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|  | **Document CWG-Internet-18/2** |
| **8 September 2023** |
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| Contribution by the secretariat |
| ITU INTERNET ACTIVITIES: RESOLUTIONS 101, 102, 133, 180 AND 206 |
| **Purpose**This report summarizes ITU’s activities related to Plenipotentiary Conference (PP) Resolution 101 (Rev. Bucharest, 2022), *“Internet Protocol-based networks”*; Resolution 102 (Rev. Bucharest, 2022), *“ITU’s role with regard to international public policy issues pertaining to the Internet and the management of Internet resources, including domain names and addresses”*; Resolution 133 (Rev. Bucharest, 2022), *“Roles of administrations of Member States in the management of Internationalized (multilingual) domain names”*; Resolution 180 (Rev. Bucharest, 202), *“Promoting deployment of Internet Protocol version 6”* and Resolution 206 (Dubai, 2018), *“OTTs”*.**Action required**In line with Resolution 102 (Rev. Bucharest, 2022), CWG-Internet is invited to consider and discuss the activities of the Secretary-General and Directors of the Bureaux in relation to the implementation of the resolutions.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**References***Plenipotentiary Resolutions* [101](https://www.itu.int/en/council/Documents/basic-texts-2023/RES-101-E.pdf)*,* [102](https://www.itu.int/en/council/Documents/basic-texts-2023/RES-102-E.pdf)*,* [133](https://www.itu.int/en/council/Documents/basic-texts-2023/RES-133-E.pdf)*,* [180](https://www.itu.int/en/council/Documents/basic-texts-2023/RES-180-E.pdf) *(Rev.* Bucharest*, 2022), Resolution* [*206*](https://www.itu.int/en/council/Documents/basic-texts-2023/RES-206-E.pdf) *(Dubai, 2018); Council Resolutions* [*1305*](http://www.itu.int/md/S09-CL-C-0105) *(2009),* [*1336*](http://www.itu.int/md/S15-CL-C-0113/en) *(mod 2015),* [*1344*](http://www.itu.int/md/S15-CL-C-0112/en) *(mod 2015); WTSA Resolutions* [*47*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.47-2022) *(Rev. Dubai, 2012),* [*48*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.48-2022) *(Rev. Geneva, 2022),* [*49*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.49-2016) *(Rev. Hammamet, 2016),* [*50*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.50-2022) *(Rev. Geneva, 2022),* [*52*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.52-2022) *(Rev. Hammamet, 2016),* [*58*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.58-2022)*,* [*60*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.60-2022)*,* [*64*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.64-2022)*, (Rev. Geneva, 2022),* [*69*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.69-2022)*,* [*75*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.75-2022) *(Rev. Geneva, 2022),* [*98*](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-RES-T.98-2022) *(Rev. Geneva, 2022);* [*WTDC-17/Buenos Aires Action Plan Objective 3/Output 3.3*](https://www.itu.int/en/ITU-D/Conferences/WTDC/WTDC17/Documents/WTDC17_FinalReport_en.pdf) *, WTDC Resolutions* [*20, 30 , 63*](https://www.itu.int/en/ITU-D/Conferences/WTDC/WTDC17/Documents/WTDC17_FinalReport_en.pdf) *(Rev. Buenos Aires, 2017), and* [*45*](http://www.itu.int/en/action/internet/Documents/Resolution_45_wtdc14.pdf)  *(Rev. Dubai, 2014); Council Documents* [*C16/33*](http://www.itu.int/md/S16-CL-C-0033/en)*,* [*C17/33*](https://www.itu.int/md/S17-CL-C-0033/en)*,* [*C18/33*](https://www.itu.int/md/S18-CL-C-0033/en)*,* [*C19/33*](https://www.itu.int/md/S19-CL-C-0033/en)*,* [*C20/33*](https://www.itu.int/md/S20-CL-C-0033/en), [*C21/33*](https://www.itu.int/md/S21-CL-C-0033/en)*,* [*C22/33*](https://www.itu.int/md/S22-CL-C-0033/en)*,* [*C23/33*](https://www.itu.int/md/S23-CL-C-0033/en) |

# 1 Introduction

This report describes ITU’s activities related to the 2022 Plenipotentiary Conference Resolutions 101, 102, 133, 180 and 206 for the reporting period from February 2022 till date.

