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| A black and white logo  Description automatically generated with low confidence | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2022-2024 | | | TSAG-TD495R2 |
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| **Title:** | | | Report of activities in ITU-T (from January to July 2024) | |
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| **Abstract:** | This report summarizes TSB facilitation of ITU-T activities from January to July 2024. |

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# Executive Summary

ITU approved [218 new and revised ITU-T Recommendations and related texts](https://www.itu.int/ITU-T/workprog/wp_search.aspx?isn_sp=8265&isn_status=-1,7,2&adf=2024-01-01&adt=2024-07-22&details=0&field=acdefghijo) from January to 22 July 2024. Executive summaries of ITU-T study group meetings can be found on their respective [homepages](https://www.itu.int/en/ITU-T/studygroups/Pages/default.aspx). See [section 1](#_1_Achievements_in). Five ITU-T focus groups completed studies in the reporting period. Information on the activities and deliverables of ITU-T focus groups can be found on their respective [homepages](https://www.itu.int/en/ITU-T/focusgroups/Pages/default.aspx). An index of focus groups and their timeframes is provided in [section 2](#_2_ITU-T_Focus).

63 ITU-T [workshops and symposia](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/Pages/default.aspx) were organized in the reporting period, in addition to the near-daily programming of the year-round [AI for Good](https://aiforgood.itu.int/) digital platform. See [section 3](#_3_Workshops,_symposia). TSB facilitated 3,548 e-meetings with 32,847 connections from January to mid-July 2024. For a comprehensive report on electronic working methods services and database applications, including the fifth version of [MyWorkspace](https://www.itu.int/myworkspace/), see [TD498](https://www.itu.int/md/T22-TSAG-240729-TD-GEN-0498/en). See [section 4](#_4_Electronic_working).

ITU-T hosts 269 Sector Members and 233 Associates. ITU Academia members now total 169. 73 of ITU-T's Associates are participating under the reduced fee structure for small and medium-sized enterprises which came into effect on 31 January 2020. See [section 11](#_8_Membership).

Discussions at the [AI for Good Global Summit](https://aiforgood.itu.int/summit24/) in Geneva, 30-31 May 2024, and [AI Governance Day](https://aiforgood.itu.int/summit24/programme/#day0) on 29 May emphasized that standards development and capacity building will make foundational contributions to global AI governance. See [key reports](https://aiforgood.itu.int/newsroom/publications-and-reports/) published in connection with the 2024 summit. The summit was held conjunction with the [World Summit on the Information Society +20 meeting](https://www.itu.int/en/itu-wsis/Pages/default.aspx) in Geneva, 27-31 May, with the aim of ensuring complementary perspectives on digital development. See [section 5.1](#_5.1_Artificial_intelligence).

At the summit, ITU, the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) highlighted their commitment to providing a unified framework for AI standards development and a new [multistakeholder initiative](https://www.worldstandardscooperation.org/standards-collaboration-on-ai-watermarking-multimedia-authenticity-and-deepfake-detection/) was announced to support coordinated standards development for AI watermarking, multimedia authenticity, and deepfake detection. The initiative currently includes the Content Authenticity Initiative, Coalition for Content Provenance and Authenticity, Internet Engineering Task Force, ITU, ISO and IEC. See [section 5.1](#_5.1_Artificial_intelligence).

The [AI for Good Impact Initiative](https://aiforgood.itu.int/impact-initiative/) launched at the summit aims to expand the scope and impact of AI applications for sustainable development. The initiative will link AI innovators with opportunities to scale and fund promising AI solutions for every UN Sustainable Development Goal (SDG) equally across every region. Activities will include regional AI for Good Impact events; global competitions to crowdsource AI solutions and boost AI expertise; research and policy guidance on AI for sustainable development; and accelerators for start-ups and small and medium-sized enterprises. See [section 5.1](#_5.1_Artificial_intelligence).

Over 36,000 people have created profiles on the [AI for Good Neural Network](https://aiforgood.itu.int/neural-network/) since its launch in February 2022. See [section 5.1](#_5.1_Artificial_intelligence).

The problem-solving competitions of ITU's AI/ML Challenges are contributing to the development of AI/ML expertise and capabilities around the world. The majority of participants are students from developing countries. These competitions have welcomed over 8,000 participants and received over 23,000 submissions since their launch in 2020. See [section 5.1](#_5.1_Artificial_intelligence).

[ITU Security Clinics for Digital Financial Services (DFS)](https://figi.itu.int/itu-dfs-security-clinics/) offer guidance to regulators and DFS providers on adopting the security best practices developed under the [Financial Inclusion Global Initiative (FIGI)](https://figi.itu.int/). The [ITU DFS Security Lab](https://figi.itu.int/figi-resources/dfs-security-lab/) helps stakeholders to verify that these best practices are being followed. A growing number of countries as well as regional organizations are adopting the DFS security recommendations developed under FIGI and establishing their own DFS security labs with the support of ITU knowledge-transfer activities. See [section 5.2](#_5.2_Artificial_intelligence).

The [ITU Blockchain Secure Authentication (BSA) Application Challenge](https://www.itu.int/en/ITU-T/dfs/seclab/Pages/challenge.aspx) organized jointly by ITU and FNSV Korea launched on 8 April 2024. The closing date for submissions is 1 August 2024. The challenge focuses on promoting the use of strong authentication in DFS to implement passwordless authentication and enhance security in authentication processes. The challenge aims to inspire developers to harness BSA for stronger, more secure authentication methods beyond traditional passwords. The challenge is hosted on [Zindi](https://zindi.africa/competitions/itu-digital-financial-services-blockchain-secure-authentication-application-challenge/discussions/20438). See [section 5.2](#_5.2_Artificial_intelligence).

The new[Global Initiative on Virtual Worlds - Discovering the CitiVerse](https://www.itu.int/metaverse/virtual-worlds/)announced at the first [UN Virtual Worlds Day](https://www.itu.int/metaverse/un-virtual-worlds-day/) in Geneva on 14 June 2024 will define norms and principles to guide the governance of metaverse solutions in cities for areas such as urban planning, education, and municipal services. Led by ITU, the UN International Computing Centre and Digital Dubai, the initiative will drive capacity development, facilitate sharing of best practices, and develop a sandbox environment for cities to simulate virtual world scenarios. The initiative will build on the work of the [ITU-T Focus Group on metaverse](https://www.itu.int/en/ITU-T/focusgroups/mv/Pages/default.aspx) and complement the work of [ITU-T Study Group 20​](https://www.itu.int/en/ITU-T/about/groups/2022-2024/Pages/sg20.aspx) and the [United for Smart Sustainable Cities (U4SSC) initiative](https://u4ssc.itu.int/). A new [UN Executive Briefing​](https://www.itu.int/net/epub/TSB/2024-UN-Executive-Briefing-on-unlocking-potential/index.html#p=1) launched at UN Virtual Worlds Day highlights the relevance of virtual worlds and the metaverse to the SDGs. See [section 5.3](#_5.3_Digital_transformation).

[ITU Digital Transformation Dialogues](https://www.itu.int/cities/digitaltransformationdialogues/) feature fireside chats, ask the expert sessions and webinars on wide-ranging dimensions of digital transformation and supporting ITU standards. 17 dialogues have been held in 2024. The [U4SSC initiative](http://www.itu.int/en/ITU-T/ssc/united/Pages/default.aspx) is supported by 19 UN bodies with the aim of achieving the SDG11 ("Make cities and human settlements inclusive, safe, resilient and sustainable"). Over 150 cities have adopted [U4SSC Key Performance Indicators](https://www.itu.int/en/ITU-T/ssc/united/Pages/publication-U4SSC-KPIs.aspx) based on ITU standards. The results of these evaluations are shared by [city snapshots, factsheets, verification reports and case studies](https://www.itu.int/en/ITU-T/ssc/united/Pages/publication-U4SSC-KPIs.aspx). [New reports](https://www.itu.int/cities/publications/) published in 2024 include "U4SSC guiding principles for AI in cities". See [section 5.3](#_5.3_Digital_transformation).

The [ITU-T Focus Group on AI for Natural Disaster Management](https://www.itu.int/en/ITU-T/focusgroups/ai4ndm/Pages/default.aspx) will be succeeded by a new "Global Initiative Resilience to Natural Hazards through AI Solutions". The initiative will be led by ITU, the UN Environment Programme, UN Framework Convention on Climate Change, the Universal Postal Union and the World Meteorological Organization. The initiative will explore AI use cases for resilience, provide expert guidance, and support research, innovation, and standards development. It also aims to create an AI readiness framework to assess and improve national capacities for using AI in disaster management. See [section 5.4](#_5.4_Resilience_to).

