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| **Telecommunication Development Advisory Group (TDAG)**  **30th Meeting, Geneva, Switzerland, 19-23 June 2023** | A close up of a sign  Description automatically generated |
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|  | **Document** **TDAG-2****3/2(Add.1)-E** |
|  | **22 May 2023** |
|  | **Original:** **English** |
| Director, Telecommunication Development Bureau | |
| Update on the Report on implementation of the  Buenos Aires Action Plan (BAAP) 2018-2022 | |
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| **Summary:**  This document provides an update to [WTDC-22 Document 2](https://www.itu.int/md/D18-WTDC21-C-0002/en) on the implementation of the Buenos Aires Action Plan (BAAP) and covers the period May-December 2022. In addition to activities undertaken under the Operational Plan of the Telecommunication Development Bureau (BDT) and extra-budgetary projects. Emphasis is put on the results achieved during the implementation of the objectives, outcomes and outputs of the Sector as well as on key performance indicators.  **Action required:**  TDAG is invited to note this document.  **References:**  Document 2, TDAG-23  WTDC-22 Kigali Action Plan  Document 2, WTDC-17 | |

# Introduction

The 2017 ITU World Telecommunication Development Conference (WTDC-17) convened in Buenos Aires, Argentina, from 9 to 20 October 2017 and adopted the Buenos Aires Action Plan (BAAP). The plan, which includes the ITU-D programmes, a set of regional initiatives, and new and revised resolutions, recommendations and Study Group Questions, defined the mandate, objectives and priorities of the ITU Development Sector (ITU-D) for the period 2018-2021. It also aligned the work of the Development Sector with the strategic objectives of ITU to allow countries to harness the full benefits of ICTs. Due to the postponement of WTDC-21, the implementation of BAAP has spanned until December 2022.

This document provides an update to [WTDC-22 Document 2](https://www.itu.int/md/D18-WTDC21-C-0002/en) on the implementation of the BAAP and covers the period May-December 2022. In addition to activities undertaken under the BDT Operational Plan in the framework of the 11 Thematic Priorities and extra-budgetary projects, it highlights BDT’s contribution to the implementation of the WSIS Plan of Action and the Sustainable Development Goals (SDGs).

# Capacity development: Building a digitally competent society

### ITU Academy

The [ITU Academy portal](https://academy.itu.int/) continues to be the main gateway to ITU capacity development and training activities. It offers ICT professionals and policy makers access to capacity development opportunities using various methodologies and tailored to different learning styles, such as online, self-paced or instructor-led courses. Its training catalogue covers a large array of topics relevant to the ITU membership, such as cybersecurity, digital inclusion, artificial intelligence, spectrum management, policy and regulation, and network infrastructure.

In 2022, the ITU Academy welcomed over 9,800 additional users bringing the total of the platform’s learners to over 35,200 users, from all Member States. During this period, 196 courses were delivered via the ITU Academy to around 13,000 registered participants, of which 4,000 received a training course certificate.

**Centres of Excellence and ITU Academy Training Centres programme**

Over the 2019-2022 [cycle of the ITU Centres of Excellence (CoE)](https://academy.itu.int/index.php/centres-excellence/coe-cycles/coe-cycle-2019-2022) programme, the network of centres successfully delivered a total of 324 training courses in 15 areas such as wireless and fixed broadband, cybersecurity, digital economy, Internet of Things (IoT), spectrum management, innovation and entrepreneurship, and ICT applications and services. Over the four-year period, 13,367 people were trained, of which 9,469 participants received a certificate for successfully completing courses. The [final review of the 2019-2022 CoE cycle](https://academy.itu.int/itu-d/projects-activities/centres-excellence/coe-cycles/coe-cycle-2019-2022) provides further details on implementation.

### Intersectoral Task Force on Capacity Development

At its 2022 session, following the recommendations of the ITU Secretariat in the final report on the “Feasibility study on establishing an ITU training institute”, ITU Council approved proposals to work towards a harmonized capacity development framework in ITU and further enhance the ITU Academy. To lead the work, in early 2022 BDT set up the intersectoral Task Force on Capacity Development, including representatives of the three Bureaux and the General Secretariat, with the objective to oversee the harmonization of capacity development across sectors and work towards consolidating ITU’s capacity development and training activities under the ITU Academy umbrella.

Between March 2022 and December 2022, the Task Force met six times to work on the development of an implementation plan to harmonize capacity development in ITU; identifying courses to be featured on the ITU Academy, and develop guidelines on harmonizing processes, quality assurance as well as the planning and delivery of training courses and workshops.

### Digital Transformation Centres initiative

The second phase of the [Digital Transformation Centres (DTC) Initiative](https://academy.itu.int/index.php/main-activities/digital-transformation-centres-initiative) started in 2022, with 13 DTCs joining: 8 DTCs from phase 1 (Côte d’Ivoire, Dominican Republic, Ghana, Indonesia, Papua New Guinea, the Philippines, Rwanda and Zambia,) and 5 additional DTCs joining in phase 2 (Democratic Republic of Congo, Ethiopia, Morocco, Pakistan and Uganda).

To onboard new DTCs and strengthen the DTC network, a phase 2 kick-off workshop was conducted in Geneva, Switzerland, in February 2022. It brought together participants representing the selected DTCs in Africa, Americas, the Arab region and Asia and the Pacific as well as current or potential partners from the public and private sector and international organizations. The workshop provided a common understanding of how to effectively and collectively achieve the objectives of the DTCI, and discussed the activities that DTCs are expected to undertake to achieve these objectives.

Until the end of 2022, over 190,000 course participants from rural and underserved communities, of which 57 per cent are women, have been trained on basic and intermediate digital skills. In 2022, 84,027 course participants received digital skills training across the DTCs.

Through the Norad-funded DTC project, ITU provided support to several DTCs. During the period under review, the Ghana DTC (represented by the Ghana Investment Fund for Electronic Communications (GIFEC)) trained 6,268 citizens including 4,337 females, representing 69.2 per cent of persons trained. Overall, GIFEC has trained a total of 10,446 unique individuals (including 7,593 females (73 per cent)), since the project started in 2021. Support was also provided to the DTC in Zambia (represented by SMART Zambia Institute (SZI)). This allowed SZI to train over 120 beneficiaries, including 63 females, representing 52 per cent of persons trained, through four train-the-trainers programmes tailored for ICT officers, ICT teachers, DTC focal persons and citizens.

ITU continues to engage with partners to strengthen the DTC Initiative. In addition to training content provided by the founding partner Cisco through the Cisco Networking Academy and Skills for All platforms, ITU has been working closely with Digital Skills Foundation and Hewlett Packet to provide the DTCs with additional learning materials. Other partnerships which are being explored include potential collaboration with SMART Africa, UNCDF, WFP, Airtel, STMicroelectronics Foundation, and Microsoft.

### ITU-ILO digital skills campaign and programme activities

ITU continued to lead the [digital skills campaign](https://academy.itu.int/index.php/main-activities/ilo-itu-digital-skills-campaign) launched in 2016 as one of eight thematic priorities under the ILO Global Initiative on Decent Jobs for Youth. The campaign seeks to equip young women and men with the skills needed for the digital jobs of today and tomorrow. By December 2022, the campaign had received commitments to train more than 16 million young people with job-ready, transferable digital skills by 2030. The 16 partners who have made commitments under this initiative come from a range of sectors including government, development banks, NGOs, UN agencies and the private sector.