**2 Activities related to Internet Protocol (IP) networks, the development of next-generation networks (NGN) and future Internet, including policy and regulatory challenges**

More than 330 new/revised ITU-T Recommendations and other texts[[1]](#footnote-1) have been approved from 1 March 2022 to 20 April 2023, including those relevant to this Report. [Relevant Recommendations](https://www.itu.int/itu-t/workprog/wp_search.aspx?isn_sp=8265&isn_status=-1,2&adf=2022-03-01&adt=2023-07-31&pg_size=100&details=0&field=acdefghijo) can be found under the different ITU-T Study Groups (SGs).

**2.1** **IMT-2020:** In total,22 Recommendations were approved by ITU-T SGs 11, 13 and 17. One Supplement was agreed by SG13, two Technical Reports were agreed by SGs 12 and 17, and seven draft Recommendations are under approval in SGs 13 and 17. More information is available below:

**2.1.1** ITU-T SG11 approved Recommendations [ITU-T Q.5004 “Signalling architecture of Lite IMS for IMT-2020 network and beyond”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15256); [ITU-T Q.5025 “Protocol for managing User Plane function in IMT-2020 network”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15047); [ITU-T Q.5005 “Requirement, framework and protocols for signalling network analysis and optimization in IMT-2020”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15257)

**2.1.2** ITU-T SG12 approved Recommendation [ITU-T Y.1540 Amd.2 “Internet protocol data communication service - IP packet transfer and availability performance parameters - Amendment 2: Revised Annex B: Additional search algorithms for IP-based capacity parameters and methods of measurement](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15491)”, and agreed [ITU-T Y Suppl.60 (revised) “Interpreting Y.1540 Maximum IP-Layer Capacity Measurements”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14999) and [ITU-T Technical Report GSTR-5GQoE “QoE requirements for real-time multimedia services over 5G networks”](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-TUT-QOS-2022-1)

**2.1.3** ITU-T SG13approved Recommendations [ITU-T Y.3120 “Functional Architecture for latency guarantee in large scale networks including IMT-2020 and beyond”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15234); [ITU-T Y.3121 “QoS requirements and framework for supporting deterministic communication services in local area network for IMT-2020”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15235); [ITU-T Y.3138 “Unified multi-access edge computing for supporting fixed mobile convergence in IMT-2020 networks”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15055); [ITU-T Y.3139 “Fixed mobile convergence enhancements to support IMT-2020 based software-defined wide area networking service”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15056); [ITU-T Y.3158 “Local shunting for multi-access edge computing in IMT-2020 networks”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15057); [ITU-T Y.3201 “Fixed, mobile and satellite convergence – Framework for IMT-2020 networks and beyond”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15239); and agreed [ITU-T Y.Suppl.59 (revised) to ITU-T Y.3100 of Recommendations “IMT-2020 standardization roadmap”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15248); draft Recommendation ITU-T Y.3159 “Framework for classifying network slice level in future networks including IMT-2020” is under approval

**2.1.4** ITU-T SG17approved [ITU-T X.1813 “Security and monitoring requirements for operation of vertical services supporting ultra-reliable and low latency communication (URLLC) in IMT-2020 private network”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14991); [ITU-T X.1814 “Security guidelines for IMT-2020 communication system”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14992); [ITU-T X.1815 “Security guidelines and requirements for IMT-2020 edge computing services”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15113); [ITU-T X.1816 “Guidelines and requirements for classifying security capabilities in IMT-2020 network slice”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15114); and agreed [ITU-T Technical Report XSTP-5Gsec-RM “5G Security Standardization Roadmap”](https://www.itu.int/pub/publications.aspx?lang=en&parent=T-TUT-ICTS-2022-2). Draft Recommendation ITU-T X.1817 “Security requirements for 5G message service” is under approval.

