

Executive Summary of the ITU-T Study Group 20 Meeting (Geneva, 30 January - 10 February 2023)

Numbers and other links

- **Participants:** 331. The SG20 meeting was held physically in Geneva with remote participation via [MyMeetings \(TD415\)](#).
- **Contributions:** 125
- **TDs** (not counting the revisions): 323
- **Incoming/ Outgoing liaison statements:** 64 incoming liaison statements / 33 outgoing liaison statements [TD387-R6](#) (also see [LS database](#)).

Main discussions and results

At its meeting held from 30 January - 10 February 2023 in Geneva, Switzerland, ITU-T Study Group 20 achieved the following outcomes:

- **Recommendation approved:** 2
- **Consented Recommendations:** 10
- **Recommendations Determined:** 6
- **Recommendations agreed for Deletion:** None at this meeting
- **Other texts approved:** 2
- **New work items:** 14

Major accomplishments

Approval of the report of the last ITU-T SG20 meeting

The report of the ITU-T SG20 meeting held in Geneva, 18-28 July 2022 was approved as contained in [Report 1](#).

Approved Recommendations by ITU-T SG20 (TAP-WTSA-20 Resolution 1)

ITU-T Rec. Number	Title	Question	Report/ TD
ITU-T Y.4601	Requirements and capability framework of digital twin for smart firefighting	Q2/20	TD548
ITU-T Y.4500.3	oneM2M - Security solutions	Q6/20	Report3

Recommendations consented by ITU-T SG20 for Last Call (AAP - Recommendation ITU-T A.8)

The ITU-T SG20 plenary meeting gave consent (AAP) to a number of draft new ITU-T Recommendations according to Recommendation ITU-T A.8:

Revised Recommendations

ITU-T Rec. Number	Title	Question	TD
ITU-T Y.4560	Blockchain-based data exchange and sharing for supporting Internet of things and smart cities and communities	Q4/20	TD613-R1

New Recommendations

ITU-T Rec. Number	Provisional name	Title	Question	TD
ITU-T Y.4218	Y.SRC	IoT and ICT requirements for deployment of smart services in rural communities	Q2/20	TD623-R1
ITU-T Y.4219	Y.ACC-UI-req	Accessibility requirements for user interface of smart applications supporting IoT	Q2/20	TD605-R1
ITU-T Y.4220	Y.AEDS-smarthome	Requirements and capability framework of abnormal event detection system for smart home	Q2/20	TD622-R1
ITU-T Y.4485	Y.smart-education	Requirements and Reference Architecture of Smart Education	Q3/20	TD599-R1
ITU-T Y.4486	Y.IoT-DES-fr	Framework of cross edge decentralized service by using DLT and edge computing technologies for IoT devices	Q3/20	TD598
ITU-T Y.4602	Y.DPM-framework	Data processing and management framework for IoT and smart cities and communities	Q4/20	TD596-R4
ITU-T Y.4603	Y.DPM-qm	Requirements and functional model to support data quality management in IoT	Q4/20	TD627-R1
ITU-T Y.4909	Y.IoT-SQAF	Assessment framework of IoT sensing quality	Q7/20	TD606-R2

ITU-T Y.4910	Y.MM-DSC- SSC	Maturity model of digital supply chain for smart sustainable cities	Q7/20	TD610-R2
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Agreed informative texts

ITU-T Sup. Number	Draft Supplement for agreement	Title	Question	TD
2023- YSTR.BP- DTw	YSTR.BP-DTw	Best Practices for Graphical Digital Twins of Smart Cities	Q1/20	TD666
ITU-T Y.Suppl.73	Y.Sup.DTw- concept-usecase	Concept and use cases of a digital twin in smart sustainable cities	Q7/20	TD572-R2

Recommendations determined

ITU-T Rec. Number	Provisional name	Title	Question	TD
ITU-T Y.4221	Y.ElecMon-Reqts	Requirements of IoT-based electric power infrastructure monitoring system	Q2/20	TD611-R1
ITU-T Y.4222	Y.smart-evacuation	Framework of smart evacuation in a disaster and/or an emergency in smart cities and communities	Q2/20	TD612-R2
ITU-T Y.4223	Y.SCC-Reqts	Common requirements and capabilities of smart cities and communities from IoT and ICT perspectives	Q2/20	TD620-R1
ITU-T Y.4487	Y.RMDFS-arch	Functional architecture of roadside multi-sensor data fusion systems for autonomous vehicles	Q3/20	TD597-R1
ITU-T Y.4488	Y.IoT-SPWE	Framework of IoT services for safety protection of working environment	Q4/20	TD639-R2