### Group on Capacity Building Initiatives

The Group on Capacity Building Initiatives (GCBI) held its 10th meeting on 6 December 2022. The meeting, which was held virtually, was the last meeting of the current 4-year cycle. Members stressed the importance of capacity and digital skills development, which is continuing to grow among ITU Member states as evidenced by discussions during WTDC-22 and PP-22. This increases the need for ITU to scale efforts in supporting member states to address capacity development and digital skills needs in their countries. The group agreed that the work on harmonizing capacity development across the ITU is a good step in implementing the recommendations of the feasibility study and recommendations from decision making bodies, in particular the ITU Council. This will contribute to the value add that ITU is providing to its members. More information on the work of GCBI is contained in TDAG document 10.

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| **Regional Initiatives**  *Africa region*   * Through the ITU-EIF project, activities have been undertaken such as the Hub of Africa Addis Fashion Week, product development and show-case workshops for women entrepreneurs, digital market webinar series, mentoring and training on digital tools needed to improve their readiness and competitiveness in the international market. * The ITU and International Labour Organization (ILO)’s partnership and programme in Africa to boost decent jobs and enhance skills for youth in the digital economy organized online and face-to-face events, activities and challenges, engaging youth, Government agencies, private sector and civil society. From the ‘Creating decent jobs for youth through digital transformation’ webinar during the Africa-Europe Week of Partnerships 2022, to a youth led session on ‘Decent jobs in Africa’s digital economy’ at the Generation Connect Youth Summit in Kigali, Rwanda and to progress made on country projects in Côte d’Ivoire, Ethiopia, Kenya, Nigeria, Rwanda, Senegal and South Africa.   *Arab States region*   * [TBC – Ahmed] * More that 12 trainings delivered across 5 Arab Centers of Excellence, in areas of broadband infrastructure and cybersecurity. ITU professional regional training Spectrum Management System for Developing Countries (Tunisia, 18-21 Dec. 22). More than 200 participants were trained from more than 100 countries (delivered 1 global, 1 regional and 4 national training courses on digital regulation). This regulatory training programme is primarily based on the ITU/World Bank Digital Regulation Handbook and further developes, updates and adds new modules in collaboration with the Communications, Space & Technology Commission (CST) Saudi Arabia under the framework of the cooperation between ITU and CST on assistance in telecommunication/ICTs to ITU Member States. More than 100 participants from Arab region and Sudan training on Ipv6 and IoT (both basic and advanced levels) and organized 1 regional workshop, 4 courses and 1 challenge on Ipv6 and IoT. In addition, and for the sustainability of the center, 7 selected participants (5 out of them are female) have been trained in 7 different types of IPv6 and IoT courses and became certified as trainers. * Design and provide a capacity program for Mauritania Cyber Team (16 Participants) to support their cybersecurity capabilities. * Developed and implemented Spectrum planning Training for Somalia (15 participants) in December 2022. * Implemented ITU-ITSO Satellite Communications virtual training with the participation of 80 participants from the Arab region in October 2022.   *Asia-Pacific region*   * More than 1,100 participants developed digital skills through trainings and workshops and trainings provided by ITU Centres of Excellence in Asia and the Pacific (17 trainings, with over 1600 stakeholders trained). Four digital transformation centres in the region started their mission to build digital skills and literacy at national level and have trained more than 38,000 participants. National cybersecurity strategy frameworks were strengthened in Bhutan, Kiribati, and Solomon Islands, and CIRT frameworks through specialized country assistance in Tonga, Samoa, Papua New Guinea, and Vanuatu. Samoa, Vanuatu, Papua New Guinea, and Solomon Islands were assisted in developing National Emergency Telecommunication Plans through a project supported by DITRDC. * A regional training on Last Mile Connectivity (LMC) for Asia-Pacific was organized in October 2022. * A digital skills assessment for migrant communities in Thailand was conducted in 2022 to assess the digital skills level of migrants from Cambodia, Laos and Myanmar in Thailand to support IOM’s Poverty Reduction through Safe Migration, Skills Development and Enhanced Job Placement (PROMISE) initiative in Thailand. * In coordination with UNRCO-Mongolia and as part of the work of the UN Country Team (UNCT), ITU partnered to organize the Global Digital Dialogue 2022 (GDD 2022) in Mongolia hosted by the Prime Minister of Mongolia and Ministry of Digital Development and Communications (MDDC) as main organizer.   *CIS region*   * ITU set up a digital skills centre for women and youth in Uzbekistan (in partnership with ZTE and IT Park of Uzbekistan), which was officially launched on the International Girls in ICT Day in April 2022. As part of the project, ITU supported national partners in organizing training programmes aimed at the development and improvement of digital skills for women and girls from Khorazm Region of the Republic of Uzbekistan. Over 1300 women signed up for the training and 350 successfully completed it after a rigorous selection and testing process. * In 2022, ITU in partnership with the Kostanay Engineering and Economics University (KINEU), Kazakhstan, completed a project on the creation of a smart educational ecosystem. The project is supplemented by a series of online events and trainings, organized by KINEU, with the support of ITU. The project promoted science, technology, engineering, and mathematics (STEM) education through a hackathon for school students, and deliver trainings on online hygiene and digital skills for school students so as to equip them with the necessary skills to safely use ICTs in a post COVID-19 online environment. * ITU continued to provide assistance to Kyrgyzstan on capacity development of informatics teachers from rural and remote areas. In total, between 2012 and 2022, ITU jointly with the Institute of Electronics and Telecommunications (IET) of Kyrgyzstan organized 63 training courses. In total, over 1000 teachers attended, 78 per cent of whom were women. Considering the number of trained informatics teachers and the number of the rural schools covered, ITU estimates that some 95 000 school children enjoy more advanced ICT knowledge and skills.   *Europe region*   * The National Digital Skills Assessment for North Macedonia has been completed upon the request of, and in collaboration with, the Ministry of Information Society and Administration. The purpose of the report was to assess the current supply and demand of digital skills in North Macedonia, to contribute to the development of a digital skills strategy that will meet citizen needs, and to contribute to further growth of the digital economy and digital society. The assessment results are delivered in a set of explicit and implementable recommendations. The scope includes in particular an assessment of basic digital skills in the private sector, start-ups, and the education sector, as well as an assessment of the current demand for all levels of digital skills across the economy. * For the 2022 UNECE Regional Forum on Sustainable Development, ITU collaborated on SDG 4 ‘Quality of Education’ Roundtable, advocating for the role of digital skills, ICT and connectivity in education, to reach SDG 4, to the HLPF process. * The series of trainings delivered across six European Centers of Excellence, namely FEEIT in North Macedonia, NRD Cyber Security in Lithuania, NIT in Poland, and ICTP in Italy, marked the completion of the last cycle of the Center of Excellence cycle for the Europe Region. The Centers of Excellence in the Europe Region aligned with the results of the WTDC 22 Outcomes in 2023, leading to the transitioning from the Centres of Excellence programme with the ITU Academy Training Centres (ATCs) programme. |

# Cybersecurity: Creating a trusted cyberspace for all

### Global, Regional and National CyberDrills

[ITU CyberDrills](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/cyberdrills.aspx) at the regional and national levels serve a dual purpose: provide a platform for cooperation, information sharing, discussions on current cybersecurity issues, and be a platform for capacity building thought hands-on exercises and focused training workshops developed for the national Computer Incident Response Teams.

To date, more than 40 cybersecurity exercises were conducted at international, regional, or national levels involving more than 120 countries in all the six ITU regions. Since TDAG-22 six [CyberDrills were conducted](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/CyberDrill-2022/CyberDrill-2022.aspx): [2022 ITU-Bhutan joint CyberDrill](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/CyberDrill-2022/2022-ITU-Bhutan-joint-CyberDrill.aspx), [CIS and Arab inter Regional CyberDrill](https://www.itu.int/en/ITU-D/Regional-Presence/CIS/Pages/EVENTS/2022/CyberDrill22.aspx), [Arab Regional CyberDrill](https://rcssummit.com/), [Pakistan National CyberDrill](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/CyberDrill-2022/2022-Pakistan-CyberDrill.aspx) and [ASEAN-ITU Regional CyberDrill](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/CyberDrill-2022/ASEAN-ITU-2022-CyberDrill.aspx).

