MIDWEST MODEL UNITED NATIONS

INTERNATIONAL TELECOMMUNICATION UNION

TOPIC GUIDE

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Midwest Model United Nations, Inc.
PO Box 104522
Jefferson City, MO 65110

MIDWEST MODEL UNITED NATIONS

International Telecommunication Union

Committee Mandate

Founded in 1865, the International Telecommunication Union (ITU) is the oldest specialized agency of the United Nations and serves as the United Nations' specialized agency for information and communication technologies (ICTs).[1] The ITU works to connect the world by coordinating the global use of radio-frequency spectrum and satellite orbits, developing international telecommunications standards, and promoting the development and accessibility of communication technologies. Through international cooperation, the ITU seeks to facilitate reliable connectivity and ensure that the benefits of digital technologies can be shared by people around the world.[2]

The ITU's work is organized into three sectors: the Radiocommunication Sector (ITU-R), the Telecommunication Standardization Sector (ITU-T), and the Telecommunication Development Sector (ITU-D). ITU-R coordinates the use of radio-frequency spectrum and satellite orbits to support radiocommunication services; ITU-T develops international standards to promote interoperability between telecommunications networks and technologies; and ITU-D works to expand access to ICTs and support telecommunications development, particularly in underserved communities and developing countries. Together, these sectors address technical, regulatory, and developmental challenges associated with global communications.[3]

Membership

The ITU is composed of 194 Member States, alongside more than 1,000 Sector Members, Associates, academic institutions, and other organizations involved in the global ICT ecosystem.[4] Member States participate in the Union's governing bodies and international conferences, where they negotiate shared approaches to telecommunications policy, technical coordination, and digital development. Unlike many United Nations bodies, the ITU also provides formal avenues for participation by private-sector organizations, universities, and other technical experts, whose contributions help inform the development of international standards and telecommunications practices.[5]

The ITU operates through international cooperation and consensus-building among countries with different levels of technological development, resources, and connectivity.[6] Its membership includes developed and developing countries, least developed countries, landlocked developing countries, and small island developing States. These differing circumstances shape discussions on issues such as equitable

[1] International Telecommunication Union. "About the International Telecommunication Union (ITU)." N.d. Accessed October 25, 2026.
[2] Ibid.
[3] International Telecommunication Union. "Discover ITU's History." N.d. Accessed October 25, 2026.
[4] International Telecommunication Union. "How We Are Governed." N.d. Accessed October 25, 2026.
[5] Ibid.
[6] International Telecommunication Union. "Our Members." N.d. Accessed October 25, 2026.

access to communications infrastructure, the allocation of limited orbital and radio-frequency resources, the security and resilience of telecommunications networks, and the long-term sustainability of space-based communications.[7]

Reporting and Decision-Making

The ITU is governed by the Plenipotentiary Conference, its highest policy-making body, and the ITU Council, which oversees the Union's work between Plenipotentiary Conferences. The Plenipotentiary Conference meets every four years to establish the organization's general policies, adopt strategic and financial plans, and elect its senior leadership and Council members. The Council meets annually to guide the implementation of these policies, coordinate work programmes, and oversee the organization's ongoing operations.[8]

Within the ITU's three sectors, international conferences, assemblies, study groups, and advisory groups bring together government representatives and relevant experts to examine telecommunications challenges and develop coordinated approaches. Depending on the issue and the applicable ITU procedures, these processes can result in international standards, recommendations, regulatory provisions, resolutions, and development initiatives. The ITU's Radiocommunication Sector, for example, supports the international coordination of radio-frequency spectrum and satellite orbits, while its Standardization and Development sectors address interoperability and the expansion of access to communications technologies.[9]

[7] International Telecommunication Union. "ITU as a UN Specialized Agency." N.d. Accessed October 25, 2026.
[8] Ibid.
[9] International Telecommunication Union. "ITU Study Groups." N.d. Accessed October 25, 2026.

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MIDWEST MODEL UNITED NATIONS

International Telecommunication Union

Topic A: Space Debris Mitigation

Introduction

"If you love space, you must love clean space."

- *Luisa Innocenti, European Space Agency*

Since the launch of Sputnik 1 in 1957, Member States have sent a rapidly growing number of satellites into Earth orbit, extending communications networks, satellite-based positioning and navigation systems, and weather forecasting capabilities that are now integral to daily life around the world.[1] This growth has accelerated sharply in recent years: the United Nations Office for Outer Space Affairs (UNOOSA) reported that more than 2,050 satellites were registered in 2022 alone, marking the third consecutive year in which the annual launch record was broken, and that the objects launched that year alone represented approximately 15 percent of every object placed into space since the beginning of the space era.[2] By June 2024, an estimated 10,125 satellites were actively orbiting Earth, a figure that has grown by roughly 30 percent per year since 2020, driven substantially by the deployment of large satellite constellations.[3]

