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| Director of TSB | | | | |
| Report on activities in ITU-T over the 2022-2024 study period | | | | |
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| **Abstract:** | This report summarizes TSB facilitation of ITU-T activities in the 2022-2024 study period. | |
| **Contact:** | TSB Director | E-mail: [tsbdir@itu.int](mailto:tsbdir@itu.int) |

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# Executive Summary

ITU approved over [900 new and revised ITU-T Recommendations and related texts](https://www.itu.int/ITU-T/workprog/wp_search.aspx?isn_sp=8265&isn_status=-1,2&details=0&field=acdefghijo) in the study period. 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 meetings can be found on their respective [homepages](https://www.itu.int/en/ITU-T/studygroups/Pages/default.aspx). [WTSA-24 Contributions](https://www.itu.int/md/T22-WTSA.24-C) numbered one to 22 provide reports on study group activities and proposed Questions for the next study period. See [§1](#_1_Achievements_in).

Nine ITU-T focus groups completed studies in the study period. Two focus groups are active, addressing cost models for affordable data services and AI-native networks. 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 [§2](#_2_ITU-T_Focus).

Over 200 ITU-T [workshops, symposia and webinars](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 [§3](#_3_Workshops,_symposia). TSB facilitated over 13,700 e-meetings with over 186,300 connections from January 2022 to September 2024. [See §4](#_4_Remote_participation).

ITU-T hosts 268 Sector Members and 234 Associates. ITU Academia members now total 172. 76 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 [§8](#_7_Mainstreaming_accessibility).

TSB continuously enhances electronic working methods services and database applications and recent developments in this regard include the introduction of the fifth version of [MyWorkspace](https://www.itu.int/myworkspace), new ITU-T websites and additions to the ICT Standards Landscape application. See [§12](#_12_Electronic_working).

[AI for Good](https://aiforgood.itu.int/), presented as a year-round digital platform, is the United Nations' primary platform for artificial intelligence (AI). AI for Good is supported by 47 UN partners and a range of industry sponsors. It is co-convened by the government of Switzerland. Over 37,000 people have created profiles on the [AI for Good Neural Network](https://aiforgood.itu.int/neural-network/) since its launch in February 2022. See [§5.2](#_5.1_Artificial_intelligence).

The [AI for Good Global Summit](https://aiforgood.itu.int/summit24/) was held in May 2024 and July 2023. The 2024 summit introduced a new [AI Governance Day](https://aiforgood.itu.int/summit24/programme/#day0) and discussions 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 the study period and 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) with the aim of ensuring complementary perspectives on digital development. See [§5.2](#_5.1_Artificial_intelligence).

At the 2024 summit, ITU, ISO and IEC highlighted their commitment to providing a unified framework for AI standards development and announced a new [AI and multimedia authenticity standards collaboration](https://www.worldstandardscooperation.org/standards-collaboration-on-ai-watermarking-multimedia-authenticity-and-deepfake-detection/) to drive coordinated standards development for AI watermarking, multimedia authenticity and deepfake detection. The three organizations are also co-organizing a new [International AI Standards Summit](https://aiforgood.itu.int/ai-standards/). See [§5.1](#_5.1_World_standards).

Key standards collaborations on AI also include the [Global Initiative on AI for Health](https://www.itu.int/hub/2023/07/new-un-initiative-aims-to-step-up-ais-contribution-to-health/) driven by ITU, WHO and WIPO and the [Global Initiative on Resilience to Natural Hazards through AI Solutions](https://www.itu.int/en/ITU-T/extcoop/ai4resilience/Pages/default.aspx) driven by ITU, UNEP, UNFCCC, UPU and WMO. The initiatives build on the momentum created by the [ITU-WHO Focus Group on AI for Health](https://www.itu.int/en/ITU-T/focusgroups/ai4h/Pages/default.aspx) and the [ITU-WMO-UNEP Focus Group on AI for Natural Disaster Management](https://www.itu.int/en/ITU-T/focusgroups/ai4ndm/Pages/default.aspx). See [§5.2](#_5.1_Artificial_intelligence).

The [AI for Good Impact Initiative](https://aiforgood.itu.int/impact-initiative/) launched at the 2024 summit aims to expand the scope and impact of AI applications for sustainable development. The initiative includes a new [AI Skills Coalition](https://aiforgood.itu.int/ai-skills-coalition/) announced in September 2024. The initiative will link AI innovators with opportunities to scale and fund promising AI solutions for every UN Sustainable Development Goal 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 startups and small and medium-sized enterprises. See [§5.2](#_5.1_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 June 2024 organized by ITU together with 17 fellow UN agencies. The initiative 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, 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. It will build on the work of the [ITU 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 [§5.3](#_5.2_Artificial_intelligence).

The [U4SSC initiative](https://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 200 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). See [§5.3](#_5.2_Artificial_intelligence).

[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. See also [key reports](https://www.itu.int/cities/publications/) on digital transformation for cities and communities published in the study period. See [§5.3](#_5.2_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. An [ITU Blockchain Secure Authentication Application Challenge](https://www.itu.int/en/ITU-T/dfs/seclab/Pages/challenge.aspx) organized jointly with FNSV Korea launched in April 2024. See [§5.4](#_5.4_Digital_financial).

[ITU and the Linux Foundation are in the process of launching an OpenWallet Forum](https://www.itu.int/hub/2024/05/itu-and-linux-foundation-join-forces-to-create-openwallet-forum/) to stimulate global access to the digital wallets that form key technology building blocks for digital public infrastructure. It will place emphasis on the security and interoperability of digital wallets. The OpenWallet Forum will offer a platform for multistakeholder cooperation to integrate wide-ranging requirements from governments and companies into coordinated policies and technical standards for digital wallets. The forum will also be supported by UNICC and the government of Switzerland. See [§5.4](#_5.4_Digital_financial).

Three editions of the [Future Networked Car Symposium](https://fnc.itu.int/) organized by ITU and UNECE were held online March 2024, 2023 and 2022. The first regional edition of the symposium was held in October 2023 in Doha, Qatar. 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) is currently operating two working groups on "vehicular communications for merging automatically into congested lanes" and "vehicular communications for advanced emergency braking, including to protect vulnerable road users". See [§5.5](#_5.3_Smart_cities).

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 plays a leading role in the facilitation of Green Digital Action activities focused on standardization. See [§5.6](#_5.6_Green_digital).

The [Joint Task Force on SMART cable systems](https://www.itu.int/en/ITU-T/climatechange/task-force-sc/Pages/default.aspx) supported by ITU, UNESCO-IOC and WMO is dedicated to advancing the concept of "Science Monitoring And Reliable Telecommunications (SMART) cables". The minimum set of requirements established by the Joint Task Force are feeding into ITU-T standardization work, with two new ITU-T Recommendations being approved in August 2024 on SMART submarine cable systems [G.9730.2](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=16051) (ex G.smart) and dedicated scientific sensing submarine cable system [G.9730.1](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=16050) (ex [G.dsssc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=17090)). In addition, work is underway on an impact assessment framework for evaluating how ICT-based subsea infrastructure could support climate, environmental and biodiversity monitoring. See [§5.7](#_5.7_Submarine_cables).

ITU and WHO continue working together global guidelines for safe listening with devices, in venues and in video gaming and esports, contributing to the [WHO Make Listening Safe initiative](https://www.who.int/activities/making-listening-safe). Consent was achieved in August 2024 on a new ITU-WHO standard for safe listening in video gameplay and esports. The work builds on the success of ITU-WHO collaboration on a joint standard for safe listening with devices, particularly music players. See [all safe listening workshops](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/safelistening/Pages/default.aspx) co-organized by ITU and WHO. In addition, a new [ITU-WHO implementation toolkit](https://www.who.int/publications/i/item/9789240094161) for the ITU-WHO standard on the accessibility of telehealth services was published in September 2024. See [§5.8](#_5.8_Safe_listening).

[CTO and CxO meetings](https://www.itu.int/en/ITU-T/tsbdir/cto/Pages/default.aspx) bring high-level industry executives together with the senior management of TSB to exchange views on industry priorities and related standardization activities. The most recent [CxO Roundtable](https://www.itu.int/en/ITU-T/tsbdir/CxO/Pages/CxO-20231205.aspx) was held in December 2023 at the Telecom Review Leader's Summit in Dubai, UAE, with additional participation online (see meeting [communiqué](https://www.itu.int/en/ITU-T/tsbdir/cto/Documents/Communique_ITU_CxO_2023.pdf)) The previous [CxO Meeting](https://www.itu.int/en/ITU-T/tsbdir/CxO/Pages/CxO-20221206.aspx) was held in December 2022 at the Telecom Review Leader's Summit in Dubai, UAE, with additional participation online (see meeting [communiqué](https://www.itu.int/en/ITU-T/tsbdir/cto/Documents/Communique_ITU_CxO_2022_06.12_Final.pdf)). See [§5.9](#_5.9_CTO_and).

[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) are key avenues for academics to engage in ITU's work. See [§6](#_4_Academia).

The ITU Journal – 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 also includes [recorded webinar discussions](https://www.itu.int/en/journal/j-fet/webinars/Pages/default.aspx) with researchers and industry leaders. See [§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) being held in conjunction with WTSA-24 places emphasis on how international standards can contribute to the achievement of the SDGs. See [§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. 318 fellowships were awarded from January 2022 to June 2024. Over 50 BSG capacity building events were held in the study period, primarily addressing standards development but also WTSA and electronic working methods and tools. See [§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](https://www.itu.int/en/ITU-T/NoW/Pages/default.aspx). Gender parity objectives for WTSA-24, supported by the NOW4WTSA-24 campaign, encouraged 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 NoW in ITU-T Regional Representatives for WTSA-24 were appointed by Regional Telecommunication Organizations. See [§10](#_10_Gender).

Fourteen testing labs with competence to test the conformance of products with ITU-T Recommendations 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 [§7](#_7_Conformity_and).

Over 860 ITU-T Recommendations and Supplements were published in the study 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](https://www.itu.int/br_tsb_terms/#/). TSB continues to translate all Recommendations approved under the Traditional Approval Process as well as all TSAG reports. On request, TSB translated ten Recommendations approved under the Alternative Approval Process in the study period. See [§11](#_11_Publications).