### Global Cybersecurity Index (GCI)

The [Global Cybersecurity Index](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/global-cybersecurity-index.aspx) measures countries’ commitment to cybersecurity. The fifth edition of the GCI (GCIv5) started with the establishment of Expert Groups to work on questions, methods, and weightages, particularly the transition from ranks to a tier-based model. A series of Expert Group meetings were held in 2022 with the participation of over 140 experts. They were tasked to provide recommendations related to PP Resolution 130 (Rev. Bucharest, 2022) and WTDC Resolution 45 (Rev. Kigali, 2022) on weightages and moving from rankings to tiers. Their work continues in 2023.

### National Cybersecurity Strategy (NCS)

The [second edition](https://ncsguide.org/) of the National Cybersecurity Strategy (NCS) Guide is now available on the ITU Academy as an e-learning training course, featuring best practices for developing and implementing national cybersecurity strategies. By the end of 2022, some 750 professionals from 139 countries have completed the training.

In 2022, tabletop exercises (TTX) on the development and implementation of National Cybersecurity Strategy (NCS) were convened by BDT in [Morocco](https://www.dgssi.gov.ma/fr/content/ateliers-debats-autour-des-nouveaux-objectifs-strategiques-nationaux-en-matiere-de-cybersecurite.html) and Rwanda. In each country, 35 to 45 national stakeholders representing various organizations actively engaged in the TTX sessions. Following the exercises, participants indicated their satisfaction with the progress made and the outcomes achieved during each session.

BDT in partnership with a team of government agencies from the United Kingdom delivered the Joint Integrated Cybersecurity Assessment Project ([JICAP](https://cybilportal.org/projects/joint-integrated-cyber-analysis-project-jicap/)) aimed to facilitate and support national efforts for two countries in developing or reviewing their NCS and NCS Action Plans.

In addition, BDT has assisted five more countries in the assessment of their cybersecurity strategies and provided suggestions to improve.

### Cyber for Good and related projects

[The Cyber for Good project](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/Cyber4Good/Cyber4Good.aspx) aims to narrow the cyber capacity gap by promoting the inclusion of women and youth, and enhancing cybersecurity within and between nations, focusing on LDCs and developing countries. Since its inception in 2022, ITU's work with LDCs has reached 12 countries.

ITU, FIRST and EQUALS, the global partnership for gender equality in the digital age co-founded by ITU, jointly organize the [Women in Cyber Mentorship Programme](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/Women-in-Cyber/Women-in-Cyber-Mentorship-Programme.aspx) for empowering women in the cybersecurity sector. Since 2021, through the WiC Programme almost three hundred women have been trained and mentored across seventy-three countries in the Arab, Africa, and Asia-Pacific regions, through collaborations with 106 mentors from across the world.

Under the Child Online Protection (COP), BDT successfully delivered several products and services in key areas throughout 2022, such as:

* Capacity building, including
  + Development and dissemination of [COP guidelines](https://www.itu-cop-guidelines.com/) through translation, localization, awareness campaigns
  + [Online trainings](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/COP/Trainings.aspx): self-paced modules on ITU Academy for parents/guardians, carers, educators, social workers, policymakers
  + In person trainings: Development and delivery of Training of Trainers (ToTs) for educators, and for children and youth of various age groups in three pilot countries
* Policy assistance, including
  + [Technical assistance](https://www.itu-cop-guidelines.com/implementation) to member states for the development and implementation of national COP frameworks and strategy.
* Research:
  + Launch of a new multistakeholder research initiative: [Protection through Online Participation (PoP) Initiative](https://www.itu.int/en/ITU-D/Cybersecurity/Pages/COP/POP.aspx).

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| Regional Initiatives *Americas region*   * The 10th Regional Cyberdrill was held in Tegucigalpa in November 2022. The Cyberdrill offers a space for analysis and discussion about national needs, actions, and initiatives, plus capacity building through cyber incident simulation labs towards the protection of national critical infrastructures in the region. * BDT carried out three capacity building workshops with the participation of the main national cybersecurity stakeholders, as part of the CIRT Readiness Assessments for Bermudas and Guyana. * In 2022, ITU delivered CIRT Readiness Assessments and capacity building programmes in the Bahamas and Barbados along with additional assistance in enhancing national cybersecurity strategies, cybersecurity tools and national CIRT capacities. * Policy Analysis on Child Online Protection for America Region 2022: In 2022 was developed A study of digital policies on child online protection was carried out at the regional level, with the participation of Argentina, Bolivia, Guatemala, Honduras, Panamá, Dominican Republic, and Uruguay.   *Arab States region*   * ITU supported the implementation of the 10th Regional CyberDrill Week in Oman and held other cybersecurity-related activities in collaboration with ITU partner in Oman, the Arab Regional Cybersecurity Centre (ARCC). * Individual capacity programs were also provided for Mauritania's Cyber Team as well as Somalia's Spectrum Planning Training. * The Regional Office held discussions with several countries in the Arab region about the implementation of national strategy frameworks for child online safety and formalized a framework to implement COP guidelines in Morocco. * ITU had multiple interactions with the National Cybersecurity Authority (NCA) of Saudi Arabia, who provides funding for the Global Child Online Protection (COP) project, to further explore opportunities for expanding our collaboration on this important initiative.   *Asia-Pacific region*   * During 2022 and with the financial support of the Department of Infrastructure, Transport, Regional Development, Communications and the Arts of Australia (DITRDC), ITU implemented an umbrella project ‘Implementing Asia-Pacific Regional Initiatives 2020-21’. It allowed engaging in technical assistance and capacity development support, including: * the development of a national CIRT assessment for Mongolia * the development of a national CIRT assessment for Kiribati (to be completed in 2023) and a related capacity building event * the delivery of a policy paper on the current state of cybersecurity in the Maldives * virtual cyberdrills in Bhutan, Pakistan and ASEAN countries * the creation of draft training materials on cyber-safety for piloting at the community level, as part of the outreach of Smart Villages and Smart Islands initiatives. * EQUALS Her Digital Skills was organized a series of events in the Philippines and Australia on the topics of mobile apps development, online safety for girls and cybersecurity with the participation of over 100 young women from Australia, Fiji, Samoa, Philippines and Vanuatu. * In Bangladesh, Cambodia, Indonesia, Pakistan and Timor-Leste, the ITU Regional Office organized a series of events to raise awareness around the topic of Online Safety for girls’ and promoted the ITU Child Online Protection Guidelines. Over 1600 girls and young women took part in the events, which also engaged country administrations and UN agencies. * ITU signed a joint declaration with the USAID RDMA to promote gender equity and inclusion in cybersecurity in the region. As part of this collaboration, the Developing Cybersecurity Reporting Expertise for Female Journalists in Asia and the Pacific Programme sought to create a pool of dedicated female cybersecurity reporters to ensure strong coverage of cyber incidents in the Asia-Pacific developing countries while seeking to close the gender gap among both cybersecurity and media professionals. In 2022, a regional webinar was held on this subject, followed by sending six female journalists (hailing from Mongolia, Indonesia, Cambodia, and Thailand) to attend WTDC and provide reporting in both English and local languages. * ITU also engaged with member states in the region to facilitate the implementation of the global Cyber4Good project, which also supports the supports the Partner2Connect (P2C) Digital Coalition initiative. ITU provided an overview of the ITU-D Sector members supporting the project and facilitated the engagement with member states on how to utilize Cyber4Good services.   *CIS region*   * In 2022 the CIRT readiness assessment for Belarus was completed and has undergone a technical review by national experts with the support of ITU. * ITU conducted the Arab-CIS Interregional Cyberdrill to enhance institutional capacity for incident response in the regions. * Azerbaijan, Kazakhstan, Kyrgyzstan, Russian Federation and Uzbekistan have been using GCI as a key metric for national cybersecurity policy planning and implementation. From 2018-2022, ITU provided support and training upon requests from these Member-States. A dedicated online training was provided to Turkmenistan. * In partnership with the UNESCO Institute for Information Technologies in Education (UNESCO IITE), a free online course for trainers on "Information Security in Educational Cyberspace" has been released on the [E-library](https://elibrary.iite.unesco.org/h5/index.html#/courseManagement/courseDetail/b15a8dca-a240-47c1-8f52-4562cd22876f) platform. * In Armenia, COP guidelines for [policy-makers](https://www.itu.int/en/ITU-D/Regional-Presence/CIS/Documents/RI-WTDC22/COP%20Guidelines%20for%20policy-makers%20in%20Armenian.pdf), [industry](https://www.itu.int/en/ITU-D/Regional-Presence/CIS/Documents/RI-WTDC22/COP%20Guidelines%20for%20industry%20in%20Armenian.pdf), [parents and teachers](https://www.itu.int/en/ITU-D/Regional-Presence/CIS/Documents/RI-WTDC22/COP%20Guidelines%20for%20parents%20and%20educators%20in%20Armenian.pdf) were localized into Armenian and disseminated broadly. In 2022 a series on offline training covered 1 400 children in 29 schools from 10 different regions to raise awareness on the topic. * An assessment of child online protection was carried out in Kazakhstan in partnership with UNICEF. It included an evaluation of existing Internet safety measures in the country and the development of concrete recommendations for each key sector and the responsible ministry so as to strengthen national legislation and capabilities to ensure the Internet is a safe place for children.   *Europe region*   * Albania is the first pilot country to roll out the Child Online Protection Global Programme at the national level. By the end of 2022, 250 secondary school students, 320 parents and educators, as well as 50 industry representatives have been trained on child online protection based on the ITU COP Guidelines. * The National Child Online Safety Assessment for North Macedonia has been completed upon the request of and in collaboration with the Ministry of Information Society and Administration. The report covers an assessment of the existing infrastructure, education and organizational activities, and child protection legislation as well as recommendations for a national online safety strategy and action plan towards enhancing online safety. The assessment and the related national workshop led to a Memorandum of Cooperation between the Ministry of Information Society and Administration and the Ministry of Education. * In collaboration with the Malta Foundation for the Wellbeing of Society, ITU is delivering training of trainer module for social workers active in secondary schools. The first module rolled out in 2022 trained 35 trainers. * BDT assisted in the assessment of Moldova’s readiness to implement a national Computer Incident Response Team (CIRT). Building on it, two executive workshops, offered an opportunity to validate conclusions of the analysis and set of recommendations on establishing a national CSIRT. |