**2.2** **Internet-of-things (IoT) and Smart Cities:**

**2.2.1** In total,15 Recommendations were approved by SGs 17 and 20, two Technical Reports were agreed by SG 3, two draft Recommendations are under approval in SG 17, and five draft Recommendations were determined by SG 20. More information is provided below:

* ITU-T SG3 agreed ITU-T Technical Report TR\_AccountingIOT “Accounting & Billing aspects in IoT ecosystem and integrated approach using Distributed Ledger Technology (DLT)” (under publication), ITU-T Technical Report dSTR-IoTM2M-Roaming “Roaming Aspects of IoT and M2M” (under publication)
* ITU-T SG17 **approved Recommendation** [ITU-T X.1352 “Security Requirements for Internet of things (IoT) device and gateway”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14990); [ITU-T X.1369 “Security requirements for IoT service platform”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14799); and under approval are draft Recommendations ITU-T X.1353 “Security methodology for zero-touch deployment in massive IoT based on blockchain”, ITU-T X.1645 “Requirements of network security situational awareness platform for cloud computing”.
* ITU-T SG20:
	+ approved the following Recommendations: [ITU-T Y.4052 “Vocabulary for blockchain for supporting Internet of things and smart cities and communities in data processing and management aspects”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15066); [ITU-T Y.4217 “Service requirements and capability framework for IoT-related crowdsourced systems”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15068); [ITU-T Y.4481 “Framework for data middle-platform in IoT and smart sustainable cities”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15069); [ITU-T Y.4482 “Requirements and framework for smart livestock farming based on the Internet of things”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15070); [ITU-T Y.4483 “Reference architecture of service exposure for decentralized services for Internet of things applications”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15071); [ITU-T Y.4484 “Framework to support Web of Objects ontology based semantic data interoperability of eHealth services”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15072); [ITU-T Y.4500.3 ”oneM2M - Security solutions”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15076); ITU-T Y.4560 (revised) “Blockchain-based data exchange and sharing for supporting Internet of things and smart cities and communities”.
	+ determined the following draft Recommendations ITU-T Y.4218 “IoT and ICT requirements for deployment of smart services in rural communities”; ITU-T Y.4221 “Requirements of IoT-based electric power infrastructure monitoring system”; ITU-T Y.4486 “Framework of cross edge decentralized service by using DLT and edge computing technologies for IoT devices”; ITU-T Y.4488 “Framework of IoT service for safety protection of working environment”; and consented draft ITU-T Y.4219 “Accessibility requirements for user interface of smart applications supporting IoT”; ITU-T Y.4602 “Data processing and management framework for IoT and smart cities and communities”; ITU-T Y.4603 “Requirements and functional model to support data quality management in IoT”; ITU-T Y.4604 “Metadata for camera sensing information of autonomous mobile IoT devices”; ITU-T Y.4909 “Assessment framework of IoT sensing quality”; and ITU-T Y.4910 “Maturity model of digital supply chain for smart sustainable cities”.
	+ continued coordination on IoT in its ITU-T JCA-IoT and SC&C. SG20 is collaborating with IETF on use of *"ppk"* URI scheme name in ITU-T Y.dec-IoT-arch *“Decentralized IoT communication architecture based on information centric networking and blockchain”*, with oneM2M on draft new *Recommendation ITU-T Y.oneM2M.SEC.SOL "oneM2M Security Solutions"*, with TMForum on draft Recommendation *ITU-T Y.TM.DM-API* “IoT Device Management API REST Specification” and *Y.TM.SM-API* “IoT Service Management API REST Specification”, with W3C on Decentralised Identifiers (DIDs) and with LoRa Alliance on Recommendation ITU-T Y.4480. The fourth J-SCTF meeting took place virtually on 27 and 29 September 2021, and the fifth meeting on 18 and 20 January 2022. It was clarified that J-SCTF will formally report to only three governing bodies of three SDOs (IEC SMB, ISO TMB, and ITU TSAG) and will informally exchange with SPCG, as appropriate, to share knowledge, ideas, and experiences.

**2.2.2** The standardization of IoT test specifications is accelerating, supported by the increasing collaboration of ITU-T and oneM2M. ITU-T SG20 continued coordination in its ITU-T JCA-IoT and SC&C and is also in close collaboration with IETF, oneM2M, W3C, LoRa Alliance and TMForum. SG20 created a new Correspondence Group on Artificial Intelligence of Things (CG-AIoT).