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

# 1 Study groups

ITU approved over [900 new and revised ITU-T Recommendations and related texts](https://www.itu.int/ITU-T/workprog/wp_search.aspx?isn_sp=8265&isn_status=-1,2&details=0&field=acdefghijo) in the study period. 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 reports to WTSA-24:

* [SG2](https://www.itu.int/go/tsg2/): General ([C1](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0001)); Questions proposed for the next study period ([C2](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0002))
* [SG3](https://www.itu.int/go/tsg3): General ([C3](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0003)); Questions proposed for the next study period ([C4](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0004))
* [SG5](https://www.itu.int/go/tsg5): General ([C5](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0005)); Questions proposed for the next study period ([C6](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0006))
* [SG9](https://www.itu.int/go/tsg9): General ([C7](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0007)); Questions proposed for the next study period ([C8](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0008))
* [SG11](https://www.itu.int/go/tsg11): General ([C9](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0009)); Questions proposed for the next study period ([C10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0010))
* [SG12](https://www.itu.int/go/tsg12): General ([C11](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0011)); Questions proposed for the next study period ([C12](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0012))
* [SG13](https://www.itu.int/go/tsg13): General ([C13](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0013)); Questions proposed for the next study period ([C14](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0014))
* [SG15](https://www.itu.int/go/tsg15): General ([C15](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0015)); Questions proposed for the next study period ([C16](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0016))
* [SG16](https://www.itu.int/go/tsg16): General ([C17](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0017)); Questions proposed for the next study period ([C18](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0018))
* [SG17](https://www.itu.int/go/tsg17): General ([C19](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0019)); Questions proposed for the next study period ([C20](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0020))
* [SG20](https://www.itu.int/go/tsg20): General ([C21](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0021)); Questions proposed for the next study period ([C22](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-WTSA.24-C-0022))

No Chairs were absent from any meetings in the study period. The appendix to this report lists Vice-Chairs not in attendance at study group meetings held in the study period, reported in accordance with PP Resolution 208.

# 2 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, reports to SG3.

The [ITU-T Focus Group on AI Native for Telecommunication Networks (FG-AINN)](https://www.itu.int/en/ITU-T/focusgroups/ainn/Pages/default.aspx), established in March 2024, reports to SG13.

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).

Table 1 – List of concluded ITU-T focus groups in the 2022-2024 study period

| 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

Over 200 ITU-T workshops, symposia and webinars were organized in the study 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 open-to-all 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 Remote participation

MyMeetings, the ITU-T open-source solution for electronic meetings introduced by TSB in January 2019, is the main platform to organize ITU-T statutory meetings. The tool features some important elements found in ITU-T physical meetings, including lists of participants and their affiliations, multilingual support, moderated floor requests and captioning. In addition, the tool includes several layers of access control to ensure that only registered participants can access statutory meetings.

MyMeetings is also used to host Rapporteur Group Meetings and non-statutory events, such as webinars. Other electronic meeting tools, such as Zoom, are also provided by TSB for hosting fully online and any on-demand ad-hoc meetings.

Statistics on e-meetings since 2020 are shown below and illustrated in Figure 1.

* 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: 4,172 e-meetings; 39,384 connections (\*until mid-September 2024)

Figure 1 – Remote participation and e-meetings

# 5 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 World standards cooperation

The [World Standards Cooperation](https://www.worldstandardscooperation.org/) was established in 2001 by the International Telecommunication Union (ITU), the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) to strengthen and advance the voluntary consensus-based international standards systems of ITU, ISO and IEC.

**AI standards development:** At the [AI for Good Global Summit 2024](https://aiforgood.itu.int/summit24/), ITU, ISO and IEC highlighted their commitment to providing a unified framework for AI standards development.

The new [AI and multimedia authenticity standards collaboration](https://www.worldstandardscooperation.org/standards-collaboration-on-ai-watermarking-multimedia-authenticity-and-deepfake-detection/) will drive coordinated standards development for AI watermarking, multimedia authenticity and deepfake detection. The collaboration initiative is led by the World Standards Cooperation and currently also includes the Content Authenticity Initiative, the Coalition for Content Provenance and Authenticity and the ITU-ISO-IEC Joint Photographic Experts Group. A [new report](https://www.itu.int/hub/publication/t-ai4g-ai4good-2024-7/) provides a comprehensive overview of the workshop at the AI for Good Global Summit 2024 that initiated the launch of the initiative.

The new [International AI Standards Summit](https://aiforgood.itu.int/ai-standards/) organized by the World Standards Cooperation aims at ensuring comprehensive standards for the fast-evolving AI landscape. The first edition will be held alongside WTSA-24.

**Global Digital Compact:** The World Standards Cooperation issued a [statement](https://www.worldstandardscooperation.org/wp-content/uploads/2024/03/Statement-GDC-WSC_March-202496.pdf) emphasizing that the principles underlying a Global Digital Compact as well as the WSIS+20 review process must be reflected by international standards if they are to remain integral to the development and application of digital technologies.

**UN Climate Change Conferences:** The World Standards Cooperation issued a [statement](https://www.worldstandardscooperation.org/wp-content/uploads/2023/11/WSC_Statement_Standards-Digital_8_Nov_2023.pdf) at COP28 on the importance of sustainability being built into technical standards development by design, and standards helping the world reach net-zero emissions and achieve a resource-efficient circular and low-carbon economy. ISO and IEC were also key partners in ITU's [Green Digital Action activities](https://www.itu.int/initiatives/green-digital-action/) at CO29.

**G20 International Standards Summits:** The World Standards Cooperation arranges [International Standards Summits](https://www.worldstandardscooperation.org/g20/) as part of G20 activities on the value of international standards to sustainable development. Three such events have been held under the G20 Presidencies of Indonesia (2022), Italy (2021) and Saudi Arabia (2020). Discussions are underway on the potential to organize the next such summit together with Brazil.

The [G20 Ministerial Declaration on Digital Inclusion for All](https://g7g20-documents.org/database/document/2024-g20-brazil-sherpa-track-digital-economy-ministers-ministers-language-g20-dewg-maceio-ministerial-declaration) issued on 13 September 2024 recognizes the importance of international standards, including open standards, and that content authentication and provenance mechanisms and related technical standards may help identify AI-generated content, and enable users to identify information manipulation.

**World Standards Day, 14 October:** The World Standards Cooperation leads the celebration of [World Standards Day](https://www.worldstandardsday.org/home.html). "A Shared Vision for a Better World" is the theme of World Standards Day for a multi-year campaign launched in 2021 aimed at raising awareness of how international standards contribute to the UN Sustainable Development Goals (SDGs). [All past editions of World Standards Day](https://www.worldstandardscooperation.org/what-we-do/world-standards-day/).

## 5.2 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 47 UN partners and a range of industry sponsors. It is co-convened by the government of Switzerland.

The following section offers updates on the AI for Good digital platform, annual global summits, standards collaborations and capacity building initiatives.

All year, always online

In addition to annual summits, 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 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 37,000 people have created profiles on the Neural Network since its launch in February 2022.

[Key reports](https://aiforgood.itu.int/newsroom/publications-and-reports/) published in the study period:

* AI Governance Day - From Principles to Implementation
* AI for Good Global Summit 2024 Snapshot Report
* AI Standardization Roundtable Report - The Future of AI, Regulation and Industry Development
* UN System White Paper on AI Governance
* UN Activities on AI
* AI for Good - Innovate for Impact 2024
* AI Ready - Analysis Towards a Standardized Readiness Framework
* Report on Detecting Deepfakes and Generative AI - Standards for AI Watermarking and Multimedia Authenticity Workshop
* Crowdsourcing AI and Machine Learning solutions for SDGs - ITU AI/ML Challenges 2024 Report
* AI and the Environment – International Standards for AI and the Environment
* UN Activities on AI
* AI for Good Global Summit 2023 Snapshot Report

Global summits

**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. See the [AI for Good Global Summit 2024 Snapshot Report](https://s41721.pcdn.co/wp-content/uploads/2021/06/AI-for-Good-Global-Summit-Snapshot-Report-2024_vF.pdf).

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.

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 encompassing all 17 SDGs.

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.

**AI for Good Global Summit 2023:** The [AI for Good Global Summit](https://aiforgood.itu.int/summit23/) in Geneva, 6-7 July 2023, featured world-renowned experts in AI and humanitarian action and the world's largest-ever gathering of humanoid and specialized robots. The summit was preceded by expert-oriented ML workshops, 4-5 July, drawing on expertise from the AI for Good Discovery programme. See the [AI for Good Global Summit 2023 Snapshot Report](https://s41721.pcdn.co/wp-content/uploads/2021/06/SNAPSHOT-REPORT-2023-FINAL.pdf).

The 2024 and 2023 summits followed summits in 2019, 2018 and 2017.

Standards collaborations

**Multimedia authenticity:** At the AI for Good Global Summit 2024, ITU, ISO and IEC highlighted their commitment to providing a unified framework for AI standards development and announced a new [AI and multimedia authenticity standards collaboration](https://www.worldstandardscooperation.org/standards-collaboration-on-ai-watermarking-multimedia-authenticity-and-deepfake-detection/) to drive coordinated standards development for AI watermarking, multimedia authenticity and deepfake detection.

The collaboration initiative is led by the World Standards Cooperation (ITU, ISO and IEC). In addition to ITU, ISO and IEC, the initiative currently includes the Content Authenticity Initiative, the Coalition for Content Provenance and Authenticity and the ITU-ISO-IEC Joint Photographic Experts Group.

A [new report](https://www.itu.int/hub/publication/t-ai4g-ai4good-2024-7/) provides a comprehensive overview of the workshop at the AI for Good Global Summit 2024 that initiated the launch of the initiative.

**Health:** The [Global Initiative on AI for Health](https://www.itu.int/hub/2023/07/new-un-initiative-aims-to-step-up-ais-contribution-to-health/) driven by ITU, WHO and WIPO – announced at the AI for Good Global Summit 2023 – aims to ensure that AI fulfils its potential to support diagnosis and treatment, along with more efficient and inclusive healthcare services. The global initiative aims to develop technical standards and policy guidance, facilitate knowledge and data sharing, and support evidence-based decisions on the introduction of AI solutions for health.

The initiative builds on the momentum created by the [ITU-WHO Focus Group on AI for Health](https://www.itu.int/en/ITU-T/focusgroups/ai4h/Pages/default.aspx).