# Digital inclusion: Building inclusive policies for equal ICT access and use

### Digital inclusion

BDT carried out several training programmes promoting digital inclusion for various groups:

* Executive trainings comprised of face-to-face and virtual sessions engaged 459 stakeholders from 75 countries in ICT/digital accessibility through at regional thematic events, such as the Accessible– ICT for ALL regional forums (for [Asia and the Pacific](https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/Pages/v2/regional-events.aspx), [Americas,](https://www.itu.int/en/ITU-D/Regional-Presence/Americas/Pages/EVENTS/2022/AA-2022.aspx#:~:text=The%209th%20edition%20of%20Accessible,)%2C%20the%20Brazilian%20regulatory%20authority.) [Europe](https://www.itu.int/en/ITU-D/Regional-Presence/Europe/Pages/Events/2022/Accessible%20Europe%20ICT%204%20All%20Forum%20-%206%20Dec%202022/Accessible-Europe-ICT-4-All-Forum--Celebration-of-the-International-Day-of-Persons-with-Disabilities-.aspx#:~:text=The%20special%20event%20for%20Europe,virtually%20on%206%20December%202022.) and [Arab States](https://www.itu.int/en/ITU-D/Regional-Presence/ArabStates/Pages/Events/2022/AccessibleARB/Accessible-ARB2022.aspx#:~:text=The%20International%20Telecommunication%20Union%20(ITU,in%20Arabic%2C%20English%20and%20French.).
* Some 700 participants registered for ITU online self-paced training on ICT accessibility and over 3,000 stakeholders used ITU-D resources in ICT/digital accessibility.
* The accessible online self-paced training on [**ICTs for better ageing and livelihood in the digital landscape**](https://academy.itu.int/training-courses/full-catalogue/icts-better-ageing-and-livelihood-digital-landscape-1) is now available in English, French, and Spanish.
* Two indigenous training programs were also conducted. In collaboration with the Fund for the Development of the Indigenous Peoples of Latin America and the Caribbean (FILAC), BDT delivered two editions of the online tutor-led training program covered topics related to [Innovative communication tools to strengthen the capacities of indigenous communities with a focus on how to develop, manage, and operate community networks.](https://academy.itu.int/training-courses/full-catalogue/formacion-en-herramientas-innovadoras-de-comunicacion-para-el-fortalecimiento-de-las-capacidades-de-2) Also, a blended tutor-led training program was delivered through ITU Academy and face-to-face in Colombia for [Managers in ICT Networks in Indigenous and Rural Communities in Latin America](https://academy.itu.int/training-courses/full-catalogue/formacion-de-promotoras-y-promotores-tecnicos-en-comunidades-indigenas-en-telecomunicaciones-y-0). The program is the result of a joint effort between ITU, Redes por la Diversidad, Equidad y Sustentabilidad AC, and organizations related to community and indigenous communication in the LAC region that developed the Techio Comunitario program (check the [video](https://youtu.be/qevgxfq56Gg) developed by participants).

### ICT Accessibility

A number of guidelines, toolkits, and online self-paced training courses were made accessible, including the ITU-ILO [Guidebook on accessibility of online job application and recruitment systems](https://www.itu.int/en/ITU-D/Digital-Inclusion/Pages/itu-ilo/default.aspx) and as well as the related online self-paced training in English on [**How to ensure that online job applications and recruitment systems are accessible to all**](https://academy.itu.int/training-courses/full-catalogue/inclusive-employment-how-ensure-online-job-applications-and-recruitment-systems-are-accessible-all-0); the ITU-D online self-paced training on [**How to ensure inclusive digital communication during crises and emergency situations**](https://academy.itu.int/training-courses/full-catalogue/how-ensure-inclusive-digital-communication-during-crises-and-emergency-situations-1)in Arabic (in addition to the existing English, French and Spanish versions); [the ITU toolkit and self-assessment for ICT accessibility implementation “Towards building inclusive digital communities](https://www.itu.int/pub/D-PHCB-TOOLKIT.01-2021)“ in Russian and Spanish.

BDT provided expert advice on ICT accessibility to support ITU members’ efforts advance digital inclusion in at the national and regional level and [raised awareness of over 70 available tools and resources on ICT/digital accessibility](https://www.itu.int/en/ITU-D/Digital-Inclusion/Pages/resources-on-ICT-accessibility/default.aspx) in multiple languages as universal design of technology, which are essential for fostering an inclusive digital transformation process for all, regardless of age, gender, ability or location.