The latest edition of the [Future Networked Car Symposium](https://fnc.itu.int/) organized by ITU and the UN Economic Commission for Europe was held online from 11 to 14 March 2024. The [expert group on communications technology for automated driving](https://www.itu.int/en/ITU-T/extcoop/cits/Pages/egcomad.aspx) under the ITU-led [Collaboration on ITS Communication Standards](https://www.itu.int/en/ITU-T/extcoop/cits/Pages/default.aspx) established its first working group during the reporting period on [vehicular communications for merging automatically into congested lanes](https://www.itu.int/en/ITU-T/extcoop/cits/egcomad/wg01/Pages/default.aspx). See [section 5.5](#_5.3_Smart_cities).

[ITU Academia membership](https://www.itu.int/hub/membership/), the [ITU Journal on Future and Evolving Technologies](https://www.itu.int/en/journal/j-fet/Pages/default.aspx) and [ITU Kaleidoscope conferences](https://www.itu.int/en/ITU-T/academia/kaleidoscope/Pages/default.aspx) form key avenues for academics to engage in ITU’s work. See [section 6](#_4_Academia).

The ITU Journal – free of charge to both readers and authors – offers comprehensive coverage of communications and networking. The first two of the journal's quarterly issues for 2024 were published in the reporting period. Volume 5, Issue 2 explores the future of satellite communications in view of the paradigm shift from traditional geostationary satellite services to multi-layered space networks. Volume 5, Issue 1 explores innovations for networks to achieve high performance, energy efficiency, and security while serving a diverse range of devices. The journal includes [recorded webinar discussions](https://www.itu.int/en/journal/j-fet/webinars/Pages/default.aspx) with researchers and industry leaders and 10 such webinars were held in 2024. See [section 6.1](#_6.1_ITU_Journal).

[ITU Kaleidoscope 2024: Innovation and digital transformation for a sustainable world](https://www.itu.int/en/ITU-T/academia/kaleidoscope/2024/Pages/default.aspx) will be held in conjunction with WTSA-24 in New Delhi, India. It will place emphasis on how international standards can contribute to the achievement of the SDGs. The conference has received over 140 submissions. See [section 6.2](#_6.2_ITU_Kaleidoscope).

ITU's re-envisioned [Bridging the Standardization Gap (BSG) Programme](https://www.itu.int/en/ITU-T/gap/Pages/default.aspx) includes two main strategic pillars – *Development* and *Implementation –* supported by *Resources* and *Partnership*. Japan's Ministry of Internal Affairs and Communications continues to fund the BSG programme. 173 fellowships were requested from January to June 2024 and 89 were awarded. For BSG activities undertaken in the reporting period, see [section 9](#_9_Bridging_the).

TSB remains dedicated to integrating a gender perspective in all of its activities and programmes, leveraging the framework of ITU Gender Task Force and the [Network of Women in ITU-T (NoW in ITU-T)](https://www.itu.int/en/ITU-T/NoW/Pages/default.aspx). Gender parity objectives for WTSA-24, supported by the NOW4WTSA-24 campaign, encourage Member States to pledge support for growth in the number of women in ITU-T leadership positions and the target of 35 per cent female participation at WTSA-24. Six Regional Representatives have been appointed by Regional Telecommunication Organizations since the last meeting of TSAG. For a comprehensive report on TSB activities on gender, see [TD556](https://www.itu.int/md/T22-TSAG-240729-TD-GEN-0556/en). See [section 10](#_10_Gender).

TSB discussions with ITU-T study groups are raising awareness of ITU’s commitment to human rights and due consideration of human rights in ITU standards development processes. TSB is maintaining associated collaboration with the Office of the United Nations High Commissioner for Human Rights and participating in discussions of the Human Rights Council. See [section 11](#_11_Human_rights).

14 testing labs with competence to test the conformance of products with ITU-T Recommendation have been listed in the [ITU Testing Laboratories Database](https://itu.int/go/tldb) for ITU-recognized facilities. The testing lab recognition scheme, supported by the [ITU-T Conformity Assessment Steering Committee](https://www.itu.int/en/ITU-T/studygroups/com11/casc/Pages/default.aspx), is an initiative under the [ITU Conformity and Interoperability programme](https://www.itu.int/en/ITU-T/C-I/Pages/default.aspx). See [section 7](#_7_Conformity_and).

Over 200 ITU-T Recommendations and Supplements were published in the reporting period. TSB continues to collect all new terms and definitions proposed by ITU-T study groups, entering them into the online ITU Terms and Definitions database. TSB continues to translate all Recommendations approved under the Traditional Approval Process as well as all TSAG reports. On request, TSB translated six Recommendations approved under the Alternative Approval Process in the reporting period. See [section 12](#_14_Publications).

# Annex – Full report of activities in ITU-T in the study period

# 1 ITU-T study groups

## 1.1 Standards approved and study group meetings

ITU approved [218 new and revised ITU-T Recommendations and related texts](https://www.itu.int/ITU-T/workprog/wp_search.aspx?isn_sp=8265&isn_status=-1,7,2&adf=2024-01-01&adt=2024-07-22&details=0&field=acdefghijo) from January to 22 July 2024. For all ITU-T Recommendations in force, see the [catalogue of ITU-T Recommendations](https://www.itu.int/en/ITU-T/publications/Pages/recs.aspx).

Executive summaries of ITU-T study group (SG) meetings can be found on their respective [homepages](https://www.itu.int/en/ITU-T/studygroups/Pages/default.aspx). ITU-T study group meetings held in the reporting period:

* [SG2](https://www.itu.int/go/tsg2/): Geneva, 19-28 June 2024; online, 11 March 2024
* [SG3](https://www.itu.int/go/tsg3): Geneva, 9-18 July 2024
* [SG5](https://www.itu.int/go/tsg5): Wroclaw, Poland, 17-21 June 2024
* [SG9](https://www.itu.int/go/tsg9): Online, 9-17 May 2024
* [SG11](https://www.itu.int/go/tsg11): Geneva, 1-10 May 2024; online, 7 February 2024
* [SG12](https://www.itu.int/go/tsg12): Geneva, 16-25 April 2024
* [SG13](https://www.itu.int/go/tsg13): Geneva, 15-26 July 2024; Geneva, 4-15 March 2024
* [SG15](https://www.itu.int/go/tsg15): Montreal, Canada, 1-12 July 2024
* [SG16](https://www.itu.int/go/tsg16): Rennes, France, 15-26 April 2024
* [SG17](https://www.itu.int/go/tsg17): Online, 11-12 July 2024; Geneva, 20 February - 1 March 2024
* [SG20](https://www.itu.int/go/tsg20): Geneva, 1-12 July 2024

## 1.2 Non-attendance of vice-chairs

PP Resolution 208 (Rev. Bucharest, 2022) "Appointment and maximum term of office for chairmen and vice-chairmen of Sector advisory groups, study groups and other groups" resolves that a Sector advisory group, study group or other group shall be made aware of the non-attendance of Chairs and Vice-Chairs in their respective groups and raise the issue through the Director of the relevant Bureau with the members concerned in an attempt to encourage and facilitate participation in these roles.

No Chairs were absent from any meetings in the 2022-2024 study period.

The following table lists Vice-Chairs not in attendance at study group meetings held in the reporting period.

| **Study Group** | **Meeting** | **Non-attendance of** |
| --- | --- | --- |
| SG2 | Virtual, 11 March 2024 | Rashid AL MEMARI, United Arab Emirates |
| Yaw BOAMAH BAAFI, Ghana |
| Vijay Kumar ROY, India |
| Hossam SAKAR, Egypt |
| Ramazan YILMAZ, Turkey |
| SG2 | Geneva, 19 - 28 June 2024 | Hossam SAKAR, Egypt |
| SG3 | Geneva, 9 - 18 July 2024 | Omar ALNEMER, United Arab Emirates |
| SG5 | Wroclaw, 17 - 21 June 2024 | Vincent Urbain NAMRONA, Central African Rep. |
| Saidiahrol SAIDIAKBAROV, Republic of Uzbekistan |
| SG9 | Virtual, 9 - 17 May 2024 | Blaise MAMADOU, Central African Rep. |
| SG11 | Geneva, 1 - 10 May 2024 | Ibrahim Abdalah Mohamed BALA, Sudan |
| Juan Matias CATTANEO, Argentina |
| Arezu OROJLU, Iran |
| SG12 | Geneva, 16 - 25 April 2024 | Sergio Daniel D'UVA, Argentina |
| Edoyemi OGOH, Nigeria |
| SG13 | Geneva, 4 - 15 March 2024 | Bülent ARSAL, Turkey |
| Anabel DEL CARMEN CISNEROS, Argentina |
| SG15 | Montreal, 1 - 12 July 2024 | Emanuele NASTRI, Italy |
| SG16 | Rennes, 15 - 26 April 2024 | Charles Zoé BANGA, Central African Rep. |
| Ashok KUMAR, India |
| Akmal SAVURBAEV, Uzbekistan |
| SG17 | Geneva, 20 February - 1 March 2024 | Francisco Javier DÍAZ, Argentina |
| Gökhan EVREN, Turkey |
| SG17 | Virtual, 11 - 12 July 2024 | Laial ALMANSOURY, Kuwait |
| Francisco Javier DÍAZ, Argentina |
| Gökhan EVREN, Turkey, Argentina |
| Pushpendra Kumar SINGH, India |
| Wala TURKI LATROUS, Tunisia |
| SG20 | Geneva, 1 - 12 July 2024 | Héctor Mario CARRIL, Argentina |

# 2 ITU-T focus groups

The [ITU-T Focus Group on Cost Models for Affordable Data Services (FG-CD)](https://www.itu.int/en/ITU-T/focusgroups/cd/Pages/default.aspx), established in March 2023, continues its studies.