This expansion of activity in outer space has produced a corresponding rise in space debris, a term generally used to describe defunct satellites, spent rocket stages, and fragments generated by collisions, explosions, or the gradual degradation of spacecraft materials. According to the 2024 European Space Agency's (ESA) Space Environment Report, more than 35,000 objects larger than ten centimeters are currently tracked in Earth orbit.[4] This number includes approximately 9,100 active payloads and 26,000 pieces of debris. While the actual number of objects one centimeter or larger, which is large enough to disable or destroy an operational spacecraft on impact, is estimated to exceed one million.[5] Because objects in low-Earth orbit (LEO) travel at speeds of several kilometers per second relative to one another, even small fragments pose a substantial collision hazard to active satellites and crewed spacecraft.[6]

Compounding this challenge is the dynamic commonly known as the Kessler Syndrome, described by former NASA scientist Donald Kessler as a scenario in which the density of objects in a given orbital region becomes high enough that collisions

[1] United Nations Office for Outer Space Affairs. "Online Index of Objects Launched into Outer Space." N.d.
[2] United Nations Office for Outer Space Affairs. "UNOOSA Annual Report 2022." 2023.
[3] United Nations Development Programme. "Congested Space." Signals Spotlight 2024. 2024.
[4] European Space Agency. "ESA Space Environment Report 2024." 2024.
[5] Ibid.
[6] Ibid.

between objects generate additional debris, which in turn increases the probability of further collisions in a self-sustaining cascade.[7] Left unaddressed, this dynamic threatens to render parts of the orbital environment, including sections of low-Earth orbit and the geostationary orbit (GEO), progressively less usable for future generations.[8] Because outer space is not subject to national appropriation and its most useful orbital regions and associated radio-frequency spectrum are recognized in international law as limited resources, addressing space debris mitigation necessarily engages international space law, technical standard-setting bodies, and telecommunications regulation alike, all of which fall within the interest of this Committee.[9]

Background

The foundation of international space law is the *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, commonly known as the *Outer Space Treaty*, which entered into force in October 1967.[10] Article VI of the *Outer Space Treaty* holds States Parties internationally responsible for national space activities, whether carried out by governmental or non-governmental entities, while Article IX requires States to conduct their activities with due regard for the corresponding interests of other States and to avoid harmful contamination of outer space.[11] These obligations were reinforced by the *Convention on International Liability for Damage Caused by Space Objects*, which entered into force in September 1972 and provides that a launching State bears absolute liability for damage its space object causes on the surface of the Earth or to aircraft in flight, but is liable for damage caused elsewhere, including in outer space, only where fault on the part of that State can be established.[12] The *Outer Space Treaty* further provides, under Article VIII, that ownership of an object launched into outer space is not affected by its presence there, meaning that a piece of debris, however small or defunct, remains the property of its launching State unless that State consents to its removal or otherwise relinquishes its rights.[13] Taken together, these instruments mean that liability for debris-related damage occurring on Earth is comparatively straightforward to establish. However, while liability for in-orbit collisions, which is by far the more common scenario as the orbital environment grows more congested, depends on a fault standard that can be difficult to satisfy when the debris responsible for the damage cannot be reliably traced to a State of origin.

As the scale of the debris problem became more widely recognized, the Inter-Agency Space Debris Coordination Committee (IADC), an international forum of thirteen national and multinational space agencies established in 1993, developed technical guidelines for debris mitigation drawing on the collective operational

[7] Kessler, Donald J. "The Kessler Syndrome: Implications to Future Space Operations." American Astronautical Society. 2010.
[8] Kessler, Donald J. "The Kessler Syndrome: Implications to Future Space Operations." American Astronautical Society. 2010.
[9] Ibid.
[10] United Nations. "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies." 1967.
[11] Ibid.
[12] United Nations. "Convention on International Liability for Damage Caused by Space Objects." 1972.
[13] United Nations. "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies." 1967.

experience of its member agencies.[14] These technical guidelines informed the subsequent work of the Committee on the Peaceful Uses of Outer Space (COPUOS), which adopted its own *Space Debris Mitigation Guidelines* in 2007.[15] The COPUOS Guidelines set out seven measures that Member States and international organizations are encouraged to apply across a spacecraft's life cycle: limiting debris released during normal operations; minimizing the potential for accidental break-ups during operational phases; limiting the probability of accidental collision with other objects; avoiding intentional destruction of spacecraft and other harmful activities that create long-lived debris; minimizing the potential for post-mission break-ups resulting from stored energy; limiting the long-term presence of spacecraft and launch vehicle stages in low-Earth orbit after the end of their mission; and limiting their long-term interference with the geostationary orbit region after mission completion.[16] Later that year, the General Assembly endorsed the COPUOS Guidelines and encouraged their voluntary implementation by Member States and international organizations.[17]