**Disaster risk reduction:** The [Global Initiative on Resilience to Natural Hazards through AI Solutions](https://www.itu.int/hub/2024/08/new-un-initiative-to-reduce-disaster-risk-with-ai/) driven by ITU, UNEP, UNFCCC, UPU and WMO – announced at the AI for Good Global Summit 2024 – aims to 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 builds on the momentum created by the [ITU-WMO-UNEP Focus Group on AI for Natural Disaster Management](https://www.itu.int/en/ITU-T/focusgroups/ai4ndm/Pages/default.aspx).

Capacity building

**Impact Initiative:** The [AI for Good Impact Initiative](https://aiforgood.itu.int/impact-initiative/) launched at the 2024 summit aims to expand the scope and impact of AI applications for sustainable development. The initiative includes a new [AI Skills Coalition](https://aiforgood.itu.int/ai-skills-coalition/) announced in September 2024.

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 such as [AI for Good Impact India](https://aiforgood.itu.int/event/ai-for-good-impact-india/) being held alongside WTSA-24; global competitions to crowdsource AI solutions and boost AI expertise; research and policy guidance on AI for sustainable development; and accelerators for startups and small and medium-sized enterprises.

**Innovation Factory:** The [AI for Good Innovation Factory](https://aiforgood.itu.int/about-ai-for-good/innovation-factory/) and its [Startup Acceleration Programme](https://aiforgood.itu.int/about-ai-for-good/innovation-factory/startup-acceleration-programme/) form the leading UN-based startup pitching and acceleration platform. Hundreds of startups apply each year to participate in monthly online or in-person pitching sessions. These sessions focus on different regions and countries, or different economic sectors. The year-long competition culminates at the AI for Good Global Summit, where the finalists demo their solutions for a panel of investors and philanthropists.

**AI/ML Challenges:** These problem-solving competitions are contributing to the development of AI/ML expertise and capabilities around the world. Most 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. A [new report](https://www.itu.int/dms_pub/itu-t/opb/ai4g/T-AI4G-AI4GOOD-2024-6-PDF-E.pdf) offers a comprehensive overview of all challenges since 2020.

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, special issues of the [ITU Journal on Future and Evolving Technologies](https://www.itu.int/en/journal/j-fet/Pages/default.aspx) share solutions and learnings from participants and Challenge hosts (the originators of the problem statements).

**Robotics for Good Youth Challenge:** The [Robotics for Good Youth Challenge](https://aiforgood.itu.int/robotics-for-good-youth-challenge/) is the leading UN-based educational robotics championship for youth, showcasing robots that offer practical solutions relevant to the SDGs. The 2024-2025 challenge focuses on disaster response. Some 25 countries are hosting national qualification tournaments. The inaugural event will be held alongside WTSA-24 at AI for Good Impact India. The Grand Finale will be held at the [AI for Good Global Summit 2025](https://aiforgood.itu.int/summit25).

**Innovate for Impact:** The [AI for Good Innovate for Impact](https://aiforgood.itu.int/innovate-for-impact/) programme collects, analyses and shares AI applications for social good. The 218 submissions received from 38 countries are covered by an [interim report](https://s41721.pcdn.co/wp-content/uploads/2021/06/2400805_Use-cases-collection.pdf). Supported by China's Ministry of Industry and Information Technology, ITU promoted participation in the Innovate for Impact programme at a dedicated half-day session at the World Artificial Intelligence Conference in July 2024 in Shanghai, China.

## 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 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, 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 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.
* Tunnelling 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, UNICC, FAO and 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.

The [U4SSC initiative](https://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 200 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). In addition, [U4SSC Country Hubs](https://u4ssc.itu.int/u4ssc-hub/) have been established in Austria and Ghana.

U4SSC is working across five thematic groups:

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

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

* Policy benchmarks for digital transformation of people-centred cities
* Data and API requirements for centralized smart city platforms
* UN executive briefing on unlocking the potential of virtual worlds and the metaverse for the Sustainable Development Goals
* Guiding principles for artificial intelligence in cities
* Guide for smart and sustainable city leaders
* Enabling digital transformation in smart sustainable cities - Master plan
* Reference framework for integrated management of a smart sustainable city
* Executive briefing on the metaverse
* Building a people-centred digital future for cities and communities
* Procurement guidelines for smart sustainable cities
* The role of digital technologies in aging and health
* Compendium of practices on innovative financing for smart sustainable cities projects
* Smart tourism: A path to more secure and resilient destinations
* Redefining smart city platforms: Setting the stage for Minimal Interoperability Mechanisms

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.

For all events on digital transformation for cities and communities, see relevant [web page](https://www.itu.int/cities/meetings/).

## 5.4 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) and relevant report to WTSA-24 ([Information Document 5](https://www.itu.int/md/T22-WTSA.24-INF-0005/en)).

**Status of digital financial services (DFS) security recommendations' adoption:** Through the activities of the [ITU DFS Security Lab](https://itu.int/en/ITU-T/dfs/seclab/Pages/default.aspx),TSB engages with telecom regulators of emerging economies and regional telecom regulatory bodies to present the [DFS security recommendations](https://itu.int/en/ITU-T/dfs/Documents/Security%20recommendations%20for%20regulators%20and%20DFS%20providers%20developed%20under%20FIGI-updated%20March%202023.pdf) developed under the [Financial Inclusion Global Initiative (FIGI)](https://figi.itu.int/), inviting them to adopt the recommendations.

Nigeria, Lesotho, Sierra Leone, Tanzania, Kenya and Zimbabwe have implemented the MoU between the telecom regulator and central bank for DFS security suggested by the DFS security recommendations.

The Communication Regulators Association of Southern Africa (CRASA) and the East African Communications Organization (EACO) adopted the DFS security recommendations in 2023 and the ITU DFS Security Lab is working with their respective members in support of their implementation of the recommendations. The ITU DFS Security Lab is also providing technical guidance to the West African Telecommunication Regulatory Assembly (WATRA) in support of the adoption of the DFS security recommendations.

**DFS Security Lab:** The [ITU DFS Security Lab](https://itu.int/en/ITU-T/dfs/seclab/Pages/default.aspx) 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 activities of the DFS Security Lab are 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://www.itu.int/en/ITU-T/webinars/dfs/sc/Pages/default.aspx) 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.

Thirty-two security clinics were conducted by the DFS Security Lab in the study period, 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 in line with the OWASP Mobile Top 10 Security Risks methodology.

The following countries have benefited from the knowledge transfer programme in the study period: Uganda, Tanzania, Peru, The Gambia and Zimbabwe. In 2024, Eswatini, Ghana, St Lucia and Antigua and Barbuda submitted requests for assistance from the knowledge transfer programme.

**Knowledge sharing platform:** Thisplatform developed by the ITU DFS Security Lab helps regulators to collaborate with the lab to keep up to date with the security controls of the [DFS security assurance framework](https://itu.int/en/publications/Documents/tsb/2021-FIGI-Digital-Financial-Services-security-assurance-framework/index.html) and the [DFS security recommendations](https://itu.int/en/ITU-T/dfs/Documents/Security%20recommendations%20for%20regulators%20and%20DFS%20providers%20developed%20under%20FIGI-updated%20March%202023.pdf). It also supports their sharing of experiences, challenges, and lessons learned from the implementation of security measures across various jurisdictions. The platform was launched in November 2023.

**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.

In 2024, the ITU DFS Security Lab received requests for assistance in implementing the toolkit from Lesotho, Peru and Tanzania. EACO, CRASA and WATRA have also expressed interest in the toolkit and associated technical assistance from TSB is scheduled to begin in 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 in 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 in April 2024. 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. The ITU DFS Security Lab hoststhe [BSA sandbox](https://www.itu.int/en/ITU-T/dfs/seclab/sar/Pages/bsa.aspx) providing developer resources.

**Collaboration with UPU:** Under WTSA Resolution 11, a joint DFS working group between the ITU and UPU secretariats meets quarterly to share information about events and activities being implemented by each organization related to DFS and possible related collaboration. In 2024, the ITU DFS Security Lab's knowledge transfer programme has assisted UPU in training its staff to perform security audits of mobile payment applications based on USSD, iOS and Android.

**OpenWallet Forum:** ITU and the Linux Foundation are in the process of launching an [OpenWallet Forum](https://www.itu.int/hub/2024/05/itu-and-linux-foundation-join-forces-to-create-openwallet-forum/) to stimulate global access to the digital wallets that form key technology building blocks for digital public infrastructure. The forum will also be supported by UNICC and the government of Switzerland.

The OpenWallet Forum will offer a platform for multistakeholder cooperation to integrate wide-ranging requirements from governments and companies into coordinated policies and technical standards for digital wallets. It will place emphasis on the security and interoperability of digital wallets.

**Digital currency:** The [Digital Currency Global Initiative](https://www.itu.int/en/ITU-T/extcoop/dcgi/Pages/default.aspx) is a collaboration between ITU and Stanford University that provides an open platform for dialogue and research on pilot implementations of digital currency and the development of specifications for technical standards to foster adoption, universal access, and financial inclusion.

In addition to working group meetings, two editions of the "DC3 Conference: From Cryptocurrencies to Central Bank Digital Currencies" were organized in [January 2023](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/2023/0124/Pages/default.aspx) and [January 2022](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/2022/0125/Pages/default.aspx).

## 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 editions were held online in March 2024, 2023 and 2022.

The first regional edition of the symposium was held on 6 October 2023 in Doha, Qatar, moving to Doha together with the Geneva International Motor Show. The symposium was organized by ITU and UNECE with support from the Communications Regulatory Authority of Qatar. Discussions focused on opportunities and challenges for Gulf Cooperation Council (GCC) countries.

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 is currently operating two working groups on [vehicular communications for merging automatically into congested lanes](https://www.itu.int/en/ITU-T/extcoop/cits/egcomad/wg01/Pages/default.aspx) and [vehicular communications for advanced emergency braking, including to protect vulnerable road users](https://www.itu.int/en/ITU-T/extcoop/cits/egcomad/wg02/Pages/default.aspx).

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 plays 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 on the transition to net-zero emissions, in particular standardized methodologies for measuring ICT sector progress, creating transition plans in the ICT sector and science-based targets.

