, efficiency and security of European networks in the 5G era.
2. In November 2020, NEC has established its Global Open RAN Center of Excellence (CoE) in the U.K. to accelerate global adoption of 5G Open RAN. The CoE aims to help
3. In India, M/s Bharti Airtel ("Airtel") hosted India region's first Plugfest for the O-RAN ALLIANCE In November 2020, of which it is a member from 2018. Airtel partnered with leading players to demonstrate multiple technology use cases, including 5G. M/s Reliance Jio is currently trialling multiple O-RAN compliant, disaggregated and virtualized RAN solutions in its labs.
4. Rakuten in 2020 has deployed a commercial fully cloud-native mobile network with open vRAN in Japan, with radios from multiple vendors both in 4G and 5G.

- Contributed by:
Mobile Technology (MT) Division

5G SECURITY

The development of the 5G wireless networks is gaining momentum and has capability of connecting almost all aspects of life through the network with much higher speed, very low latency and ubiquitous connectivity.

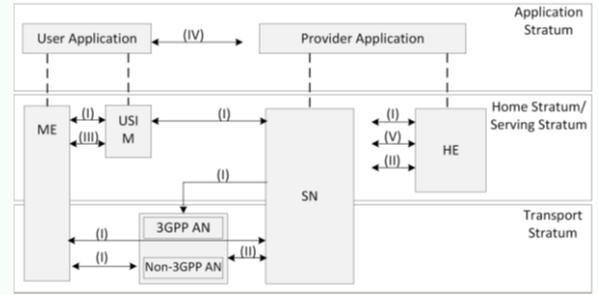
The security solutions and architectures used in previous generations (i.e. 3G and 4G) will not suffice for 5G. For example, virtualization and multi-tenancy in which different, and possibly conflicting, services share the same mobile network infrastructure were not common before and the latency requirements, such as authentication latency in vehicular communication or UAVs is also critical. Hence, the security architectures of the previous generations lack the sophistication needed to secure 5G networks as 5G is using New technological concepts meet the demands of increasingly diverse applications and connected devices.

Therefore, security solutions should be envisioned to cope with diverse threats on various services, novel technologies, and increased user information accessible by the network.

5G SECURITY ARCHITECTURE:

3GPP TS 33.501 V15.4.0 (2019-05) is the latest specification published by SA3 for 5G security. It defines the security architecture, features and mechanisms for the 5G system and the 5G core. In addition, it covers the security procedures performed within the 5G system, including the 5G core and the 5G New Radio (NR). 3GPP has specified the security architecture of 5G as illustrated in figure below including the following network architectural concepts on using the following domains:

- Network access security (I): Comprises the set of security features that enables a UE to securely authenticate and access network services.
- Network domain security (II): Comprises of a set of security features that enables network nodes to securely exchange signalling and user plane data.
- User domain security (III): Consists of security features that enables secure user access to UE.
- Application domain security (IV): Includes security features that enables applications (user and provider domains) to securely exchange messages.
- Visibility and configurability of security (VI): Includes security features that inform users whether security features are in operation or not.
- Service Based Architecture (SBA) domain security (V): Comprises of security features for network element registration, discovery, and authorization, as well as security for service-based interfaces.



5G SECURITY FEATURES AS DEFINED BY 3GPP:

Some of the main features which are defined by 3GPP for ensuring and enhancing Security in 5G are- Increased Home Control; Unified Authentication Framework; Security Anchor Function (Seaf); Subscriber Identifier Privacy; Security Edge Protection Proxy (Sepp); Authentication Framework; Binding Of Anchor Key To Serving Network; 5g Globally Unique Temporary Identifier

5G SECURITY RISKS:

The broad level of Security risks pertaining to 5G are as follows:

- Improper Isolation or slicing connection especially having different security levels may adversely affect the entire 5G security and may cause sensitive data stored in the slicing to be exposed to applications running in other slices services, through side channel attacks.
- The double level of virtualization delivered by the combination of SDN/NFV in 5G infrastructures may allow traffic capture and rerouting.
- Due to heterogeneity and diversity of the Multi Access Edge Computing environment variety of new vectors for malicious attacks and privacy compromises that could constitute a major threat to the entire MEC system.
- While developing the management interfaces related to virtual functions, improper implementation related to NVF security functions may lead to vulnerabilities to access, storage and interception of Network Management data
- Other General Security Risks pertaining to Network Devices and Server configuration, access control mechanism, Softwares etc.

