ITU World Telecommunication Standardization Assembly 2024

Background Paper, October 2024

Internet Society

Summary

This background paper on the World Telecommunication Standardization Assembly (WTSA-24) is intended to provide the Internet Society community and interested parties with an outline of the objectives and key issues to be addressed at WTSA-24. The paper offers a guide into the following areas:

- Background on the International Telecommunication Union and the WTSA-24
- Key Internet-related topics for discussion at WTSA-24
- The role of the Internet Society and its objectives for WTSA-24

Background on the International Telecommunication Union (ITU)

The ITU was created in 1865 to facilitate international telegraphy in Europe and has evolved to address the advances in communications globally. Since 1948, it has been a United Nations (UN) specialized agency headquartered in Geneva, Switzerland, and has played an important role in forging cooperation in the global communications system, telecommunications infrastructure development, and the allocation of radio frequency spectrum.

The ITU's mandate is clearly focused on international telecommunications as stated in Article 1 of the ITU Constitution. However, innovation in communication technologies and applications and the supplanting of traditional telephony systems by global Internet protocol networking systems have raised questions about the appropriate role for the ITU. As Internet public policy issues have found their way into the ITU agenda, discussions continue about the ITU's proper role, scope, and activities.

ITU Structure and Governing Bodies

The Plenipotentiary Conference (Plenipot), held every four years, acts as the governing body of the ITU providing it overall strategic and financial guidance. The Plenipotentiary establishes the General Rules of Conferences, Assemblies and Meetings of the Union and elects leadership for the ITU. As a treaty-level conference, the Plenipotentiary Conference is the venue for revising the ITU's controlling treaties, the Constitution of the International Telecommunication Union ("ITU Constitution") and the Convention of the International Telecommunication Union ("ITU Convention").

Since 1998, the ITU has become more involved in a range of policy and substantive matters related to Information and Communication Technologies (ICTs). Plenipotentiary Resolutions[1] have largely been the vehicle for its enhanced role.

The ITU Council meets annually and serves as the governing body during the intervening years between Plenipotentiary conferences. It is composed of one-fourth of the ITU's Member States, and the election of Council Members occurs at Plenipotentiary Conferences. The ITU Council addresses decisions that do not involve changing treaty text or elections.

The ITU is managed by its General Secretariat, headed by the Secretary General (currently Doreen Bogdan-Martin of the USA). The ITU includes three Sectors that carry out the activities mandated by the Plenipotentiary Conference: The Radiocommunication Sector, called ITU-R, the Telecommunication Standardization Sector, called ITU-T and the Telecommunication Development Sector, called ITU-D. The

[1] ITU Plenipotentiary resolutions are formal expressions of the opinion or will of the ITU Plenipotentiary.

CC BY-NC-SA 4.0

Sector work programs are defined by a Sector-specific assembly or conference usually held every four years. (see Table 1).

Table 1: Description of International Telecommunication Union Sectors

Item	ITU-R	ITU-T	ITU-D
Sector	Radiocommunication	Telecommunication Standardization	Telecommunication Development
Mandate	Coordinate the allocation of Radio Frequency Spectrum and adopt Radiocommunication Recommendations *(Art. 13 ITU Constitution)*	Study technical, operating and tariff questions and adopt recommendations to standardize telecommunications *(Art. 17 ITU Constitution)*	Facilitate and improve telecommunications development *(Art. 21 ITU Constitution)*
Conference/ Assembly	World Radio Conference (WRC)	World Telecommunications Standardization Assembly (WTSA)	World Telecommunications Development Conference (WTDC)
Description	Considers revisions to the ITU Radio Regulations	Defines the Work Program, Working Methods and Structure of Study Groups for the next four years in ITU-T	Defines the Work Program, Working Methods and Structure of Study Groups for the next four years in ITU-D
Occurrence	Every 3—4 years	Every 4 years	Every 4 years
Next Conference	2027	WTSA 2024	WTDC 2025

The membership of the ITU is comprised of Member States, Sector Members (private industry and other approved organizations), Associates, and Academia. At a WTSA, only Member States have voting rights; however, Sector Members[2] can fully participate in the discussion and contribute to the consensus building towards the outcomes of the conference. Other organizations and individuals as described in Article 25 of the ITU Convention can attend as observers.