The COPUOS Guidelines, however, are explicitly non-binding, and the Committee has since worked to encourage and track their implementation.[18] In 2014, Canada, the Czech Republic, and Germany contributed a *Compendium of Space Debris Mitigation Standards Adopted by States and International Organizations*, a living document maintained by UNOOSA that catalogues the national laws, agency guidelines, and technical standards that Member States and organizations have put in place to implement debris mitigation measures, and which the Committee has continued to update in subsequent years.[19] The International Organization for Standardization has likewise translated the IADC and COPUOS guidelines into a technical standard available for spacecraft manufacturers and operators to adopt, ISO 24113, first published in 2010 and most recently revised in 2023 as *Space Systems - Space Debris Mitigation Requirements*.[20]

Recognizing that debris mitigation alone would not guarantee the long-term usability of outer space, COPUOS's Working Group on the Long-term Sustainability of Outer Space Activities spent more than eight years negotiating a broader set of guidelines, which the Committee adopted on 21 June 2019.[21] The resulting 21 *Guidelines for the Long-term Sustainability of Outer Space Activities* are organized around four themes, namely the policy and regulatory framework for space activities, the safety of space operations, international cooperation and capacity-building, and scientific and technical research and development, and they encourage Member

[14] European Space Agency. "IADC Celebrates 30th Anniversary at ESOC." 2023.
[15] Committee on the Peaceful Uses of Outer Space. "Report of the Committee on the Peaceful Uses of Outer Space." A/62/20. 2007.
[16] Committee on the Peaceful Uses of Outer Space. "Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space." A/62/20. 2007.
[17] United Nations General Assembly. "International Cooperation in the Peaceful Uses of Outer Space." A/RES/62/217. 2007.
[18] United Nations Office for Outer Space Affairs. "Compendium of Space Debris Mitigation Standards Adopted by States and International Organizations." A/AC.105/C.2/2024/CRP.9. 2024.
[19] Ibid.
[20] International Organization for Standardization. "ISO 24113:2023 — Space Systems — Space Debris Mitigation Requirements." 2023.
[21] Committee on the Peaceful Uses of Outer Space. "Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space." A/74/20, Annex II. 2019.

States to consider debris mitigation and space situational awareness alongside broader sustainability concerns, including equitable access to orbital resources.[22]

Telecommunications regulation forms a parallel track of debris-related governance, since satellite operations depend on internationally coordinated allocations of radio-frequency spectrum and orbital position.[23] The International Telecommunication Union (ITU), through its Radiocommunication Sector (ITU-R), maintains Recommendation ITU-R S.1003-2, *Environmental Protection of the Geostationary-Satellite Orbit*, which specifies the minimum altitude above the geostationary orbit to which a satellite should be relocated at the end of its operational life so as not to interfere with the limited number of operational slots in that orbit.[24] More recently, the ITU's Radiocommunication Assembly adopted Resolution ITU-R 74 in 2023, which recognizes that existing guidance addresses only the geostationary orbit and instructs the Director of the Radiocommunication Bureau to develop new guidance on safe and efficient deorbit and disposal strategies for satellites in non-geostationary orbits, while encouraging Member States to deorbit satellites at the end of their life and to share relevant data to facilitate frequency coordination.[25] The ITU has also launched a Space Sustainability Gateway, an online portal intended to consolidate national and international regulatory information relevant to the sustainable use of space for the benefit of Member States and industry.[26]

Current Situation

Space debris mitigation sits at the intersection of several UN and UN-affiliated bodies. Within COPUOS, both the Scientific and Technical Subcommittee and the Legal Subcommittee maintain standing agenda items related to space debris, long-term sustainability, and, increasingly, space traffic management, while UNOOSA serves as the Committee's secretariat and maintains both the Compendium of mitigation standards and the United Nations Register of Objects Launched into Outer Space, through which States are required to provide certain information about the objects they launch under the Convention on Registration of Objects Launched into Outer Space, which entered into force in September 1976.[27] The ITU-R continues to develop binding radio regulations and recommendations relevant to satellite disposal, while the IADC and the International Organization for Standardization continue to provide much of the technical expertise on which COPUOS and ITU instruments rely.[28]

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[22] Committee on the Peaceful Uses of Outer Space. "Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space." A/74/20, Annex II. 2019.
[23] Committee on the Peaceful Uses of Outer Space. "Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space." A/74/20, Annex II. 2019.
[24] International Telecommunication Union. "Recommendation ITU-R S.1003-2: Environmental Protection of the Geostationary-Satellite Orbit." 2010.
[25] International Telecommunication Union. "Resolution ITU-R 74: Activities Related to the Sustainable Use of Radio-Frequency Spectrum and Associated Satellite-Orbit Resources Used by Space Services." 2023.
[26] International Telecommunication Union. "Space Sustainability Gateway." N.d.
[27] United Nations Office for Outer Space Affairs. "Convention on Registration of Objects Launched into Outer Space." 1976.
[28] Ibid.