[Among the outcomes](https://www.itu.int/initiatives/green-digital-action-atcop28/about/outcomes/) of Green Digital Action at COP28 were:

* Corporate agreements on reducing greenhouse gas emissions following science-based targets aligned with the goal of limiting climate warming to 1.5oC, and creating transition plans as well as increasing transparency on emissions data across the tech industry.
* Cross-country collaboration to develop e-waste regulation as a key vehicle to foster a circular tech industry.
* [Joint statement](https://www.worldstandardscooperation.org/) by ITU, ISO and IEC on the importance of sustainability being built into technical standards development by design, and standards helping the world reach net-zero emissions and achieve a resource-efficient circular and low-carbon economy.
* Strengthening of industry and country collaboration on the implementation of environmental sustainability standards through an [action plan](https://www.itu.int/initiatives/green-digital-action-atcop28/wp-content/uploads/sites/4/2023/12/Call-to-Action-Pillar4-Green-standards.pdf).
* Pledge from the mobile telecommunication and satellite industry to support the Early Warnings for All initiative through cell-broadcast and direct-to-device services to protect everyone through life-saving disaster alerts by 2027. A public sector pledge to implement cell-broadcast using a regulatory approach was also made.

The [AI/ML Solutions for Climate Change challenge](https://aiforgood.itu.int/about-ai-for-good/aiml-solutions-for-climate-change/) also culminated at COP28. The challenge was supported by supported by ITU, IAEA, FAO, UNESCO and the World Bank. The competitions were facilitated by a stream of the [AI for Good Innovation Factory](https://aiforgood.itu.int/about-ai-for-good/innovation-factory/) led by ITU and IAEA.

The [UN Climate Change Conference (COP27)](https://unfccc.int/cop27) was held in Sharm El-Sheikh, Egypt, 17-18 November 2022.

ITU organized an exhibit – themed "Turning digital innovation into climate action to reach net zero" – with the support of UNEP, UN University, UNIDO, UN-HABITAT, WHO, ILO, UNITAR, ITC, Basel Convention, Rotterdam Convention, Stockholm Convention, UNECE, ECLAC, FAO, UNDP, UNECA, UNESCO, UNFCCC, UNOP, UN Women, and WMO.

TSB/ITU-T led ITU's organization of COP27 events on topics including e-waste and circular economy, emissions reduction to achieve net zero, and digital transformation for smart sustainable cities. These COP27 events were organized by ITU in partnership with Egypt's Ministry of Communications and Information Technology, UNECA and UNITAR.

For all workshops, symposia and webinars on environment, climate change and circular economy organized in the study period, see relevant [web page](https://www.itu.int/en/ITU-T/climatechange/Pages/default.aspx).

## 5.7 Submarine cables and climate action

The [Joint Task Force on SMART cable systems](https://www.itu.int/en/ITU-T/climatechange/task-force-sc/Pages/default.aspx) supported by ITU, UNESCO-IOC and WMO is dedicated to advancing the concept of "Science Monitoring And Reliable Telecommunications (SMART) cables".

The minimum set of requirements established by the Joint Task Force are feeding into ITU-T standardization work, with two new ITU-T Recommendations being approved in August 2024 on SMART submarine cable systems [G.9730.2](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=16051) (ex G.smart) and dedicated scientific sensing submarine cable system [G.9730.1](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=16050) (ex [G.dsssc](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=17090)). In addition, work is underway on an "impact assessment framework for evaluating how ICT-based subsea infrastructure could support climate, environmental and biodiversity monitoring in the oceans" ([L.SMART](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=18961)).

## 5.8 Safe listening and accessible telehealth

ITU and WHO continue working together on global guidelines for safe listening with devices, in venues and in video gaming and esports. See relevant [ITU-WHO WTSA-24 side event](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/2024/1017-SL/Pages/default.aspx).

Consent was achieved in August 2024 on a new ITU-WHO standard for safe listening in video gameplay and esports, [Recommendation ITU-T H.872 "Safe listening for video gameplay esports"](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=19011). Collaboration to develop H.872 built on the success of ITU-WHO collaboration on safe listening with devices, particularly music players, which delivered [Recommendation ITU-T H.870 "Guidelines for safe listening devices/systems"](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=14953&lang=en) and its associated [implementation toolkit](https://www.itu.int/hub/publication/d-phcb-safe_lis-01-2019/). The work contributes to the [WHO Make Listening Safe initiative](https://www.who.int/activities/making-listening-safe). See also [all safe listening workshops](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/safelistening/Pages/default.aspx) co-organized by ITU and WHO.

Developed collaboratively with WHO, the [Recommendation ITU-T F.780.2 "Accessibility of telehealth services"](https://www.itu.int/itu-t/recommendations/rec.aspx?rec=15547&lang=en) approved in March 2022 defines accessibility requirements for technical features to be used and implemented by governments, healthcare providers and manufacturers of telehealth platforms. The standard was introduced in June 2022 at an ITU-WHO event held alongside the 15th session of the Conference of States Parties to the Convention on the Rights of Persons with Disabilities. A new [ITU-WHO implementation toolkit](https://www.who.int/publications/i/item/9789240094161) for the standard was published in September 2024.

## 5.9 CTO and CxO meetings

[CTO and CxO meetings](https://www.itu.int/en/ITU-T/tsbdir/cto/Pages/default.aspx) bring together high-level industry executives together with the senior management of TSB to exchange views on industry priorities and related standardization activities.

The most recent [CxO Roundtable](https://www.itu.int/en/ITU-T/tsbdir/CxO/Pages/CxO-20231205.aspx) was held in December 2023 at the Telecom Review Leader's Summit in Dubai, UAE, with additional participation online, hosted by Telecom Review with the support of the support of the UAE Telecommunications and Digital Government Regulatory Authority, du, Huawei and TELUS.

CxOs discussed the support for IMT-2030 required from optical networks, AI, and semantic communications. They also shared their outlook on addressing the digital divide, non-terrestrial networks, smart mobility (e.g., vehicle-to-everything communications and their regulatory requirements), powerline communications, disaster response, machine vision technology, blockchain, fraud mitigation, and quantum information technologies. See the meeting [communiqué](https://www.itu.int/en/ITU-T/tsbdir/cto/Documents/Communique_ITU_CxO_2023.pdf).

The previous [CxO Meeting](https://www.itu.int/en/ITU-T/tsbdir/CxO/Pages/CxO-20221206.aspx) was held in December 2022 at the Telecom Review Leader's Summit in Dubai, United Arab Emirates, with additional participation online, hosted by Telecom Review with the support of the UAE Telecommunications and Digital Government Regulatory Authority, du, TELUS, IBM, and Huawei.

CxOs discussed industry priorities in the areas of AI and machine learning, environmental sustainability, sustainability reporting, the metaverse, quantum information technologies, and IMT-2020 and beyond. CxOs also shared views on means to support and capitalize on the growing synergy between industry and academia in the development and application of ICTs, particularly in the field of AI and machine learning. See the meeting [communiqué](https://www.itu.int/en/ITU-T/tsbdir/cto/Documents/Communique_ITU_CxO_2022_06.12_Final.pdf).

# 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 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 Editor-in-Chief of the ITU Journal, [Ian F. Akyildiz](https://www.itu.int/en/journal/j-fet/Pages/editorial-board.aspx), Ken Byers Chair Professor in Telecommunications Emeritus at the Georgia Institute of Technology, was presented with a certificate of appreciation at PP-22 for his "commitment and outstanding contribution to the ITU Journal, in his role as founding Editor-in-Chief, ensuring the publication of impactful results to advance science."

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

Quarterly issues published in 2024:

* Volume 5, Issue 3 explores intelligent technologies for future networking and distributed systems.
* 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.

Quarterly issues published in 2023:

* Volume 4, Issue 4 explores innovations for the metaverse, AI for accessibility, vehicle-to-everything communications, edge computing, and low-earth orbit satellite networking.
* Volume 4, Issue 3 explores network automation and the resulting network dynamism key to 5G and beyond. It also shares insights on solutions developed as part of ITU's AI/ML in 5G Challenge.
* Volume 4, Issue 2 explores network orchestration and security for 5G and beyond, sharing insights on advances in network intelligence and automation helping to meet rapidly evolving service demands.
* Volume 4, Issue 1 explores innovative network solutions for future services, intelligent surfaces and gigahertz-to-terahertz (GHz-to-THz) broadband communications for 6G non-terrestrial networks.

Issues published in 2022:

* Volume 3 explores the digital continuum and next-generation networks, networking beyond 2030, and autonomous network management and control for 6G time-critical applications.
* It also explores topics ranging from holographic communications, digital twins, and edge computing to the growing research challenges in wireless communications associated with extended reality.
* Further, it addresses AI and machine learning solutions for 5G and future networks, emerging trends and applications expected to shape future networks, and vehicular network innovations to support smart and safe mobility.

Upcoming issues of the journal are set to address:

* AI and machine learning solutions for 5G and future networks
* 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 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 [14th edition](https://www.itu.int/en/ITU-T/academia/kaleidoscope/2022/Pages/default.aspx) – themed "Extended reality – How to boost quality of experience and interoperability" – explored the innovation required to make the metaverse a reality. The conference took place in Accra, Ghana, 7-9 December 2022, hosted by the National Communications Authority of Ghana.

The 15th edition of Kaleidoscope will be held 21-23 October 2024 in conjunction with WTSA-24. [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 September 2024, there were 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).

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 268 Sector Members and 234 Associates. ITU Academia members now total 172. 76 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.

New Sector Members welcomed since January 2022:

Globe Telecom, Inc.; Powertel Communications (PVT) Ltd.; Emirates Integrated Telecommunications Company PJSC; Libya Postal Telecommunication and Technology Holding Company (LPTIC); Google Inc.; Meta Platforms, Inc.; Vecima Networks Inc.; China Tower Corporation Limited; CableLabs; Arab League Educational, Cultural and Scientific Organization (ALECSO); Open & Agile Smart Cities (OASC); Communications Regulators Association of Southern Africa (CRASA); DITO Telecommunity Corporation; Digital Cooperation Organization (DCO); Guangdong OPPO Mobile Telecommunications Corp., Ltd.; State Grid Corporation of China; Afnic; China Satellite Network Group Co., Ltd; World Federation of Engineering Organization (WFEO); Ant Group Co., Ltd.; Frontier Communication; World's Global Telecom S.A. (WGT); Environmental Coalition on Standards (ECOS); Bahrain Network (BNET); Broadcom Europe Ltd.; European DIGITAL SME Alliance; Somtel; World Smart Sustainable Cities Organization (WeGO); Chongqing Changan Automobile Co., Ltd.