There are 193 Member States and over 700 Sector Members and Associates. Membership in the ITU is fee-based, with some fee reductions or exemptions available to members that meet the ITU's eligibility criteria. Sector Members may participate in the activities of the Sector which they join, including

[2] List of Sector Members here

CC BY-NC-SA 4.0

leadership positions of the Sector Study Groups and Sector Conferences. Associates participate in only one Study Group in a Sector. Each Sector has rules of procedures for decision making in Study Groups.

The ITU-T is the ITU Sector that develops international ICT standards in the form of Recommendations. It is managed by the Telecommunications Standardization Bureau (TSB), which is headed by the TSB Director (currently Seizo Onoe of Japan).

The ITU-T's standardization work is carried out in its Study Groups (see Table 2) organized as Questions (visit the ITU website for a summary of ITU-T standards development). The Telecommunication Standardization Advisory Group (TSAG) acts "as an advisory body to the Study Groups, membership and staff of ITU-T." TSAG also develops its own recommendations (A-series) concerning the operation of the Study Groups, the approval process, and how the ITU-T works with other organizations (e.g., IETF, ISO/IEC).

Table 2: ITU Study Groups

Study Group Number	Study Group Name
SG2	Operational aspects of service provision and telecommunication management
SG3	Tariff and accounting principles and international telecommunication/ICT economic and policy issues
SG5	EMF, environment, climate action, sustainable digitalization, and circular economy
SG9	Broadband cable & TV
SG11	Signalling requirements, protocols, test specifications and combating counterfeit telecommunication/ICT devices
SG12	Performance, quality of service (QoS) and quality of experience (QoE)
SG13	Future networks and emerging network technologies
SG15	Networks, technologies and infrastructures for transport, access and home
SG16	Multimedia & related digital technologies
SG17	Security
SG20	Internet of things (IoT) and smart cities and communities (SC&C)

The ITU-T also creates Focus Groups, which provide a way for ITU-T to collaborate with non-ITU organizations to address specific issues. While Focus Groups meet for a limited time and don't develop standards, their reports can be used to initiate standards work in the Study Groups.

CC BY-NC-SA 4.0

The World Telecommunication Standardization Assembly (WTSA)

The 2024 World Telecommunication Standardization Assembly (WTSA-24) will define the work program, working methods, and structure of Study Groups for the ITU-T for the 2025—2028 study period and will be held 15-24 October 2024 in New Delhi, India. The activities of WTSA are outlined under Article 13 of the ITU Convention. During a WTSA, governments:

- Consider Study Group reports in order to approve, modify or reject draft recommendations
- Consider proposals to retain, dissolve, modify or merge Study Groups and their questions
- Consider proposals to add new Study Groups and Questions that reflect new issues or priorities
- Consider proposals to add, merge, retain, or dissolve other groups
- Agree on the mandate, scope, and terms of reference for Study Group work programs (found in WTSA Resolution 2)
- Review proposals to modify or delete WTSA-20 Resolutions or add new resolutions
- Elect Chairs and Vice-Chairs of the Study Groups
- Consider other policy matters.

ITU-T Recommendations are developed by the Study Groups, are consensus-based (with some exceptions), and non-obligatory, following the procedures defined in WTSA Resolution 1. A Recommendation that has not reached consensus in the Study Groups can be proposed for adoption at WTSA by a majority vote of Member States.

Despite their international voluntary status, Member States can adopt Recommendations into national laws or regulations, thus making them mandatory within those countries.

Global Standards Symposium

The ITU-T will host the Global Standards Symposium (GSS) the day before WTSA-24 starts (14 October 2024). The GSS is a "a high-level forum for discussion and coordination" between standards development organizations on standards development and is open to ITU-T members and non-members.