Active Debris Removal and Space Traffic Management

Because existing mitigation guidelines are prospective, meaning they primarily address how future spacecraft should be designed and operated, they do little to reduce the substantial population of debris already in orbit.[29] This has driven growing interest in active debris removal: the physical capture and de-orbiting of existing debris objects. ESA's ClearSpace-1 mission, developed together with the Swiss company ClearSpace and an industrial consortium led by OHB SE, is intended to be the first mission to capture and de-orbit an existing piece of debris, currently planned to target ESA's defunct PROBA-1 satellite, with launch planned for 2029.[30] Active debris removal, however, raises unresolved legal questions rooted in the *Outer Space Treaty*'s ownership provisions discussed above: because a piece of debris remains the property of its launching Member State regardless of its condition or location, a third party generally cannot remove it without that Member State's consent, a requirement that can complicate removal efforts when the debris in question cannot be reliably attributed to a Member State of origin or when diplomatic relations between the relevant Member States are strained.[31]

Closely related is the emerging concept of space traffic management, understood broadly as the coordination of information and, potentially, of maneuvers among operators and Member States to avoid collisions in an increasingly congested orbital environment. Unlike air traffic management, space traffic management currently has no binding international framework or dedicated coordinating body; it instead relies on a patchwork of national space situational awareness capabilities, voluntary data-sharing arrangements between operators, and the technical guidelines discussed above.[32] In 2024, Germany submitted a paper to COPUOS proposing the establishment of a dedicated Study Group to examine perspectives on space traffic management within the Committee, reflecting a broader recognition among Member States that existing legal and technical arrangements may need to be reassessed as the number of active satellites continues to grow.[33] Member States have not yet reached consensus on whether new binding rules, as opposed to further voluntary guidance, are necessary or desirable to manage collision risk going forward.

Equitable Access to Orbital Resources

A further concern is the equitable distribution of the benefits and burdens of an increasingly congested orbital environment between established spacefaring Member States and developing or non-spacefaring Member States. The rapid deployment of large satellite constellations has been a principal driver of the growth in active satellites described above, with more than half of all satellites currently in orbit owned by a single company.[34] Because usable orbital regions and associated radio-frequency spectrum are physically finite, the ITU Constitution recognizes them

[29] European Space Agency. "ClearSpace-1." N.d.
[30] Ibid.
[31] United Nations. "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies." 1967.
[32] Germany. "Proposal for a Study Group on Perspectives for Space Traffic Management." A/AC.105/2024/CRP.21. 2024.
[33] Ibid.
[34] United Nations Development Programme. "Congested Space." Signals Spotlight 2024. 2024.

as “limited natural resources” that must be used “rationally, efficiently and economically” so that countries or groups of countries “may have equitable access” to them, taking into account “the special needs of the developing countries and the geographical situation of particular countries.”[35] The rapid growth of mega-constellations has accordingly prompted broader debate about whether the benefits and burdens of an increasingly congested orbital environment are being equitably distributed between established and emerging spacefaring Member States, an issue that intersects directly with the equitable-access principle set out in the ITU Constitution and with the international cooperation and capacity-building objectives of the *Guidelines for the Long-term Sustainability of Outer Space Activities*, which encourage all Member States, regardless of their current level of space capability, to participate meaningfully in decisions about how orbital resources are used and protected going forward.[36]

Future Outlook

In October 2021, the General Assembly adopted the *“Space2030” Agenda*, which frames space activities and international cooperation on outer space governance as instruments of sustainable development and encourages Member States to strengthen international cooperation, capacity-building, and the legal and regulatory frameworks that govern the use of outer space.[37] Implementation of the *Space2030 Agenda*, together with continued work on the long-term sustainability guidelines and mounting attention to space traffic management, is likely to remain a central focus of COPUOS's work in the years ahead.[38] The ITU-R's mandate under Resolution ITU-R 74 to develop new disposal guidance for non-geostationary satellites also remains a work in progress, and its outcome will shape how the growing population of large constellations is expected to manage its own end-of-life disposal.[39]

At the same time, fundamental questions remain unresolved. Existing mitigation and sustainability instruments remain voluntary, and no binding international mechanism currently obliges Member States or private operators to remove debris they have already placed in orbit, remedy design flaws in defunct satellites, or coordinate maneuvers with other operators to avoid collisions.[40] The growth of active debris removal capabilities, exemplified by missions such as ClearSpace-1, may eventually offer a partial technical remedy, but questions of consent, cost, and liability under the existing legal framework are likely to continue shaping how, and how quickly, such capabilities can be deployed at scale.[41] Member States will also need to continue weighing the interests of established spacefaring Member States and commercial operators against the interests of developing and emerging

[35] International Telecommunication Union. "Constitution of the International Telecommunication Union." N.d.
[36] Committee on the Peaceful Uses of Outer Space. "Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space." A/74/20, Annex II. 2019.
[37] United Nations General Assembly. "The “Space2030” Agenda: Space as a Driver of Sustainable Development." A/RES/76/3. 2021.
[38] United Nations Office for Outer Space Affairs. "Convention on Registration of Objects Launched into Outer Space." 1976
[39] International Telecommunication Union. "Resolution ITU-R 74: Activities Related to the Sustainable Use of Radio-Frequency Spectrum and Associated Satellite-Orbit Resources Used by Space Services." 2023.
[40] United Nations. "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies." 1967.
[41] European Space Agency. "ClearSpace-1." N.d.

spacefaring States in ensuring that the orbital environment, and the economic and scientific opportunities it affords, remains accessible for future generations.[42]

Focus Questions

- Does your State currently participate in COPUOS, the ITU-R, or the IADC, and has it adopted any of the debris mitigation standards catalogued in the UNOOSA Compendium?