Below lists the ITU-T focus groups (FGs) that completed their studies during the 2022-2024 study period. Information on the activities and deliverables of each group can be found on their respective homepages. See also the [ITU-T focus groups homepage](https://www.itu.int/en/ITU-T/focusgroups/Pages/default.aspx).

|  |  |  |
| --- | --- | --- |
| **Concluded ITU-T focus groups** | **Start date** | **End date** |
| [AI and IoT for Digital Agriculture (FG-AI4A)](https://www.itu.int/en/ITU-T/focusgroups/ai4a/Pages/default.aspx) | 2021-10 | 2024-06 |
| [Metaverse (FG-MV)](https://www.itu.int/en/ITU-T/focusgroups/mv/Pages/default.aspx) | 2022-12 | 2024-06 |
| [Testbeds Federations for IMT-2020 and Beyond (FG-TBFxG)](https://www.itu.int/en/ITU-T/focusgroups/tbfxg/Pages/default.aspx) | 2021-12 | 2024-04 |
| [AI for Natural Disaster Management (FG-AI4NDM)](https://www.itu.int/en/ITU-T/focusgroups/ai4ndm/Pages/default.aspx) | 2020-12 | 2024-03 |
| [Autonomous Networks (FG-AN)](https://www.itu.int/en/ITU-T/focusgroups/an/Pages/default.aspx) | 2020-12 | 2024-01 |
| [AI for Health (FG-AI4H)](https://www.itu.int/en/ITU-T/focusgroups/ai4h/Pages/default.aspx) | 2018-07 | 2023-09 |
| [Environmental Efficiency for AI and other Emerging Technologies (FG-AI4EE)](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Pages/default.aspx) | 2019-05 | 2022-12 |
| [AI for Autonomous and Assisted Driving (FG-AI4AD)](https://www.itu.int/en/ITU-T/focusgroups/ai4ad/Pages/default.aspx) | 2019-10 | 2022-09 |
| [Vehicular Multimedia (FG-VM)](https://www.itu.int/en/ITU-T/focusgroups/vm/Pages/default.aspx) | 2018-07 | 2022-09 |

# 3 Workshops, symposia and webinars

63 ITU-T workshops, symposia and webinars were organized in the reporting period, in addition to the weekly programming of the year-round [AI for Good](https://aiforgood.itu.int/) digital platform. A listing of all past and planned events can be found on the [ITU-T workshops homepage](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/Pages/default.aspx). For all Digital Transformation Dialogues, see dedicated [web page](https://www.itu.int/cities/digitaltransformationdialogues/).

ITU-T workshops, symposia and webinars discuss emerging trends in standardization, increase the visibility of ITU-T work, enhance ITU-T collaboration with other bodies, attract and recruit new ITU-T members, and encourage peer-learning relevant to the development and implementation of international standards.

# 4 Electronic working methods and virtual meetings

For a comprehensive report on electronic working methods services and database applications, including the fifth version of [MyWorkspace](https://www.itu.int/myworkspace/), see [TD498](https://www.itu.int/md/T22-TSAG-240729-TD-GEN-0498/en).

Statistics on e-meetings since 2020 are shown below.

* 2020: 4,220 e-meetings; 77,693 connections
* 2021: 4,671 e-meetings; 87,302 connections
* 2022: 5,430 e-meetings; 78,270 connections
* 2023: 4,143 e-meetings; 68,734 connections
* 2024: 3,548 e-meetings; 32,847 connections (\*until mid-July 2024)

Figure 1 – Remote participation and e-meetings

# 5 Updates on collaboration initiatives

Memoranda of Understanding and Cooperation Agreements are available on the [external cooperation web page](https://www.itu.int/en/ITU-T/extcoop/Pages/mou.aspx).

## 5.1 Artificial intelligence and machine learning

[AI for Good](https://aiforgood.itu.int/) is the United Nations' primary platform for artificial intelligence (AI). It is the world’s premier platform to advance AI’s contribution to sustainable development. AI for Good is supported by 40 UN partners and a range of industry sponsors, and co-convened by the government of Switzerland.

**AI for Good Global Summit 2024:** Discussions at the [AI for Good Global Summit](https://aiforgood.itu.int/summit24/) in Geneva, 30-31 May 2024, and [AI Governance Day](https://aiforgood.itu.int/summit24/programme/#day0) on 29 May emphasized that standards development and capacity building will make foundational contributions to global AI governance.

The summit showcased innovations in generative AI, robotics, and brain-machine interfaces that can accelerate progress in areas such as climate action, accessibility, health, education and disaster response. The summit was held conjunction with the [World Summit on the Information Society (WSIS) +20 meeting](https://www.itu.int/en/itu-wsis/Pages/default.aspx) in Geneva, 27-31 May, with the aim of ensuring complementary perspectives on digital development.

ITU, ISO and IEC highlighted their commitment to providing a unified framework for AI standards development and a new [multistakeholder initiative](https://www.worldstandardscooperation.org/standards-collaboration-on-ai-watermarking-multimedia-authenticity-and-deepfake-detection/) was announced to support coordinated standards development for AI watermarking, multimedia authenticity, and deepfake detection. The initiative currently includes the Content Authenticity Initiative, Coalition for Content Provenance and Authenticity, Internet Engineering Task Force, ITU, ISO and IEC.

The [AI for Good Impact Initiative](https://aiforgood.itu.int/impact-initiative/) launched at the summit aims to expand the scope and impact of AI applications for sustainable development. The initiative will link AI innovators with opportunities to scale and fund promising AI solutions for every SDG equally across every region. Activities will include regional AI for Good Impact events; global competitions to crowdsource AI solutions and boost AI expertise; research and policy guidance on AI for sustainable development; and accelerators for start-ups and small and medium-sized enterprises.

The summit also included the AI for Good Innovation Factory 2024 Grand Finale and the Robotics for Good Youth Challenge. For more information, see the [AI for Good Summit Snapshot Report](https://s41721.pcdn.co/wp-content/uploads/2021/06/AI-for-Good-Global-Summit-Snapshot-Report-2024_vF.pdf).

At AI Governance Day, ITU and UNESCO launched [UN Activities on Artificial Intelligence](https://www.itu.int/pub/S-GEN-UNACT-2023), a compilation of more than 400 projects by 47 UN agencies addressing all 17 SDGs.

[Key reports](https://aiforgood.itu.int/newsroom/publications-and-reports/) published in connection with the 2024 summit also include:

* AI Governance Day - From Principles to Implementation
* AI for Good Global Summit Snapshot Report
* AI Standardization Roundtable Report - The Future of AI, Regulation and Industry Development
* UN System White Paper on AI Governance
* AI for Good - Innovate for Impact 2024
* Preliminary Analysis Towards a Standardized Readiness Framework

A partnership between ITU and the United Nations University announced at the summit aims to tap into the wealth of knowledge within the AI for Good community, including nearly 10,000 AI experts from academic institutions around the world. The resulting flagship report will offer this expertise as a resource for stakeholders, helping them create innovative solutions and make informed decisions as they navigate the evolving world of AI.

**All year, always online:** AI for Good is presented as a year-round digital platform – featuring near-daily [programming](https://aiforgood.itu.int/programme/) – where AI innovators and problem owners learn, build, and connect to help identify practical AI solutions to advance the UN Sustainable Development Goals (SDGs). The [AI for Good Neural Network](https://aiforgood.itu.int/neural-network/) features AI-enabled smart matching to help users build connections, link innovative ideas with social impact opportunities, and discuss AI applications for social good. Over 36,000 people have created profiles on the Neural Network since its launch in February 2022.

**ITU AI/ML Challenges:** The problem-solving competitions of ITU's AI/ML Challenges are contributing to the development of AI/ML expertise and capabilities around the world. The majority of participants are students from developing countries. The competitions enable participants to connect with new partners – and new tools and data resources ­– to achieve goals set out by problem statements contributed by industry and academia.

