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Economic and environmental questions: Science and technology for development

Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels, including the 20-year review thereof

Report of the Secretary-General

Summary

This report has been prepared in response to Economic and Social Council resolution 2006/46, which requested the Secretary-General of the United Nations to inform the Commission on Science and Technology for Development about the implementation of the outcomes of the World Summit on the Information Society. Major developments and activities by stakeholders in 2024 are highlighted in the report. The report was prepared by the secretariat of the United Nations Conference on Trade and Development, based on information provided by entities in the United Nations system, international organizations and other stakeholders

* E/2023/1.

Introduction

1. This report has been prepared in response to Economic and Social Council resolution 2006/46. It includes information provided by 31 entities in the United Nations system, international organizations and other stakeholders in response to a letter from the Secretary-General of the United Nations Conference on Trade and Development (UNCTAD) requesting contributions on trends, achievements and obstacles in the implementation of World Summit on the Information Society (WSIS) outcomes.[1] Developments and activities in 2024 are summarized in the report.

I. Key trends

A. The Pact for the Future and the Global Digital Compact

2. The world has changed in many ways in the 20 years since the conclusion of WSIS. Digital and other new technologies have had significant impacts on many aspects of global society, changing the ways in which Governments and businesses relate to citizens and consumers, how individuals communicate with one another and how voluntary organizations organize work, as well as the media environment that informs political and cultural activity. These digital developments have coincided with broader changes in the global economy, including the impacts of recession and the pandemic, new threats to international peace and security and increasing concerns about the impact of climate change. The opportunities and risks posed by these global transformations have challenged the established framework for international cooperation. In the Pact for the Future, adopted by the General Assembly in September 2024, the international community came together to support the role of the United Nations and multilateral institutions in fostering sustainable development, peace and security and human rights. Member States, in the Global Digital Compact, adopted by the General Assembly as an annex to the Pact for the Future, "recognize that the pace and power of emerging technologies are creating new possibilities but also new risks for humanity, some of which are not yet fully known[; and] the need to identify and mitigate risks and to ensure human oversight of technology in ways that advance sustainable development and the full enjoyment of human rights". The Global Digital Compact builds on the vision and principles agreed at WSIS and includes the following five objectives: close all digital divides and accelerate progress across the Sustainable Development Goals; expand inclusion in and benefits from the digital economy for all; foster an inclusive, open, safe and secure digital space that respects, protects and promotes human rights; advance responsible, equitable and interoperable data governance approaches; and enhance international governance of artificial intelligence for the benefit of humanity.[2]

[1] Association for Progressive Communications (APC); Council of Europe; Economic and Social Commission for Asia and the Pacific (ESCAP); Economic and Social Commission for Western Asia (ESCWA); Economic Commission for Europe; Economic Commission for Latin America and the Caribbean (ECLAC); Global System for Mobile Communications Association (GSMA); International Federation of Library Associations and Institutions (IFLA); International Telecommunication Union (ITU); International Trade Centre; Internet Corporation for Assigned Names and Numbers (ICANN); Internet Governance Forum (IGF) secretariat; Internet Society; Office of the Secretary-General's Envoy on Technology; Organisation for Economic Co-operation and Development (OECD); UNCTAD; United Nations Children's Fund (UNICEF); United Nations Department of Economic and Social Affairs; United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO); United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women); United Nations Environment Programme (UNEP); United Nations Industrial Development Organization; United Nations Office on Drugs and Crime; United Nations Relief and Works Agency for Palestine Refugees in the Near East; World Economic Forum (WEF); World Food Programme; World Health Organization (WHO); World Intellectual Property Organization (WIPO); World Meteorological Organization; World Trade Organization (WTO). See https://unctad.org/publication/2024-report-secretary-general-progress-made-implementation-and-follow-outcomes-world.
Note: All websites referred to in footnotes were accessed in January 2025.

[2] A/RES/79/1.

3. International cooperation and multi-stakeholder engagement are essential components of the digital future envisaged in the Pact for the Future and the Global Digital Compact, which recognize the important role of the United Nations in providing a platform for global digital cooperation, building on the framework established at WSIS, including IGF and the WSIS Forum, and the need for agile and flexible governance that responds to rapid changes in the technological environment in order to help secure the common good.

B. Affordable and meaningful connectivity

4. Increased connectivity has been a major goal of international digital policy since the Maitland Commission in the 1980s.[3] Since WSIS, the goal has focused on increasing connectivity to the Internet and services that can be made available online, which have the potential to bring public services and opportunities for income generation closer to all. Target 9.c under the Sustainable Development Goals is to significantly increase access to information and communications technology (ICT) and strive to provide universal and affordable access to the Internet in the least developed countries by 2020. This goal remains far from being fully achieved. ITU estimates that, in 2023, 67 per cent of the global population made use of the Internet. Some people made only occasional use of the Internet, yet many people worldwide use the Internet daily in work and social life in order to gain access to resources and opportunities that are less easily available to non-users. The comparable figure for the least developed countries was 35 per cent, showing how far the world remains from achieving the Sustainable Development Goal target of universal connectivity.[4] GSMA states that 57 per cent of the global population accesses the Internet primarily through mobile devices, but that the rate of mobile Internet adoption has flattened, with persistent digital exclusion among women and those who are poorer or have lower levels of educational attainment.[5] Broadband connectivity remains limited in some remote and rural areas; however, most of those who are unconnected live in areas with adequate coverage and the principal barriers faced involve costs, particularly those related to handsets, as well as the lack of literacy and digital skills, which also affect the extent to which individuals who own handsets make use of online services. Women face particular barriers in many societies because their incomes are typically lower than those of men. In some areas, connectivity is hindered by conflicts and other humanitarian crises.

5. In recent years, attention has shifted to affordable and meaningful connectivity, defined by ITU as “a level of connectivity that allows users to have a safe, satisfying, enriching and productive online experience at an affordable cost”.[6] Meaningful connectivity should allow users to not only occasionally access the Internet but be able to use such access to improve their lives. Meaningful connectivity requires networks to provide sufficient, reliable broadband capacity, to enable such effective use, and for both data and terminal devices to be readily affordable. Achieving this goal requires attention not merely to connectivity itself, but to other barriers that restrict Internet use, including lack of income and education, lack of relevant content, social constraints and concerns about the potential risks posed by abuse and cybercrime.