New Associates welcomed since January 2022:

aql (numbering) Ltd. (SG2); Onomondo ApS (SG2); LLC Bureau-1440 (SG2); Telnyx LLC (SG2); Globalmatix AG (SG2); Skylo Technologies, Inc. (SG2); Satelio IoT Services, S.L (SG2); KORE Wireless Inc. (SG2); AB Handshake Corporation (SG2); BBIX Singapore Pte. Ltd. (SG2); Stacuity Limited (SG2); NTT Ltd. Group Services Limited (SG2); RGTN Wholesale B.V. (SG2); GibFibre Ltd. (SG2); Bloxtel Inc. (SG2); Deer Management Systems DBA Tactacam (SG2); iONLINE Internet solutions provider Ltd. (SG2); ESim Go Limited (SG2); Simwood Group Plc (SG2); Datora Mobile Telecomunicações SA (SG2); Wireless Maritime Services (WMS) (SG2); 3G Telecommunications Limited (SG2); Beamlink, Inc. (SG2); Telikom Nauru Corporation (SG2); Worldcell Solutions LLC (SG2); Lynk Global, Inc (SG2); OQ Technology (SG2); IXT AS (SG2); Rapid.Space International (SG2); GlobalCell LLC (SG2); IMSI.AI (SG2); Mozilla Corporation (SG3); China Energy Materials Company Limited (SG5); Mukti Mandiri Lestari (SG5); Resilio (SG5); Shuangdeng Group Co., Ltd. (Chinashoto) (SG5); InMobiles (SG11); Potin (Beijing) Technology Co.,Ltd (SG11); Case On IT (SG12); Cerence GmbH (SG12); EFTS Group (SG12); MTN Group Management Services (Pty) Ltd.(SG12); Beijing BizSeer Technology Co. Ltd. (SG13); Technology Innovation Institute (TII) (SG13); Fondation B-COM (SG13); DNS Research Federation (SG13); Associação Data Privacy Brasil de Pesquisa (SG13) ; CGN Intelligent Technology (Shenzhen) Co., Ltd. (SG13); Inspur Communication Information Systems Co., Ltd (SG13); Net Insight AB (SG15); Skyworks Solutions, Inc. (SG15); Sino-Telecom Technology Co., Inc. (SG15); HMN Technologies Co. Ltd. (SG15); Senko Advanced Components (Euro) Ltd. (SG15); InnoLight Technology (Suzhou) Ltd. (SG15); Retym (SG15); NOS Technology SA (SG15); Open Fiber S.p.a. (SG15); Alphawave IP Inc (SG15); CommScope (SG15); LUSTER LightTech Co., Ltd. (SG16); Japan Industrial Imaging Association (SG16); Infervision Medical Technology Co., Ltd. (SG16); Guodian Nanjing Automation Co., Ltd (SG16); Hangzhou HarmonyCloud Technology Co., Ltd. (SG16); AI Speech Co., Ltd. (SG16); Sichuan Newstrong UHD Video Technology Co.,Ltd. (SG16); TOTHOMweb (SG16); Shanghai Data Exchange Co., Ltd. (SG16); Koninklijke Philips N.V.(SG16); FNS (M) Sdn Bhd (SG17); Radical Alternativas de Avanzada Altradicalavan Cia Ltda (SG17) ; TuringSign Global SA (SG17); HMN Smart Co., Ltd (SG20).

New Academia welcomed since January 2022:

Kyung Hee University; Beihang University; Universidad Nacional de Córdoba; Politecnico di Milano Dipartimento di Elettronica, Informazion e Biongegneria; Universitat Autònoma de Barcelona; Telkom University; University of Glasgow; Tohoku University/Research Institute of Electrical Communication; University of Pennsylvania; Daejeon University; National Institute of Telecommunications; MITRE; Technology and Engineering Center for Space Utilization Chinese Academy of Sciences; Peng Cheng Laboratory; Shandong University; Renmin University of China; Xiamen University; Xi'an Jiaotong University; Purple Mountain Laboratories; Blekinge Institute of Technology; Korea University; Indian Institute of Management Kashipur; Beijing Institute of Technology; China Branch of BRICS Institute of Future Networks; Beijing Jiaotong University; Universiti Teknologi MARA (UiTM); American University of Bahrain; Digital Currency Institute of the People's Bank of China; National Institute for Research & Development in Informatics ICI Bucharest; China University of Geosciences (Wuhan); The University of the West Indies Cave Hill School of Business Inc.; Digital Innovation Academy; Baylor University; Institute of Telecommunications and Global Information Space; Visvesvaraya National Institute of Technology (VNIT) Nagpur; China Institute of Communications; Tourism College of Zhejiang; Beijing Guoxin Digital Transformation Technology Research Institute; Sanjiang University; European Space Policy Institute (ESPI); Bangladesh University of Professionals (BUP); Sunchon National University; Universidad de Málaga; Indian Institute of Management Indore; Fudan University; Training Institute of the Lima Chamber of Commerce; Asian Institute of Technology; Razzakov Kyrgyz State Technical University; Rashtriya Raksha University.

**Total ITU-T Sector Members, Associates and Academia**

The following table and figure illustrate the evolution of ITU-T membership since 2012.

Table 2 – Evolution of ITU-T membership since 2012

|  | 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 | 268 |
| Associates | 128 | 130 | 132 | 131 | 127 | 135 | 152 | 177 | 192 | 213 | 220 | 226 | 234 |
| Academia | 39 | 56 | 70 | 92 | 103 | 119 | 146 | 155 | 159 | 158 | 170 | 169 | 172 |
| TOTAL | 429 | 455 | 468 | 484 | 480 | 509 | 553 | 597 | 626 | 640 | 653 | 665 | 674 |

NOTE 1 – Some of the figures in the table above have been subject to retroactive changes.

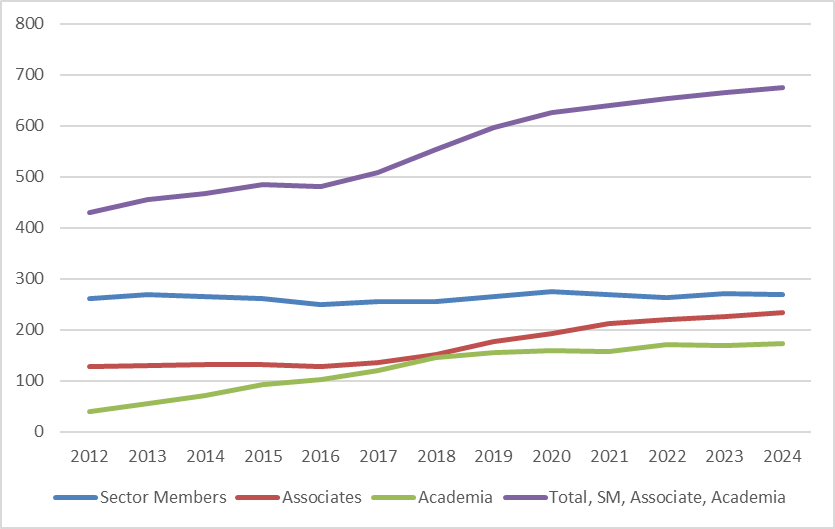


Figure 2 – Evolution of ITU-T membership since 2012

NOTE 2 – 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 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.

Over 50 BSG capacity building events were held in the study period, primarily addressing standards development but also WTSA and electronic working methods and tools. Capacity building events are held in conjunction with meetings of ITU-T study groups, regional groups and WTSA preparatory meetings.

***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.

**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).

ITU-T currently 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. 763 fellowships were requested by eligible delegates in the study period and 318 were awarded. These numbers reflect data available on 30 June 2024. Statistics on the fellowships awarded are provided below.

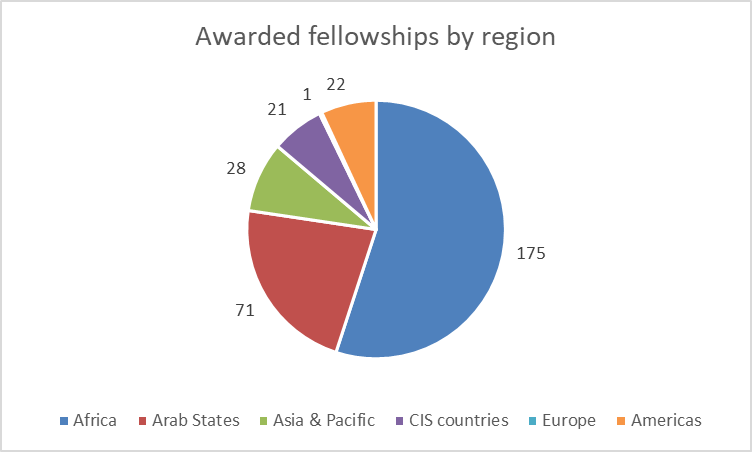


Figure 3 – Awarded fellowships by region

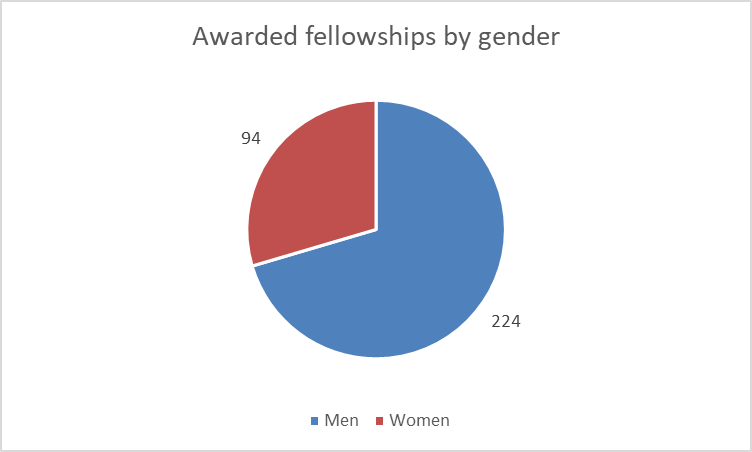


Figure 4 – Awarded fellowships by gender

# 10 Gender

For a comprehensive report on TSB activities on gender, see [TSAG TD556](https://www.itu.int/md/T22-TSAG-240729-TD-GEN-0556/en) (July 2024).