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| **Regional Initiatives**  *Africa region*   * Girls in ICT Day celebrations 2022:On 28 April, the Girls in ICT Day was celebrated in the Africa region in conjunction with Generation Connect youth envoys and the Africa Network of Women with several participants joining online and with close to 100 young girls in Addis Ababa, Ethiopia. During the event, the challenges and opportunities in safely accessing the Internet were discussed as the main theme. Celebrations were also held by various partners including Governments in more than 20 countries in the region. World Telecommunication and Information Society Day and the Girls in ICT Day events in Cameroon were organized during one month with training, conferences and talks in schools, a hackathon, competition on best ICT solutions and projects, and training over 300 girls on coding. In Zambia, the Digital Transformation Centre also trained 150 girls from underprivileged communities in ICT digital skills and inspire them to take up studies in STEM subjects. * The second phase of the African Girls Can Code Initiative (AGCCI) was launched in collaboration with the African Union Commission, UN Women, UNECA, UNICEF, UNESCO and other partners with financial support from the Government of Belgium. The second phase will aim to equip young girls with digital skills through national programmes in eleven selected countries.   *Americas region*   * The 9th edition of Accessible Americas was held in Brasilia in November in close collaboration with the Brazilian Administration, ANATEL. Some 190 participants from 11 countries attended the event to share good practices, as well as discuss topical issues related to digital inclusion and accessible ICTs. ITU led an Executive training on the Fundamentals of ICT Accessibility and key concepts of digital inclusion during the event. * Americas Girls Can Code (AGCC) was implemented in partnership with META. In 2022 more than 1000 girls and young women benefited from AGCC online and face-to-face training activities. Six reports on policy and strategies for gender digital inclusion have been prepared for the project beneficiary countries (Argentina, Brazil, Ecuador and Mexico) and number of [digital campaigns on training opportunities](https://www.agccamericalatina.org/home-es/) were launched. * The ITU Regional Office for the Americas started the “DIGITAL KIT initiative for the development of skills in entrepreneurs and in micro and small businesses” comprised of a handbook and 37 accompanying videos. ITU partnered with UN Women to pilot the toolkit in 15 women-led micro enterprises in El Salvador. * ITU together with its partner Fundación Gran Chaco (FGC) began implementing the project “Youth Digital Inclusion” to promote ICT capacity development activities in benefit of youth from the Gran Chaco region, a remote territory in Argentina, Bolivia and Paraguay, home to vulnerable rural and indigenous communities, as well as to support these countries with the development of national strategies to build an enabling environment for youth innovation and entrepreneurship.   *Arab States region*   * ITU has been working on digital inclusion efforts, including providing resources in Arabic for ICT accessibility, organizing Girls in ICT events and supporting gender mainstreaming activities. * The regional office, in collaboration with several regional partners, organized a "Digital Inclusion Week”, which consisted of a series of events at national levels across the region targeting digital inclusion. * ITU has also been working on youth empowerment through the Generation Connect Youth Envoy program and organizing events on digital accessibility. * The second edition of "Accessible Arab Region: ICTs for All" was virtually organized with the aim of fostering implementation and mainstreaming digital accessibility. * The Network of Women in the Arab region (NoW ARAB) has established its steering committee and held meetings to support and empower female delegates' participation in ITU conferences.   *Asia-Pacific region*   * In the work of ICT Accessibility, a total of 25 policymakers, regulators and CSOs from 14 countries including South Asia, North Asia, Southeast Asia and the Pacific enhanced capacity on the subject of ICT Accessibility and ICT Accessibility assessment, with support from DITRDC. * A group of 20 blind persons and persons with visual impairment enhanced their digital literacy in a pilot training for persons with disabilities. This pilot program is part of ITU’s technical assistance for Pakistan to establish an accessible cybercafe for all, especially persons with disabilities. The training was supported by DITRDC and done in collaboration with DTC Pakistan. * In promoting digital inclusion at the national level in Pakistan, ITU, with the support of MoITT and DITRDC, organised the Digital Inclusion week: Meaningful ICT for All Pakistan, in Islamabad Pakistan. The event will promote a multi-stakeholder and inclusive approach to digital development, including three ongoing digital inclusion initiatives such as the Girls in ICT Day, Child Online Protection, and digital literacy training for persons with disabilities. In addition, ITU organized five workshops of mobile apps development and e-commerce. * In Thailand, six trainings on leaderships, digital literacy, digital inclusion with participation of 310 girls and young women were organized in 2022 with support from the Office of the National Broadcasting Telecommunication Commission (NBTC), Ministry of Digital Society and Economy Thailand, the Asia Pacific Telecommunity (APT), UN agencies and academia. * “Indonesian Women in Tech” carried out a Python programming training with participation of 1500 graduates (young women) with support from ITU and the Ministry of Transport and Communications Timor-Leste and national stakeholders. * Under the Girls in ICT Day activities in Thailand, Indonesia, Cambodia, Timor-Leste, and Pakistan, 14 trainings were organized by ITU together with the Girls in ICT Day partners from the governments, UN agencies, private sectors, academia, civil society and youth organisation impacting more than 2200 girls and young women in Asia and the Pacific. * ITU organized a hybrid digital skills training event ‘GC ASP: Walk into ICT Industry’ in April 2022. The event was hosted by Huawei Thailand and engaged 20 Thai girls from rural area and GC-ASP youth envoys.   *CIS region*   * Between 2018 and 2022, ITU continued to support the enhancement of specialized centres for children with disabilities in Belarus (two centres in Minsk and Vitebsk under the Belarus State Academy of Communication) and in Kyrgyzstan (one centre in Bishkek under the Institute of Electronics and Telecommunications). * In February 2022, ITU Regional Offices for the CIS and Europe regions participated in the [European Regional Disability Summit ("Perspectives on pan-European international cooperation")](https://www.edf-feph.org/content/uploads/2022/02/European-Disability-Summit-2022-Outcome-Document-EN.pdf). ITU reported on its experience with the creation of digital skills training centres for persons with disabilities, its capacity-building work aimed at teachers for those centres, and its research in the domain. * As part of the UNECE Regional Forum on Sustainable Development, a virtual event was held on 6 April 2022 "Digital Inclusion for Persons with Disabilities", organized by the ITU Regional Office for CIS with support from UNESCO, IITE brought together representatives of Armenia, Kyrgyzstan to share and promote digital accessibility. The event also provided an overview of current practice for achieving digital inclusion for persons with disabilities and exchange lessons learnt from providing digital skills training to persons with disabilities. * Jointly with Saint-Petersburg Telecommunication University a “Youth Model ITU” was held, bringing together young people interested in learning about ITU in October 2022. * For the International Girls in ICT Day held on 28 April 2022, a regional online dialogue on "Skills development – What are we offering" and a regional roundtable took place in Tashkent, Uzbekistan. These sessions, aimed at bridging the digital gender divide and incentivizing girls and women to pursue STEM education and work, were organized by ITU with support from the Ministry for Development of Information Technologies and Communications of the Republic of Uzbekistan. More than 70 participants attended, including various Member States and Sector Members. * From August to October 2022, a digital gender divide research was conducted in partnership with UNDP Uzbekistan. Held both online and offline, the survey reached all regions of the country, with responses from more than 9 000 persons. The result is a body of representative data about various aspects of the digital gender divide in Uzbekistan, including the gap in ownership of Internet-capable devices, the digital skills gap using ITU methodology, access to the Internet, and key barriers to more active Internet utilization. The results will be used in the analysis of the current situation in the country and in planning activities to address the issues.   *Europe region*   * As part of the fourth edition of Accessible Europe: ICT 4 All "Celebration of the International Day of Persons with Disabilities" was held on December 2022, commemorating the International Day of Persons with Disabilities. The event highlighted the importance of establishing a harmonized approach to ensure the full and equal participation of persons with disabilities in the digital world. It also looked into the importance of digital tool and service standardization in answering needs of persons with disabilities. In line with the European Year of Youth, the event also included a special youth segment. * For the International Day of Girls in ICT, an event was held in coordination with the Regional Network of Women (NoW). The event aimed at providing high representatives of the European Regional Network of Women with the opportunity to exchange on first-hand experiences and act as role models to encourage European girls and young women to pursue an education and career in STEM. * Within the framework of the UNECE Regional Forum on Sustainable Development, ITU contributed to the Business roundtable on 'Advancing gender equality and women's leadership in selected industries’ focusing on gendered digital divide and women in tech. |