C. Artificial intelligence

6. The rapid growth of the use of artificial intelligence since 2020, particularly the emergence of generative artificial intelligence, has intensified the urgency felt in discussions on the future governance of the technology and applications. Concern is fuelled by uncertainty about the scale and nature of the impacts that the use of artificial intelligence may have on the economy, society and culture and the possibility that existing legal and regulatory

[3] https://www.itu.int/en/history/Pages/MaitlandReport.aspx.
[4] https://www.itu.int/en/ITU-D/Statistics/pages/stat/default.aspx.
[5] https://www.gsma.com/r/somic/.
[6] https://www.itu.int/itu-d/meetings/statistics/wp-content/uploads/sites/8/2022/04/UniversalMeaningfulDigitalConnectivityTargets2030_BackgroundPaper.pdf.

frameworks may be insufficient in order to maximize opportunities and minimize risks to the public interest. Differing views on the projected evolution of artificial intelligence are evident in both technical and public policy communities. There is enthusiasm about the potential for improving productivity in business and the quality and reliability of medical diagnoses and essential services, yet there is also concern that applications may be abused, that decision-making in public services may become less transparent and, in some quarters, that future developments in artificial intelligence may displace human agency in critical areas of life, posing new risks to safety and security.

7. The High-Level Advisory Body on Artificial Intelligence, convened by the Secretary-General, with the secretariat based in the Office of the Secretary-General's Envoy on Technology, in *Governing Artificial Intelligence for Humanity*, noted concerns about a global governance deficit with respect to artificial intelligence and warned of "a patchwork of norms and institutions" that remained "nascent and full of gaps", with accountability "often notable for its absence" and compliance reliant on voluntary action by digital enterprises concerned with maximizing market outcomes rather than governance mechanisms concerned with broader public interest goals. The High-Level Advisory Body, in the report, described inclusive artificial intelligence governance as "one of the most difficult governance challenges the United Nations will face", noting that artificial intelligence development and business leadership were concentrated in a small number of countries that also dominated the discussion of artificial intelligence principles and ethics; and recommendations to address such challenges, seeking "a balanced, inclusive and risk-based approach to the governance of artificial intelligence", formed the basis for agreements on artificial intelligence governance in the Global Digital Compact.[7]

D. Digital and environmental governance

8. The international community increasingly recognizes the intersections between digital development and environmental sustainability. Discussions of the need to move towards a green digital future, which takes advantage of innovation in both sectors to maximize the developmental outcomes that can be achieved from technology while minimizing environmental costs, have increased. Progress requires greater alignment between digital and environmental goals. Green and digital technologies require many of the same critical minerals, some of which are in short supply and subject to intensifying international competition. The data centres required to enable digital services consume a significant amount of electricity and water, with impacts on local markets for these utilities. Customer churn in digital resources resulting from technological advances generates large volumes of electronic waste. The more efficient use of critical resources, together with recycling, could help address related challenges to both green and digital development. UNEP has identified a number of barriers towards achieving synergies between environmental and digital goals, including weak alignment between international agreements and institutions and limited dialogue between environmental and digital communities of practice; and has expressed concern about inconsistent and insufficient data-gathering and analysis across both sectors, which inhibits environmentally sustainable policymaking and commercial decision-making.

9. UNCTAD, in *Digital Economy Report 2024: Shaping an Environmentally Sustainable and Inclusive Digital Future*, focused on the environmental impacts of the digital economy, including ways in which information and policy deficits might be addressed, and stated that greater attention needed to be paid in the digital sector to the goals of sustainable consumption and production that sought to decouple economic growth from environmental degradation, including greater efficiency in the use of scarce resources and energy, as well as to progressing towards a more circular digital economy built on the environmentally sustainable design of products and services, more durable products, more sustainable business models and responsible consumption, reuse and recycling.[8]

[7] United Nations, High-Level Advisory Body on Artificial Intelligence, 2024, *Governing AI [Artificial Intelligence] for Humanity: Final Report*, available at https://www.un.org/en/ai-advisory-body.

[8] https://unctad.org/publication/digital-economy-report-2024.

E. Information integrity

10. The information society has significantly increased the volume of information available to everyone with digital access, from government officials and corporate decision makers to private individuals. Its use has connected people on a scale previously unimagined, helping to support marginalized voices and mobilize civil society and campaigns in support of development and human rights. However, the resources that the information society has made available have not only been used to benefit humanity but have also enabled the spread of misinformation, disinformation, hate speech and abuse to a greater extent than before. This has jeopardized the public trust in the integrity of information ecosystems necessary for public confidence in both governance and digital resources.

11. The challenge to information integrity is of growing concern to Governments, businesses and civil society and has been addressed by a number of United Nations entities, including UNESCO, through *Guidelines for the Governance of Digital Platforms*. The United Nations has adopted five global principles for information integrity on societal trust and resilience; healthy incentives; public empowerment; independent, free and pluralistic media; and transparency and research, to enable policymakers and businesses to improve understanding and interaction with the information environment.[9]

II. Implementation and follow-up at the regional level

A. Africa

12. The Economic Commission for Africa Digital Centre for Excellence supports digital governance, policy development and cybersecurity across the continent, including the single digital market framework for Africa. The Economic Commission for Africa has focused work on data governance, digital identity systems and digital skills. The Digital Transformation Strategy of the African Union, reinforced by the Digital Economy for Africa Initiative of the World Bank, aims to support infrastructure, regulation, skills development, innovation and entrepreneurship for economic growth on the continent. UNDP and the Government of Italy launched an artificial intelligence hub, to support artificial intelligence-based growth in Africa. The World Bank and WTO launched a joint initiative on digital trade for Africa.[10]

B. Asia and the Pacific

13. ESCAP promotes digital cooperation and inclusion through Action Plan for Implementation of the Asia-Pacific Information Superhighway 2022–2026; in *Seizing the Opportunity: Digital Innovation for a Sustainable Future*, identified digital innovation platforms, investment in skills and regional policy convergence as critical enablers of development-focused digital development; and, in subregional studies, tracked the resilience of digital ecosystems, emphasizing the need for improved affordability, data management and hazard preparedness.[11]

[9] https://www.un.org/en/information-integrity/global-principles.

[10] https://www.uneca.org/dite-for-africa/digital-transformation; https://au.int/en/documents/20200518/digital-transformation-strategy-africa-2020-2030; https://www.undp.org/publications/ai-hub-sustainable-development-strengthening-local-ai-ecosystems-through-collective-action; https://www.wto.org/english/tratop_e/serv_e/serv_2502202416_e/serv_2502202416_e.htm.

[11] E/ESCAP/RES/79/10; https://www.unescap.org/kp/2022/asia-pacific-digital-transformation-report-2022-shaping-our-digital-future; https://www.unescap.org/kp/2024/seizing-opportunity-digital-innovation-sustainable-future; https://www.unescap.org/kp/2023/tracking-e-resilience-china-mongolia-republic-korea-india-and-sri-lanka; https://www.unescap.org/kp/2023/tracking-e-resilience-north-and-central-asia.

