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Government of India
Department of Telecommunications
Telecom Engineering Centre
Khurshid Lal Bhawan, Janpath, New Delhi-110001

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Circular

Subject: Inviting nominations for reconstitution of National Working Group 20 (NWG-20) corresponding to ITU-T Study Group 20 "Internet of Things (IoT), Digital Twins and Smart Sustainable Cities & Communities (SSC&C)" for the Study Period 2025-28 – reg.

Dear Sir/ Madam,

Telecommunication Engineering Centre (TEC) is a technical arm of Department of Telecommunications, Government of India. TEC is also the National Standardization Body (NSB) for telecom and ICT Sector and mandated to participate and submit contributions in the meetings of ITU and other standardization bodies such as APT, ETSI, 3GPP, oneM2M etc. TEC prepares interoperable specifications in the form of Generic Requirements (GRs), Interface Requirements (IRs), Service Requirements (SRs) and Essential Requirements (ERs) etc. TEC has National Working Groups (NWGs) corresponding to respective ITU-T Study Groups (SGs) for submitting contributions in International Telecommunication Union – Telecommunication Standardization Sector (ITU-T) Study Groups.

2. TEC is working in IoT/ M2M domain since 2014 and has released 22 Technical Reports, with the outcomes intended to be used in the formulation of polices/ standards. These Technical Reports (TRs) cover various verticals such as Power, Automotive (Intelligent Transport System), Remote Health Management, Safety & Surveillance, Smart homes, Smart cities, Smart Village & Agriculture etc., and also the horizontal layer (requirements common to all the verticals) such as M2M Gateway & Architecture, Communication Technologies, EMF Exposure from IoT devices and Security aspects in M2M/ IoT domain. All the Technical Reports are available on TEC website (<https://tec.gov.in/M2M-IoT-technical-reports>).

3. **International recognition of TEC TRs on IoT/ M2M:** International Telecommunication Union (ITU) has posted the following seven TEC Technical Reports on its Digital Transformation Resource Hub in IoT sections (2024, 2023, 2022 and 2021), recognizing as insightful technical resource for the benefit of global community (<https://www.itu.int/cities/dt-resource-hub/iot/>):

- i. Revolutionizing Agriculture: The Digital Transformation of Farming
- ii. Security by Design for IoT Device Manufacturers
- iii. Framework of National Trust Centre for M2M/IoT Devices and Applications
- iv. IoT/ ICT Standards for Smart Cities
- v. Emerging Communication Technologies & Use Cases in IoT Domain
- vi. Code of Practice for Securing Consumer Internet of Things (IoT)
- vii. IoT/ ICT Enablement in Smart Village and Agriculture

4. International Telecommunication Union (ITU) conducts the **World Telecommunication Standardization Assembly (WTSA)** every four years to define the work program, working methods and structure of Study Groups for the ITU Telecommunication Standardization Sector (ITU-T) for the next

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study period of four years. India has successfully hosted WTSA-24 in October 2024, which has defined roadmap of Study Groups for the next four years i.e. 2025-2028.

5. It is pertinent to mention that ITU-T SG-20 on “Internet of Things (IoT), Digital Twins and Smart Sustainable Cities & Communities (SSC&C)” has been working to address the standardization requirements of Internet of Things (IoT) technologies, Digital Twins, Metaverse with an initial focus on IoT applications in Smart Sustainable Cities & Communities (SSC&C). SG-20 has released a series of global standards on IoT technology and its applications in Smart Cities & Communities etc. These standards are available on https://www.itu.int/ITU-T/recommendations/index_sg.aspx?sg=20. The related standards have also been referred in the TEC Technical Reports.

6. National Working Group (NWG) – 20 was created in TEC corresponding to ITU-T SG-20. NWG-20 is chaired by DDG (IoT) and having members from related stakeholders. NWGs are reconstituted at the beginning of each study period of ITU Study Groups.

7. **Indian achievements:** IoT Division, TEC is submitting contributions in almost all the ITU-T SG-20 meetings from 2016 onwards and presenting in-person or remotely in these meetings. Apart from extensively contributing in various work items, four work items led by India have already been published as ITU-T Recommendations - *ITU-T Y Suppl.53 (12/2018)* on ‘IoT Use cases’ (having five IoT use cases from India and one from Egypt), *ITU-T Y Suppl.56 (12/2019)* on ‘Smart City Use cases’ (having smart city use cases from Japan, Korea, UK and India), *ITU-T Y.4218 (05/2023)* on ‘IoT and ICT Requirements for deployment of smart services in rural communities’ and *ITU-T Y.4234* on ‘Requirements, capabilities and deployment models for e-learning in remote classrooms’ (under publication). Further, based on the contribution submitted from India, *ITU-T SG-20 Regional Group for Asia Pacific (SG20RG-AP)* was created in January 2023 under the chairmanship of India.

8. ITU-T SG-20 includes focus areas, categorized into following nine questions for the study period 2025-28-


Question	TITLE
Q1/20	Interworking between smart city platforms including digital twins
Q2/20	Requirements, capabilities and architectural frameworks of Internet of Things (IoT) and smart sustainable cities and communities (SSC&C) across verticals
Q3/20	Architectures, functionalities and protocols in applications of verticals and infrastructures of Internet of Things (IoT) and smart sustainable cities and communities (SSC&C)
Q4/20	Data analytics, sharing, processing and management, including big data aspects, of Internet of Things (IoT) and smart sustainable cities and communities (SSC&C)
Q5/20	Terminology and definitions, study and research of emerging digital technologies
Q6/20	Security, privacy, trustworthiness, and identification of Internet of Things (IoT) and smart sustainable cities and communities (SSC&C)
Q7/20	Evaluation and assessment of smart sustainable cities and communities and digital services
Q8/20	Human-centric digital services enabled by Internet of Things (IoT) and smart sustainable cities and communities (SSC&C) related to digital health, accessibility and inclusion
Q9/20	Decentralized/distributed Internet of Things (IoT)

9. The broad areas of study for NWG-20 will be same as those of ITU-T SG-20. The objective of the NWG-20 is to contribute to ITU-T SG-20, keeping in view the interest of Indian Telecom Sector. The NWG-20 shall build consensus by harmonizing the interests of various stakeholders and proactively make necessary contributions to ITU-T SG-20. The contributions from India developed through NWG-20 and submitted to ITU-T SG-20 shall be towards inclusion of Indian requirements in the ITU-T recommendations & standards. The NWG-20 is being reconstituted for the Study Period 2025-28 under the chairmanship of DDG (IoT), TEC.

10. As the development of standards is a consultative and collaborative process, nominations of subject matter/ domain experts are solicited for reconstitution of NWG-20 for the Study Period 2025-28.

11. The said nominations may kindly be forwarded by e-mail to ddgsd.tec@gov.in with copy to, adg.iot-tec-dot@gov.in , adet.iottec-dot@gov.in and ra01-iot-tec@govcontractor.in within 15 days of issue of this circular in the following format:

S. No.	Name	Designation	Organisation	E-mail	Phone No.


(R. S. Singh) 13/11/24
DDG (IoT), TEC & Chairman, NWG-20

To,
All Stakeholders
(including Government/ PSUs, OEMs/ ODMs, Academia,
R&D Organizations, TSPs, M2MSPs, Industry Associations)