These competitions have welcomed over 8,000 participants and received over 23,000 submissions since their launch in 2020.

The competitions empower participants to create, train and deploy ML models by offering curated problem statements, data, technical webinars, mentoring and hands-on training sessions. This enhances participants' skills and creates opportunity for them to receive global recognition. It also supports a more inclusive ITU standardization process by paving the way for participants to make valuable contributions to ITU's specifications.

To share the solutions with the larger community, solutions submitted are shared as open source in several repositories on the Challenge GitHub: <https://github.com/ITU-AI-ML-in-5G-Challenge>.

In addition, the [ITU Journal on Future and Evolving Technologies](https://www.itu.int/en/journal/j-fet/Pages/default.aspx) has published three special issues on "AI/ML solutions in 5G and future networks" sharing solutions and learnings from participants and Challenge hosts (the originators of the problem statements) in 2020, 2021 and 2022. A [fourth special issue](https://www.itu.int/en/journal/j-fet/2024/003/Pages/default.aspx) is currently under development.

## 5.2 Digital financial inclusion and fintech

For an overview of all TSB/ITU-T activities on digital financial inclusion and fintech, see dedicated [web page](https://www.itu.int/en/ITU-T/dfs/Pages/default.aspx).

**Status of digital financial services (DFS) security recommendations' adoption:** Through the activities of the [ITU DFS Security Lab](https://figi.itu.int/figi-resources/dfs-security-lab/),TSB engages with telecom regulators of emerging economies and regional telecom regulatory bodies to present the DFS security recommendations developed under the [Financial Inclusion Global Initiative (FIGI)](https://figi.itu.int/), inviting them to adopt the recommendations.

To date, the countries that have implemented the DFS security recommendations include Nigeria, Lesotho, The Gambia, Tanzania, Peru and Zimbabwe. The Communication Regulators Association of Southern Africa (CRASA) and the East African Communications Organisation (EACO) adopted the DFS security recommendations in 2023 and discussions are ongoing with their respective members on the implementation of the recommendations.

**DFS Security Lab:** The [ITU DFS Security Lab](https://figi.itu.int/figi-resources/dfs-security-lab/) set up as part of FIGI activities developed a methodology for conducting security tests for mobile payment apps based on USSD, iOS, STK and Android.

The 2024 activities of the DFS security lab were supported by funding from the Republic of Korea's Ministry of Science and ICT and Japan.

As part of the activities of the ITU DFS Security Lab, [ITU DFS ​Security Clinics](https://figi.itu.int/itu-dfs-security-clinics/) offer guidance to regulators and DFS providers on adopting the security best practices developed under FIGI. The DFS Security Lab helps stakeholders to verify that these best practices are being followed.

Security clinics conducted by the DFS Security Lab in the reporting period are listed on this [web page](https://www.itu.int/en/ITU-T/webinars/dfs/sc/Pages/default.aspx).

**Knowledge transfer programme:** As part of the activities of the DFS Security Lab, ITU also conducts a knowledge transfer programme to support telecom regulators in emerging economies in establishing their own security labs and implementing the security methodology to conduct security audits of mobile payment applications based on USSD, iOS and Android.

The programme has benefited Uganda Communications Commission (UCC), Tanzania Communication Regulatory Authority (TCRA) and SBS Peru (financial services regulator for Peru). Knowledge transfer to conduct security audits of mobile payment applications based on USSD, iOS and Android is ongoing in response to requests from Rwanda, The Gambia, Zimbabwe, St Lucia and Antigua and Barbuda.

**Cybersecurity resilience assessment toolkit for DFS critical infrastructure:** The comprehensive [cybersecurity resilience assessment toolkit for DFS critical infrastructure](https://www.itu.int/en/ITU-T/dfs/Documents/ITU%20Cyber%20Security%20Resilience%20Assessment%20toolkit%20for%20DFS%20Critical%20Infrastructure.pdf) equips DFS regulators with the necessary guidance to evaluate cybersecurity vulnerabilities in digital finance infrastructure and conduct cyber preparedness assessments among stakeholders in the DFS ecosystem. The cyberresilience assessment is currently being planned with SBS Peru, TCRA and the Lesotho Communication Authority.

Other regional regulatory bodies like CRASA and the West Africa Telecommunications Regulators Assembly (WATRA) have also expressed interest in the toolkit. Subsequent sessions with the organisations are scheduled for the final quarter of 2024.

**Partnership with FNSV on blockchain secure authentication:** ITU entered a one-year collaboration partnership with FNSV Korea in August 2023 to promote passwordless technology in mobile payments using blockchain secure authentication for developing countries.

The [ITU Blockchain Secure Authentication (BSA) Application Challenge](https://www.itu.int/en/ITU-T/dfs/seclab/Pages/challenge.aspx) organized jointly by ITU and FNSV Korea launched on 8 April 2024. The closing date for submissions is 1 August 2024. The challenge focuses on promoting the use of strong authentication in DFS to implement passwordless authentication and enhance security in authentication processes. The challenge aims to inspire developers to harness BSA for stronger, more secure authentication methods beyond traditional passwords. The challenge is hosted on [Zindi](https://zindi.africa/competitions/itu-digital-financial-services-blockchain-secure-authentication-application-challenge/discussions/20438) and has attracted 171 registered participants from 39 countries.

**Collaboration with UPU:** Under WTSA Resolution 11, a joint DFS working group between ITU and UPU secretariat meets quarterly to share information about events and activities being implemented by each organization related to DFS and possible collaboration on participation in the events. For 2024, TSB received a request from UPU to conduct a knowledge transfer programme for its staff to be able to perform security audits of mobile payment applications based on USSD, iOS and Android.

**Update of Security tests of the DFS Security Lab:** In 2024, a tender was launched to update the security tests conducted by the ITU DFS Security Lab to align with the new version of OWASP Mobile Top 10 Security Tests and the Mobile Application Security Verification Standard (MSAVS). The tender was awarded to Deloitte Risk Advisory and work is underway.

## 5.3 Digital transformation for cities and communities

​​​​​The new[Global Initiative on Virtual Worlds - Discovering the CitiVerse](https://www.itu.int/metaverse/virtual-worlds/)announced at the first [UN Virtual Worlds Day](https://www.itu.int/metaverse/un-virtual-worlds-day/) in Geneva on 14 June 2024 - – organized by ITU together with 17 fellow UN agencies – will define norms and principles to guide the governance of metaverse solutions in cities for areas such as urban planning, education, and municipal services.

Led by ITU, the UN International Computing Centre (UNICC) and Digital Dubai, the initiative will drive capacity development, facilitate sharing of best practices, and develop a sandbox environment for cities to simulate virtual world scenarios.

The initiative will build on the work of the [ITU-T Focus Group on metaverse](https://www.itu.int/en/ITU-T/focusgroups/mv/Pages/default.aspx) and complement the work of [ITU-T SG20​](https://www.itu.int/en/ITU-T/about/groups/2022-2024/Pages/sg20.aspx) and the [United for Smart Sustainable Cities (U4SSC) initiative](https://u4ssc.itu.int/).

The initiative rests on three pillars:​

* Bringing the CitiVerse to Life: Developing expert guidance, raising awareness around CitiVerse opportunities and challenges, and developing and adopting key performance indicators.
* Connecting Cities with the Virtual and Real Worlds: Advancing cities' integration of emerging technologies, curating CitiVerse use cases, and developing a sandbox environment and related technical tools.
* Tunneling the CitiVerse: Fostering a community of practice to encourage collaboration among cities, organizing urban problem-solving competitions, and implementing training programmes to boost CitiVerse expertise.

A new [UN Executive Briefing​](https://www.itu.int/net/epub/TSB/2024-UN-Executive-Briefing-on-unlocking-potential/index.html#p=1) launched at UN Virtual Worlds Day, developed by ITU together with 17 UN partners, highlights the relevance of virtual worlds and the metaverse to the SDGs. UN Virtual Worlds Day also included an award ceremony for the winners of the UN Metaverse Think-a-Thon competition coordinated by ITU, the United Nations International Computing Centre (UNICC), the Food and Agriculture Organization of the United Nations (FAO) and International Atomic Energy Agency (IAEA). For highlights of UN Virtual Worlds Day, see [highlights report](https://s43678.pcdn.co/wp-content/uploads/2024/07/UN-Virtual-World-Day-Event-highlights.pdf).

[ITU Digital Transformation Dialogues](https://www.itu.int/cities/digitaltransformationdialogues/) feature fireside chats, ask the expert sessions and webinars on wide-ranging dimensions of digital transformation and supporting ITU standards. 17 dialogues have been held in 2024.