C. Western Asia

14. Arab Digital Agenda for 2023–2033, developed by ESCWA and the League of Arab States, provides a framework for regional digital development, supported by the Arab Digital Inclusion Platform, which addresses the needs of marginalized and vulnerable groups. ESCWA facilitated national digital development reviews, led a project to expedite technology in Arab public institutions; developed plans to increase work in digital literacy and skills development; and organized a high-level regional workshop on WSIS outcomes and the 2030 Agenda for Sustainable Development.[12]

D. Europe

15. The Economic Commission for Europe coordinates the United Nations Centre for Trade Facilitation and Electronic Business, which develops trade facilitation recommendations and electronic standards for government and commercial activity; maintains a shared environmental information system and indicators; [13] and manages the Aarhus Clearing House for participation in environmental decision-making. The Council of Europe promotes regional cooperation on freedom of expression, cybercrime, data protection and digital citizenship, and the Committee of Ministers underscored the need to focus digital transformation and standard-setting on public interest in its declaration on WSIS+20.[14] The European Commission reported on implementation of the Digital Decade policy programme and developed a pact to implement the Artificial Intelligence Act that provides a comprehensive legal framework for artificial intelligence governance in its member States.[15]

E. Latin America and the Caribbean

16. Digital Agenda 2024 for Latin America and the Caribbean, developed by ECLAC and agreed by regional Governments, set out strategic objectives for digital development, focused on inclusive digitalization, the digital economy, social welfare and trade integration. [16] Regional ministers approved its successor, Digital Agenda 2026, which focuses on meaningful connectivity and digital infrastructure, digital governance and security and fostering innovation and artificial intelligence for sustainable development.[17] ECLAC issued a paper on overcoming development traps in the region in the digital age, concerned with the transformative potential of advanced technologies;[18] issued reports on regulatory governance and the statistical monitoring of sectoral digitalization; continued to promote the digital development observatory in the region; and launched a digital transformation lab, to help Governments and other stakeholders assess potential policy and other tools.

III. Implementation and follow-up at the international level

A. United Nations Group on the Information Society

17. The United Nations Group on the Information Society coordinates the inter-agency implementation of WSIS outcomes and their alignment with the Sustainable Development

[12] https://www.unescwa.org/events/arab-consultations-wsis20-review-and-global-digital-compact-processes.
[13] https://unece.org/shared-environmental-information-system#accordion_3.
[14] https://digital-skills-jobs.europa.eu/en/actions/european-initiatives/digital-decade; https://www.coe.int/en/web/freedom-expression/-/meeting-of-the-ministers-deputies-on-25-september-2024.
[15] https://www.europarl.europa.eu/topics/en/article/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence.
[16] https://www.cepal.org/en/digital-agenda-latin-america-and-caribbean-elac2024/digital-agenda-2024.
[17] https://conferenciaelac.cepal.org/9/en/news/elac-begins-new-stage-centered-concrete-actions-and-projects-approval-digital-agenda-latin.
[18] https://www.cepal.org/es/publicaciones/80841-superar-trampas-desarrollo-america-latina-caribe-la-era-digital-potencial.

Goals across the United Nations system. In 2024, the Group contributed to the high-level political forum on sustainable development and the Global Digital Compact processes.[19]

B. General Assembly and Economic and Social Council

18. The General Assembly adopted a resolution on ICTs for sustainable development. The Economic and Social Council adopted a resolution on assessment of the progress made in the implementation of and follow-up to the outcomes of WSIS.[20]

C. Commission on Science and Technology for Development

19. At its twenty-seventh session, the Commission on Science and Technology for Development discussed data for development; global cooperation in science, technology and innovation for development; and progress made in the implementation of and follow-up to the outcomes of WSIS. The Commission held five regional consultations in preparation for the report on progress made in the implementation of and follow-up to the outcomes of WSIS. During the intersessional panel meeting, the Commission focused on diversifying economies in a world of accelerated digitalization; and technology foresight and technology assessment for sustainable development.[21] The Commission has been requested to establish a dedicated working group to engage in a comprehensive and inclusive multi-stakeholder dialogue on data governance at all levels as relevant for development, which will report on its progress to the General Assembly in 2026.[22]

D. Facilitation and coordination of multi-stakeholder implementation

20. The WSIS Forum was held alongside the ITU Artificial Intelligence for Good Global Summit. Over 4,000 participants from 160 countries took part in person and online in over 200 sessions reflecting on WSIS achievements since 2005 and challenges ahead. Topics discussed included cybersecurity and trust, artificial intelligence and emerging technologies, access to infrastructure and digital divides. The WSIS stocktaking platform includes over 15,000 entries illustrating the development potential of ICTs. The global stocktaking report was supplemented by a summary of stocktaking success stories and a report on digital development in the Republic of Korea.[23] The Broadband Commission for Sustainable Development discussed harnessing emerging technologies for universal access and connectivity and digital resilience in the face of crises; and issued impact stories concerned with digital gender empowerment, to mark International Women's Day.[24]

E. Civil society, business and multi-stakeholder partnerships

21. There has been continued growth in the number of civil society organizations and multi-stakeholder partnerships concerned with digital opportunities and risks. Among civil society organizations, Access Now focuses on rights issues and organizes the multi-stakeholder Rights Conference; APC is an international network of civil society organizations concerned with development, human rights and gender and issued the *Global Information Society Watch* report on reimagining horizons of dignity, equity and justice for

[19] https://www.itu.int/net4/wsis/ungis/.

[20] A/RES/79/194; E/RES/2024/13.

[21] https://unctad.org/meeting/commission-science-and-technology-development-twenty-seventh-session; https://unctad.org/meeting/commission-science-and-technology-development-2024-2025-inter-sessional-panel.

[22] A/RES/79/1.

[23] See 2024 stocktaking report, success stories and special report (Republic of Korea) at https://www.itu.int/net4/wsis/forum/2024/Home/Outcomes.

[24] https://www.broadbandcommission.org/event/2024-annual-spring-meeting-of-the-broadband-commission/; https://www.broadbandcommission.org/event/2024-annual-fall-meeting-of-the-broadband-commission/; https://broadbandcommission.org/publication/championing-digital-equality/.

the digital future;[25] the Diplo Foundation provides an observatory and discussion space for digital policy debates through its Geneva Internet platform; GSMA represents mobile communications businesses, supports an innovation fund and issued research on mobile Internet connectivity and the current state of mobile connectivity;[26] ICANN coordinates the domain name system of the Internet; IFLA promotes digital access and skills through libraries and explores ways of enhancing library services through new technology; the Internet Society works with the technical community to promote the development of the technical infrastructure of the Internet and campaigns against Internet fragmentation and other restrictions to Internet access; and the Internet Engineering Task Force, the World Wide Web Consortium and other bodies develop standards for Internet networks and applications. Data corporations play a central role in the deployment of infrastructure, the development of new applications and services and, in particular, technical innovations in artificial intelligence and other advanced digital technologies. The International Chamber of Commerce represents business interests in international digital forums.