ITU-T Y.4604	Y.IoT-MCSI	Metadata for camera sensing information of autonomous mobile IoT devices	Q4/20	TD586-R2
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New work items

TD reference	Question	Rec/Tech.Rep./Suppl	Working title	Title
TD634-R1 [A.1 TD633-R1]	Q2/20	Recommendation	Y.PGComNet-Reqts	Requirements of IoT-based power grid communication network
TD637-R1 [A.1 TD636-R1]	Q2/20	Recommendation	Y.energy-storage	Requirements and capability framework of energy storage service for residential community in smart city
TD670-R2 [A.1 TD670-R2]	Q2/20	Recommendation	Y.dt-SComCam	Common requirements and capability framework of digital twin for smart complex and campus
TD679-R1 [A.1 TD679-R1]	Q2/20	Recommendation	Y.RemoteEd	Requirements, capabilities and architectural framework for digital/ online learning in remote campuses
TD701 [A.13 TD700]	Q2/20	Technical Report	YSTR.Ambient IoT	Analysis on requirements and use cases of ambient power-enabled IoT

TD632-R1 [A.13 TD631-R1]	Q2/20	Supplement	Y.Sup.SmartAqua-usecases	Use cases of IoT-based smart aquaculture
TD595 [A.1 TD594]	Q3/20	Recommendation	Y.IoT-DPE	Management framework for IoT-based distributed power equipment
TD593-R2 [A.1 TD592-R2]	Q3/20	Recommendation	Y.arc-psfws	A functional architecture of power supply facilities warning system
Y.4480 [A.1 TD659-R2]	Q3/20	Recommendation	Y.4480Rev	Low power protocol for wide area wireless networks
TD601-R2 [A.1 TD600-R2]	Q4/20	Recommendation	Y.dem-IoT	Data exchange model for IoT devices in power transmission and transformation equipment
TD589-R2 [A.1 TD588-R2]	Q4/20	Recommendation	Y.CSDL	Requirements and framework for crowdsourced system based on distributed learning
TD609 [A.1 TD608]	Q6/20	Recommendation	Y.IoT-acs-fra	Functional requirements and architecture of access control service of IoT platform enabled by zero trust technology in decentralized environments

TD561-R2 [A.13 TD560-R2]	Q7/20	Supplement	Y.Sup.MM-EDMC-SSC	Maturity model of digital management capability of industrial equipment used in smart sustainable cities
TD559-R1 [A.1 TD558-R1]	Q7/20	Recommendation	Y.KHI-PE	Key health indicators and evaluation model for power equipment in Smart Sustainable Cities

Contributions

The full list of Contributions can be found in [TD388](#).

Highlights of TSAG and Plenipotentiary Conference

TSB provided a brief overview of the highlights of TSAG and Plenipotentiary Conference. The following TDs were presented and noted:

- [TD516](#) - Highlights of the ITU Plenipotentiary Conference (Bucharest, 26 September – 14 October 2022) relevant to ITU-T SG20
- [TD517](#) - Highlights of TSAG (Geneva, 12-16 December 2022) relevant to ITU-T SG20

Map of Working Party Meeting reports

	WP1/20	WP2/20
Meeting Report (including a summary of Questions' results) & Work Programme	TD399-R4	TD400-R2

Map of Question Meeting reports

Question	TD
Q1/20	TD401-R2
Q2/20	TD402-R1
Q3/20	TD403-R3

Q4/20	TD404-R2
Q5/20	TD405-R5
Q6/20	TD406-R3
Q7/20	TD407-R3

List of current and future stale work items

TSB provided information on the list of current and future stale work items as contained in [TD386-R2](#). The Rapporteurs of the concerned Questions were encouraged to discuss these work items during their sessions and take appropriate action when needed. [TD386-R2](#) provides information on the results of the discussions concerning the current and future stale work items.

Work Programme

The updated work programme can be found [here](#).

Rapporteur group meetings (including e-meetings)

The complete list of planned meetings and e-meetings can be found at: <http://www.itu.int/net/ITU-T/lists/rgm.aspx?Group=20&type=interim>

Updates in the ITU-T SG20 management team and Rapporteurs

- Click [here](#) for the complete list of SG20 management team
- Click [here](#) for the complete list of SG20 Rapporteurs and Associate Rapporteurs.
- Click [here](#) for the complete list of SG20 Liaison Rapporteurs and other representative roles.