The [U4SSC initiative](http://www.itu.int/en/ITU-T/ssc/united/Pages/default.aspx) initiative is supported by 19 UN bodies with the aim of achieving the SDG11 ("Make cities and human settlements inclusive, safe, resilient and sustainable"). Over 150 cities worldwide are evaluating their progress towards smart city objectives and the SDGs using [U4SSC Key Performance Indicators for Smart Sustainable Cities](https://www.itu.int/en/ITU-T/ssc/united/Pages/publication-U4SSC-KPIs.aspx) based on ITU standards. The results of the KPI evaluations are shared by [city snapshots, factsheets, verification reports and case studies](https://www.itu.int/en/ITU-T/ssc/united/Pages/publication-U4SSC-KPIs.aspx).

U4SSC is working across six thematic groups:

* City platforms
* Building urban economic resilience at the city level
* AI in cities
* Enabling people-centred cities through digital transformation
* Procurement for smart sustainable cities
* Digital wellbeing

[New reports](https://www.itu.int/cities/publications/) published in 2024:

* U4SSC guiding principles for AI in cities (February 2024): The publication provides a broad set of suggested principles, enablers, governance methods, policy instrument alternatives and a simple methodology for instilling AI principles in cities.

The [ITU toolkit on digital transformation for people-oriented cities and communities](https://toolkit-dt4c.itu.int/) is a comprehensive online guide designed to help cities and communities leverage digital technologies for sustainable development, covering areas such as digital infrastructure, data management and digital services. It provides practical strategies and tools for the digital age, focusing on improving quality of quality of life, promoting inclusivity and enhancing service delivery.

The [ITU digital transformation resource hub](https://www.itu.int/cities/dt-resource-hub/) collects the latest reports, studies and guidelines from ITU and across the web.

The [ITU Digital Transformation and Cities Digest](https://www.itu.int/cities/dt-digest/) provides the latest updates on digital transformation, smart sustainable cities, and the metaverse. It also features information on upcoming events and new publications. Issues in 2024: [July 2024](https://www.itu.int/cities/wp-content/uploads/2024/07/ITU-Digital-Transformation-and-Cities-Digest-July2024.htm) | [May 2024](https://www.itu.int/cities/wp-content/uploads/2024/05/ITU-Digital-Transformation-and-Cities-Digest-May2024.htm) | [March 2024](https://www.itu.int/cities/wp-content/uploads/2024/03/ITU-Digital-Transformation-and-Cities-Digest-Mar2024.htm) | [January 2024](https://www.itu.int/cities/wp-content/uploads/2024/01/ITU-Digital-Transformation-and-Cities-Digest-Jan2024.html).

## 5.4 Resilience to natural hazards

The [ITU-T Focus Group on AI for Natural Disaster Management](https://www.itu.int/en/ITU-T/focusgroups/ai4ndm/Pages/default.aspx) will be succeeded by a new "Global Initiative Resilience to Natural Hazards through AI Solutions".

The initiative is led by ITU, the UN Environment Programme (UNEP), UN Framework Convention on Climate Change (UNFCC), the Universal Postal Union (UPU), and the World Meteorological Organization (WMO).

The initiative will explore AI use cases for resilience, provide expert guidance, and support research, innovation, and standards development.

It also aims to create an AI readiness framework to assess and improve national capacities for using AI in disaster management.

The initiative will consider seismic, hydrometeorological and other natural hazards, as well as compound or cascading events that can result in disasters.

Participation is open to all interested experts. To join the initiative, contact [tsbfgai4ndm@itu.int](mailto:tsbfgai4ndm@itu.int).

## 5.5 Intelligent transport systems

The [ITU-UNECE Future Networked Car Symposium](https://fnc.itu.int/) examines the latest advances in vehicle connectivity, automated mobility and the role of AI in ​the transport sector, sharing unique insight on associated implications for technology, business and regulation. Its latest edition was held online from 11 to 14 March 2024.

The ITU-led [Collaboration on ITS Communication Standards (CITS)](https://www.itu.int/en/ITU-T/extcoop/cits/Pages/default.aspx) is a forum supporting the coordination of an internationally accepted, globally harmonized set of Intelligent Transportation Systems (ITS) communication standards of the highest quality in the most expeditious manner possible to enable the rapid deployment of fully interoperable ITS communication-related products and services in the global marketplace.

The [CITS expert group on communications technology for automated driving](https://www.itu.int/en/ITU-T/extcoop/cits/Pages/egcomad.aspx) launched in 2023 held its first meetings online on 8 March and 17 May 2024. Its meeting on 17 May established the first of its working groups: [Vehicular communications for merging automatically into congested lanes](https://www.itu.int/en/ITU-T/extcoop/cits/egcomad/wg01/Pages/default.aspx). The working group has met twice online on 27 June and 24 July 2024.

CITS meetings are typically held twice a year, in March and September, and often organized back-to-back with other ITS events, e.g., annual ITU-UNECE Future Networked Car Symposia, that also provide opportunities to exchange information and keep experts updated on ITS standardization. The representatives of involved standards bodies are invited to submit status reports on ITS standardization ongoing in their respective organizations to CITS meetings.

CITS maintains the global [ITS Communication Standards Database](https://www.itu.int/net4/ITU-T/landscape#?topic=0.131&workgroup=1&searchValue=&page=1&sort=Revelance). The database is designed to assist the harmonization of ITS standards and includes standards developed by all relevant standards bodies, providing a reference to all standards supporting connected vehicles and automated driving.

See also ITU's new [web portal](https://www.itu.int/en/ITU-T/ITS/Pages/default.aspx) on ITS.

## 5.6 Green digital action

ITU continues its [Green Digital Action activities](https://www.itu.int/initiatives/green-digital-action/) following their initiation with the [Green Digital Action track at COP28](https://www.itu.int/initiatives/green-digital-action-atcop28/) in 2023 in Dubai, UAE, together with partners spanning governments, companies, industry associations, civil society and fellow UN agencies.

TSB/ITU-T continues to play a leading role in the facilitation of Green Digital Action activities focused on standardization.

Three Green Digital Action [webinars](https://www.itu.int/initiatives/green-digital-action/programme/) have been arranged in 2024:

* 3 June 2024: From data to action - Standardized methodologies for measuring ICT sector progress
* 30 April 2024: Translating targets into action - Creating transition plans in the ICT sector
* 16 April 2024: Navigating science-based targets - Paving the road to a net-zero ICT sector

# 6 Academia

[ITU Academia membership](https://www.itu.int/hub/membership/), the [ITU Journal on Future and Evolving Technologies](https://www.itu.int/en/journal/j-fet/Pages/default.aspx) and [ITU Kaleidoscope conferences](https://www.itu.int/en/ITU-T/academia/kaleidoscope/Pages/default.aspx) form key avenues for academics to engage in ITU’s work.

## 6.1 ITU Journal

The [ITU Journal on Future and Evolving Technologies (ITU J-FET)](https://www.itu.int/en/journal/j-fet/Pages/default.aspx) – free of charge to both readers and authors – offers comprehensive coverage of communications and networking. The online journal welcomes research submissions on all relevant topics, all year long. The journal has published 200 papers since its launch in September 2020.

The journal includes [recorded webinar discussions](https://www.itu.int/en/journal/j-fet/webinars/Pages/default.aspx) with researchers and industry leaders. 10 Journal webinars were held in 2024.

Quarterly issues published in 2024:

* Volume 5, Issue 2 explores the future of satellite communications in view of the paradigm shift from traditional geostationary satellite services to multi-layered space networks.
* Volume 5, Issue 1 explores innovations for networks to achieve high performance, energy efficiency, and security while serving a diverse range of devices.

Upcoming issues of the journal in 2024 are set to address:

* Intelligent technologies for future networking and distributed systems
* AI and machine learning solutions in 5G and future networks

The journal is currently inviting submissions for two more special issues:

* Geospatial AI to advance the United Nations Sustainable Development Goals
* Energy-efficient and environmentally sustainable edge computing and communications for AI
* Privacy and security challenges of generative AI

## 6.2 ITU Kaleidoscope academic conferences

The [ITU Kaleidoscope](https://www.itu.int/en/ITU-T/academia/kaleidoscope/Pages/default.aspx) series of peer-reviewed academic conferences – organized with the technical co-sponsorship of the Institute of Electrical and Electronics Engineers (IEEE) and the IEEE Communications Society – calls for original research on topics of growing strategic relevance to ITU-T.

The 15th edition of Kaleidoscope will be held from 21 to 23 October 20204 in conjunction with WTSA-24 in New Delhi, India.