F. Action lines and selected implementation of activities of United Nations entities

1. Implementation of action lines

22. Implementation of WSIS outcomes is aligned with implementation of the 2030 Agenda for Sustainable Development through General Assembly resolutions 70/1 and 70/125. In 2005, 11 action lines were agreed for multi-stakeholder implementation of the outcomes. Action line facilitators review implementation annually using an agreed matrix of the action lines and the Goals and prepared summaries of developments under each action line ahead of the 20-year review.[27]

(a) The role of public governance authorities and all stakeholders in the promotion of information and communications technologies for development (C1)

23. The General Assembly undertook commitments in the Global Digital Compact, including on digital inclusion, governance and security and proposals for new institutional frameworks on artificial intelligence governance to be developed in 2025.[28] The High-Level Advisory Body on Artificial Intelligence issued *Governing Artificial Intelligence for Humanity*, noting the need for institutional and other measures to manage the opportunities and risks associated with artificial intelligence in the public interest.[29] Under the steering committee for the implementation of the Pact for the Future, chaired by the United Nations Secretary-General, a working group on digital technologies has been established to support the actions outlined in chapter 3 of the Pact and the Global Digital Compact, and has undertaken the development of a Global Digital Compact implementation map, to be presented in 2025.

24. United Nations entities implement digital initiatives within their mandates in support of the Goals; the United Nations Digital Community promotes the understanding of digital development across entities.[30] ITU focuses on connectivity and related technologies; UNESCO on education, culture and rights; UNCTAD on the digital economy; and UNDP on development, including demand-side issues such as digital public infrastructure and supply-side issues concerned with Goals-related outcomes. ITU and UNDP organized Sustainable Development Goals Digital 2024, to draw attention to the potential role of technology in achieving sustainable development.

[25] https://www.giswatch.org/2024-special-edition-wsis20-reimagining-horizons-dignity-equity-and-justice-our-digital-future.

[26] https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/an-overview-of-the-gsma-innovation-fund/; https://www.gsma.com/r/somic/.

[27] https://www.itu.int/net4/wsis/sdg/.

[28] A/RES/79/1.

[29] United Nations, High-Level Advisory Body on Artificial Intelligence, 2024.

[30] https://www.uninnovation.network/un-group-pages/digital.

25. Intergovernmental cooperation on artificial intelligence is promoted through the "globalpolicy.AI" online platform, including OECD, the United Nations and the World Bank. OECD hosts the Global Partnership on Artificial Intelligence, which includes working groups on responsible artificial intelligence, data governance and the future of work. WEF coordinates the artificial intelligence governance alliance.

26. The Digital Public Goods Alliance brings together stakeholders to facilitate open-source technologies in support of the Goals and issued the annual report *State of the Digital Public Goods Ecosystem*.

27. The Council of Europe opened for signature the Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law. OECD revised the recommendation on artificial intelligence, responding to new technological developments, including generative artificial intelligence, and the implications for privacy, safety, information integrity and intellectual property rights. UNDP and the Government of Germany launched a global platform to leverage artificial intelligence for sustainable development, alongside an artificial intelligence Goals-related compendium.[31]

(b) Information and communication infrastructure (C2)

28. The ITU global connectivity infrastructure map shows the availability of national and international broadband infrastructure, drawing on information from 600 operator networks and ITU leads the Partner 2 Connect digital coalition that fosters connectivity for hard-to-connect communities, addresses digital transformation requirements in small island developing States and issued a guide on innovative power solutions for rural connectivity.[32] The Broadband Commission, in *The State of Broadband 2024: Leveraging Artificial Intelligence for Universal Connectivity*, tracked progress towards advocacy targets for broadband connectivity and assessed current developments, risks and implications for the digital divide.[33]

29. The ISOC sustainable peering infrastructure funding programme facilitates the deployment of Internet exchange points and ISOC works with APC and funding partners to enable community networks that extend the reach of connectivity.

(c) Access to information and knowledge (C3)

30. ITU organized conferences on accessibility for people with disabilities in Europe and the Americas. UNESCO promotes access to information through its Roam X principles and Internet universality indicators and reported on the implementation of legislation promoting access to public and scientific information.[34] The WSIS Forum high-level event served to emphasize the importance of including all societies and communities in the training of artificial intelligence.[35]

31. GSMA, in *Connected Women*, considered ways of accelerating digital inclusion for women and, in *Mobile Gender Gap Report*, noted that the gender gap in mobile access had narrowed for the first time in five years but remained substantial in many low-income and middle-income countries.[36] IFLA issued *Internet Manifesto*, setting out a vision for library and public access gateways for connectivity and information resources. The Edison Alliance of WEF provides resources for assessing and stimulating access to services in health care, finance and education.

[31] https://www.bmz-digital.global/en/launch-of-global-collective-action-platform-for-responsible-ai-for-sustainable-development.

[32] https://bbmaps.itu.int/bbmaps/; https://www.itu.int/hub/publication/d-sids-plan-2024/.

[33] https://www.broadbandcommission.org/publication/state-of-broadband-2024/.

[34] https://unesdoc.unesco.org/ark:/48223/pf0000389214.

[35] https://www.itu.int/net4/wsis/forum/2024/Home/Outcomes.

[36] https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/accelerating-digital-inclusion-for-women/; https://www.gsma.com/r/gender-gap/.

(d) Capacity-building (C4)

32. Many intergovernmental and multi-stakeholder agencies work to build the capacity of digital professionals and digital literacy among the public. UNESCO focuses on building the capacity of civil servants and judicial systems to manage digital transformation, through publications, webinars and training programmes; and issued guidelines on the use of artificial intelligence in courts and tribunals.[37]

33. The ITU Digital Skills Forum focused on skills for digital transformation; ITU issued *Digital Skills Toolkit 2024*; the ITU Academy provides access to capacity development programmes in telecommunications and digital development; and ITU and UNDP collaborate on cyberdevelopment and capacity-building in building safe, inclusive and resilient digital ecosystems.

34. The Council of Europe implements capacity-building initiatives on cybercrime, electronic evidence and the new digital media environment. WEF, through the Bridging the Cyberskills Gap initiative, aims to address the global shortage of cybersecurity professionals.

(e) Building confidence and security in the use of information and communications technologies (C5)

35. The General Assembly adopted a convention on cybercrime, aimed at strengthening international cooperation and sharing evidence concerning cybercrime, including terrorism, drug-trafficking and migrant-smuggling. The High-Level Advisory Body on Artificial Intelligence, in its report, emphasized the importance of safety in the deployment of artificial intelligence systems, an issue also discussed at the second Artificial Intelligence Safety Summit and the Human Rights in Artificial Intelligence Conference and by the Global Partnership on Artificial Intelligence and the Group of 20 working group on the digital economy.

36. ITU issued the fifth edition of the Global Cybersecurity Index and is revising the guide to developing a national cybersecurity strategy. UNDP and the Office of the Secretary-General's Envoy on Technology issued a universal digital public infrastructure safeguards framework, providing guidelines for building safe and inclusive digital ecosystems, and hosted a global summit on digital public infrastructure with the Government of Egypt.[38] The World Bank Cybersecurity Multi-Donor Trust Fund works with partners to build knowledge and support initiatives in low-income and middle-income countries; and the World Bank issued *Cybersecurity Economics for Emerging Markets*.