**2.2.3** Under the [United for Smart Sustainable Cities (U4SSC) initiative](https://www.itu.int/en/ITU-T/ssc/united/Pages/default.aspx), the following deliverables were published:[Guidelines on tools and mechanisms to finance smart sustainable cities projects](https://www.itu.int/en/publications/Documents/tsb/2021-A-U4SSC-deliverable-Guidelines-on-tools-and-mechanisms-to-finance-SSC-projects/index.html), [Digital solutions for integrated city management and use cases](https://www.itu.int/en/publications/Documents/tsb/2021-U4SSC-Digital-solutions-for-integrated-city-management-and-use-cases/index.html#p=1), [Compendium of survey results on integrated digital solutions for city platforms around the world](https://www.itu.int/en/publications/Documents/tsb/2021-U4SSC-Compendium-of-survey-results/index.html#p=1) and [Smart public health emergency management and ICT implementations](file:///C%3A%5CUsers%5CSaran%5CAppData%5CLocal%5CMicrosoft%5CWindows%5CINetCache%5CContent.Outlook%5C97RS0L0D%5C%C2%A7%09https%3A%5Cwww.itu.int%5Cen%5Cpublications%5CDocuments%5Ctsb%5C2021-U4SSC-Smart-public-health-emergency-management-and-ICT-implementations%5Cindex.html#p=1).

**2.2.4** The [6th meeting of the U4SSC Initiative](https://www.itu.int/en/ITU-T/ssc/united/Pages/202112/meeting.aspx) took place on 7 December 2021 where a new working group on Reference framework for an integrated management of a smart sustainable city (under the Thematic Group on City Platforms) and a new Thematic Group on Digital Transformation for People Smart Cities have been established.

**2.2.5** More than 150 cities worldwide are measuring their progress using *“Key Performance Indicators for Smart Sustainable Cities”* based on ITU standards (ITU-T Y.4903). Additionally, the following city snapshots were launched: [Mashhad, Iran (Islamic of)](https://www.itu.int/en/publications/Documents/tsb/2021-U4SSC-City-Snapshot-Mashhad-Iran/index.html), [Larvik, Norway](https://www.itu.int/en/publications/Documents/tsb/2021-U4SSC-City-Snapshot-Larvik-Norway/index.html#p=1), [Daegu, Korea (Republic of)](https://www.itu.int/en/publications/Documents/tsb/2021-U4SSC-City-Snapshot-Daegu-Republic-of-Korea/index.html#p=1). The following county snapshot was launched: [More og Romsdal, Norway](https://www.itu.int/en/publications/Documents/tsb/2021-U4SSC-City-Snapshot-More-og-Romsdal-Norway/index.html#p=1). The following verification reports were launched: [Mashhad, Iran (Islamic of)](https://www.itu.int/en/publications/Documents/tsb/2021-U4SSC-Verification-Report-Mashhad-Iran/index.html), [Larvik, Norway](https://www.itu.int/en/publications/Documents/tsb/2021-U4SSC-Verification-Report-Larvik-Norway/index.html#p=1), [Daegu, Korea (Republic of)](https://www.itu.int/en/publications/Documents/tsb/2021-U4SSC-Verification-Report-Daegu-Republic-of-Korea/index.html#p=1).

**2.2.6** The first United for Smart Sustainable Cities (U4SSC) Austrian U4SSC Country Hub was approved during the last U4SSC meeting and will be hosted by the Austrian Economics Center in Vienna, Austria. one of the key objectives of this country hub is to promote the work of U4SSC in Austria.