CONCLUSION:

5G is not only about the right security architecture but also the secure workflows, procedures and collaboration across several stakeholders. A multi-stakeholder approach involving operators, vendors, regulators, policy makers and representatives of 5G users is fundamental to the security baseline of trustworthy, cost-efficient and manageable 5G networks.

STANDARDS RELEASED

ESSENTIAL REQUIREMENTS (ERS) ISSUED:

- IoT Gateway (ER No- TEC24492106)**
This ER covers all types of IoT Gateways with Cellular Connectivity, Fixed line connectivity, LPWAN (LoRa and Sigfox) and Short range technologies (NFC RFID etc.)
- Smart Camera (ER No - TEC28822105)**
This ER covers Smart / CCTV camera with Wireless and Wired connectivity
- Smart Watch (ER No- TEC28732105)**
This ER covers Smart Watch with Cellular Connectivity
- Smart Electricity Meter (ER No- TEC28362106)**
This ER covers Smart Electricity Meter with Cellular Connectivity
- Feedback device (ER No- TEC23232106)**
This ER covers all types of IoT Feedback Devices with Cellular / non-cellular LPWAN Connectivity
- Infiniband Switch**
This ER covers switches for higher throughput and very low latency computer networking communication.
- Router (5th variant) - Cloud Control Capable Router (ER No- TEC37681911)**
This ER covers the Cloud Controlled Capable Routers.

STANDARD FOR GR/IR/SR ISSUED/REVISED:

- WiFi Access Point (No. TEC38020:2021) (GR Revised)**
 The revised edition include:
 - Incorporation of technical requirements to be fulfilled by a WANI Framework compliant WiFi Access Point.
 - Adoption of IEEE 802.11ae standard and IEEE 802.11ax (Wi-Fi 6), standard and relevant technical parameters like data rates, throughputs.
- Communication and Broadcast Networks for FSS/BSS (Mandatory Technical Requirements) (No. TEC 42012:2021) (IR Revised)-**
 The revised standard is in line with the advancement in technology in this field.
 - The data rate limits for different types of satellite based telecom network deployments have been done away with in the revised standard.
 - Impetus has been given to prescribe technical parameters which ensure interference free operation.
- Voice Mail Service (No. TEC42012:2021) (SR Revised)**
- Audiotex Service (No. TEC61054:2021) (SR Revised)**
 Link: <https://www.tec.gov.in/standards-specifications>

STATUS OF STANDARD ADOPTION

ADOPTION OF TSDSI TRANSPOSED STANDARDS

- Adoption of TSDSI CPRI standards**
Status: TSDSI's CPRI Fronthaul Transport Standard has been referred back to TSDSI for possible resolution/amendment of issues based on the recommendation of Consultative Committee
- TSDSI transposed OneM2M (Rel3) standards**
Status: Public comments are invited from concerned stakeholders
- TSDSI transposed Radio Interface Technology (RIT) approved by ITU towards IMT-2020 (5Gi) standards**
Status: Public comments are invited from concerned stakeholders

 Telecom Standards Advisory Committee (TSAC) - a Standing apex committee under the chairmanship of DDG (Standardization) was held on 25th May, 2021 and has decided to initiate the process of adoption of 5Gi and OneM2M Rel.3 standards.