37. WEF, in *Global Cybersecurity Outlook 2024*, considered cyberresilience and improvements to the cybersecurity ecosystem.

38. The Council of Europe implemented capacity-building projects through the Cybercrime Programme Office.[39]

(f) The enabling environment (C6)

39. The report of the High-Level Advisory Body on Artificial Intelligence included recommendations on the governance of the opportunities and risks associated with artificial intelligence, addressed in the Global Digital Compact. The Office of the Secretary-General's Envoy on Technology and the Office of Information and Communications Technology hosted a symposium on open source for good, to support open-source applications in developing countries.[40]

40. The annual ITU Artificial Intelligence for Good Global Summit, held alongside the WSIS Forum, considered practical applications of artificial intelligence that could contribute to achieving the Goals. ITU, through the ICT regulatory tracker, monitors regulatory

[37] https://unesdoc.unesco.org/ark:/48223/pf0000383325; https://unesdoc.unesco.org/ark:/48223/pf0000390781.

[38] https://www.dpi-safeguards.org/framework/; https://www.globaldpisummit.org/page/4280934/outcome-statement.

[39] https://www.coe.int/en/web/cybercrime/cybercrime-office-c-proc-.

[40] https://www.un.org/techenvoy/content/ospos-good-2024.

developments worldwide;[41] through the digital regulation network, brings together expertise in regional regulatory associations; and issued *Global Digital Regulatory Outlook 2024*. The ITU Global Symposium for Regulators addressed the widening range of digital regulatory challenges and issued best practice guidelines to chart the course of transformative technologies for positive impact.[42] The World Bank works with ITU to provide comprehensive resources on regulatory developments, through the digital regulatory platform.

41. OECD issued *Framework for Anticipatory Governance of Emerging Technologies*; and, through an artificial intelligence policy observatory, provides access to information on policies, data and analysis for the development of a trustworthy artificial intelligence environment.

(g) Information and communications technology applications (C7)

E-government

42. The United Nations Department of Economic and Social Affairs issued the 2024 edition of the electronic-government (e-government) survey, methodologically updated to address changing trends and experiences; over 70 per cent of countries achieved a high performance in the development index, although results were less high in Africa and small island developing States, and the local service index indicated substantial growth in the reach of municipal e-government services.[43] UNDP launched *Digital Inclusion Playbook 2.0*, intended to help Governments and other stakeholders make use of digitalization at a time of rapid technological change and complex global dynamics.

43. OECD issued *Enabling Digital Innovation in Government* and a compendium of digital government services in Group of 7 countries.[44] WEF extended its network of centres for the fourth industrial revolution by introducing centres on global government technology, aimed at enhancing digital public services.

E-business

44. UNCTAD, in *Digital Economy Report 2024*, addressed the need for environmentally sustainable digital development that can enhance opportunities for developing countries in a more circular digital economy. The United Nations, OECD, the World Bank and WTO issued *Digital Trade and Development*. The World Bank issued *Regulating the Digital Economy in Africa*. WTO continued work on an agreement on e-commerce.[45]

45. The eTrade for all partnership, coordinated by UNCTAD, promotes international support for developing country efforts to effectively engage in and benefit from e-commerce. The Intergovernmental Group of Experts on E-commerce and the Digital Economy, at its seventh session, adopted agreed policy recommendations on enhancing e-trade readiness.[46]

46. ITC and WTO launched the Women Exporters in the Digital Economy Fund, to empower women entrepreneurs through international trade and digitalization.[47] The UNCTAD eTrade for Women initiative continued to support women entrepreneurs.

47. The United Nations Industrial Development Organization, in *Industrial Development Report 2024*, advocated modern industrial policies that took advantage of digital developments, to advance technology adoption, reskill workers and promote the provision of knowledge-intensive services to advanced manufacturing; and, at the Multilateral Industrial

[41] https://app.gen5.digital/tracker/about.
[42] https://www.itu.int/itu-d/meetings/gsr-24/.
[43] https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2024; https://publicadministration.un.org/egovkb/en-us/About/E-Government-at-Local-Level/Local-Online-Service-Index-LOSI.
[44] https://www.oecd.org/en/publications/g7-compendium-of-digital-government-services_69fbf288-en.html.
[45] https://www.wto.org/english/tratop_e/ecom_e/joint_statement_e.htm.
[46] https://unctad.org/meeting/intergovernmental-group-experts-e-commerce-and-digital-economy-seventh-session.
[47] https://www.intracen.org/our-work/partnerships/women-exporters-in-the-digital-economy-weide-fund.

Policy Forum, discussed policies for artificial intelligence, digitalization and automation in manufacturing.

48. OECD issued a declaration on protecting and empowering consumers in the digital and green transitions.[48]

E-learning

49. The UNESCO-led Digital Transformation Collaborative launched a framework to support the positive transformation of education through ICTs.[49] UNESCO provides guidelines for ICTs in education policies for Governments and supports global collaboration in digital learning and open educational resources through mechanisms such as the UNESCO and UNICEF gateways to public digital learning initiative; and the ICT competency framework for teachers was extended to include issues related to artificial intelligence.[50] UNICEF works with ITU and non-governmental stakeholders in the Giga partnership, to support school connectivity in developing countries.

E-health

50. WHO progressed on the implementation of the Global Strategy on Digital Health 2020–2025, aimed at maximizing the value contributed by digital resources to health services; and launched a multi-stakeholder global initiative on digital health, to build dialogue and provide access to resources, to support implementation while making preparations to revise the strategy in the light of emerging trends in technology and epidemiology.[51] The Global Health Observatory provides access to health data for policymakers.

51. WEF issued an insight report on transforming health care, on the use of artificial intelligence and other digital technologies; and the WEF Digital Health Action Alliance seeks to bring together diverse stakeholders to share information and advocate digital health interventions.[52]

E-employment

52. ESCAP reported on potential opportunities for improving productivity and employment in small island developing States and the least developed countries in the region through automation and digital services.[53] The International Labour Organization issued *Realizing Decent Work in the Platform Economy* and a study on the impact of digitalization in the financial sector.[54] The Organization and the Office of the Secretary-General's Envoy on Technology, in *Mind the Artificial Intelligence Divide: Shaping a Global Perspective on the Future of Work*, addressed the role of artificial intelligence in reshaping labour markets; the artificial intelligence value chain; changing demand for skills in and beyond technology; and the need for capital investment in enabling infrastructure and a culture of dialogue among social partners, including employees, to foster the positive integration of technology into employment.