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
* Regional Activity for the Americas: 21 August 2024, CITEL 4th Preparatory WGCONF Meeting, João Pessoa, Brazil | [Programme](https://www.itu.int/en/ITU-T/NoW/Documents/Draft%20programme%20for%20NoW%20in%20ITU-T%20CITEL._.pdf)
* Regional Activity for Asia and the Pacific: 20 August 2024, APT WTSA24-5, Bangkok, Thailand | [Programme](https://www.itu.int/en/ITU-T/NoW/Documents/Draft%20Programme%20for%20NoW%20in%20ITU-T%20at%20APT%20WTSA-24-5.pdf) | [Presentation 1](https://ituint.sharepoint.com/:p:/r/sites/TSB-GenderDreamTeam/_layouts/15/Doc.aspx?sourcedoc=%7bCCF5A17C-A395-4C75-A788-D9A85615D9FA%7d&file=Part%202.1-1-WTSA%20-%20Getting%20the%20most%20of%20it%20%25u00fb%20During%20and%20after_Adelaide%20Australia%20-%20June%202024-v2a.pptx&action=edit&mobileredirect=true) | [Presentation 2](https://ituint.sharepoint.com/:p:/r/sites/TSB-GenderDreamTeam/_layouts/15/Doc.aspx?sourcedoc=%7bD0D6C5E0-5630-4203-8AB0-1140F0B301E4%7d&file=Part%202.1-2_Breaking%20Barriers-%20Women%25u00c6s%20participation%20and%20leadership%20in%20ITU-T%20and%20WTSA24-Qi%20Shuguang.pptx&action=edit&mobileredirect=true)
* 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 [TSAG 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).

Figures 5 to 7 provide an overview of TSB/ITU-T activities with respect to participants' gender.

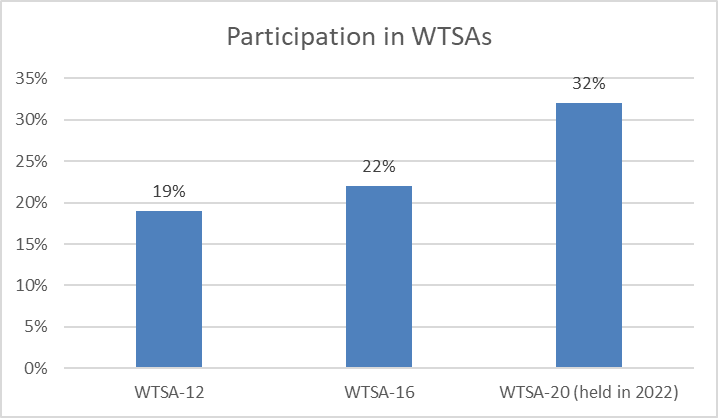


Figure 5 – Women's participation in the past three WTSA

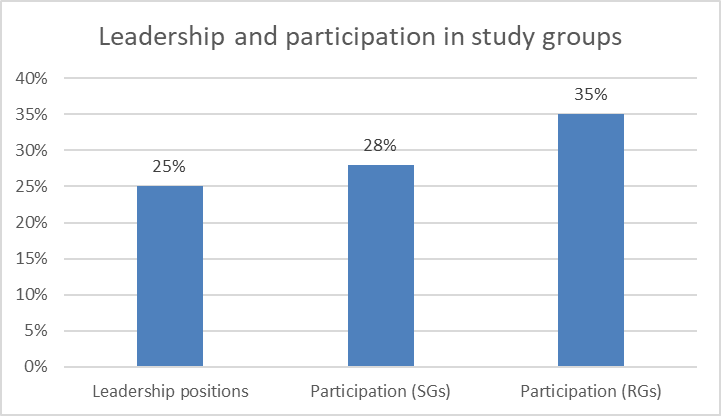


Figure 6 – Women's share of ITU-T leadership position and participation in study groups and regional groups within study groups

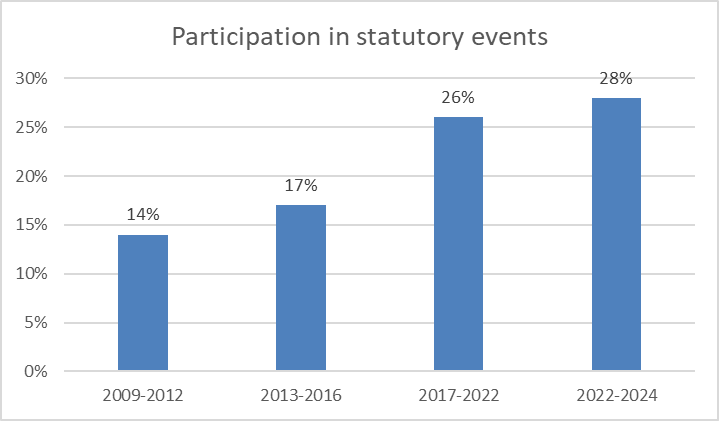


Figure 7 – Women's participation in ITU-T statutory meetings by study period

# 11 Publications

**Recommendations and Supplements:** As illustrated in Figure 8, over 860 ITU-T Recommendations and Supplements were published in study period. The figure below illustrates the number of ITU-T Recommendations and Supplements published per year since 2022.

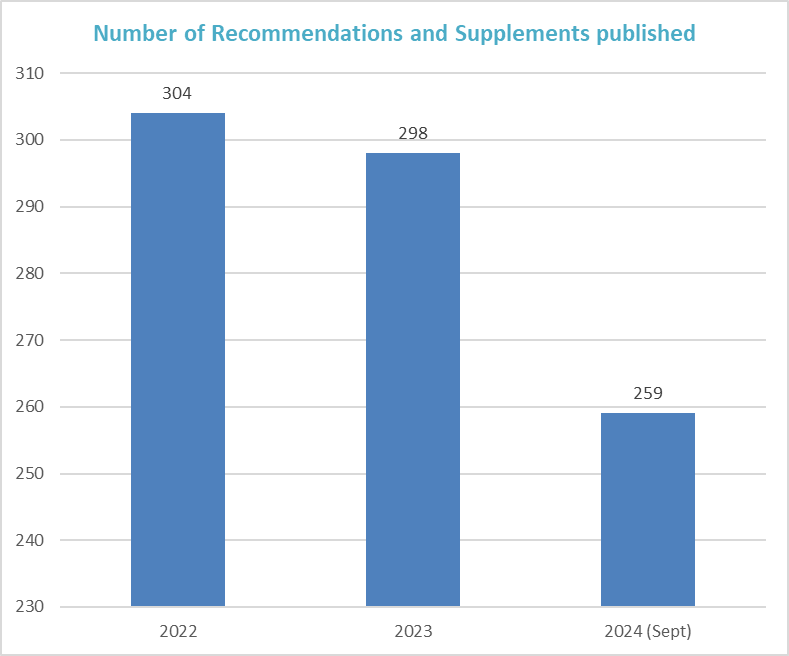


Figure 8 – Number of Recommendations, amendments and Supplements   
published per year since 2022

**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 and Council Resolution 1386.

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 ten Recommendations approved under the Alternative Approval Procedure in the study period, in accordance with requests received from ITU-T SGs and linguistic groups, and within the available budget.

**Recommendations withdrawn between WTSAs:** Since March 2022, the following ITU-T Recommendations and Supplements were withdrawn in accordance with clause 9.8.2.2 of WTSA Resolution 1 (Rev., Geneva, 2022):

* Recommendation ITU-T A.4 "Communication process between the ITU Telecommunication Standardization Sector and forums and consortia"
* Recommendation ITU-T A.6 "Cooperation and exchange of information between the ITU Telecommunication Standardization Sector and national and regional standards development organizations"
* Recommendation A Suppl. 5 "Guidelines for collaboration and exchange of information with other organizations"
* 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"
* Recommendation Y Suppl. 4 "ITU-T Y.1300 series Supplement on transport requirements for T-MPLS OAM and considerations for the application of IETF MPLS technology"

# 12 Electronic working methods and database applications

Continuous improvements are made to electronic working methods and tools for the membership in line with WTSA Resolution 32 (Strengthening electronic working methods for the work of the ITU Telecommunication Standardization Sector), WTSA Resolution 44 (Bridging the standardization gap between developing and developed countries) and PP Resolution 167 (Strengthening ITU capabilities for electronic meetings and means to advance the work of the Union).

Improvements target the following goals:

* Increase capabilities with respect to ITU-T electronic working methods and review their benefits.
* Disseminate guidelines, documentation and training to use ITU-T electronic working methods.
* Provide electronic participation facilities in ITU-T events for delegates unable to attend events in person.
* Maintain mobile-friendly ITU-T websites, e.g., the [WTSA-24 website](https://www.itu.int/wtsa/2024) and its various subsites.

These activities also contribute to bridging the standardization gap by providing tools that:

* Ensure equal access to electronic meetings and provide remote participation.
* Provide support to ensure the smooth functioning of ITU-T regional groups.
* Compile date relevant the participation of developing and developed countries in ITU-T activities.

## 12.1 Tools and Applications

TSB and ITU's IS and C&P Departments continue to develop several applications and further enhance existing facilities to support and improve ITU-T electronic working methods. TSB strives to support mobile devices in all new applications developed and follow the ITU design charter.

Key achievements include the following.

Document Management System for Rapporteur Group Meetings

The Microsoft SharePoint-based Document Management System for ITU-T Rapporteur Group Meetings (RGMs) has been used extensively by the ITU-T study groups and TSAG. Feedback from Rapporteurs drives the continuous improvement of the RGM system.

Current and past RGM meetings can be accessed at <https://itu.int/go/itu-t/rgm>.

A comprehensive support and FAQ page offering RGM tips and best practices is available at <https://itu.int/go/itu-t/rgm-support>.

A detailed online user guide for the RGM System, including video tutorials, is available at <https://itu.int/go/itu-t/rgm-guide>.

The RGM system is one of several services available in the ITU-T SharePoint collaboration sites. Access to these sites is an ITU-T membership privilege, requiring an ITU User (TIES) account.

ITU-T SharePoint Collaboration Sites

The ITU-T SharePoint collaboration sites enable participants in ITU-T working groups to conduct online discussions, work on projects, schedule meetings and manage and store documents in a secure shared environment.

The home of ITU-T SharePoint collaboration sites can be accessed at: <https://extranet.itu.int/sites/ITU-T/>.