[TD699](#) - List of SG20 Rapporteurs and Associate Rapporteurs

- Mr Xiongwei Jia, China Unicom, has been appointed as Q6/20 Co-Rapporteur
- Ms Rana Kamill, British Telecom, has been appointed as Q6/20 Associate rapporteur

[TD418-R1](#) - List of SG20 Liaison representatives and other roles

- Mr Chao Ma, China Academy of Information and Communications Technology (CAICT), has been appointed as Liaison officer to CITS and LoRa Alliance
- Mr Gyu Myoung Lee, has been appointed as Liaison officer to Joint Coordination Activity on Machine Learning (JCA-ML)
- Mr Jun Seob Lee, has been appointed as Liaison officer to Joint Working Group on City Information Modelling and Urban Digital Twins (JWG CIM and UDT)

ITU-T SG20 Regional Groups

ITU-T SG20 Regional Group for Africa (SG20RG-AFR)

It was noted that there are no updates for SG20RG-AFR.

ITU-T SG20 Regional Group for the Arab Region (SG20RG-ARB)

It was noted that there are no updates for SG20RG-ARB.

ITU-T SG20 Regional Group for Latin America (SG20RG-LATAM)

It was noted that there are no updates for SG20RG-LATAM.

ITU-T SG20 Regional Group for Eastern Europe, Central Asia and Transcaucasia (SG20RG-EECAT)

It was noted that there are no updates for SG20RG-EECAT.

ITU-T SG20 Regional Group for Asia Pacific (SG20RG-AP)

The Ministry of Communication (India) submitted a contribution ([C225-R1](#)) for the establishment of an ITU-T SG20 Regional Group for Asia & Oceania region to the ITU-T Study Group 20 Meeting (Geneva, 30 January – 10 February 2023).

Based on the discussions during the ITU-T SG20 Plenary on 30 January 2023, an ad-hoc session was convened on 1 February 2023 to further streamline the terms of reference of the proposed regional group. The output of the ad-hoc session is contained in [TD590](#).

During the SG20 plenary that took place on 08 February 2023, it was agreed to create the new ITU-T SG20 Regional Group for Asia Pacific (SG20RG-AP).

The ITU-T SG20 Regional Group for Asia Pacific (SG20RG-AP) – SG20RG-AP Management team, Terms of Reference and list of Member States is contained in [TD711-R1](#).

See the SG20RG-AP webpage available [here](#).

WTSA-24 preparations

Following the agreement from the last ITU-T Study Group 20 meeting (Geneva, 18-28 July 2022) to conduct preparations for the next Study Period including preparing a proposal, as contained in [TD382](#), the following ad-hoc sessions were chaired by Dr Shane He and took place:

- 2 February 2023, 1400-1530 hours, Geneva time
- 7 February 2023, 1400-1530 hours, Geneva time

The following documents have been presented and discussed during the ad-hoc session:

- [TD519](#) – LS/i on a progress report on the analysis of ITU-T study group restructuring [from TSAG]
Note: Statistics regarding ITU-T study group work can be found as follows just for information:
 - [TSAG-TD25/GEN](#) which provides Statistics regarding ITU-T study group work
 - [TSAG-TD26/GEN](#) which provides ITU-T study group Question level statistics
- [TD557](#) - Draft agenda for Ad-hoc sessions on WTSA-24 preparations (Geneva, 2 and 7 February 2023)
- [TD544](#) - Document to facilitate discussions on ITU-T SG20 Mandate and Structure (Study Period 2025-2028)

The output of the ad-hoc sessions is contained in [TD544-R2](#). This TD was presented during the SG20 plenary that took place on 8 February 2023 and it was agreed that it will be used as

a guiding document to review the points of guidance, ToR of Questions, SG20 mandate and lead roles. A series of e-meetings will take place on:

- 20 March 2023, 13:00-15:00 hours, Geneva time
- 25 April 2023, 13:00-15:00 hours, Geneva time
- 6 June 2023, 13:00-15:00 hours, Geneva time
- 18 July 2023, 13:00-15:00 hours, Geneva time

Focus Group related to Artificial Intelligence (AI) and Internet of Things (IoT) for Digital Agriculture

FG-AI4A Co-Chairmen, Dr Ramy Fathy and Dr Sebastian Bosse, presented the FG-AI4A Progress Report (from March to July 2022), as contained in [TD549](#). The Progress Report provided information on the outcomes of the first and second meetings of FG-AI4A, including the establishment of six Working Groups and five Topic Groups. It also included a proposed timeline for the completion of its deliverables.