The theme of this year's GSS is "Charting the Next Digital Wave: Emerging Technologies, Innovation, and International Standards". The GSS doesn't feed proposals into WTSA, but can inform discussions.

CC BY-NC-SA 4.0

Preparations for WTSA-24

The work program in ITU-T is organized and structured according to the WTSA Resolutions contained in the final WTSA proceedings. During WTSA-24, Member States will consider reports from the Director of the TSB, the Study Groups, and the TSAG on activities from the previous study period (2022—2024[3]).

Through 2024, the Study Groups will hold their wrap-up meetings for the study period and develop their final reports for WTSA-24. The Study Group reports include proposals for:

- Updating the mandate and terms of Reference for the Study Group.
- Adding, modifying, merging, or deleting Questions for the new study period.
- Approving draft Recommendations.
- Modifying Resolutions within the scope of work of the Study Group.

Most of the decisions on updates to the Study Group work plan and Questions are made at the Study Group level and are generally approved at WTSA. Topics on which agreement can't be reached can be flagged for further discussion at WTSA. The Study Group reports are submitted to TSAG for review before being submitted to WTSA.

The TSAG met in late July/early August 2024 to review the TSB Director report and the Study Group reports and develop its own input to WTSA-24 related to its Recommendations (A-series), including the structure of the Study Groups and Resolutions.

The ITU regional telecommunication organizations (see Table 3) met in the months before WTSA-24 to prepare and consolidate regional views on issues important to each region and develop common regional proposals for WTSA-24.

Table 3: Regional Telecommunication Organizations

ITU Regional Telecommunication Organization
African Telecommunication Union (ATU)
Inter-American Telecommunication Commission (CITEL)
Asia Pacific Telecommunity (APT)
League of Arab States (LAS)
European Conference of Postal and Telecommunication Administrations (CEPT)
Regional Commonwealth in the Field of Communications (RCC)

[3] The previous study period was only 2 years since WTSA-20 was delayed until 2022 due to Covid-19.

CC BY-NC-SA 4.0

Since regional proposals have already reached a level of consensus within the regions, they are given priority in discussions at WTSA. In addition, ITU hosted inter-regional meetings to allow the regions to present the status of their preparations for WTSA-24.

Each Member State prepares for WTSA-24 using its national process. In addition to working with its regional group, Member States can also prepare their own proposals for WTSA-24.

Resolution 2 contains the mandates and terms of reference for the Study Groups and the Questions for study during the study period. Each Study Group prepares an update for its work plan for the next study period and submits it to WTSA-24 through TSAG (see current proposals).

Key Topics at WTSA-24

WTSA-24 will set the direction of ITU-T and its work program for the next four years. How the work program is defined as well as the changes that are made in Recommendations and WTSA Resolutions can impact the scope of the ITU-T's mandate.

The growth of the Internet and widespread use of its protocols and services has been reflected in the work program of ITU-T over the last 25 years so that many of its study topics can be seen as directly or indirectly affecting the Internet.

Some of the topics that could affect the Internet and that are likely to be discussed at WTSA-24 include:

- Management of the Internet: One proposal (ARB/36A17/1) on Resolution 75 encourages the study groups to develop recommendations on Internet management.
- International Mobile Telecommunications towards 2030 (IMT-2030) and beyond (updating previous work topics of "IMT-2020 and beyond"): ITU-R has published Recommendation M.2160-0 "Framework and overall objectives of the future development of IMT for 2030 and beyond" and Report ITU-R M.2516-0 "Future technology trends of terrestrial International Mobile Telecommunications systems towards 2030 and beyond". ITU-T focuses on the non-radio aspects of IMT. Current resolutions (for example, Resolution 92) that reference IMT-2020 will be updated to reflect IMT-2030. IMT-2030 will be used to drive work on several technologies, especially in SG13 for network architecture, SG11 for network signaling, and SG17 for security, including:
    - Intelligent manufacturing, improving energy efficiency, e-waste management, and reducing network complexity
    - SG13: open radio access network, fixed/mobile/satellite convergence, QOS mechanisms, digital twin network and autonomous network
    - SG9/16: future vehicular multimedia system, assisted driving, and autonomous driving