STANDARDS WITHDRAWN

- Electronic Private Wire Relay Set (No. GR/ERS-01/02.AUG94)**
- Short Message Service Center for PSTN/ ISDN (No. GR/SMS-02/01.JAN03)**
- PRBT System for PSTN (No. GR/PRT-01/01.SEP06)**

TEC CONTRIBUTIONS TO ITU

- ITU-T SG-17:** ADG (TS) as Editor of the work item X.str-dlt "Security threats and requirements of digital financial transaction using Distributed ledger Systems", carried out changes in the document as per the discussions in ITU-T SG-17 meeting . The changes proposed were accepted as TD-3688.
 A contribution C1019 proposed through NWG 13 was also presented and discussed during this meeting with the result that updated contribution is to brought to next SG 17 meeting.
- ITU-T SG-20:** Contribution on Y.SRC "Requirements for deployment of smart services in rural communities" was presented by DDG (IoT) from during the meeting from 17th to 27th May 2021. Contribution with some editorial changes has been accepted as part of the main document under development.

STANDARDIZATION

NATIONAL WORKING GROUPS (NWG)

- **NWG-13-** A meeting was organised on 14th June 2021 for discussion of Indian contribution related to Machine Learning Sandbox. The draft contribution was discussed and finalized for presentation in forthcoming ITU-T SG 13 RGM from 05-16th July 2021. It was chaired by Sr.DDG(TEC) and attended by the NWG-13 members.
- **NWG-20-** A virtual meeting was held on 3rd May 2021 by IoT division for finalizing contributions for ITU-T SG-20 meeting to be held from 17-27 May 2021. It was chaired by DDG (IoT) and attended by the NWG-20 members.

ISO/IEC/ BIS

- IoT division provided comments on BIS document LITD 28 (17304) IoT Reference Architecture draft specifications (now released as IS 18004-1) and submitted to MoHUA. TEC National standards for IoT (TEC 30001:2020-30023:2020) have been referred as normative/informative references in this BIS standard.
- DDG (IoT) chaired the National committee (LITD-27) on IoT and related technologies meeting organized by BIS on 5th May 2021, attended by several industry members including ADG (IoT) from TEC, in which the contributions for next ISO/ IEC JTC1 SC41 meeting were discussed.
- DDG (IoT) participated as head of Indian delegation in ISO/ IEC JTC 1/ SC 41 on IoT and Digital Twin virtual meetings, 24 May- 4 June 2021, attended by several industry members including ADG (IoT) as delegate.
- DDG (IoT) nominated as a member in the ISO/ IEC JTC 1 SC 41 advisory groups (AG) namely, AG 29- Liaison Coordination Group on Communication and Networking.
- DDG (Tx) chaired the meeting of LITD-11 of BIS for Fibre Optics, Fibres, Cables and Devices, which was held on 15.04.2021.
- Director (IT) and ADG (FN) nominated as principal and alternate members for the SSD-10 of BIS for IT and IT enabled Services.
- Director (IT), Director (NR-1) and AD (IoT) nominated as Principal and alternate members of Basic Standards on Services Sectional Committee, SSD-19 of BIS



STANDARDIZATION IN AI TECHNOLOGIES

An online meeting of the committee constituted by Telecommunication Engineering Centre, Department of Telecommunications for standardization in Artificial Intelligence Technologies - Development of Indian AI Stack was held on 12th April 2021 from 15:00 hrs - 17:00 hrs. The chairmen of the all WGs, made a detailed presentation on the progress so far by WGs.



DIGITAL TWIN (DT)

The ITU-T Technical Report "Representative use cases and key network requirements for Network 2030" mentions a Digital Twin (DT) as a real-time representation of a physical entity in the digital world. A digital twin is typically comprised of internet of things (IoT) technologies, sensors, artificial intelligence, machine learning, and software analytics. Their sole purpose is to act as a living, digital simulation model that replicates and reflects the updates and changes that their physical counterparts experience. This enables the user to test different production scenarios in a test environment and validate these changes prior to implementing the new features in the production environment.

FACT CHECK !!!