## 2.3 IP Cable: ITU-T SG9 approved five Recommendations: [ITU-T J.299 (revised) “Functional requirements for remote management of cable STB by auto configuration server”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14867); [ITU-T J.224 (revised) “Fifth-generation transmission systems for interactive cable television services - IP cable modems”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15116); [ITU-T J.225 (revised) “Fourth-generation transmission systems for interactive cable television services - IP cable modems”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15117); [ITU-T J.1611 (revised) “Functional requirements for Smart Home Gateway”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15118); and [ITU-T J.1612 “The Architecture for Smart Home Gateway”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14845)

## 2.4 IPTV, Content Delivery Networks (CDN) and Digital Signage: ITU-T SG16 approved one Recommendation: Recommendation [ITU-T H.721 (V3) (revised) “IPTV terminal devices: Basic model”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14952)

## 2.5 IP performance: ITU-T SG12 approved four Recommendations and agreed one Supplement.

## 2.6 IP-based Cloud computing and Big Data:

## 2.6.1 ITU-T SG13 approved five Recommendations:

* [ITU-T Y.3537 “Cloud computing – Functional requirements of cloud service partner for multi-cloud”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15060);
* [ITU-T Y.3538 “Cloud computing - Global management framework of distributed cloud”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15061);
* [ITU-T Y.3539 “Cloud computing - Framework of risk management”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15241);
* [ITU-T Y.3602 (revised) “Big data – Functional requirements for data provenance”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15074); and
* [ITU-T Y.3655 ”Big data driven networking - management and control mechanisms”](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=15062)

## 2.6.2 SG17 approved four Recommendations:

* [ITU-T X.1333 “Security guidelines for use of remote access tools in Internet-connected control systems”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14798);
* [ITU-T X.1380 “Security guidelines for cloud-based data recorders in automotive environments”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15106);
* [ITU-T X.1643 “Security requirements and guidelines of virtualization container in cloud computing environment”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14804); and
* [ITU-T X.1644 “Security guidelines for distributed cloud”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15112)

## 2.7 Miscellaneous Internet-related matters:

## 2.7.1 ITU-T SG11 approved two Recommendations: Recommendation [ITU-T Q.3647 “Signalling requirements for emergency service in IMS roaming environment”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15254); [ITU-T Q.4069 “Testing requirements and procedures for Internet of Things based green data centres”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15046).

## 2.7.2 ITU-T SG16 approved eight Recommendations:

* [ITU-T F.743.18 “Requirements for IMT-2020 ultra-high definition surveillance camera”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15185);
* [ITU-T F.746.14 “Requirements and reference framework for cloud virtual reality systems”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15188);
* [ITU-T F.748.17 “Technical specification for artificial intelligence cloud platform: AI model development”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15194);
* [ITU-T H.225.0 (V8) (revised) “Call signalling protocols and media stream packetization for packet-based multimedia communication systems”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14946);
* [ITU-T H.235.10 “H.323 security: Support of DTLS for media streams”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14968);
* [ITU-T H.245 (V17) (revised) “Control protocol for multimedia communication”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14947);
* [ITU-T H.323 (V8) (revised) “Packet-based multimedia communications systems”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14950); and
* [ITU-T H.644.5 “Functional architecture of content request routing service in multimedia content delivery networks”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=15205).

**2.8 Security**:

**2.8.1** ITU-T SG17 approved Recommendation [ITU-T X.1752 “Security guidelines for big data infrastructure and platform”](https://www.itu.int/ITU-T/recommendations/rec.aspx?id=14806).

## 2.8.2 A separate report on ITU’s activities related to building confidence and security in the use of ICTs, including SG17’s work, is presented as Document C23/35.

## 2.9 ITU-T Focus Groups: In total, seven ITU-T Focus Groups are active: [*ITU-T Focus Group on Metaverse (FG-MV)*](https://www.itu.int/en/ITU-T/focusgroups/mv/Pages/default.aspx); [*ITU-T Focus Group on Testbeds Federations for IMT-2020 and beyond (FG-TBFxG)*](https://www.itu.int/en/ITU-T/focusgroups/tbfxg/Pages/default.aspx)*;* [*ITU-T Focus Group on AI for Natural Disaster Management (FG-AI4NDM)*](https://www.itu.int/en/ITU-T/focusgroups/ai4ndm/Pages/default.aspx); [*ITU-T Focus Group on Autonomous Networks (FG-AN)*](https://www.itu.int/en/ITU-T/focusgroups/an/Pages/default.aspx)*;* [*ITU-T Focus Group on Artificial Intelligence for Health (FG AI4H)*](https://www.itu.int/en/ITU-T/focusgroups/ai4h); [*ITU-T Focus Group on Artificial Intelligence (AI) and Internet of Things (IoT) for Digital Agriculture*](https://www.itu.int/en/ITU-T/focusgroups/ai4a/Pages/default.aspx) *(FG-AI4A), and ITU-T Focus Group on costing models for affordable data services (FG-CostingData)*.