53. The Fairwork Foundation addressed employment standards in the digital economy.

E-environment

54. A declaration on green digital action was issued at the twenty-ninth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, on reducing greenhouse gas emissions, promoting green standards and developing a circular

[48] https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0504.
[49] https://www.unesco.org/en/global-education-coalition/digital-transformation-collaborative.
[50] https://unesdoc.unesco.org/ark:/48223/pf0000380926; https://www.unesco.org/en/digital-education/learning-platforms-gateway; https://oercommons.org/hubs/unesco.
[51] https://www.who.int/publications/i/item/9789240020924.
[52] https://www.weforum.org/publications/transforming-healthcare-navigating-digital-health-with-a-value-driven-approach/.
[53] https://www.unescap.org/kp/2024/leveraging-digitalization-productivity-and-decent-employment.
[54] https://www.ilo.org/publications/harnessing-potential-digital-technologies-achieve-decent-work-financial.

economy.[55] UNEP is developing a global environmental data strategy, to be finalized in 2025, focused on improving data quality, interoperability, access, governance and capacity-building; and is building platforms, products and guidance, to monitor and mitigate the environmental impacts of digital technologies, focused initially on artificial intelligence and greening data centres.[56] The Coalition for Digital Environment Sustainability provides a hub for diverse stakeholders in aligning digital and environmental goals.

55. UNCTAD, in *Digital Economy Report 2024*, noted the need for innovative policies aimed at achieving sustainable production and consumption through a more circular digital economy, with increased attention to the sustainability of scarce resources, climate change and both electronic and non-electronic waste.

56. ITU and the World Bank issued *Measuring the Emissions and Energy Footprint of the ICT Sector: Implications for Climate Action*. ITU and the World Benchmarking Alliance, in *Greening Digital Companies Report 2024*, evaluated corporate greenhouse gas emissions in the digital sector. ITU issued a practitioners' guide to green data centres.[57] Global and regional trends in e-waste were tracked in *Global E-Waste Monitor 2024*, with different paths set out for countries in approaching e-waste management.

57. The European Commission implemented legislation for digital product passports, to facilitate the more environmentally sustainable production and consumption of digital products.[58]

58. The World Meteorological Organization is upgrading its information system on weather, climate and water, ahead of operational relaunch in 2025 and is leading the development of a multi-hazard early warning system.[59] The World Food Programme is the lead agency of the Emergency Telecommunications Cluster, which coordinates digital support for humanitarian interventions and, in 2024, offered assistance in crises in Africa, Asia, Europe and Western Asia, and worked with Governments in Africa to strengthen crisis preparedness through infrastructure, capacity-building and stakeholder coordination.

E-agriculture

59. The Food and Agriculture Organization of the United Nations (FAO), in *Strategic Framework 2022–2031* and *Science and Innovation Strategy*, recognized the potential of digital technologies in improving agricultural production. FAO facilitates the e-agriculture community of practice, for sharing knowledge of agriculture and rural development, supports the development of e-agriculture strategies in developing countries and provides resources for farmers through a digital services portfolio. The global network of digital agriculture innovation hubs is aimed at mainstreaming digital agriculture in selected countries and promoting the digital transformation of agrifood systems.[60]

E-science

60. The UNESCO recommendation on open science provides a framework for Governments and other stakeholders, to facilitate access to scientific knowledge; working groups on its implementation reported on open science policies and policy instruments and on financing and incentives; and UNESCO prepared an index of open science resources and launched a consultation on the future development of open access with regard to scholarly publications.[61] FAO, the International Labour Organization, UNEP, WHO and WIPO

[55] https://www.itu.int/initiatives/green-digital-action/events/cop29/declaration/.
[56] https://www.unep.org/topics/digital-transformations/global-environmental-data-strategy-geds.
[57] https://www.itu.int/hub/publication/d-them-32-2023-01/.
[58] https://data.europa.eu/en/news-events/news/eus-digital-product-passport-advancing-transparency-and-sustainability.
[59] https://community.wmo.int/en/activity-areas/wis; https://wmo.int/activities/early-warnings-all/wmo-and-early-warnings-all-initiative.
[60] https://www.fao.org/in-action/global-network-digital-agriculture-innovation-hubs/en.
[61] https://unesdoc.unesco.org/ark:/48223/pf0000379949.locale=en; https://www.unesco.org/en/open-science/capacity-building-index?hub=686.

collaborate with publishers in the Research for Life programme, which offers access for developing countries to scientific journals, books and databases.

61. WEF issued an insight report on accelerating the technology-driven bioeconomy and launched a quantum application hub, to spread awareness of the potential applications of quantum technology.[62]

(h) Cultural diversity and identity, linguistic diversity and local content (C8)

62. The use of artificial intelligence has raised significant new issues concerning cultural diversity and identity and was a priority theme in discussions by Group of 7 and Group of 20 culture ministers. The UNESCO International Conference on Cultural Heritage and Peace addressed the use of artificial intelligence and other technologies in protecting cultural heritage. UNESCO emphasizes the importance of fostering the diversity of cultural expression, empowering creativity and maintaining principles of intellectual property and fair remuneration in this changing context; and adopted a framework for culture and arts education, to promote universal access, safeguard indigenous knowledge systems and maintain linguistic diversity.[63] The UNESCO World Conference on Cultural Policies and Sustainable Development in 2025 will include a focus on digital technologies in the culture sector.[64]

(i) Media (C9)

63. The emergence of generative artificial intelligence has accelerated changes in journalism and news, adding to concerns about information integrity and the scale of disinformation, misinformation and harmful content. UNESCO established a global forum of networks of regulatory authorities and a global knowledge network of research institutes, to support implementation of the guidelines for the governance of digital platforms; issued a road map for information as a public good in the context of the environmental crisis; and is developing a risk management framework on the safety of journalists. [65]

64. The International Fund for Public Interest Media seeks to sustain independent media and investigative journalism in contexts of political threats and financial challenges.

(j) Ethical dimensions of the information society (C10)

65. Concerns about the spread of misinformation and disinformation online are increasing, as wells as about the risks arising from the misuse of generative artificial intelligence and the implications for democratic processes and human rights. The UNESCO Recommendation on the Ethics of Artificial Intelligence and *Guidelines for the Governance of Digital Platforms* are widely discussed in this context.[66]

66. The United Nations High Commissioner for Human Rights addressed the relationship between human rights and technical standard-setting processes for new and emerging digital technologies; the Special Rapporteur on the right to privacy addressed legal safeguards for personal data protection and privacy in the digital age and guidelines for the regulation of computerized personal data files; and the Special Rapporteur on the rights to freedom of peaceful assembly and of association addressed the use of digital technologies by law enforcement for the facilitation of peaceful protests.[67]

67. UNICEF, in *State of the World's Children*, considered the impact of digitalization on children; in *State of Digital Transformation Report*, addressed the governance of children's