A support site that contains a knowledge base of FAQs and user guides on the various SharePoint services is also available at: <https://extranet.itu.int/ITU-T/support/>.

Access to most of the collaboration sites is an ITU-T membership privilege, requiring an ITU User (TIES) account. Some collaboration sites are open to non-members and may be accessed using non-member ITU User accounts.

## 12.2 Web applications

MyWorkspace

[MyWorkspace](https://www.itu.int/myworkspace/) is a user-friendly mobile platform that centralizes a set of applications and services.

This platform has been built as a Progressive Web App (PWA) solution allowing the same user experience regardless of the device used. Access to this platform requires an ITU User account.

This platform is being updated continuously to make the most of ITU's latest and common IT resources, while integrating and modernizing a growing number of applications.

The following applications and services are available from MyWorkspace:

* [ITU Translate](https://www.itu.int/myworkspace/#/Translate): ITU Translate is a neural machine translation tool developed by TSB for ITU documents and websites. Based on an open-source framework, it has been trained using ITU material to ensure greater accuracy for technical content, but also includes website translation from external cloud-based translation services for general language expressions.  
    
  ITU Translate identifies and applies the best tools available for each language pair to translate general language webpages not currently available in the six official ITU languages. It uses innovative technologies to ensure high-quality translation services to complement the reach of the work carried out by ITU's human translation service. This is in line with PP Resolution 154 on the use of the six official languages of the Union on an equal footing.
* [Work Programme](https://www.itu.int/myworkspace/#/wp-external): This new application will replace the ageing [ITU-T Work Programme](https://www.itu.int/itu-t/workprog/wp_search.aspx) web application which will be phased out smoothly. Offering the same range of services, through a modern and centralized public application, this new application enhances access to the ITU-T Work Programme and increases its visibility.
* [[Standards](http://rec-external)](https://www.itu.int/myworkspace/#/rec-external): This new application will replace the ageing [ITU-T Recommendations](https://www.itu.int/ITU-T/recommendations/) web application, which will also be discontinued once all services have been transferred. The aim is to provide fast, modern access to ITU-T Recommendations and Supplements, with all relevant information, while also increasing their visibility to the public.
* [MyMeetings](https://www.itu.int/myworkspace/#/MyMeetings): Remote participation service based on the [BigBlueButton](https://bigbluebutton.org) open-source solution and customized by TSB to support requirements – at headquarters and in the regions – of both statutory and non-statutory ITU-T meetings, with appropriate access controls.
* Documents:
  + [MyDocuments](https://www.itu.int/myworkspace/#/Documents/MyDocuments/meeting=T22-TSAG-221212): Enhanced access to ITU-T study group meeting documents, per meeting, with multiple sorting and selection filters and full-text search, and automatic translation from English into the five other official ITU languages on demand.
  + [Suggested documents](https://www.itu.int/myworkspace/#/Documents/Suggested-Documents): A proposed list of documents based on pre-set user interests, with the option to bookmark favourites.
* [SDG Mapping](https://www.itu.int/myworkspace/#/sdg): AI-based mapping of the United Nations Sustainable Development Goals (SDGs) to ITU-T publications and Recommendations by evaluating semantic relevance of the texts to the achievement of these goals.
* [Calendar](https://www.itu.int/myworkspace/#/Calendar): Monthly calendar view of all ITU events with filters on ITU sectors and ITU-T working groups, with detailed information.
* [MyEvents](https://www.itu.int/myworkspace/#/Myevents): Events management platform that provides real-time ITU-T events agenda, list of registered participants, speakers and exhibitors, as well as a matchmaking function to enable networking among participants.
* [Mailing list](https://www.itu.int/myworkspace/#/Mailing): Subscription management with search functionality.
* [Community](https://www.itu.int/myworkspace/#/Community): MyWorkspace user directory.
* [Profile and preferences](https://www.itu.int/myworkspace/#/profile): User personal information and interests.

In addition to those integrated applications, MyWorkspace also offers access to an external set of services:

* [Other Apps](https://www.itu.int/myworkspace/#/Other-apps): Direct access to external services such as [ITU-T Cloud](https://tsbcloud.itu.int), [ITU-T Databases](https://www.itu.int/en/ITU-T/publications/Pages/dbase.aspx), a [Meeting documents synchronisation tool](https://www.itu.int/en/ITU-T/ewm/Pages/sync-app.aspx), Extranet collaboration platforms, [ITU Search](https://www.itu.int/search), [Frequently asked questions](https://www.itu.int/net/ITU-T/info/faqs.aspx).

Alternative approval process system

Online solution to apply the ITU-T A.8 simplified and faster procedure used for seeking the approval of draft new and revised Recommendations: <https://www.itu.int/t/aap/aap-recs>.

ITU-T work programme

Suite of Windows and [Web applications](https://www.itu.int/itu-t/workprog/) to follow ITU-T working groups' current and past structure and work items (currently shifted to MyWorkspace).

ITU-T liaison statements

Online application to access the [ITU-T Liaison Statements](https://www.itu.int/net4/ITU-T/ls) database.

ITU-T Recommendations

Suite of Windows and Web applications to follow and access [ITU-T Recommendations](https://www.itu.int/itu-t/recommendations) publications (currently shifted to MyWorkspace).

ICT standards landscape

Online management and research tool across the [ICT Standards Landscape](https://www.itu.int/itu-t/landscape) covering various topics linked to ITU-T and other SDOs' standards, under the responsibility of experts in the respective domain, such as:

* [Access Network Transport](https://www.itu.int/itu-t/landscape/?topic=tx356)
* [Cloud Computing](https://www.itu.int/itu-t/landscape/?topic=tx378)
* [Home Network Transport](https://www.itu.int/itu-t/landscape/?topic=tx153)
* [ICT Security](https://www.itu.int/itu-t/landscape/?topic=tx279)
* [IMT-2020 and beyond](https://www.itu.int/itu-t/landscape/?topic=tx379)
* [ITS Communication](https://www.itu.int/itu-t/landscape/?topic=tx21)
* [IoT & Smart Sustainable Cities](https://www.itu.int/itu-t/landscape/?topic=tx380)
* Quantum information technology
* Optical transport networks & technologies
* Verifiable health credentials

Intellectual property rights (IPR) in ITU-T Recommendations

Online search on [ITU-T Recommendations patents and software](https://www.itu.int/net4/ipr/search.aspx) copyright declarations.

ITU-R/ITU-T terms & definitions database

Online search on [ITU-R and ITU-T Recommendations terms and definitions](https://www.itu.int/br_tsb_terms/) databases.

This is maintained in close collaboration with the Coordination Committee for Vocabulary ([CCV](https://www.itu.int/en/ITU-R/study-groups/rccv/Pages/default.aspx)).

ITU national numbering plans repository

Online access to [ITU National Numbering Plans](https://www.itu.int/itu-t/nnp/#/home) which has been enhanced to allow users to access both the notifications of the administrations' plans in Word format and in dynamic lists, when applicable.

International numbering resources

The [International Numbering Resources](https://www.itu.int/en/ITU-T/inr/Pages/default.aspx) include databases such as:

* [Universal Numbers applications](https://www.itu.int/en/ITU-T/inr/unum/Pages/default.aspx): Enables the tracking of operators whose numbers have been reclaimed.
* [Issuer Identifier Number](https://www.itu.int/net/itu-t/inrdb/secured/e118iin.aspx) (IIN): Workflow application allowing TSB to manage IIN registration.

ITUSearch

Online search on ITU digital resources, including files that public search engines cannot access. The IS department recently adopted Google's engine to search ITU web pages (<https://www.itu.int/search>). This greatly improved result accuracy.

The [*Deep Search*](https://www.itu.int/net4/itu-t/search/) function still uses the legacy engine, whose search scope has been reduced to meeting documents, publications and ITU regulatory texts in six languages and the latest WTDC and WTSA outputs, avoiding mixing its results with ITU web pages' resources.

ITU-T mailing lists

The mailing lists continue remain essential tools for the work of study groups and other groups. The following table shows active ITU-T mailing lists and subscriptions. TSB recently established a new mailing list for ITU-T experts to receive an alert for each TSB Circular posting.

Table 3 – List of mailing lists and subscribers in the 2022-2024 study period

| Group | Mailing lists | Subscribers |
| --- | --- | --- |
| TSAG | 11 | 2620 |
| SG2 | 17 | 5954 |
| SG3 | 14 | 2336 |
| SG5 | 14 | 2362 |
| SG9 | 3 | 294 |
| SG11 | 18 | 2320 |
| SG12 | 24 | 4333 |
| SG13 | 28 | 6187 |
| SG15 | 19 | 6290 |
| SG16 | 19 | 2887 |
| SG17 | 21 | 4177 |
| SG20 | 14 | 4244 |
| Regional Groups | 25 | 2484 |
| Focus Groups | 76 | 10004 |
| Joint Coordination Activities | 13 | 1566 |
| Other Groups | 66 | 2253 |
| **Total** | **382** | **60311** |