**2.10** In the reporting period, TSB has not received reports or information on concerning any incidents covered by [WTSA Resolution 69](https://www.itu.int/net/ITU-T/res69/Default.aspx) on *“Non-discriminatory access and use of Internet resources”* (so far there have been [37 incidents since 2009](https://www.itu.int/net/ITU-T/res69/secured/notifications.aspx)).

**2.11** The TSB Director, Mr Seizo Onoe, was invited to and addressed the IETF #116 meeting on 29 March 2023 in Yokohama, Japan.

**2.12** ITU-D SG 1 and SG 2 continue their work on IP-related issues. New Q1/1 is working on *“Strategies and policies for the deployment of broadband in developing countries”* (merging former Q1/1 and Q2/1).

**2.13** Projects have been implemented successfully by BDT on Internet broadband wireless connectivity to provide free or low-cost digital access for schools and hospitals, and for underserved populations in rural and remote areas in selected countries. The impact for the countries where projects have been implemented includes but is not limited to:

* + Burundi: 10 cities connected in 2.5 GHz frequency band, 15 engineers trained for operations and maintenance, and 437 schools, hospitals and Government agencies connected.
	+ Djibouti: 20 cities connected in 2.5 GHz Frequency Band, and 48 Schools, 43 Hospitals/clinics and 23 Ministries connected.
	+ Eswatini: 4G LTE Broadband Wireless Network installed in 10 sites and 15 technical training sessions completed for local experts on the RF Monitoring and Planning and Operation and Maintenance of the deployed 4G LTE Broadband Wireless Network.

Other initiatives are also ongoing related to this subject such as GIGA and Partner2Connect. More information is available in [C23/35](https://www.itu.int/md/S23-CL-C-0035/en).

**2.14** ITU-R approved Recommendation ITU-R M.2083-0 *“IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond”*, Resolutions ITU-R 65 *“Principles for the process of future development of IMT for 2020 and beyond”* and ITU-R 66 *“Studies related to wireless systems and applications for the development of the Internet of Things”*, and Report ITU-R M.2440-0 *“The use of the terrestrial component of International Mobile Telecommunications for narrowband and broadband machine-type communications”*.

**2.15** Several training courses were provided through the [ITU Academy](https://academy.itu.int/) and the [ITU Centers of Excellence](https://academy.itu.int/itu-d/projects-activities/centres-excellence/coe-overview) network, covering topics such as “New Broadband Internet, Cloud Computing, IoT/AI and Future Services”, “The development of Industrial Internet”, “Smart Manufacturing: Internet of Things, Artificial Intelligence, Digital Twins In Industry 4.0”, “Key Aspects and Governance of Internet of Things, Big Data and Artificial Intelligence”, and “The Last Mile Internet Connectivity”. A total of 502 participants took those courses, of which 215 received a certificate.

# 3 IPv6

**3.1** The [ITU-T IPv6 webpage](https://www.itu.int/en/ITU-T/ipv6/Pages/default.aspx) highlights the IPv6 activities within ITU-T. Trainings/courses are being organized on all forms of IoT connectivity, including information security and privacy.

**3.2** BDT and Telecommunications and Post Regulatory Authority- of Sudan established a regional “ITU IPv6 and IoT Expertise Center for Arab Region” hosted by TPRA-Sudan to [provide trainings](https://www.itu.int/en/ITU-D/Regional-Presence/ArabStates/Pages/Projects/IPv6%26IoT/IPV6-IOT.aspx).

**3.3** BDT is also providing technical assistance on IPv6 to Montenegro. The IPv6 Laboratory is now operational at the University of Montenegro.

**3.4** BDT is providing assistance on IPv6 test bed implementation in Cameroon and in Congo. Technical assistance is being provided to Iraq, State of Palestine, Somalia, and Sudan for developing their national IPv6 transition strategies and the creation of national IPv6 task forces.