# Digital innovation ecosystems: Accelerating digital transformation by nurturing entrepreneurship-driven innovation and competitive digital ecosystems

### Innovation challenges

The [innovation challenges](https://www.itu.int/en/ITU-D/Innovation/Pages/ITU-Innovation-Challenges.aspx) served as an open platform for people to present their ideas and projects, which can contribute to the digital transformation of individuals, communities and society through innovation, a life-[changing experience](https://news.itu.int/itu-innovations-challenges-a-life-changing-experience/) for many of the participants. In 2022, ITU, in partnership with UNFPA and WIPO, ITU run an [innovation challenge to empower women and girls](https://www.itu.int/en/ITU-D/Innovation/Pages/Events/2022/Innovations-to-Empower-Women-and-Girls.aspx). The partners selected 10 winning proposals who received up to $60,000 from UNFPA to position their innovation to scale. ITU provided the mentoring and the training capacity needed to scale the innovation. ITU also run similar joint innovation challenge, the WEA Digital Innovation collaboration with the[Women's Entrepreneurship Accelerator](https://www.we-accelerate.com/) (WEA) and [Mary Kay Global](https://marykayglobal.com/), supporting the commitment of WEA to empower 5 million women entrepreneurs by 2030 WEA.

### Ecosystem development strategies, roadmaps and projects

ITU helped countries obtain an accurate diagnosis of their digital innovation ecosystems' status and develop strategies to inform national policies through technical assistance. Technical assistance was provided to Georgia, Mali, Montenegro, Niger, North Macedonia, the Philippines, Serbia, and Trinidad and Tobago to draft digital innovation profiles, which offer an ecosystem blueprint to accelerate digital transformation to leverage entrepreneurship and innovation. ITU also worked with countries to develop proven blueprints or mechanisms enabling digital innovation acceleration at the national level. In 2021, ITU started working with South Africa on a multi-year project to develop an African Digital Transformation Centre to help accelerate digital transformation across key sectors of the economy. Testing for the blueprint for the centre also started in 2021 and will offer additional technical assistance in the future. Finally, in 2021, a mentorship program for building innovation capacity was developed and launched. In 2022, ITU accelerated the development of a new project with UNFPA, Tech4Youth, which also led to the development a platform called Tech4Girls, which delivered two cohort of participants, young girls aged 16 to 24 through the two programs of Tech4Girls.

ITU organize a side event at the Global Youth Forum on the side-line of WTDC, [Innov4Youth - The Missing Links](https://www.itu.int/en/ITU-D/Innovation/Pages/Missing-link-for-Youth-Innovation-Capacity.aspx). The event focused on mechanisms that need to be unlocked for the young African talents, including with soliciting pledges for the P2C Digital coalition.

Innovation and ecosystem capacity development builds stakeholders' capabilities in innovation and entrepreneurship, enabling them to assess the systemic issues of digital ecosystems and help them develop targeted intervention to make them sustainable and competitive. In 2022, ITU organized several courses including continued delivery of the ecosystem 101 courses in all languages, and new courses with SMART Africa and other partners. Many of the tools developed and taught in the courses are being turned into toolkits in the future.

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| **Regional initiatives**  *Africa region*   * ITU and UNFPA teamed up to assist, nurture and support the local digital innovation ecosystem in Benin and develop uses cases that can be applied for other countries in the region for the development of a sustainable and inclusive initiatives to accelerate inclusive digital transformation. The initiative allowed scaling up the impact and sustainability of the UNFOA-launched #Tech4Youth initiative and Task force Innov Covid-19 for local youth resilience and digital innovation in Benin. * Cameroon inaugurated the Cameroon Digital Innovation Center offering Fablabs, multimedia studios, coworking space, digital academy, for start- ups and a call center. Young people will be trained in conceptualizing innovative solutions for digital transformation projects, assisted by experts through coaching sessions. * With BDT assistance, Congo launched at Kintele University an Artificial Intelligence research center and lab, offering Master 1 and Master 2 curricula.   *Arab States region*   * The Regional Office for Arab States, has engaged with Oman in developing digital innovation country profiles to assess their digital ecosystems' capacity and maturity. * The office has also provided innovation and entrepreneurship training through the ITU Academy, including incubation and design thinking courses in English, French, and Arabic. * The Arab Innovation and Entrepreneurship Network (AIEN) has supported a soft-landing program, with 57 startups applying. Further discussions are ongoing to extend the project with KAUST in Saudi Arabia considering the great economic benefits this project could bring to the region if it was uplifted with more activities at the regional and global levels.   *Asia-Pacific region*   * ITU also co-organized with the Telecommunications Standards Development Society, India (TSDSI) a series of webinars on Digital Technology Innovations. The series focused on Artificial Intelligence (AI) and the potential gender and social biases linked with them and was hosted with the support from the Department of Telecommunications. * ITU conducted a multi-stakeholder co-creation workshop in Brunei Darussalam, in preparation for the 2023 national Digital Innovation Profile.   *Europe region*   * The ITU Office for Europe has completed a series of three digital innovation profiles for Georgia, Serbia and North Macedonia. The profiles developed in cooperation with the Member State Administrations offer an in-depth analysis of national digital innovation landscapes, identifying their strengths and weaknesses and providing recommendations to foster digital innovation. This work is essential to support digital transformation of countries and help them reach their full potential in the digital economy. * The Office collaborated closely with the National Regulatory Authorities and multi-stakeholders of Western Balkans, including Albania, Bosnia and Herzegovina, Moldova, Serbia, Montenegro and North Macedonia to unlock the potential for digital transformation at the regional level. |

# Digital services and applications: Creating transformative digital strategies and application services

### Accelerating digital government transformation through the adoption of whole-of-government Building Block approach ([GovStack](https://www.govstack.global/))

The GovStack initiative was founded by 4 partners ITU, GIZ, Estonia and DIAL to accelerate digital government transformation. It addresses foundational and critical challenges in relation to establishing Trust, Interoperability and reusability frameworks as the basis to enable transformational and citizen centric digital services. It is bringing to life core principles of re-use, Open API, Open Standards, security by design, architectural approaches and citizen centric design. This is achieved by facilitating knowledge and skills transfer through the unpacking of different core building blocks that power digital transformation and in making available a global Sandbox where countries and organizations can learn by example and move quickly from ideas and strategies to implementation.

From June-December 2022, the GovStack has implemented the below activities:

* 11 Tech Specs (ID, Payments, SMS, Scheduling, WF, Registries/Registration, IM, Information Consent)
* Five Tech Specs under development, UX/UI, eSignature, GIS, Cloud/Infrastructure, MarketPlace ready to be launched in 2023
* Four BB Open-source software Building Blocks Reference Implementation development for ID, Payments, Information Mediation and consent on going to be delivered through GovStack SandBox in 2023
* Reference use cases for Cash Transfer, eConstruction permits ready to be demo in GovStack SandBox 2023
* 20 eLearning topics to be launched in 2023-2024 in Online Learning Management System
* Five reference implementations on-going Horn of Africa Countries: Djibouti, Egypt, Kenya, Rwanda and Somalia,
* Women in GovTech Challenge launched and will run in 2023-2024 with best digital services show cased in WSIS 2024
* GovStack Implementation Playbook updated as country implementations progress
* Global Ex-Change under development (eMarket Place of DPGs).