[62] https://www.weforum.org/publications/accelerating-the-tech-driven-bioeconomy/.
[63] https://www.unesco.org/en/wccae2024-framework-consultation.
[64] https://www.unesco.org/en/mondiacult/themes?hub=171169.
[65] https://www.unesco.org/en/internet-trust/building-network-networks; https://www.unesco.org/en/internet-trust/i4t-knowledge-networks; https://unesdoc.unesco.org/ark:/48223/pf0000387339; https://unesdoc.unesco.org/ark:/48223/pf0000391126; https://unesdoc.unesco.org/ark:/48223/pf0000391763.
[66] https://unesdoc.unesco.org/ark:/48223/pf0000381137.
[67] A/HRC/53/42; A/HRC/55/46; A/79/173; https://www.ohchr.org/sites/default/files/2024-03/Toolkit-law-enforcement-Component-on-Digital-Technologies.pdf.

rights and data, stressing the importance of prioritizing children's best interests; issued *Responsible Innovation in Technology for Children*; and launched an initiative on child rights and digital marketing.[68]

68. UN-Women issued a position paper titled "Placing gender equality at the heart of the global digital compact" and reports on financial inclusion, gender-based violence and the impact of artificial intelligence on women in various regions; issued a report on violence against women; and, with APC, developed a research agenda to address technology-facilitated violence against women.[69]

69. WEF issued *Responsible Artificial Intelligence Playbook for Investors*. The Council of Europe issued an assessment tool to support the ethical use of artificial intelligence in judicial systems and studies on the impacts and risks of the metaverse on human rights, the rule of law and democracy.[70]

(k) International and regional cooperation (C11)

70. The Office of the Secretary-General's Envoy on Technology facilitated preparations for the Global Digital Compact and the report of the High-Level Advisory Body on Artificial Intelligence. Preparations continued for the 20-year review of WSIS, with United Nations agencies working to develop a unified approach, with regular meetings to facilitate collaborative planning. Road maps of preparatory work were developed by the Commission on Science and Technology for Development, ITU and UNESCO.[71] The High-Level Political Forum recognized that "technology can enable rapid transformations for bridging the existing digital divides and accelerate progress for inclusive and sustainable development".[72] The multi-stakeholder forum on science, technology and innovation for the Sustainable Development Goals considered the role of technology in facilitating progress towards the achievement of the Goals at a time of multiple crises.[73] The open-ended working group on security of and in the use of ICTs 2021–2025, established by the General Assembly in 2020, continued work on building a common understanding of digital security issues and rules, norms and principles for responsible behaviour among States.[74]

71. ITU held the fifth Global Standards Symposium and a Global Innovation Forum on the theme "Shaping our digital futures for prosperity and well-being for all". The Equals Global Partnership of United Nations entities and digital sector organizations seeks to close gender-based digital divides in ICT access and leadership. The United Nations Office on Drugs and Crime works with Governments to address the criminal use of digital technology. WIPO coordinates international action and supports capacity development on copyright and intellectual property.

72. UNDP, in *Human Development Report 2025*, will explore how digitalization shapes economic and political processes, including employment and the environment, and present a road map for leveraging digital advancement, to enhance human capabilities and agency.[75]

[68] https://www.unicef.org/childrightsandbusiness/stories/introducing-unicefs-new-initiative-child-rights-and-digital-marketing.

[69] A/79/500; https://knowledge.unwomen.org/en/digital-library/publications/2024/03/placing-gender-equality-at-the-heart-of-the-global-digital-compact; https://www.unwomen.org/en/digital-library/publications/2024/09/technology-facilitated-gender-based-violence-developing-a-shared-research-agenda.

[70] https://rm.coe.int/cepej-2023-16final-operationalisation-ai-ethical-charter-en/1680adcc9c; https://rm.coe.int/the-metaverse-and-its-impact-on-human-rights-the-rule-of-law-and-democ/1680b178b0; https://rm.coe.int/risks-and-opportunities-of-the-metaverse/1680af072c.

[71] See presentation of the Commission road map for the WSIS+20 review at https://unctad.org/meeting/commission-science-and-technology-development-twenty-sixth-session, as well as https://www.itu.int/net4/wsis/ungis/content/upload/doc/roadmaps/ITU-WSIS20-Roadmap.pdf, https://www.itu.int/md/S22-CL-C-0059/en and https://unesdoc.unesco.org/ark:/48223/pf0000379370.

[72] E/HLS/2024/1.

[73] https://sdgs.un.org/tfm/STIForum2024.

[74] https://meetings.unoda.org/open-ended-working-group-on-information-and-communication-technologies-2021.

[75] https://hdr.undp.org/reports-and-publications/towards-2025-human-development-report.

UNESCO, in 2025, will hold a global forum on artificial intelligence and digital transformation in the public sector.

73. The Group of 20 working group on the digital economy adopted a statement on digital inclusion, digital government, information integrity and the potential for artificial intelligence to advance sustainable development and reduce inequality.[76]

2. Implementation of themes

(a) Financing mechanisms

74. Communications and data businesses continue to invest in network development, but discussions are increasingly being held on the need for infrastructure finance for remote or challenging environments and to ensure the inclusion of developing countries in the global infrastructure required for artificial intelligence and other advanced technologies. The United Nations, in *Financing for Sustainable Development Report 2023*, considered the role of science, technology and innovation and capacity-building, including digital finance and digital inclusion. UNDP issued a brief exploring the development impact of digital investment.[77]

75. The World Bank, through the Digital Development Practice, focuses on business lines related to broadband connectivity and use, data infrastructure, industry and jobs, safeguards and the potential of digitalization in climate action; and coordinates the Digital Development Partnership, bringing together public and private sector organizations to leverage digital innovation for sustainable development.[78]

76. The Joint Sustainable Development Goals Fund provides an investment window on digital transformation for development, to support national-level joint programmes with regard to achieving the Goals. The ICT Development Fund of ITU supports infrastructure development in countries with particular development needs and in the least developed countries.

(b) Internet governance

77. The Tunis Agenda for the Information Society recognized the need for enhanced cooperation on international public policy issues pertaining to the Internet. The General Assembly has noted the work of the working group on enhanced cooperation of the Commission on Science and Technology for Development and the need for continued dialogue.

78. The nineteenth meeting of IGF was held in Saudi Arabia in December 2024, under the theme “Building our multi-stakeholder digital future” and subsidiary themes on harnessing innovation and balancing risks, enhancing digital contributions to peace and sustainability, advancing human rights and inclusion and improving digital governance. The IGF ecosystem includes the annual global forum and over 170 national, regional and youth forums. Intersessional work is undertaken by policy networks on Internet fragmentation, meaningful access and artificial intelligence, a best practice forum on cybersecurity and 31 dynamic coalitions formed by diverse stakeholders to explore a range of issues. Innovations continued to be made in IGF processes, supported by the Leadership Panel and Multi-stakeholder Advisory Group, with the aim of increasing participation and the visibility of IGF, enabling more tangible outcomes and increasing collaboration with other international forums concerned with digital development. This work is supported by working groups under the Multi-stakeholder Advisory Group on procedural improvements; youth engagement; and IGF strengthening and strategy. The mandate of IGF will be reviewed by the General

[76] https://www.gov.uk/government/publications/g20-ministerial-declaration-maceio-13-september-2024/g20-ministerial-declaration-13-september-2024.