The claims linking #5G technology with the #COVID19 pandemic are false & have no scientific basis.

Don't be and don't let people be misguided by the false information and rumours circulating on social media platforms.

DO YOU KNOW ?

- Department of Telecommunications (DoT) launched a portal TAFcop to check number of mobile connections issued to you
- The Department of Telecommunications (DoT) has issued Customer Acquisition Guidelines. These rules enable a subscriber to register up to nine mobile connections under his or her name.



<https://tafcop.dgtelecom.gov.in/>

MANDATORY TESTING

UPDATES

- Certificates issued in Q-2 (April to June-21) -**6**
- Total Certificates issued till June 21 -**120**
(65 under GCS and 55 under SCS scheme)
- OEM registration status
Indian OEM - 44
Foreign OEM - 77
Total OEM registered - 121
- Total 7 Essential Requirements (ERs) issued in quarter 2 (April-June 2021) (refer page 5 for ER details)

For MTCTE updates visit: <https://www.mtcte.tec.gov.in/>

VOLUNTARY TESTING

TECHNOLOGY APPROVAL CERTIFICATES ISSUED

1. Product- IP-PABX with Media Gateway;
Developed by- UIET, Panjab University, Chandigarh (UT)

TYPE APPROVAL CERTIFICATES ISSUED

1. Product- XGS-PON system for FTTH application;
Developed by- M/s C-DOT, Mehrauli, New Delhi

Type approvals/ Interface Approvals/ Technology approvals: (April 2019- June, 2021)

Total 44 certificates are issued

- 13 Type Approval
- 28 Interface Approval
- 3 Technology Approval



CAB DESIGNATION ISSUED BY TEC

TEC has been appointed as the Designating Authority (DA) on behalf of DoT for Telecom Equipment. TEC as DA will be designating Conformity Assessment Bodies (CABs)/Certification Bodies (CBs) located in India to perform testing and certification of telecom products. The role of TEC as DA is also to recognise Foreign CABs/CBs located in the territory of MRA partner to perform testing and certification of telecom products to Indian requirements.

CERTIFICATE RENEWED:

1. M/s Nemko India (Test Lab) Private Limited, Faridabad
2. M/s U L INDIA Private Limited, Gurugram

Total Number of TEC Designated CABs is **60** [Safety Testing: **47**, EMI/ EMC Testing: **28**, Technical Parameters Testing: **10**, Other (SAR): **03**, Environmental testing:**20**].

NEW LAB IN TEC

TEC has set up a state-of-art NGN Control Lab for Mobile Core & IMS Testing. Member(S) and Member(T), DCC visited the NGN Control Lab on 14th July ,2021. They were informed about the capabilities of the Lab as given below:

- Wireless Core testing comprising of complete LTE Core Network testing or testing of individual elements within the Core Network (e.g. MME, SGW, PGW, PCRF and other related nodes.)
- Complete IMS Network testing or testing of individual elements within the IMS Network (e.g: P-CSCF, S-CSCF, I-CSCF, SBC, HSS, Media GW, Trunk GW and other related nodes;)
- End-to-End testing including wireless core plus IMS testing.



STUDY PAPERS RELEASED BY TEC

1. "IOT/ ICT ENABLEMENT IN SMART VILLAGE & AGRICULTURE"

Technical Report on "IoT/ ICT Enablement in Smart Village & Agriculture" has been prepared in a multi-stakeholders WG. This technical report duly approved by Sr. DDG TEC, has been uploaded on TEC website . This technical report covers diverse issues in various verticals such as agriculture, healthcare, animal husbandry, fisheries, education, water management etc. in rural areas; and provides smart solutions using IoT/ ICT and the related use cases.

(IoT Division)

Link: <https://www.tec.gov.in/study-papers>

2. "MALWARE DETECTION MECHANISM"

This paper covers the different types of Malwares, their effects on Firmware systems along with tools which can be used for Malware detection in Firmware systems. Including the above this paper also covers some broad level techniques which may be adopted by organisation to ensure protection against Malware.