**3.5** BDT is also focusing on a special program to train the trainers on “IPv6 Over 5G Networks”. 31 participants completed the training and 20 have been certified.

**3.6** The [final report](https://www.itu.int/pub/D-STG-SG01.01.1-2017) in response to ITU-D SG 1 [Question 1/1](https://www.itu.int/net4/ITU-D/CDS/sg/rgqlist.asp?lg=1&sp=2014&rgq=D14-SG01-RGQ01.1&stg=1) is available and explores through case studies the experiences of countries in transitioning from IPv4 to IPv6. An [essential Guide](https://www.itu.int/en/ITU-D/Study-Groups/2018-2021/Pages/Publications.aspx) is available in order to assist developing countries to implement IPv6 over 5G Networks.

# 4 Internet-related public policy issues including the management of domain names and addresses

**4.1** The four-year report (2018-2022) of the [Council Working Group on international Internet-related public policy issues (CWG-Internet)](https://www.itu.int/en/council/cwg-internet/Pages/default.aspx) is presented in Document [C22/58](https://www.itu.int/md/S22-CL-C-0058/en).

**4.2** ITU participated in the 17th IGF meeting held in Addis Ababa, Ethiopia from 28 November to 2 December 2022, including the opening ceremony and high-level sessions, and organized sessions on Connect2Recover, WSIS Forum 2023 Open Consultation, the GovStack Open Forum, and Digital Skills for Protection and Participation Online.

**4.3** ITU continues to follow the issue of protecting IGO names and acronyms in any new gTLDs, as part of the IGO coalition composed of 35 IGOs including OECD, UN, UPU, WHO, WIPO, and the World Bank.

**4.4** In allthe activities listed in the various sections of this Report, particularly with regard to beneficiary countries on IPv6, broadband and capacity building activities, ITU aims to address the challenges faced by landlocked developing countries as per the Vienna Programme of Action.

**4.5** ITU has changed its focal point for ICANN, including GAC, to Mr. Preetam Maloor from the General Secretariat. ITU continues to actively follow discussions in GAC as an observer.

# 5 ENUM

# [Updated Information on ENUM](http://www.itu.int/ITU-T/inr/enum/) is being maintained by ITU-T. ITU-T SG2 is continuing work on a new draft Recommendation to differentiate between ENUM and Infrastructure ENUM. ITU-T SG2 is continuing work on a new draft Recommendations ITU-T E.A-ENUM, “Principles and procedures for the administration of E.164 country codes for registration into the Domain Name System” and ITU-T E.ENUMINF *“Differentiating between ENUM and Infrastructure ENUM”*. In November 2021 ITU-T SG2 liaised with RIPE NCC on ENUM and Interim procedures for Geographic Country Codes, seeking clarification on the purpose of the RIPE Database as a provisioning tool for the ENUM Tier 0 registry, and whether this has any effect on the Interim procedures for the delegation of Geographical Country Codes (updated in February 2019).

# 6 International Internet Connectivity (IIC)/Internet Exchange Points (IXPs)

# BDT continues its work on providing assistance on IXP related issues. IXPs locations are available at the ICT Infrastructure interactive mapping: <https://bbmaps.itu.int/bbmaps/>.

# 7 OTT

**7.1** Under **ITU-D Q3/1**, work continues on *“Emerging technologies, including cloud computing, m-services and OTTs: Challenges and opportunities, economic and policy impact for developing countries”*.

**7.2** **ITU-T SG2** is progressing two work items on OTTs (TR.OTTnum *“Current use of E.164 numbers as identifiers for OTTs”*, and draft Recommendation ITU-T E.ACP *“Alternative calling procedures”*)

**7.3** **ITU-T SG3** approved one regional Recommendation for Africa on OTT voice bypass and is currently working on two Technical Reports to study the economic and policy aspects of OTTs.

**7.4** An ITU workshop on [“Economic and fiscal incentives to accelerate digital transformation of data and applications over telecommunication infrastructure”](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/2022/1103/Pages/default.aspx), was held from 3 to 4 November 2022 in Geneva.

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1. These are the total number of new/revised ITU-T Recommendations and other texts that have been approved between 1 March 2022 to 20 April 2023. [↑](#footnote-ref-1)