[ITU Kaleidoscope 2024: Innovation and digital transformation for a sustainable world](https://www.itu.int/en/ITU-T/academia/kaleidoscope/2024/Pages/default.aspx) will place emphasis on how international standards can contribute to the achievement of the SDGs. The conference has received over 140 submissions.

Authors of the three best papers will receive special recognition and will share in a prize fund of 6,000 Swiss francs. Authors up to 30 years of age who present accepted papers at the conference will receive a Young Author Recognition Certificate.

The conference will feature presentations from authors of accepted papers, keynote speeches, an exhibition, and special sessions on "youth and standardization" and "towards connecting the remaining 3 billion".

All papers accepted and presented at the conference will be published in the *Kaleidoscope Proceedings*and the IEEE *Xplore* Digital Library. Outstanding papers may also be published in the IEEE Communications Standards Magazine and other international journals.​

# 7 Conformity and interoperability programme

The [ITU Conformity and Interoperability (C&I) programme](https://www.itu.int/en/ITU-T/C-I/Pages/default.aspx) aims to enhance the conformity and interoperability of ICT products implementing ITU-T Recommendations or part thereof, solicit feedback to improve the quality of ITU-T Recommendations, and reduce the digital divide and standardization gap by assisting developing countries with human resource and infrastructure capacity building.

Testing Laboratories have been able to obtain official recognition from ITU for their competence to test the conformance of products with ITU-T Recommendations ([TSB Circular 368](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-TSB-CIR-0368)) since December 2021.

As of June 2024, there are 14 Testing Laboratories registered in the [ITU Testing Laboratories Database](https://itu.int/go/tldb) for ITU-recognized facilities. The announcements were also issued via ITU Operational Bulletins [OB.1253](https://www.itu.int/pub/T-SP-OB.1253-2022), [OB.1256](https://www.itu.int/pub/T-SP-OB.1256-2022), [OB.1263](https://www.itu.int/pub/T-SP/publications.aspx?parent=T-SP-OB.1263-2023), [OB.1266](https://www.itu.int/pub/T-SP-OB.1266-2023), [OB.1283](https://www.itu.int/pub/T-SP-OB.1283-2024), [OB.1286](https://www.itu.int/pub/T-SP-OB.1286-2024) and [OB.1293](https://www.itu.int/pub/T-SP-OB.1293-2024).

ITU-T determined the key criteria and [recognition procedure](https://www.itu.int/en/ITU-T/studygroups/com11/casc/Documents/TL-RP_pub_2022-07-15.pdf) for testing labs and the [appointment of ITU-T technical experts](https://www.itu.int/en/ITU-T/studygroups/com11/casc/Documents/Guideline_CASC_EXP_RP-10-2019.pdf). The list of technical experts is available [here](https://www.itu.int/en/ITU-T/studygroups/com11/casc/Documents/List-ITU-technical%20experts-CASC-Oct23.pdf) (October 2023).

An earlier [Memorandum of Understanding](https://www.itu.int/en/ITU-T/extcoop/Documents/mou/MoU-ITU-T-IAF-ILAC-20220824.pdf) between ITU-T, the International Laboratory Accreditation Cooperation (ILAC) and the International Accreditation Forum (IAF) facilitates ITU's recognition of labs accredited by signatories to the [ILAC Mutual Recognition Arrangement](https://ilac.org/ilac-mra-and-signatories/). In addition, ILAC developed its own assessment procedure to explain the operation of the set-up (see [here](https://ilac.org/?ddownload=125179)). The detailed information on ILAC-ITU partnership is available [here](https://ilac.org/about-ilac/partnerships/international-partners/itu/).

Testing labs are invited to apply for ITU recognition using this [application form](https://www.itu.int/net/itu-t/cdb/secured/reg-tldb.aspx). Labs successful in their application are announced in the [ITU Operational Bulletin](https://www.itu.int/pub/T-SP). The recognition procedure is supported by the [ITU-T Conformity Assessment Steering Committee](https://www.itu.int/en/ITU-T/studygroups/com11/casc/Pages/default.aspx).

Companies can apply for the inclusion of their products – products tested to applicable ITU-T Recommendations using ITU-T test specifications or procedures adopted by an SDO or forum qualified in accordance with Recommendation ITU-T A.5 – in the ITU Product Conformity Database using this [application form](https://www.itu.int/net/itu-t/cdb/secured/Register16.aspx). All criteria for populating the database are listed [here](https://www.itu.int/en/ITU-T/C-I/conformity/Pages/cdb.aspx).

ITU-T SG11 updated its [C&I Action Plan](https://www.itu.int/md/T22-SG11-230510-TD-GEN-0507/en), indicating that the Reference Table, which is a part of the action plan, provides guidance for populating the ITU Conformity Product Database, especially for ICT products tested against ITU-T Recommendations using test specifications developed by SDOs other than ITU-T. TSB is maintaining the Reference Table and the list of pilot projects for conformity assessment against ITU-T Recommendations based on received inputs. ITU registered GPON ONT end-device (category: optical fibre equipment) in the Product Conformity Database (<https://itu.int/go/tcdb>), which was tested by a recognized testing laboratory.

The testing lab recognition scheme is the latest initiative under ITU’s C&I programme. ITU-T SGs continue developing ITU-T Recommendations defining testing requirements and test suites. Along with conformity assessments, the programme organizes interoperability testing events, offers capacity building, and provides technical assistance in the establishment of testing centres.

In response to requests from ITU members, ITU organized a [tutorial on the Testing Laboratories recognition procedure](https://itu.int/go/TT-TLRP) in October 2023. See also [video guidelines](https://www.itu.int/webcast/archive/t2022-24sg11) about the [ITU Testing Laboratories Database](https://itu.int/go/tldb) and [ITU Product Conformity Database](https://www.itu.int/net/itu-t/cdb/ConformityDB.aspx) on the [ITU C&I Portal](https://itu.int/go/citest).

# 8 Membership

ITU-T hosts 269 Sector Members and 233 Associates. ITU Academia members now total 169. 73 of ITU-T's Associates are participating under the reduced fee structure for small and medium-sized enterprises (SMEs) which came into effect on 31 January 2020.

The data included in this report reflect data available on 22 July 2024.

**New Sector Members welcomed from 1 January to 22 July 2024:**

China Tower Corporation; Libya Postal Telecommunication and Technology Holding Company (LPTIC); Somtel; Google Inc.; Chongqing Changan Automobile Co. Ltd; World Smart Sustainable Cities Organization (WeGO); Digital Cooperation Organization (DCO); European DIGITAL SME Alliance; Powertel Communications (PVT) Ltd.

**New Associates welcomed from 1 January to 22 July 2024:**

Worldcell Solutions LLC (SG2); OQ Technology (SG2); Lynk Global, Inc (SG2); IXT AS (SG2); LLC Bureau-1440 (SG2); China Energy Materials Company Limited (SG5); Potin (Beijing) Technology Co.,Ltd (SG11); Associação Data Privacy Brasil de Pesquisa (SG13); CGN Intelligent Technology (Shenzhen) Co., Ltd. (SG13); Inspur Communication Information Systems Co., Ltd (SG13); NOS Technology SA (SG15); Open Fiber S.p.a. (SG15); Sino-Telecom Technology Co., Inc. (SG15); Alphawave IP Inc. (SG15); AI Speech Co., Ltd. (SG16); TOTHOMweb (SG16); Hangzhou HarmonyCloud Technology Co., Ltd. (SG16); Shanghai Data Exchange Co., Ltd. (SG16); Sichuan Newstrong UHD Video Technology Co.,Ltd. (SG16); Infervision Medical Technology Co., Ltd. (SG16).

**Total ITU-T Sector Members, Associates and Academia (31 December 2012 – 20 July 2024):**

The following table and figure illustrate the evolution of ITU-T membership from 31 December 2012 to 22 July 2024.

|  | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector Members | 262 | 269 | 266 | 261 | 250 | 255 | 255 | 265 | 275 | 269 | 263 | 270 | 269 |
| Associates | 128 | 130 | 132 | 131 | 127 | 135 | 152 | 177 | 192 | 213 | 220 | 226 | 233 |
| Academia | 39 | 56 | 70 | 92 | 103 | 119 | 146 | 155 | 159 | 158 | 170 | 169 | 169 |
| TOTAL | 429 | 455 | 468 | 484 | 480 | 509 | 553 | 597 | 626 | 640 | 653 | 665 | 671 |

NOTE – Some of the figures in the table above have been subject to retroactive changes.

**Figure 2 – Evolution of ITU-T membership from 31 December 2012 to 22 July 2024**

NOTE – The Academia category was created in 2011.

# 9 Bridging the standardization gap

[ITU's Bridging the Standardization Gap (BSG) Programme](https://www.itu.int/en/ITU-T/gap/Pages/default.aspx), recently re-envisioned, aims to enhance the ability of all countries, in particular developing countries, to participate in thedevelopment and implementation of ITU-T standards.