### Digital Public Goods (DPGs) - Establishing an ITU wide Open-Source Programme Office (OSPO)

In collaboration with GitHub, ITU is in the process of establishing an ITU wide Open-Source Programme Office (OSPO) that will aim at:

* Strengthening effective engagement with ITU member states, including ministries of ICT and other sector members to raise awareness about the potential use of Digital Public Goods and open-source to build Digital Public Infrastructure and digital services
* Supporting different ITU projects that use open-source for connectivity, spectrum management, documents management, video conferencing, etc.
* Developing learning and capacity building materials and resources on the use and adoption of DPG and open-source
* Encouraging inclusive software design and development among low- and middle-income countries
* Improving legal capacity and understanding around open-source licenses.
* Enabling collaborations with other UN agencies around open-source and DPGs

### Digital Public Goods (DPGs) - Open-source Ecosystem Enablement for Public Services Innovation

To advance the maturity of the adoption of DPG and open-source for government digital services, a multifaceted project is under development as a collaboration between ITU, EU and UNDP around enabling open-source ecosystems through:

* the development of Open-Source Ecosystem Enablement Framework to guide work that promotes structural change to accelerate the adoption of open-source software and data;
* pilot initiatives using the Framework in selected countries to establish Open-Source Technical capabilities to act as focal points to strengthen local open-source ecosystem and;
* share knowledge globally and build skills to replicate models of successful open-source ecosystem development through producing relevant knowledge products, trainings, and developing communities of practice which can be further be adopted by governments at different levels.

### Digital Health

Developing a global Digital Health Business Case in collaboration with UNIATF on Non-communicable Diseases (August-December 2022):

* supported the analysis of clinical and health-system effectiveness of digital health interventions;
* contributed to the assessment of costs of selected digital health interventions;
* supported the identification of stakeholders and stakeholder interviews;
* developed technical contribution on eHealth and Telemedicine to the ITU Study Group Q2/2 and made a presentation at the Study Group meeting in December 2022;
* presented at a thematic workshop “Telemedicine Capacity Building Country workshop” for the AFRO region held in Cabo Verde, Praia 21-25 November 2022Conducted an informal evaluation of an awareness raising SMS campaign in June 2022;
* contributed to development and release of the WHO [Assessment framework for tobacco cessation mobile apps](https://www.who.int/initiatives/tobacco-cessation-consortium/tobacco-cessation-mobile-app-assessment);
* contributed to the OSAA expert conversation on digital health in December 2022.

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| **Regional Initiatives**  *Africa region*   * Under the Liberia UNCT Joint initiative on ‘Building Resilience of Youth, Women and Vulnerable Groups through Social Protection Floor in Liberia using ICT’ led by the UN Resident Coordinator’s Office, ITU has been providing technical support to develop a model on Smart Villages for Liberia. Building upon the experiences from Niger and the Blueprint developed, stakeholder consultations have been undertaken and site assessments in three selected counties planned to provide an initial understanding of the current landscape and identify priority areas and sectors that can leverage the smart village initiative to advance digital transformation.   *Arab States region*   * The Regional Office for Arab States has been involved and supporting HQ in assisting countries in the Arab region with their digital services platforms and strategies. * The Regional Office has engaged with Jordan to develop a digital health national strategy through a multistakeholder approach and organized a joint session with FAO on digital agriculture. * ITU also launched Govstack activities in the Arab region, starting with assistance focusing on LDCs including Djibouti, Somalia and Mauritania with the aim of enhancing digital government service delivery and improving national and regional cybersecurity. In Mauritania, ITU has also initiated a pilot implementation under Partner2Connect Initiative.ITU has also trained 1000 children In Jordan on digital financial literacy as part of the Malee project in collaboration with Meem Ain from Saudi Arabia.   *Asia-Pacific region*   * By April 2023, the Smart Villages and Smart Islands Initiative (SVSI) attracted expression of interest from around 15 countries in the region. In 2022, the ITU Smart Villages and Smart Islands Initiative (SVSI) was rolled out in Samoa with needs assessment and community engagement, enhanced community engagement in Pakistan and Vanuatu updated needs assessments and the delivery of new services. SVSI is being implemented in close collaboration with national governments, UN agencies, the private sector and implementation partners, and has attracted support by a number of projects funded by the Joint SDG Fund, the government of Australia (DITRDCA), the government of Japan (MIC), Asian Development Bank and Huawei. It also garnered support of G20 Members during their 2022 meeting. * A whole-of-government approach was facilitated in Bhutan through assistance on developing a digital dashboard for the Prime Ministers’ Office to facilitate data-driven decision-making. These assistances were supported by ITU-DITRDCA and GovStack project. * Two joint programmes, supported by the Joint SDG fund were launched to assist identified Pacific islands countries in developing their national digital transformation strategies and building human and institutional capacity inter-alia. ITU Members in Asia-Pacific increased awareness of GovStack and building block approach, which has resulted in growing interest from ITU Members in GovStack. * Bangladesh and Cambodia strengthened understanding and capacity to leverage digital agriculture as a result of assessment (Bangladesh) and strategy (Cambodia) respectively provided as part of an ongoing collaboration with FAO. In addition, ITU together with FAO, UNDP, ILO, and UNCDF continue to assist the Government of Papua New Guinea on digital agriculture as part of European Union funded project EU STREIT to support rural entrepreneurship, investment and trade.   *CIS region*   * Between 2019 and 2022, ITU has continuously worked on developing a regional Startup Central Eurasia platform, which started as a soft coordination mechanism between ICT parks and ecosystems in the CIS and neighbouring countries. It has grown into a full-scale online platform designed to foster the development of startups and SMEs working on digital health, agriculture and smart cities. The 2021 annual Startup Central Eurasia event attracted 350 participants, representing startups, IT parks, venture investors, and government agencies from 16 countries from the CIS region and neighbouring countries. * In 2022, ITU developed an information hub for stakeholders interested in developing a regional start-up ecosystem and the provision of relevant services hosted on the [Startup Central Eurasia platform](https://startupcentraleurasia.com/en/). Through the hub, ITU supported countries from the region in developing capabilities for developing their national innovation and start-up ecosystem, collaborating with regional start-ups to assess their level of development and provide consultancy on improving their KPIs and preparing for entry to international markets. * In 2022, specialized regional events such as Startup Central Eurasia Summit in April, Startup KPIs Day in July and ITU Startup Central Eurasia Forum in November gathered representatives from the start-up ecosystems of Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan and Uzbekistan. * A first Startup Ecosystems Ranking 2022 report was released. The report is based on data from government bodies, the private sector, and independent research, and providing a complete rating system for start-up ecosystems for the Central Eurasia region using ITU methodology for assessing ICT innovation and start-up ecosystems. * A Startup KPI Calculator was developed as a tool for start-ups to calculate their development KPIs for the purposes of investor presentations and correction of their business models and development strategies.   *Europe region*   * ITU and FAO have been collaborating to guide the European Union’s pre-accession countries to meet the EU Digital Agriculture requirements, to support them in their journey to become equal members of the single EU market and implement their agricultural policies under the umbrella of European Common agricultural policy. To do so, ITU and FAO developed the “ITU-FAO Guidelines for pre-accession countries: Meeting the expectations of the EU in terms of digital agriculture” that went through a series of consultations and the final version is to be launched in 2023. * ITU and FAO have also been collaborating within the framework of the “Digital Excellence in Agriculture: ITU-FAO Regional Contest in Europe and Central Asia”, with the aim to overcome the various challenges of sustainable and resilient food systems through identifying innovative digital agriculture practices across the regions. * The Regional Office supported the Ministry of Information Society and Administration of North Macedonia in revising and finalizing the Draft National ICT Strategy 2023-2026. This work ensured the inclusion of essential ITU recommendations and the GovStack and a whole-of-government approach. A kick-off meeting was held to engage North Macedonia in GovStack and initiate the development of a more comprehensive and effective digital governance infrastructure. * The engagement in the GovStack activities of the Government of Ukraine advanced significantly and were focused on the Ukrainian Platform of Registries, covering the Fit-Gap analysis as well as exploring the possible future steps in relation to the platform prototype development and its integration into the GovStack Sandbox. These efforts informed the development of the GovStack compliance methodology, paving the way for other countries to join and confirm compliance with GovStack specifications. Also, the Regional Office is continuously supporting the country in positioning itself as a frontrunner in eGovernment. * The forces were joined with the European Commission to streamline the open-source community development as part of the digitalization and multilateralism programme starting in 2023. |