CC BY-NC-SA 4.0

    - SG17: trust framework
    - Voice/Video over New Radio (VoNR/ViNR), sometimes referred to as Voice over 5G, to replace Voice over LTE (VoLTE).
    - "AI Native" where Artificial Intelligence (AI) is embedded in networking equipment.
    - Web 3.0: Though not mentioned in Resolution 92, it will be a topic of discussion on Resolution 2 related to proposed new QN/13.
- Emerging Technologies: In addition to the above, other emerging technologies will possibly be discussed. Some of the new work (for example, AI) mentioned above will also be done outside the IMT-2030 project. This includes:
    - Artificial Intelligence (AI)/Machine Learning (ML): Multiple proposals for a new resolution on AI/ML exist, including applications of AI to enhance network operation, use of AI to provide enhanced services, and responsible use of AI. This will likely stimulate significant discussion at WTSA-24.
    - Quantum communication technologies, including Quantum Key Distribution and a proposed new resolution on "Post-Quantum Cryptography".
    - Metaverse: Multiple proposals for a new resolution will likely result in extended discussion and a new resolution. The Focus Group on Metaverse (FG-MV) defines metaverse as " an integrative ecosystem of virtual worlds offering immersive experiences to users, that modify pre-existing and create new value from economic, environmental, social and cultural perspectives." This is a wide-ranging topic that could stimulate work in multiple study groups.
        - Citiverse: The Focus Group on Metaverse, in its deliverable "Definitions of Citiverse," defines it as the "Application of metaverse in urban spaces and populations."
    - Green Networking, Environmental Sustainability, energy efficiency (for example, SG5), and energy management.
    - Vehicular Communications: There is a proposal for a new resolution on Vehicular Communications.
- Internet of Things and Smart Communities (Resolution 98, Study Group 20).

- Cybersecurity (Resolution 50) continues to be a hot topic of debate in ITU, as exemplified by the debate in Plenipotentiary 2022 (PP-22) on Resolution 130. The work in Study Group 17 continues to expand to cover new areas and software supply chain security. Note there is also a proposal to Resolution 76 to include cybersecurity in conformance testing.
- Identifier Technologies: A new resolution on Digital Identities and Credentials is proposed. In addition, work on Identifier technologies includes the Internet of Things, Digital Object Identifiers (DOIs), Digital Object Architecture (DOA), Identity Management (SG17), naming, numbering, addressing, and identification (Study Group 2), Policy Frameworks (Study Group 3), and Unified identity/identifier/locator split (UIIS) (Study Group 20).

CC BY-NC-SA 4.0

- Over-the-Top Communications (OTT): There are proposals for a new resolution on OTT, and to include OTT services in Resolution 20. In addition, policy discussions continue in Study Group 3.
- Satellite Internet connectivity: A new resolution on Non-Geostationary Orbit (NGSO) satellite networks is proposed. In addition, work on fixed, mobile, and satellite convergence in Q23/13 is proposed to continue.
- Mobile Roaming: (mainly Resolution 88): Studies on Costs, termination fees, and regulatory models will continue, including voice and data roaming.
- ITU-T Reorganization: There is a current proposal to merge Study Group 9 and Study Group 16.
- Engagement in ITU-T: Industry engagement will be a topic of discussion at WTSA-24, with proposals to modify Resolutions 22 and 68. In addition, a proposed Resolution on enhancing next-generation participation in ITU-T standardization will encourage participation from developing countries and youth.
- Sustainable Digital Transformation (SDT) and Digital Public Infrastructure (DPI): There are multiple proposals for new resolutions on SDT and DPI. These don't propose work on specific technologies but do propose work in a wide-ranging area that could overlap with other organizations.