- Should compliance with debris mitigation guidelines, such as the COPUOS Guidelines or ISO 24113, remain voluntary, or should the international community pursue a binding instrument, and what would be the practical and political obstacles in doing so?

- How should the international community balance the interests of States and companies operating large satellite constellations against the interests of developing and non-spacefaring States in preserving equitable access to orbital resources?

- What legal or procedural mechanisms might help resolve the ownership and consent challenges that complicate active debris removal under the existing liability and ownership framework?

- What role, if any, should this Committee play in advancing space traffic management, given that no comprehensive binding international framework currently exists?

[42] United Nations General Assembly. "The “Space2030” Agenda: Space as a Driver of Sustainable Development." A/RES/76/3. 2021.

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Germany. "Proposal for a Study Group on Perspectives for Space Traffic Management." A/AC.105/2024/CRP.21. 2024. https://www.unoosa.org/oosa/oosadoc/data/documents/2024/aac.1052024crp/aac.1052024crp.21_0.html.

International Telecommunication Union. "Constitution of the International Telecommunication Union." N.d. https://www.itu.int/en/council/Documents/basic-texts/Constitution-E.pdf.

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International Telecommunication Union

Topic B: Achieving Equitable Communications for Everyone

Introduction

"For many, the digital promise is still a virtual dream."

- *António Guterres, Former Secretary General of the United Nations*

Communication technologies have become essential infrastructure for participation in modern society. Mobile networks, broadband, satellites, digital platforms and other information and communication technologies (ICTs) connect people to education, employment, healthcare, government services, emergency information and one another. Yet access to communications remains deeply unequal.[1] In 2025, approximately 6 billion people were estimated to be online, while 2.2 billion people remained offline.[2] The International Telecommunication Union (ITU) also reports that connectivity is increasingly shaped not only by whether a network exists, but by whether people can afford it, have an appropriate device, possess the skills to use it, and can connect safely and reliably.[3]

These inequalities are commonly described as the digital divide, but the divide is not a single gap.[4] It exists between high- and low-income countries, urban and rural communities, women and men, older and younger people, and people with and without disabilities.[5] It can also affect people differently depending on language, education, geography, age, income and the availability of accessible content and services.[6] The ITU's framework for universal and meaningful connectivity (UMC) therefore emphasizes six interconnected dimensions: quality, availability, affordability, devices, skills and security.[7] Equitable communications requires progress across all six dimensions rather than simply expanding network coverage.[8]

The issue is especially important because communications infrastructure increasingly determines who can participate in the global economy and public life.[9] A student without a reliable connection may struggle to learn; a rural health worker may be unable to access telemedicine; a person with a disability may encounter a website or device that cannot be used with assistive technology; and a low-income

[1] International Telecommunication Union. "Accessibility to ICTs: Achieving equitable communications for everyone." International Telecommunication Union. 2026.
[2] International Telecommunication Union. "Facts and Figures 2025." International Telecommunication Union. 2025.
[3] Ibid.
[4] International Telecommunication Union. "Digital Inclusion of All." International Telecommunication Union. 2026.
[5] Ibid.
[6] Ibid.
[7] International Telecommunication Union. "Universal and Meaningful Connectivity." International Telecommunication Union. 2026.
[8] Ibid.
[9] International Telecommunication Union. "Global Connectivity Report 2025." International Telecommunication Union. 2025.

household may live under mobile broadband coverage but still be unable to afford sufficient data.[10] The challenge for Member States is therefore to develop communications systems that are universal, affordable, accessible, reliable and safe while respecting national circumstances and encouraging innovation.[11]

Background

The organization began as the International Telegraph Union in 1865, when twenty countries met in Paris to coordinate international telegraphy. Early cooperation focused on common rules, tariffs and technical standards that could allow communications to function across borders.[12] In 1934, the organization adopted the name International Telecommunication Union as its responsibilities expanded to additional forms of communication. Following negotiations with the United Nations in 1947, the ITU became a UN specialized agency for telecommunications, with the agreement entering into force in 1949.[13]

As communications technology changed, the question of equitable access became increasingly connected to development.[14] In 1982, the ITU established the Independent Commission for World-Wide Telecommunications Development. Its 1985 report, The Missing Link, highlighted the enormous imbalance in telephone access between developed and developing countries and argued that inadequate telecommunications infrastructure was closely connected to economic opportunity.[15] The report helped establish a lasting principle for international telecommunications policy: technological progress has limited value if people and communities cannot access it.[16]