# Appendix I: Non-attendance of vice-chairs

| Study Group | Meetings | Non-attendance of |
| --- | --- | --- |
| SG2 | Geneva, 19 - 28 June 2024 | Hossam SAKAR, Egypt |
| SG2 | Virtual, 11 March 2024 | Hossam SAKAR, Egypt |
| SG2 | Virtual, 11 March 2024 | Ramazan YILMAZ, Turkey |
| SG2 | Virtual, 11 March 2024 | Rashid AL MEMARI, United Arab Emirates |
| SG2 | Virtual, 11 March 2024 | Vijay Kumar ROY, India |
| SG2 | Virtual, 11 March 2024 | Yaw BOAMAH BAAFI, Ghana |
| SG3 | Geneva, 10 November 2023 | Karima MAHMOUDI, Tunisia |
| SG3 | Geneva, 11 November 2022 | Karima MAHMOUDI, Tunisia |
| SG3 | Geneva, 10 November 2023 | Marthe UWAMARIYA, Rwanda |
| SG3 | Geneva, 11 November 2022 | Marthe UWAMARIYA, Rwanda |
| SG3 | Geneva, 9 - 18 July 2024 | Omar ALNEMER, United Arab Emirates |
| SG3 | Geneva, 11 November 2022 | Zuhair AL-ZUHAIR, Vice Chair, Kuwait |
| SG5 | Geneva, 13-22 November 2023 | Kazuhiro TAKAYA, Japan |
| SG5 | E-meeting, 5 December 2022 | Nevine TEWFIK, Egypt |
| SG5 | E-meeting, 5 December 2022 | Pedro BRISSON, Argentina |
| SG5 | Rome, Italy, 17-27 October 2022 | Pedro BRISSON, Argentina |
| SG5 | Sophia Antipolis, France, 13-23 June 2023 | Pedro BRISSON, Argentina |
| SG5 | E-meeting, 5 December 2022 | Saidiahrol SAIDIAKBAROV, Republic of Uzbekistan |
| SG5 | Geneva, 13-22 November 2023 | Saidiahrol SAIDIAKBAROV, Republic of Uzbekistan |
| SG5 | Geneva, 21 June - 1 July 2022 | Saidiahrol SAIDIAKBAROV, Republic of Uzbekistan |
| SG5 | Rome, Italy, 17-27 October 2022 | Saidiahrol SAIDIAKBAROV, Republic of Uzbekistan |
| SG5 | Sophia Antipolis, France, 13-23 June 2023 | Saidiahrol SAIDIAKBAROV, Republic of Uzbekistan |
| SG5 | Wroclaw, 17 - 21 June 2024 | Saidiahrol SAIDIAKBAROV, Republic of Uzbekistan |
| SG5 | Geneva, 13-22 November 2023 | Vincent Urbain NAMRONA, Central African Rep. |
| SG5 | Sophia Antipolis, France, 13-23 June 2023 | Vincent Urbain NAMRONA, Central African Rep. |
| SG5 | Wroclaw, 17 - 21 June 2024 | Vincent Urbain NAMRONA, Central African Rep. |
| SG5 | E-meeting, 5 December 2022 | Vincent Urbain NAMRONA, Central African Republic |
| SG5 | Geneva, 21 June - 1 July 2022 | Vincent Urbain NAMRONA, Central African Republic |
| SG5 | Rome, Italy, 17-27 October 2022 | Vincent Urbain NAMRONA, Central African Republic |
| SG9 | Bogotá, Colombia, 14-23 November 2023 | Blaise MAMADOU, Central African Rep. |
| SG9 | Virtual, 9 - 17 May 2024 | Blaise MAMADOU, Central African Rep. |
| SG9 | Bangalore, India, 9-18 May 2023 | Blaise MAMADOU, Central African Republic |
| SG9 | Tokyo, Japan, 2-10 September 2024 | Blaise MAMADOU, Central African Republic |
| SG9 | Bogotá, Colombia, 14-23 November 2023 | Zhifan SHENG, China |
| SG9 | Tokyo, Japan, 2-10 September 2024 | Zhifan SHENG, China |
| SG11 | Geneva, 1 - 10 May 2024 | Arezu OROJLU, Iran |
| SG11 | Geneva, 10-19 May 2023 | Arezu OROJLU, Iran |
| SG11 | Geneva, 10-20 October 2023 | Arezu OROJLU, Iran |
| SG11 | Geneva, 1 - 10 May 2024 | Ibrahim Abdalah Mohamed BALA, Sudan |
| SG11 | Geneva, 10-19 May 2023 | Ibrahim Abdalah Mohamed BALA, Sudan |
| SG11 | Geneva, 10-20 October 2023 | Ibrahim Abdalah Mohamed BALA, Sudan |
| SG11 | Geneva, 1 - 10 May 2024 | Juan Matias CATTANEO, Argentina |
| SG11 | Geneva, 10-19 May 2023 | Juan Matias CATTANEO, Argentina |
| SG11 | Geneva, 10-20 October 2023 | Juan Matias CATTANEO, Argentina |
| SG11 | Geneva, 6-15 July 2022 | Juan Matias CATTANEO, Argentina |
| SG12 | Mexico City, Mexico, 19-28 September 2023 | Ammar ABDALLAH ALARAKI, Sudan |
| SG12 | Geneva, 18-26 January 2023 | Collins MBULO, Zambia |
| SG12 | Mexico City, Mexico, 19-28 September 2023 | Collins MBULO, Zambia |
| SG12 | Geneva, 16 - 25 April 2024 | Edoyemi OGOH, Nigeria |
| SG12 | Geneva, 18-26 January 2023 | Edoyemi OGOH, Nigeria |
| SG12 | Geneva, 16 - 25 April 2024 | Sergio Daniel D'UVA, Argentina |
| SG13 | Geneva, 13-24 March 2023 | Anabel DEL CARMEN CISNEROS, Argentina |
| SG13 | Geneva, 14 November 2022 | Anabel DEL CARMEN CISNEROS, Argentina |
| SG13 | Geneva, 15-26 July 2024 | Anabel DEL CARMEN CISNEROS, Argentina |
| SG13 | Geneva, 23 October – 3 November 2023 | Anabel DEL CARMEN CISNEROS, Argentina |
| SG13 | Geneva, 4 - 15 March 2024 | Anabel DEL CARMEN CISNEROS, Argentina |
| SG13 | Geneva, 14 November 2022 | Brice MURARA, Rwanda |
| SG13 | Geneva, 15-26 July 2024 | Brice MURARA, Rwanda |
| SG13 | Geneva, 4 - 15 March 2024 | Brice MURARA, Rwanda |
| SG13 | Geneva, 4-15 July 2022 | Brice MURARA, Rwanda |
| SG13 | Geneva, 13-24 March 2023 | Bülent ARSAL, Turkey |
| SG13 | Geneva, 14 November 2022 | Bülent ARSAL, Turkey |
| SG13 | Geneva, 15-26 July 2024 | Bülent ARSAL, Turkey |
| SG13 | Geneva, 23 October – 3 November 2023 | Bülent ARSAL, Turkey |
| SG13 | Geneva, 4 - 15 March 2024 | Bülent ARSAL, Turkey |
| SG13 | Geneva, 4-15 July 2022 | Bülent ARSAL, Turkey |
| SG13 | Geneva, 14 November 2022 | Hyung-Soo (Hans) KIM, Korea (Rep. of) |
| SG13 | Geneva, 14 November 2022 | Mehmet TOY, United States |
| SG13 | Geneva, 15-26 July 2024 | Obid ASADOV, Uzbekistan |
| SG13 | Geneva, 23 October – 3 November 2023 | Yuan ZHANG, China |
| SG15 | Montreal, 1 - 12 July 2024 | Emanuele NASTRI, Italy |
| SG16 | Geneva, 10-21 July 2023 | Akmal SAVURBAEV, Uzbekistan |
| SG16 | Geneva, 17-28 October 2022 | Akmal SAVURBAEV, Uzbekistan |
| SG16 | Rennes, 15 - 26 April 2024 | Akmal SAVURBAEV, Uzbekistan |
| SG16 | Rennes, 15 - 26 April 2024 | Ashok KUMAR, India |
| SG16 | Geneva, 10-21 July 2023 | Charles Zoé BANGA, Central African Rep. |
| SG16 | Geneva, 17-28 October 2022 | Charles Zoé BANGA, Central African Rep. |
| SG16 | Rennes, 15 - 26 April 2024 | Charles Zoé BANGA, Central African Rep. |
| SG17 | Geneva, 23 August - 2 September 2022 | Abderrazak BACHIR BOUIADJRA, Algérie Télécom SPA |
| SG17 | Virtual, 10-20 May 2022 | Afnan ALROMI, Saudi Arabia |
| SG17 | Geneva, 20 February - 1 March 2024 | Francisco Javier DÍAZ, Argentina |
| SG17 | Geneva, 21 February - 3 March 2023 | Francisco Javier DÍAZ, Argentina |
| SG17 | Geneva, 2-6 September 2024 | Francisco Javier DÍAZ, Argentina |
| SG17 | Goyang, Korea (Rep. of), 29 August - 8 September 2023 | Francisco Javier DÍAZ, Argentina |
| SG17 | Virtual, 11 - 12 July 2024 | Francisco Javier DÍAZ, Argentina |
| SG17 | Geneva, 20 February - 1 March 2024 | Gökhan EVREN, Turkey |
| SG17 | Geneva, 21 February - 3 March 2023 | Gökhan EVREN, Turkey |
| SG17 | Geneva, 23 August - 2 September 2022 | Gökhan EVREN, Turkey |
| SG17 | Geneva, 2-6 September 2024 | Gökhan EVREN, Turkey |
| SG17 | Goyang, Korea (Rep. of), 29 August - 8 September 2023 | Gökhan EVREN, Turkey |
| SG17 | Virtual, 10-20 May 2022 | Gökhan EVREN, Turkey |
| SG17 | Virtual, 11 - 12 July 2024 | Gökhan EVREN, Turkey |
| SG17 | Goyang, Korea (Rep. of), 29 August - 8 September 2023 | Laial ALMANSOURY, Kuwait |
| SG17 | Virtual, 11 - 12 July 2024 | Laial ALMANSOURY, Kuwait |
| SG17 | Geneva, 23 August - 2 September 2022 | Lia MOLINARI, Argentina |
| SG17 | Virtual, 11 - 12 July 2024 | Pushpendra Kumar SINGH, India |
| SG17 | Geneva, 23 August - 2 September 2022 | Samir ABDELGAWAD, Egypt |
| SG17 | Geneva, 23 August - 2 September 2022 | Wala TURKI LATROUS, Tunisia |
| SG17 | Geneva, 2-6 September 2024 | Wala TURKI LATROUS, Tunisia |
| SG17 | Virtual, 10-20 May 2022 | Wala TURKI LATROUS, Tunisia |
| SG17 | Virtual, 11 - 12 July 2024 | Wala TURKI LATROUS, Tunisia |
| SG20 | Geneva, 18-28 July 2022 | Achime Malick NDIAYE, Senegal |
| SG20 | Geneva, 1 - 12 July 2024 | Héctor Mario CARRIL, Argentina |
| TSAG | Geneva, 22-26 January 2024 | Khalid Al-Hmoud, Jordan |
| TSAG | Geneva, 29 July – 2 August 2024 | Khalid Al-Hmoud, Jordan |
| TSAG | Geneva, 30 May – 2 June 2023 | Khalid Al-Hmoud, Jordan |
| TSAG | Geneva, 22-26 January 2024 | Ulugbek Azimov, Uzbekistan |
| TSAG | Geneva, 29 July – 2 August 2024 | Ulugbek Azimov, Uzbekistan |

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