(TS Division)

Link: <https://www.tec.gov.in/study-papers>

UPCOMING EVENTS BY TEC (WEBINARS)

1. TEC-ETSI Webinar on **"GREEN ICT"**
Date & Time **19 July 2021**, 14:30-16:00 Hrs
(Link: <https://bit.ly/2VqGu6g>)
2. Webinar on **"SMART WATER"**
Date & Time: **20 July 2021**, 14:30-16:00 Hrs
Link: <https://bit.ly/36Nprh8>
3. Webinar on **"ARTIFICIAL INTELLIGENCE (AI) IN TELECOM & RELATED ICT SECTOR"**
Date & Time: **03 August 2021** 15:00-17:00 Hrs
Link: <https://bit.ly/3imYFlb>
4. Webinar on **"ZERO TRUST SECURITY WITH ACTIVE DEFENSE FOR NEXT-GEN TELECOM INFRASTRUCTURE"**
Date & Time: **28 July 2021** 15:00 hrs- 16:45 Hrs
Link: <https://bit.ly/3wOIKCk>



TALKS & MEETINGS

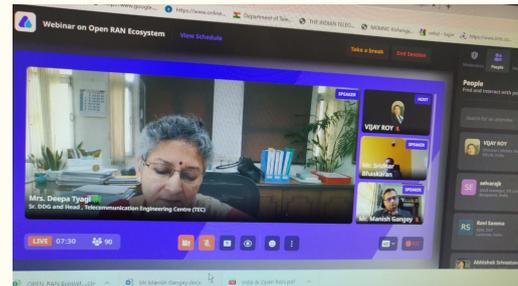
1. A WEBINAR "SDWAN TECHNOLOGY AND TRENDS"

Conducted by TEC, Western Region on 3/06/2021. Mr. Harish Motwani, Executive VP, FatPipe Networks delivered the talk. The following topics were covered in the talk:

- a. Brief on SDWAN Technology and trends
- b. Why Enterprises and Government Networks are migrating to SDWAN
- c. SDWAN Building Blocks

2. A WEBINAR ON "OPEN RAN ECOSYSTEM"

Organised on 24th June 2021 by MT Division, TEC. Open RAN refers to a new paradigm where radio access networks (RAN) are built from general purpose, vendor-neutral, commercial-off-the-shelf (COTS) hardware with software components coming from multiple vendors and operating over network interfaces that are truly "open and interoperable". With a flexible and open architecture, Open RAN provides opportunity for local suppliers/start ups to participate in building radio access networks.



3. A webinar was organized by RC Division in co-ordination with SRI Division, DOT -HQ on 28th May 2021 for interacting with innovators/Start-ups/Indian firms etc. and seeking the feedback to improvise the TEC Certification Procedure.

4. An e-meeting was held on 25.06.2021 with all RTECs and Core Divisions of TEC to discuss and have consultation on Revision of TEC CAB Designation Scheme.

5. A virtual conference was held between TEC and TEMA members on 29.06.2021 for discussion on 'MTCTE latest revised procedures' and new TEC website. Director(IT), TEC shared the usage of revamped TEC website with the industry, which was appreciated by the participants.

6. Director (IT) chaired the meeting of Working Group on 'Anonymisation of Data' constituted under MeitY.

DO YOU KNOW?

20th June is celebrated as World wifi day. World Wi-Fi day is a global initiative to help bridge the digital divide.