The World Summit on the Information Society (WSIS), held in two phases in Geneva in 2003 and Tunis in 2005, broadened this vision for the digital age.[17] The WSIS Declaration of Principles called for a 'people-centred, inclusive and development-oriented Information Society' in which everyone could create, access, use and share information and knowledge.[18] The WSIS process placed connectivity, capacity-building, access to information and communication infrastructure, and international cooperation within a shared development framework. Its outcomes continue to influence global digital policy.[19]

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[10] International Telecommunication Union. “Global Connectivity Report 2025.” International Telecommunication Union. 2025.
[11] Ibid.
[12] International Telecommunication Union. “ITU-D Delegate Guide: What is ITU?” International Telecommunication Union. 2026.
[13] Ibid.
[14] International Telecommunication Union. “Global Connectivity Report 2025.” International Telecommunication Union. 2025.
[15] International Telecommunication Union. “ITU-D Delegate Guide: What is ITU?” International Telecommunication Union. 2026.
[16] International Telecommunication Union. “Global Connectivity Report 2025.” International Telecommunication Union. 2025.
[17] United Nations Educational, Scientific and Cultural Organization. “World Summit on the Information Society (WSIS)” United Nations Educational, Scientific and Cultural Organization. 2026.
[18] United Nations Educational, Scientific and Cultural Organization. “World Summit on the Information Society (WSIS)” United Nations Educational, Scientific and Cultural Organization. 2026.
[19] Ibid.

The ITU's development mandate has since evolved from closing telephone gaps toward achieving universal digital connectivity. The Connect 2030 Agenda identifies universal connectivity as a central goal and includes targets for universal broadband coverage, affordability, household access, access to Internet-enabled devices, connected schools, cybersecurity preparedness and Internet use.[20] It also calls for digital gaps—including gender, age and urban-rural gaps—to be bridged and for a majority of individuals to develop digital skills.[21]

More recently, the ITU and the UN system have emphasized universal and meaningful connectivity. In 2022, ITU and the UN Secretary-General's Envoy on Technology announced 15 aspirational targets for 2030 addressing universality, technology and affordability.[22] These targets include digital gender parity, widespread digital skills, stronger school connectivity and broadband prices that meet international affordability benchmarks.[23] The 2024 Global Digital Compact reinforced the goal of closing digital divides and called for universal and meaningful connectivity, affordable access and greater investment in developing countries. It specifically recognized the ITU's role in advancing universal and meaningful connectivity.[24]

Current Situation

No single government or organization can close the global communications gap alone. Telecommunications networks often cross borders, depend on international spectrum coordination, rely on global supply chains and use standards developed through international cooperation.[25] The ITU's three sectors reflect this interconnected role: ITU-R coordinates the global use of radio-frequency spectrum and satellite orbit resources;[26] ITU-T develops international telecommunications and ICT standards;[27] and ITU-D supports international cooperation and development in telecommunications and ICTs.[28]

The ITU's work is complemented by other UN agencies, international financial institutions, regional organizations, governments, civil society, academia and the private sector. The 2025 WSIS+20 review reaffirmed the importance of the WSIS architecture as a platform for a shared digital future and highlighted continued

[20] International Telecommunication Union. “Connect 2030 – An agenda to connect all to a better world.” International Telecommunication Union. 2026.
[21] International Telecommunication Union. “The Missing Link / Maitland Report.” International Telecommunication Union. 1985.
[22] International Telecommunication Union. “Overview of ITU’s History.” International Telecommunication Union. 2026.
[23] Ibid.
[24] International Telecommunication Union. “The 1865 International Telegraph Conference.” International Telecommunication Union. 2024.
[25] International Telecommunication Union. “ITU-T: Setting the Standard”. International Telecommunication Union. 2026.
[26] International Telecommunication Union. “Welcome to the ITU-R”. International Telecommunication Union. 2026.
[27] International Telecommunication Union. “ITU-T: Setting the Standard”. International Telecommunication Union. 2026.
[28] International Telecommunication Union. “ITU’s Development Sector: Driving digital transformation worldwide”. International Telecommunication Union. 2026.

cooperation on digital inclusion and development.[29] The central question for Member States is how these partnerships can translate international commitments into measurable improvements in people's daily ability to communicate.[30]

The Global Connectivity Gap

The world has made substantial progress in expanding connectivity, but access remains uneven. ITU's 2025 estimates show that nearly three-quarters of the world's population uses the Internet, yet 2.2 billion people remain offline, most of them in low- and middle-income countries.[31] Mobile broadband coverage is now available to more than 96 percent of the global population, demonstrating that the remaining challenge is not simply the construction of networks. In many places, the problem has shifted toward whether people can actually use available networks in a meaningful way.[32]