Table 4 lists the existing WTSA Resolutions that the Internet Society is tracking for WTSA-24. New resolutions will also be monitored for their impact on the Internet.

Table 4: WTSA Internet-related Resolutions

Issue Area	WTSA Resolutions	Title
Working methods	Resolution 1	Rules of procedure of the ITU Telecommunication Standardization Sector
Internet-related issues	Resolution 20	Procedure for allocation and management of international telecommunication numbering, naming, addressing and identification resources.
	Resolution 29	Alternative calling procedures on international telecommunication.
	Resolution 47 (WTSA-12)	Country code top-level domain names.
	Resolution 48	Internationalized (multilingual) domain names telecommunication.
	Resolution 49 (WTSA-16)	ENUM[4]

[4] ENUM refers to IETF RFC3761, "The E.164 to Uniform Resource Identifiers (URI) Dynamic Delegation Discovery System (DDDS) Application (ENUM)"

CC BY-NC-SA 4.0

Issue Area	WTSA Resolutions	Title
	Resolution 60	Responding to the challenges of the evolution of the identification/numbering system and its convergence with Internet Protocol-based systems/networks.
	Resolution 61	Countering and combating misappropriation and misuse of international telecommunication numbering resources.
	Resolution 64	IP Address allocation and encouraging the deployment of IPv6.
	Resolution 69 (WTSA-16)	Non-discriminatory access and use of Internet resources.
ITU-T's role in standardization	Resolution 44	Bridging the standardization gap between developing and developed countries.
Cybersecurity, Confidence and security in the use of ICTs	Resolution 50	Cybersecurity
	Resolution 52 (WTSA-16)	Countering and combating spam
	Resolution 58	Encouraging the creation of national computer incident response teams particularly for developing countries.
WSIS+10 and SDGs	Resolution 75	The ITU Telecommunication Standardization Sector's contribution in implementing the outcomes of the World Summit on the Information Society, considering the 2030 Agenda for Sustainable Development.
Access and Infrastructure	Resolution 92	Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications.
	Resolution 93 (WTSA-16)	Interconnection of 4G, IMT-2020 networks and beyond.
	Resolution 95	ITU Telecommunication Standardization Sector initiatives to raise awareness on best practices and policies related to service quality.
Emerging Technologies	Resolution 97	Combating mobile telecommunication device theft.
	Resolution 98	Enhancing the standardization of Internet of Things and smart cities and communities for global development.

Internet Society's Role at WTSA

The Internet Society is a Sector Member of ITU-T and ITU-D and believes that the ITU has an important role to play in the Internet Ecosystem: promoting core infrastructure development and cross-border

CC BY-NC-SA 4.0

connectivity, allocating spectrum to enable the deployment of new technologies and services, and providing technical assistance and capacity building.

The Internet Society supports the ITU's role in creating an enabling environment and its international cooperation platform for telecommunications. Additionally, the Internet Society will engage in discussions and follow activities related to the Internet's technical, social, and economic development while continuing to urge multistakeholder dialogue on these issues and that technical recommendations consider open standards.

The Internet Society recognizes and values the importance of a distributed model of governance where each stakeholder group has its own role and responsibility in the Internet Ecosystem. These elements are key considerations to achieving successful outcomes at WTSA-24 whereby the ITU's role is clearly delineated within scope and mandate, and the ITU's commitment to collaboration with other Standards Development Organizations is strengthened.

The Internet Society would like to encourage community members, including chapters, organizational members, and individuals, to actively participate in the WTSA-24 preparatory activities at the national and regional levels. Engagement could be as Sector Members or as members of the national delegations.

The Internet Society would also like to encourage engagement at WTSA-24. Engagement could be as representative of a Sector Member (via its designated Focal Point) or as a member of a national delegation.

Community members are welcome to share observations on Internet-related draft resolutions with the Internet Society at internetgovernance@isoc.org.

CC BY-NC-SA 4.0