TEC WELCOMES ON JOINING TEC 🙏

- Sh. Sandeep Kumar Vijaivergia, Dir TS
- Sh. Vijay Dixit, Dir (Tx)
- Sh. P.K. Mishra, Director (Joined back in TEC after completion of 46th APPA programme)

TEC CONGRATULATES ON PROMOTION 🌸

- Sh. Dhanesh Goyal, ADG(TC) on promotion from JTS to STS
- Sh. Amardeep (कनिष्ठ अनुवाद अधिकारी से वरिष्ठ अनुवाद अधिकारी)

TEC BIDS FAREWELL ON TRANSFER 🌸

- Sh. Rajkumar (Dir) relieved for deputation to UIDAI
- Smt. Laxmi (Dir) relieved for further reporting to J & K LSA
- Sh. Brajendra Kumar (Dir SR) relieved for deputation to TRAI

BEREAVEMENT

- Sh. Y.K. Gaikwad, ADG (RTEC WR)
- Sh. Ram Sanwar, Staff Car Driver

हिंदी गतिविधियाँ

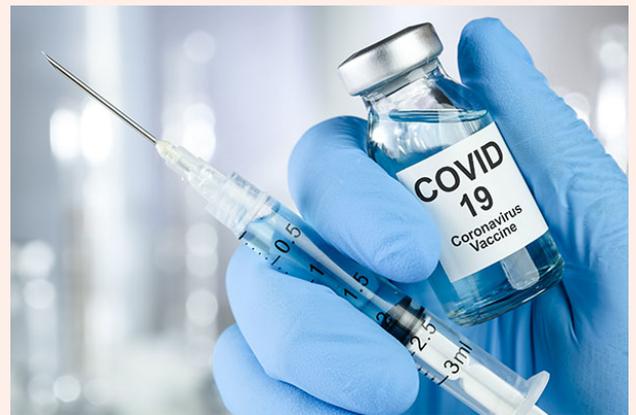
- हिन्दी की तिमाही रिपोर्ट दूरसंचार और राजभाषा विभाग को भेजी गयी
- नगर राजभाषा कार्यान्वयन समिति दिल्ली मध्य-1 की छमाही रिपोर्ट भेजी गई
- राजभाषा कार्यावहान की तिमाही बैठक का आयोजन किया
- आरटीआई की तिमाही रिपोर्ट आरसी डिविजन को भेजी गयी

TRAINING

- Cyber Security Certification Course, organised by NTIPRIT was attended from 17.05.21 to 09.08.21 by ADG(TS), TEC.
- 5G Certification course organized by NTIPRIT from 09.03.2021 to 27.05.2021 was attended by Sh. Anand Katoch Dir (RC) and Sh. Anshul Kumar Gupta, AD (MRA).

COVID-19 VACCINATION DRIVE

TEC successfully organised/ arranged COVID-19 vaccination camps in April & May 2021 at BSNL HQ for 45+ officers working in TEC and BSNL. All officers working in TEC are encouraged to take vaccine.



Member (S), Member (T) with Sr. DDG TEC & other officers during visit to TEC

SATCOM GETS A BOOSTER

Last May, Finance Minister Nirmala Sitharaman announced upcoming reforms to fortify India's space-related growth. And, recently, TEC delivered. The TEC quietly planted the seeds for revolutionising Indian satellite communications (satcom).

Being responsible for laying down the standards for telecommunications in India, TEC has, in one bold stroke, completely overhauled the erstwhile specifications and totally modernised them to suit today's digital communication requirements and thereby providing the much-needed impetus for growth of the Indian satcom sector and serving the Digital India mission.

Earlier rules significantly stunted the ability of Indian satellite communications to deliver the best service to end-consumers. Prevailing for several years, they did not reflect the huge developments in technology. A simple illustration of this was the erstwhile imposed cap of total permissible data rate (that is, download plus upload) of 4 Mbps.

Today's customers are of course demanding, but even if a service provider could put through its technology offering a higher speed, that was not permitted by the regulation. In a typical peer regime abroad, satcom data plans featured speeds from 12 Mbps to 100 Mbps, a popular or median plan being one offering about 25 Mbps download speed. This is only the download data rate and obviously total rate would be much higher. Clearly, the Indian situation was quite sub-optimal.