This distinction is important for Member States. A country can achieve broad population coverage while still leaving many people unable to participate because of cost, unreliable service, lack of suitable devices or insufficient digital skills.[33] ITU's Global Connectivity Report 2025 describes universal and meaningful connectivity as the possibility for everyone to enjoy a safe, satisfying, enriching and productive online experience at an affordable cost. This approach encourages governments to measure quality and usage, not merely coverage.[34]

Affordability and the Cost of Being Connected

Affordability is one of the most persistent barriers to equitable communication. The price of a broadband subscription or mobile data plan can represent a much larger share of household income in low-income economies than in wealthier countries.[35] The cost of devices can create an additional barrier: even when data service is relatively inexpensive, a smartphone, computer or other Internet-enabled device may remain unaffordable. ITU reports a clear relationship between Internet use and prices, with higher service costs associated with lower Internet use and more limited data consumption.[36]

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[29] United Nations Educational, Scientific and Cultural Organization. “World Summit on the Information Society (WSIS)” United Nations Educational, Scientific and Cultural Organization. 2026.
[30]United Nations Educational, Scientific and Cultural Organization. “World Summit on the Information Society (WSIS)” United Nations Educational, Scientific and Cultural Organization. 2026.
[31] International Telecommunication Union. “Question 5/1: Telecommunications/ICTs for rural and remote areas.” International Telecommunication Union. International Telecommunication Union. 2025.
[32] Ibid.
[33] International Telecommunication Union. “Question 7/1: Telecommunication/ICT accessibility to enable inclusive communication, especially for persons with disabilities.” International Telecommunication Union. 2025.
[34] Ibid.
[35] International Telecommunication Union. “WSIS+20 High-Level Event 2025: Highlights and Outcomes.” 2025.
[36] Ibid.

The ITU seeks to improve affordability by including competition among service providers, universal service mechanisms, targeted subsidies, public access facilities, device affordability initiatives and infrastructure-sharing arrangements.[37] However, Member States must balance affordability with the financial sustainability of telecommunications providers and the need to encourage continued investment. International cooperation can help developing countries mobilize financing and technical expertise while allowing national governments to choose policies suited to their markets.[38]

Rural, Remote and Underserved Communities

Geography remains a major factor in communications inequality. Urban areas generally provide a larger customer base and lower costs per user, making investment in networks more commercially attractive. This gap is largely economic rather than technological. Low population density and high construction costs can make rural networks unprofitable without support. Universal service funds, subsidies and infrastructure-sharing arrangements can help make deployment in underserved areas viable.[39] Rural, remote and geographically isolated communities may face difficult terrain, low population density, unreliable electricity and higher deployment costs. Small island developing States and landlocked developing countries can face additional infrastructure constraints.[40]

A range of technologies can help address these gaps. Fiber and terrestrial broadband can provide high-capacity connections where deployment is feasible, while mobile networks can extend service across broad areas.[41] Satellites and other wireless solutions can connect communities that are difficult to reach with conventional infrastructure.[42] ITU's work on telecommunications and ICTs for rural and remote areas examines cost-effective connectivity, quality of service, sustainable business models, universal service funds and renewable-energy solutions.[43]

Geographic coverage alone does not guarantee inclusion. The Food and Agriculture Organization cautions that rural residents and marginalized groups can still be left behind when barriers such as affordability, skills and unequal access to digital resources remain unaddressed.[44] Rural-connectivity projects should therefore be developed with, not merely for, local communities, so that technology choices,

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[37] International Telecommunication Union. “Global Connectivity Report 2025.” International Telecommunication Union. 2025.
[38] Ibid.
[39] International Telecommunication Union. “ITU launches new study paper on broadband and connectivity solutions for rural and remote areas”. International Telecommunication Union. 2020.
[40] International Telecommunication Union. “ITU launches new study paper on broadband and connectivity solutions for rural and remote areas”. International Telecommunication Union. 2020.
[41] Ibid.
[42] Ibid.
[43] International Telecommunication Union. “WSIS: Declaration of Principles.” International Telecommunication Union. 2003.Ibid.
[44] Hernandez, K., Flynn, J., He, J. & Alsahi, H. "Towards digital inclusion in rural transformation." Food and Agriculture Organization of the United Nations. 2024.

service design and business models reflect local needs and support meaningful use.[45]

The Gender Digital Divide

Gender remains an important dimension of unequal communications access. ITU's 2025 data show that 77 percent of men globally use the Internet compared with 71 percent of women, leaving approximately 280 million more men than women online. The global gender parity score was 0.92 in 2025 and had not improved since 2019. The divide is substantially larger in many developing and low-income economies.[46]

The reasons for the gender digital divide can include affordability, unequal access to devices, differences in education and digital skills, social norms, safety concerns and unequal access to decision-making and economic opportunities. Closing the gap therefore requires more than just building networks.[47] The ITU considers policies that expand women's access to affordable devices and data, strengthen digital-skills training, support girls' participation in science and technology, and address online safety and harassment.[48]