Collaboration matters and information sharing

- **Collaboration with LoRa Alliance**
 - During the JCA IoT and SC&C meeting, LoRa Alliance provided an update on their activities and shared information on their approval process.
 - LoRa Alliance experts attended the Q3/20 sessions and contributed to the discussions surrounding the revision of Recommendation ITU-T Y.4480.
- **Digital Transformation Resource Hub**
 - The newly created Digital Transformation Resource Hub provides a wide range of quality publications on digital transformation topics, including smart sustainable cities, cities' actions to tackle COVID-19, artificial intelligence, Internet of things, blockchain, digital twin, metaverse and digital transformation trends. All resources are freely available to all. It can be found at: <https://www.itu.int/cities/dt-resource-hub/>.

Joint IEC-ISO-ITU Smart Cities Task Force (J-SCTF)

[TD543](#) on “Update on Joint IEC-ISO-ITU Smart Cities Task Force (J-SCTF) activities” was presented during the JCA IoT and SC&C meeting.

ITU-T SG20 is participating to J-SCTF activities along with IEC SyC on smart cities and ISO/TC 268. It was announced that the mapping exercise on the existing SDOs work in smart and sustainable cities was carried out by J-SCTF. Through this mapping exercise, J-SCTF identified 114 international standards and Recommendations for smart cities and classified them into 17 categories. An email will be sent in few weeks through SG20 mailing list asking for SG20 experts' input and feedback on this mapping exercise.

Correspondence Group for Artificial intelligence of Things Activities (CG-AIoT)

A CG-AIoT Session took place on 01 February 2023, 14:00-15:30 hours, Geneva time.

In the SG20 closing plenary, the meeting report ([TD696-R1](#)) was approved along with the lifetime extension until the next SG20 meeting to be held on 13-22 September 2023.

Joint Coordination Activity on Internet of Things and Smart Cities and Communities (JCA-IoT and SC&C)

The twenty seventh meeting of the JCA-IoT and SC&C took place on 31 January 2023, under the Chairmanship of Mr Fabio Bigi and Mr Toru Yamada. All the meeting documents can be found [here](#). The Final Report of the 27th JCA-IoT and SC&C meeting can be found [here](#).

The following TDs were presented during the JCA IoT and SC&C meeting:

- [TD419](#) - United for Smart Sustainable Cities (U4SSC) initiative was presented by the SG20 Counsellor.
- [TD539](#) - Liaison report for Joint Working Group on City Information Modelling and Urban Digital Twins was presented by Jun Seob Lee, Liaison Rapporteur.
- [TD538](#) - Liaison report for ITU-T JCA-DCC was presented by Jun Seob Lee, Liaison Rapporteur.

The report which was presented by Mr Toru Yamada, JCA-IoT SC&C Co-Convener, has been also approved as contained in [TD668-R1, along with one outgoing Liaison Statement listed below](#).

- [TD667](#) – JCA-IoT and SC&C Draft LS/o on New version 2.0 of the JCA IoT and SC&C standards roadmap [to various entities].

The next JCA IoT SC&C meeting is planned to take place in conjunction with the next SG20 meeting to be held in in September 2023.

Promotion activities and bridging the standardization gap

- Bridging the standardization gap
 - A Bridging the Standardization Gap training session for SG20 delegates took place on 31 January 2023.
- The [SG20 Newcomer's Session](#) took place on 31 January 2023. The presentations delivered are contained in [TD410](#) and are available [HERE](#).
- [Webinar series on Digital transformation](#)
 - Upcoming episodes:
 - [Episode #21: Digital Agriculture: Driving Digital Transformation for Food Security coordinated with Food and Agriculture Organization \(FAO\) and International Organization for Standardization \(ISO\) \(17 February 2023\)](#)

Future events and dates of next ITU-T Study Group 20 meeting and Regional Group meetings:

- A series of meetings and e-meetings will take place in 2023-2024; and
- The next meeting of ITU-T SG20 is planned to take place on 13-22 September 2023, in Tanzania.