The new BSG Programme, considering WTSA Resolution 44 *inter alia*, has two main strategic pillars – *Development* and *Implementation –* supported by *Resources* and *Partnership*. Japan's Ministry of Internal Affairs and Communications (MIC) continues to fund the BSG Programme.

***Development:*** This pillar focuses on enhancing the standards-formulation capabilities of delegates from all countries, in particular developing countries. Activities under the pillar include:

* Data analytics driven by close coordination and cooperation among TSB departments with respect to PP Resolution 71.
* Physical and remote BSG trainings in close coordination and cooperation with ITU-T study groups and regional groups as well as ITU Regional and Area Offices (e.g., Regional Development Forums).
* [Guidelines](https://www.itu.int/en/ITU-T/gap/Documents/nss-rep-may.pdf) to create National Standardization Secretariats.
* Fellowships, supported by the systematic coordination and collaboration being established between TSB and BDT.

***Implementation:*** This pillar is oriented towards supporting the implementation of ITU-T standards, including in alignment with national plans, policies and regulations. Activities under the pillar include:

* Identification and outreach of thematic initiatives and priorities (e.g., DFS Security Lab, Cyber Defence Centre 4 Developing Countries, United for Smart Sustainable Cities, C&I Programme, Make Listening Safe initiative, etc.) in close collaboration with ITU-T SGs.
* Regular and continuous coordination with ITU Regional and Area Offices for enhancing cooperation and partnership.

**BSG capacity building activities:** BSG activities including capacity building relevant to standards development, WTSA and electronic working methods and tools were held at the following events in 2024:

* TSAG, Geneva, 22-26 January 2024
* SG17, Geneva, 20 February - 1 March 2024
* BSG Workshop on Effectiveness in Standardization, New Delhi, India, 26-27 February
* SG13, Geneva, 4-15 March 2024
* SG2-AFR, SG2RG-ARB and SG3RG-ARB, Kuwait City, Kuwait, 6-7 March 2024
* SG12RG-AFR, Maputo, Mozambique, 6-7 March 2024
* FG-AI4A, New Delhi, India, 18-19 March 2024
* CEPT Com-ITU, online, 19-20 March 2024
* SG12RG-AMR, Mexico City, Mexico, 20-21 March 2024
* SG3RG-AFR, Lilongwe, Malawi, 10-12 April 2024
* ATU BSG information session, online, 16 April 2024
* GSO BSG information session, online, 6 May 2024
* SG11, Geneva, 1-10 May 2024
* CEPT Com-ITU, Gdansk, Poland, 7-9 May 2024
* SG5RG-AFR, Ouagadougou, Burkina Faso, 7-9 May 2024
* SG5RG-ARB, Muscat, Oman, 13-16 May 2024
* International Workshop on Bridging the Standards Gap and Workshop on Standards & IPR for Enhancing National Contribution, Ghaziabad, India, 15-17 May 2024
* ASTAP-36, Bangkok, Thailand, 20-24 May 2024
* CITEL PCC.1, Panama City, Panama, 20-24 May 2024
* SG3RG-AO, Seoul, Korea (Rep. of), 4-6 June 2024
* APT Preparatory Group for WTSA-24, Adelaide, Australia, 25-28 June 2024
* SG13, Geneva, 15-26 July 2024

**Regional groups:** Stimulating effective participation in ITU-T SGs, regional groups play a key role in bridging the standardization gap between developed and developing countries. Regional group meetings are also demonstrating slightly better gender balance (35 per cent women) than meetings of ITU-T SGs (28 per cent women). An overview of regional groups' activities can be found [here](https://www.itu.int/en/ITU-T/regional-groups/Pages/default.aspx).

The following regional group meetings were organized in the reporting period:

* SG2RG-AFR and SG2RG-ARB, Kuwait City, Kuwait, 6-7 March 2024
* SG3RG-ARB, Kuwait City, Kuwait, 6-7 March 2024
* SG12RG-AFR, Maputo, Mozambique, 6-7 March 2024
* SG12RG-AMR, Mexico City, Mexico, 20-21 March 2024
* SG11RG-AFR, online, 25-27 March 2024
* SG3RG-AFR, Lilongwe, Malawi, 10-12 April 2024
* SG20RG-AP, online, 23-24 April 2024
* SG13RG-AFR, online, 25 April 2024
* SG5RG-AFR, Ouagadougou, Burkina Faso, 7-9 May 2024
* SG5RG-ARB, Muscat, Oman, 13-16 May 2024
* SG17RG-AFR and SG17RG-ARB, Marrakech, Morocco, 27-29 May 2024
* SG3RG-AO, Seoul, Korea (Rep. of), 4-6 June 2024

ITU-T hosts 26 regional groups:

* Eight for Africa (SGs 2, 3, 5, 11, 12, 13, 17, and 20)
* Five for the Americas (SGs 2, 3, 5, 12 and 20)
* Five for the Arab States (SGs 2, 3, 5, 17, and 20)
* Three for Asia and the Pacific (SGs 3, 5, and 20)
* One for Europe and the Mediterranean Basin (SG3)
* Four for Eastern Europe, Central Asia and Transcaucasia (SGs 3, 11, 13, and 20)

**Fellowships:** Fellowships provide financial support to ITU-T delegates from eligible developing countries to assist their participation in ITU-T meetings. 173 fellowships were requested from January to June 2024 and 89 were awarded. Statistics on the fellowships awarded are provided below.

**Figure 3 – Awarded fellowships by region in 2024**

**Figure 4 – Awarded fellowships by gender in 2024**

# 10 Gender

For a comprehensive report on TSB activities on gender, see [TD556](https://www.itu.int/md/T22-TSAG-240729-TD-GEN-0556/en).

TSB remains dedicated to integrating a gender perspective in all of its activities and programmes, leveraging the framework of ITU Gender Task Force and the [Network of Women in ITU-T (NoW in ITU-T)](https://www.itu.int/en/ITU-T/NoW/Pages/default.aspx).

See also the NoW in ITU-T mailing list, [nowinitut@lists.itu.int](mailto:nowinitut@lists.itu.int), and sign up [here](https://www.itu.int/net4/iwm?p0=0&p11=ITU&p12=ITU-SEP-ITU-T-SEP-Other%20Groups-SEP-Network%20of%20Women%20in%20ITU-T&p21=ITU&p22=ITU).

TSB’s ongoing efforts to enhance gender equality within TSB and ITU-T underscore ITU's commitment to diversity, gender parity and the empowerment of women.

At ITU Council 2024, the [report on ITU’s programme on gender equality including updates on C23 decisions (C24/6)](https://www.itu.int/md/S24-CL-C-0006/en) – see also [C24/35](https://www.itu.int/md/S24-CL-C-0035) – received broad support from Member States.

Gender parity objectives for WTSA-24, supported by the [NOW4WTSA-24 campaign](https://www.itu.int/wtsa/2024/now/), encourage Member States to pledge support for growth in the number of women in ITU-T leadership positions and the target of 35 per cent female participation at WTSA-24. Figure 5 below provides statistics on women's participation in the past three WTSAs.

NOW4WTSA-24 activities in 2024:

* Upcoming: [NoW in ITU-T special event at WTSA-24](https://www.itu.int/en/ITU-T/NoW/events/20241017/Pages/default.aspx), New Delhi, India, 17 October 2024
* Upcoming: Regional Activity for the Americas: 21 August 2024, CITEL 4th Preparatory WGCONF Meeting, João Pessoa, Brazil
* Upcoming: [​](https://youtu.be/z1EngabIA4E)​Regional Activity for Asia and the Pacific: 20 August 2024, APT WTSA24-5, Bangkok, Thailand
* ​Regional Activity Europe: [Bridging the Gender Gap: Inspiring Women to Lead in Tech](https://www.itu.int/en/ITU-D/Regional-Presence/Europe/Pages/Events/2024/05.07_Effective%20engagement%20of%20European%20industry/BSG.aspx), 7 May 2024, Gdańsk, Poland | ​​[Recording](https://youtu.be/z1EngabIA4E)
* ​[Network of Women Breakfast at TSAG](https://www.itu.int/en/ITU-T/NoW/events/20240123/Pages/default.aspx)​, 23 January 2024, Geneva, Switzerland | ​[​Photo Album​](https://eur03.safelinks.protection.outlook.com/?url=https://www.flickr.com/photos/itupictures/albums/72177720314291659&data=05%7c02%7cxiya.liu%40itu.int%7c40d4e4c5551242952dae08dc1c19b1f3%7c23e464d704e64b87913c24bd89219fd3%7c0%7c0%7c638416143876449061%7cUnknown%7cTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7c3000%7c%7c%7c&sdata=aELvMXpyAv3344JoZ6R4UIbq9CwwMXJtl%2BxeKB8aTJ4%3D&reserved=0)​ | ​​[Recording​](https://youtu.be/M_1eXhEXC2M)

At the January 2024 meeting of TSAG, following discussions on the updated Terms of Reference for NoW in ITU-T and their approval (see [TD423-R2](https://www.itu.int/md/T22-TSAG-240122-TD-GEN-0423/en)), it was decided that six Regional Representatives would be appointed by the Regional Telecommunication Organizations (RTOs).