Accessibility for Persons with Disabilities

Equitable communication also requires that ICTs be usable by persons with disabilities. ITU estimates that approximately 15 percent of the world's population lives with a disability.[49] Digital accessibility can include features such as captions, voice-to-text tools, screen-reader compatibility, adjustable text sizes, accessible interfaces and sign-language support. When such features are absent, a person may technically have access to the Internet while still being unable to use important services.[50]

ITU's accessibility work emphasizes that ICTs should be an opportunity rather than a barrier for persons with disabilities and other people with specific needs.[51] The ITU Development Sector also studies telecommunication and ICT accessibility as a means of enabling inclusive communication, particularly for persons with disabilities.[52] Governments and service providers therefore face a policy choice between treating accessibility as an additional feature and integrating accessibility

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[45] United Nations Human Rights Council. Surya Deva, Special Rapporteur on the right to development. "Participation in Development: Taking the Right to Development Seriously." A/HRC/63/32. 2026.
[46] United Nations. “Global Digital Compact.” United Nations. 2024.
[47] United Nations. “Global Digital Compact.” United Nations. 2024.
[48] Ibid.
[49] International Telecommunication Union and United Nations Office of the Secretary-General’s Envoy on Technology. “New UN targets chart path to universal meaningful connectivity.” International Telecommunication Union and United Nations Office of the Secretary-General’s Envoy on Technology. 2022.
[50] Ibid.
[51] International Telecommunication Union. “Telecommunication/ICT accessibility to enable inclusive communication, especially for persons with disabilities.” ITU-D. 2025.
[52] Ibid.

into the design, procurement, regulation and standardization of ICTs from the beginning.[53]

Quality, Security and Resilience

Equitable communication also depends on reliability and safety. A connection that is slow, unstable or frequently interrupted may be of limited value for education, telemedicine, employment or emergency communication. ITU's UMC framework therefore treats quality and security as core dimensions of meaningful connectivity.[54] Cybersecurity preparedness is also included among the Connect 2030 targets.[55]

Communications infrastructure can be disrupted by natural disasters, climate-related events, technical failures, cyber incidents or physical damage to infrastructure. Building resilient networks requires redundancy, emergency communications planning, reliable power, maintenance and coordination among governments and operators.[56] International standards can establish common technical expectations and promote interoperability, while national emergency and regulatory frameworks can be tailored to individual countries' circumstances.[57]

Future Outlook

Artificial intelligence and other emerging technologies may create new opportunities for equitable communication. Automatic translation, speech recognition, assistive technologies and AI-enabled public services could make information more accessible to people across languages, abilities and locations.[58] However, these systems can also reproduce or amplify existing inequalities when access to data, computing resources, connectivity and digital skills is unevenly distributed across countries and communities.[59]

The ITU's universal and meaningful connectivity framework provides a useful way to evaluate this future. Universal connectivity should not be defined simply as putting more people online; it should mean that people can connect at adequate quality, at a price they can afford, using appropriate devices, with the skills and security needed to participate.[60]

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[53] International Telecommunication Union. “Telecommunication/ICT accessibility to enable inclusive communication, especially for persons with disabilities.” ITU-D. 2025.
[54] International Telecommunication Union. “Universal and Meaningful Connectivity.” International Telecommunication Union. 2026.
[55] Ibid.
[56] International Telecommunication Union. “ITU Guidelines for national emergency telecommunication plans” International Telecommunication Union. 2020.
[57] Ibid.
[58] United Nations Educational, Scientific and Cultural Organization. “Global Roadmap for Multilingualism in the Digital Era: Advancing the Role of Language Technologies.” UNESCO. 2025.
[59] United Nations Educational, Scientific and Cultural Organization. “Technical and infrastructure dimension.” UNESCO. 2026.
[60] International Telecommunication Union. “Universal and Meaningful Connectivity.” International Telecommunication Union. 2026.

Ultimately, achieving equitable communications will require a combination of infrastructure investment, affordability measures, inclusive design, digital-skills programs, accessible technologies, resilient networks and international standards.[61] The challenge for the ITU and its Member States is to coordinate these efforts while recognizing differences in national resources and priorities. If communications systems are designed around the needs of those who remain underserved, digital connectivity can become a foundation for broader economic, social and educational inclusion rather than another source of inequality.[62]

Focus Questions

- How can the ITU and Member States accelerate connectivity in rural, remote, landlocked and small-island communities without relying on a single technology?
- What international measures can help close the gender digital divide, particularly in low-income countries and least developed countries?
- How can governments and technology companies make ICT products, websites and digital public services accessible by design for persons with disabilities and people with specific needs?
- What standards and policies are needed to ensure that connectivity is not only available, but reliable, secure, resilient and of sufficient quality for meaningful use?
- How should Member States balance cybersecurity, online safety and privacy with the protection of human rights and open communication?

[61] United Nations. “Global Digital Compact.” United Nations. 2024.
[62] Ibid.

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https://www.itu.int/hub/2020/05/itu-launches-new-study-paper-on-broadband-and-connectivity-solutions-for-rural-and-remote-areas/?

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