[77] https://www.undp.org/publications/dfs-return-investment-national-digital-transformation-exploring-development-impact-digital.

[78] https://thedocs.worldbank.org/en/doc/b16e2ba1cb754ab47a2dd1b214dd374e-0400062023/original/DigitalDevelopmentBrochure.pdf.

Assembly in 2025 as part of the 20-year review of WSIS. The twentieth meeting will take place in Norway in June 2025.

79. Other international forums are concerned with different aspects of Internet development; for example, the multi-stakeholder conference Net Mundial+10 issued a joint statement on strengthening Internet governance and digital policy processes.[79]

(c) Measuring information and communications technology for development

80. The Partnership on Measuring ICT for Development brings together 14 United Nations and international entities concerned with data collection and analysis, assesses trends and proposes indicators to improve measurement with regard to the information society. The Partnership has supported the development of statistical guidelines, fostered regional assessment frameworks and advocated for more ICT-related indicators in monitoring progress on achieving the Goals.[80]

81. ITU maintains the World Telecommunication/ICT Indicators database, with data summarized on the data hub; and issued ICT Development Index 2024, detailing progress on achieving universal and meaningful connectivity in 170 economies. ITU organized the World Telecommunication/ICT Indicators Symposium under the theme "Metrics to action: Bridging data gaps for universal and meaningful connectivity" and held meetings of expert groups on telecommunications/ICT indicators and on household indicators, as well as discussions of the developments required in the measurement of ICT statistics.[81]

82. UNCTAD is leading work on developing more substantive data sets for the measurement of e-commerce and the digital economy and is collaborating with the International Monetary Fund, OECD and WTO on building capacity in developing countries in this area. UNESCO revised the Internet universality indicators, which provide a framework for assessing Internet development, including rights, openness, access and multi-stakeholder participation. WTO, in *Global Trade Outlook and Statistics 2023*, issued estimates of exports of digitally delivered services.

IV. Findings and suggestions

83. The World Summit on the Information Society was held in two sessions, in 2003 and 2005. In the 20 years since its conclusion, the core vision of a people-centred, inclusive and development-oriented information society has provided the framework for international discussion on the opportunities and challenges arising in a rapidly evolving digital environment. The framework includes action lines that address critical themes of digital technology, information access and developmental impact; and IGF and the WSIS Forum, which provide spaces for dialogue between stakeholders from Government, business, civil society and the technical community engaged in digital development. WSIS outcomes were reviewed by the General Assembly in 2015 and will be reviewed again in 2025. Several United Nations entities, including the Commission on Science and Technology for Development, ITU and UNESCO, have established road maps, including consultation processes, to assess progress towards the implementation of WSIS outcomes and identify future priorities. The Commission, in 2025, will prepare a report on WSIS achievements, developments since WSIS and stakeholder priorities for the future of the information society. The General Assembly will consider the impact of WSIS in the context of progress towards achieving the Sustainable Development Goals and the Pact for the Future, including the Global Digital Compact, which invites the WSIS review to identify how processes and forums emanating from WSIS can support the contribution of all stakeholders to implementation of the Compact.

84. The consultation processes and discussions preceding the adoption of the Pact for the Future concentrated attention in the international community on the implications of

[79] https://netmundial.br/netmundial-10-multistakeholder-statement-strengthening-internet-governance-and-digital-policy-processes.

[80] https://www.itu.int/en/ITU-D/Statistics/Pages/intlcoop/partnership/default.aspx.

[81] See summary report at https://www.itu.int/itu-d/meetings/wtis24/.

digitalization for global goals for sustainable development, peace and security and human rights. They demonstrated how far the nature of digitalization has changed since WSIS. Many of the aspirations for the information society at WSIS have not only been achieved, but exceeded, as the pace of technological development has been faster than anticipated. ITU estimates that, in 2004, the Internet was used by 16 per cent of the global population, compared with 68 per cent at present.[82] In addition, the nature of its use has been transformed. Mobile devices, using mobile broadband networks, have replaced computers as the principal means of access to the Internet for individual users. Social media, e-commerce, gaming and other high-bandwidth applications have become commonplace and, in many countries, pervasive. Data corporations, providing a wide range of services and managing large data centres, dominate digital service provision and are among the largest businesses worldwide.

85. However, some of the challenges identified at WSIS remain significant. The goal of universal access to the Internet, including under the 2030 Agenda for Sustainable Development, remains unachieved, and the pace of progress is no longer accelerating. The benefits of digitalization have been more readily secured by those with financial resources than by those who lack the funds or the skills required to take advantage of them, particularly the most vulnerable. Digital divides persist between the rich and poor, urban and rural areas, men and women and those with different levels of educational attainment. As a result, the WSIS expectation that digitalization would enable greater equality has not been met.

86. As shown in the present and previous reports, digitalization has enabled significant innovation in public services and productivity across the range of economic sectors. Aspirations set out in the action lines agreed at WSIS have often been exceeded, as the enhanced capabilities of digital networks, devices and services have evolved at pace, enabling new ways of delivering educational and health services and new commercial opportunities and ways of doing business, adding substantially to the quality of life and of value in enabling societies to continue functioning effectively during the pandemic. Further improvements in productivity and public services are critical in achieving the goals of the international community for sustainable development, which were set back by the pandemic. However, in the past two decades, there have been challenges and risks that were not anticipated at the time of WSIS. Opportunities to use digital technologies are available not only to those concerned with improving people's lives but also those who may threaten them. Cybersecurity has become an ever-greater challenge; cybercrime, an ever-greater risk. The significant increase in content driven by the use of the Internet has not simply enabled people to be more informed but also led to an increase in attempts to shape opinions and, thereby, challenged the integrity of information environments. The growing volume of data has enabled greater precision in analysing problems and improving policy responses, yet also raised new questions concerning surveillance and increased energy requirements that contribute to climate change. In addition, the use of drones and robotics has improved productivity in many sectors but has also altered the parameters of conflict at a time of greater international instability.

87. The WSIS outcomes that will be the subject of the General Assembly review in 2025 are, therefore, complex. Much has been achieved, particularly as the pace of technological development has exceeded expectations, yet some goals remain unachieved and others are adversely affected by the unexpected outcomes of digitalization. Digital technology and services affect almost all aspects of global society and can no longer be considered separately from broader economic, social and environmental trends, yet much of their trajectory remains uncertain; the past 20 years have shown how hard it will be to predict. The rapid growth in artificial intelligence and other frontier technologies, with significant potential and uncertain risks, adds greater urgency to improving the understanding of what is taking place in the digital environment, as made clear in the Global Digital Compact. The WSIS review in 2025 therefore needs to consider both the record of what has been achieved in the past two decades and the priorities for future development that can take forward the WSIS vision of a people-centred, inclusive and development-oriented information society.

[82] https://www.itu.int/en/ITU-D/Statistics/pages/stat/default.aspx.