Regional Representatives:

* Africa: Rebecca Mukite, Head of Public & International Relations, Uganda Communications Commission (UCC), Uganda
* Americas: Tania Villa, ITU-T Study Group 12 Chair, Federal Institute of Telecommunications (IFT), Mexico
* Arab States: Basma Tawfik, International Organizations Manager, National Telecom Regulatory Authority (NTRA), Egypt
* Asia and the Pacific: Miho Naganuma, TSAG Vice Chair, Senior Executive Professional, NEC Corporation, Japan
* CIS: Maria Bolshakova, Acting Deputy Director General, Regional Commonwealth in the field of Communications (RCC)
* Europe: Izabela Iglewska, Minister Advisor, Ministry of Digital Affairs, Poland

The outcomes of survey on promoting gender equality in ITU-T were presented to the May 2023 meeting of TSAG (see [TD196](https://www.itu.int/md/T22-TSAG-230530-TD-GEN-0196/en)). TSB is actively implementing actions based on the survey's findings as part of the NoW in ITU-T work plan.

In accordance with the [UNECE Declaration on Gender Responsive Standards](https://unece.org/gender-responsive-standards-initiative), which was endorsed by ITU along with other major standards bodies, TSB is inviting ITU-T members and staff involved in standards-development processes to undertake a [training course](https://learnqi.unece.org/courses/gender-responsive-standards/) on gender-responsive standards development. Members and staff are invited to send certificates of completion to [NoW-T@itu.int](mailto:NoW-T@itu.int).

The figures below provide an overview of TSB/ITU-T activities with respect to participants' gender.

**Figure 5 – Women's participation in the past three WTSA**

**Figure 6 – Women's share of ITU-T leadership position and participation in study groups and regional groups within study groups**

**Figure 7 – Women's participation in ITU-T statutory meetings by study period**

# 11 Human rights and standards development

TSB discussions with ITU-T study groups are raising awareness of ITU’s commitment to human rights and due consideration of human rights in ITU standards development processes.

TSB is maintaining associated collaboration with the Office of the United Nations High Commissioner for Human Rights (OHCHR) and participating in discussions of the Human Rights Council.

Related TSB communication is ongoing with organizations including ISO, IEC, IETF and the Internet Society, the Global Network Initiative, Meta, the World Bank, and the Association for Progressive Communications (APC).

TSB also participated in the following relevant events in 2024:

* 28 May 2024: WSIS+20 webinar – [Trust in Tech: Navigating Emerging Technologies and Human Rights in a Connected World](https://www.itu.int/net4/wsis/forum/2024/en/Agenda/Session/246) – organized by ITU, OHCHR, ISO and APC.
* 21 May 2024: WSIS+20 webinar – [Enhancing CSO Participation in Global Digital Policy Processes: Roles, Structures, and Accountability](https://www.itu.int/net4/wsis/forum/2024/Agenda/Session/191) – organized by the DiploFoundation.
* 6 June 2024: Webinar – [Human Rights in ICT Standardization](https://www.hsbooster.eu/events/webinar-human-rights-standards) – organized by StandICT.eu
* 29-30 April 2024, São Paulo, Brazil: [NETmundial+10](https://netmundial.br/).
* 9 March 2024: [Panel discussion on AI regulation](https://fifdh.org/festival/programme/2024/forum/ia-qui-pour-la-reglementer/) with the Geneva Human Rights Film Festival.
* 8 May 2024: [Event on "Shaping a Sustainable Future: The Role of Standards and Policy in Ethical AI Development"](https://catalyst2030.net/events/shaping-a-sustainable-future-the-role-of-standards-and-policy-in-ethical-ai-dev/) organized by IEEE.

# 12 Publications

## 12.1 Recommendations and supplements

Over 200 ITU-T Recommendations and Supplements were published in the reporting period. The figure below illustrates the number of ITU-T Recommendations and Supplements published per year since 2020.

As approved by TSAG, most corrigenda and amendments to ITU-T Recommendations are now integrated into the main edition. The changes introduced by the amendment or corrigendum are shown with revision marks.

**Figure 8 – Number of Recommendations, amendments and Supplements**   
**published per year since 2020**

## 12.1.1 Recommendations deleted between WTSAs

Since March 2022, the following ITU-T Recommendations were deleted in accordance with clause 9.8.2.2 of WTSA Resolution 1 (Rev., Geneva, 2022):

* Recommendation ITU-T D.280 "Principles for charging and billing, accounting and reimbursements for universal personal telecommunication"
* Recommendation ITU-T E.168 "Application of E.164 numbering plan for UPT"
* Recommendation ITU-T E.168.1 "Assignment procedures for universal personal telecommunications (UPT) numbers in the provisioning of the international UPT service"
* Recommendation ITU-T E.174 "Routing principles and guidance for Universal Personal Telecommunications (UPT)"
* Recommendation ITU-T E.755 "Reference connections for UPT traffic performance and GOS"
* Recommendation ITU-T E.775 "UPT grade of service concept"
* Recommendation ITU-T E.776 "Network grade of service parameters for UPT"
* Recommendation ITU-T F.850 "Principles of Universal Personal Telecommunication (UPT)"
* Recommendation ITU-T F.851 "Universal Personal Telecommunication (UPT) – Service description (service set 1)"
* Recommendation ITU-T F.852 "Universal Personal Telecommunication (UPT) – Service description (service set 2)"
* Recommendation ITU-T F.853 "Supplementary services in the Universal Personal Telecommunication (UPT) environment"
* Recommendation ITU-T G.8021.1/Y.1341.1 "Types and characteristics of Ethernet transport network equipment"
* Recommendation ITU-T K.43 "Immunity requirements for telecommunication network equipment"
* Recommendation ITU-T K.48 "EMC requirements for telecommunication equipment – Product family Recommendation"
* Recommendation ITU-T K.88 "EMC requirements for next generation network equipment"
* Recommendation ITU-T L.106 "Optical fibre cables: Special needs for access network"
* Recommendation ITU-T P.862 "Perceptual evaluation of speech quality (PESQ): An objective method for end-to-end speech quality assessment of narrow-band telephone networks and speech codecs"
* Recommendation ITU-T P.862.1 "Mapping function for transforming P.862 raw result scores to MOS-LQO"
* Recommendation ITU-T P.862.2 "Wideband extension to Recommendation P.862 for the assessment of wideband telephone networks and speech codecs"
* Recommendation ITU-T P.862.3 "Application guide for objective quality measurement based on Recommendations P.862, P.862.1 and P.862.2"
* Recommendation ITU-T P.911 "Subjective audiovisual quality assessment methods for multimedia applications"
* Recommendation ITU-T P.913 " Methods for the subjective assessment of video quality, audio quality and audiovisual quality of Internet video and distribution quality television in any environment"
* Recommendation ITU-T Q.1521 "Requirements on underlying networks and signalling protocols to support UPT"
* Recommendation ITU-T Q.1531 "UPT security requirements for Service Set 1"
* Recommendation ITU-T Q.1541 "UPT stage 2 for Service Set 1 on IN CS-1 – Procedures for universal personal telecommunication: Functional modelling and information flows"
* Recommendation ITU-T Q.1542 "UPT stage 2 for Service Set 1 on IN CS-2 – Procedures for universal personal telecommunication: Functional modelling and information flows"
* Recommendation ITU-T Q.1551 "Application of Intelligent Network Application Protocols (INAP) CS-1 for UPT service set 1"

## 12.2 Official languages on an equal footing

The Standardization Committee for Vocabulary (SCV), composed of ITU-T members expert in all the official languages, serves as focal point to ITU-T SGs in terminology-related matters. SCV guides the adoption of terms and definitions in ITU-T Recommendations in accordance with WTSA Resolution 67.

TSB continues to collect all new terms and definitions proposed by ITU-T SGs, entering them into the online [ITU Terms and Definitions database](https://www.itu.int/br_tsb_terms/#/).

As requested by WTSA Resolution 67, TSB continues to translate all Recommendations approved under the Traditional Approval Process as well as all TSAG reports.

TSB has also translated six Recommendations approved under the Alternative Approval Process in 2024, in accordance with requests received from ITU-T SGs and linguistic groups, and within the available budget.

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