WEBINAR ON 'NAVIC'

Secretary (Telecom) Shri Anshu Prakash inaugurated the Online Webinar on 'NavIC - Opportunities for the Telecom Industry' on April 28, 2021, in the presence of Member (Technology), DoT, Scientific Secretary, ISRO and Sr DDG, NTIPRIT.



WTISD- 17TH MAY

The theme for this year's World Telecommunication and Information Society Day (17th May) is 'Accelerating digital transformation in challenging times' focusing on critical role of information and communication technologies during COVID-19 pandemic.

DOT'S GO AHEAD FOR 5G TRIALS

The Department of Telecommunications (DoT), Government of India, on 4th May 2021, approved permissions to Telecom Service Providers (TSPs) for conducting trials for use and applications of 5G technology. The applicant TSPs include Bharti Airtel Ltd., Reliance Jio Infocomm Ltd., Vodafone Idea Ltd. and MTNL. These TSPs have tied up with original equipment manufacturers and technology providers which are Ericsson, Nokia, Samsung and C-DOT. In addition, Reliance JioInfocomm Ltd. will also be conducting trials using its own indigenous technology.

The experimental spectrum is being given in various bands which include the mid-band (3.2 GHz to 3.67 GHz), millimeter wave band (24.25 GHz to 28.5 GHz) and in Sub-Gigahertz band (700 MHz). TSPs will also be permitted to use their existing spectrum owned by them (800 MHz, 900 MHz, 1800 MHz and 2500 MHz) for conduct of 5G trials.

ONLINE LICENSING FOR USE OF SPECTRUM

In an important initiative to encourage spectrum based applications and for experiment, demonstration and testing requirements, DoT launched the initiative to facilitate online licensing for use of Spectrum to conduct Experiments, Demonstrations, etc.

TRUSTED TELECOM PORTAL

Government of India has launched Trusted Telecom Portal (<http://trustedtelecom.gov.in>) for implementation of National Security Directive on Telecom Sector.

IOT GETS 5G PUSH WITH IIT-H'S CELLULAR CHIPSET

Connecting machines to the internet will soon be mainstream with IIT Hyderabad launching Koala, India's first 5G cellular chipset.

With India set to announce the official rollout of 5G services by 2022, the IIT-H's narrowband internet of things system on chip (NB-IoT) is a 5G massive machine-type-communication technology that enables low-bit rate IoT applications with long-range and device battery life up to 10 years. Cyient did the semiconductor design of the chipset.

The chip supports 3GPP Rel-13/14 compliant NB-IoT modem with integrated baseband and radio, an application processor and GPS functionality for location tracking. It was developed as part of the indigenous 5G testbed project funded by the Department of Telecommunications.

ABOUT TEC

- Telecommunication Engineering Centre (TEC) is an ISO 9001:2015 Organization. It plays a very important role in the telecom ecosystem of India. It is responsible for the development of technological standards with regard to Telecom network equipment, services and interoperability, in the form of Generic Requirement (GR), Interface Requirement (IR) for Voluntary Testing and Essential Requirements (ERs) for Mandatory Testing of Telecom equipment in India.
- TEC has Core Technical Divisions which carry out the activities of formulation of technical requirements in harmony with international standards, for telecom equipment, interfaces, and services. This activity involves the participation of telecom service provisioning organizations, equipment manufacturers, industry associations, academia, government institutions, international and national standardization bodies, and other stakeholders.
- TEC provides technical support to DOT HQ, WPC, USOF, TRAI and other Government ministries.
- TEC coordinates and participates in the meetings of standards development organizations, viz., International Telecommunication Union (ITU), Asia Pacific Telecommunity (APT), World Radiocommunication Conference (WRC), 3rd Generation Partnership Project (3GPP), European Telecommunications Standards Institute (ETSI), IEEE etc. TEC also interacts with stakeholders and associations, viz., COAI, AUSPI, ISPAI, SAI, TEMA, CMAI, FICCI, CII, etc.



Suggestions/ feedback are welcome and may be sent at-

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