# Emergency telecommunications: Disaster-resilient ICT infrastructure for reduced loss of lives and damages

### Disaster preparedness

BDT has supported a number of countries in developing a National Emergency Telecommunication Plan (NETP), including Mongolia, Kiribati, Fiji, Dominica and Grenada. Furthermore, ITU undertook baseline assessments to identify the availability of national laws, regulations and policies governing emergency telecommunications within the Arab and Americas Member States, and the Pacific Islands. The assessments help to track ITU’s Strategic Goals and in particular the Target 3.5 and shows that 28% of countries assessed have an NETP.

Following the request from Southern African Development Community (SADC), EET developed a SADC Model NETP Situational Analysis the SADC region, focusing on disaster risk analysis and the use of ICTs for disaster risk reduction and management. This model will assist the 16 member states of SADC in identifying key priorities in term of their NETPs. A multi-stakeholder workshop was conducted to present the Situational Analysis to the SADC Member States.

Launched in 2021, the [ITU Online Training Modules on Emergency Telecommunications](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Pages/ITU-Online-Modules-on-Emergency-Telecommunications.aspx) has proved instrumental in strengthening countries’ capacities in disaster preparedness. The available training modules cover (1) the development of NETPs, which are based on the [ITU Guidelines on NETPs](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Pages/Publications/Guidelines-for-NETPs.aspx), (2) the organization of [tabletop simulation exercises](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Pages/Simulation-Exercises.aspx)(TTX), and (3) information on the [Tampere Convention](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Pages/TampereConvention.aspx) and its benefits. A total of 398 participants took the courses during the reported period.

### Disaster Response and deployment

As part of continued assistance to Tonga following the loss of connectivity in the wake of the volcanic eruption in January 2022, BDT conducted a stakeholder consultation meeting in March 2023 to draft an NETP. Technical assistance is supported through an ongoing partnership with the Ministry of Internal Affairs and Communications (MIC) Japan.

BDT has also continued to be actively involved in the area of disaster response.

* BDT continues to support Tonga since it was hit by disaster in January 2022. ITU provided satellite equipment and airtime and continues to track connectivity through DCM.
* Following the request from Nicaragua, ITU is deploying 10 Iridium satellite phones and 10 Inmarsat Broadband Global Area Networks (BGANs) to support the country in their relief efforts following Hurricane Julia in October 2022. Two members from the ITU Emergency Telecommunications Roster were deployed to deliver equipment and train the local teams on how to use it. They will also visit the affected area and support the response on the field.
* ITU deployed 25 Thuraya satellite phones to Malawi and 10 Iridium satellite phones to Mozambique following a request from the respective governments as part of their cyclone Freddy disaster response in March 2023. Cyclone Freddy has broken the record as the longest-lasting tropical cyclone on record.

### ITU Emergency Telecommunication Roster

The ITU Emergency Telecommunication team, along with one of the members of the Emergency Telecommunication Roster, participated in the “gear.UP” 2022 training in Germany in September 2022. “gear.UP” is a large-scale inter-agency operational exercise and functional training event designed to advance the emergency response capabilities of the global ICT and logistics humanitarian community, organized by ITU’s key partner, ETC.

In August, 2022, the Emergency Telecom team made a presentation to 100 Iridium staff, including CEO Matt Desch, to talk about how ITU has deployed Iridium phones to bring back connectivity and save lives in times of disasters since 2008. Iridium provides ITU with 70 satellite phones and free connectivity.

### Disaster Connectivity Map

The [Disaster Connectivity Map](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Pages/Disaster-Connectivity-Maps.aspx) (DCM) is a joint initiative between ITU and Emergency Telecommunications Cluster (ETC) with input from GSMA, which was initiated in 2020 and consists of a live map that can provide information on the type, level, and quality of connectivity available on the ground during times of disasters. The DCM team continues testing and evaluating additional connectivity data sources, developing a high-resolution mobile coverage platform and adding filters to further refine the accuracy of the data that is displayed.

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| *Americas region*   * ITU deployed Broadband Global Area Network (BGAN) terminals and satellite phones to restore communications connectivity after the country was hit by hurricane Julia in October 2022. During the deployment, ITU trained local teams on using the equipment, brought the units to affected areas and presented ITU's work on emergency telecommunication such as development of a National Emergency Telecommunication Plans, early warning systems like cell broadcasting. * In collaboration with the Government of Saint Kitts and Nevis, BDT developed a draft National Emergency Telecommunications Plan. * A multi-country project for the use of ICTs in emergency and disaster situations in the Caribbean region was completed in 2022, benefiting Antigua and Barbuda, Barbados, Dominica, Grenada, Guyana, Jamaica, St Kitts and Nevis. The project consisted of implementing a Regional Emergency Telecommunications Network and providing the national Emergency Operations Centers (EOC) with the equipment to connect to Winlink 2000. ITU procured the equipment and donated it to Member State Administrations, which now have enhanced emergency and disaster response capabilities. * BDT has developed a post-disaster resilience assessment in Haiti using the Connect2Recover methodology and the Guideline on National Emergency Telecommunication Plans and with the support of Area Office for the Caribbean. * The SMART Seas project implemented in Trinidad and Tobago sets out to preserve the lives of highly vulnerable small-scale fishers in the Caribbean through improved emergency communications at sea. |

# Environment: Creating a Circular Economy for Electronics and Climate Change

### E-waste data

As part of the [Global E-waste Statistics Partnership](https://www.itu.int/en/ITU-D/Climate-Change/Pages/ewaste/globalewastestatisticspartnership.aspx) (GESP), ITU, in cooperation with UNITAR, finalized the [project on regional e-waste data harmonization in East Africa](https://www.itu.int/en/ITU-D/Environment/Pages/Spotlight/E-waste-EACO.aspx). The project provided technical assistance to the 6 Member States of the East African Communications Organisation (EACO), to support the relevant strategic actions of the EACO Regional E-waste Management Strategy in the area of data and statistics. Technical assistance provided through this project helped Rwanda, Kenya, Tanzania, Burundi, South Sudan and Uganda to track progress and to harmonize the collection of data on e-waste, also termed waste electrical and electronic equipment (WEEE), regionally. This will eventually help to sustain a central database of e-waste within the EACO secretariat. In addition, the project has piloted e-waste data collection through household and business surveys in Kenya and Burundi.

ITU has been actively engaged in the Global E-waste Statistics Partnership (GESP). GESPhas beenfurther improving its [global e-waste statistics portal](https://globalewaste.org/) where worldwide e-waste statistics are made available publicly for free. Several areas of upgrade were carried out on the website, including improving efficiency, the capacity building pages, publications, data accessibility and hosting for e-learning. An [interactive map](https://globalewaste.org/map/) allows users to check e-waste data in different countries. GESP has developed a [Regional E-waste Monitor for Latin American](https://www.itu.int/en/ITU-D/Environment/Documents/Publications/2022/REM_LATAM_2022_ENG_Final.pdf) countries, and a [Regional E-waste Monitor for the Arab States](https://www.itu.int/en/ITU-D/Environment/Pages/Toolbox/REM-Arab-States-2021.aspx). The BDT Regional Office in Moscow supported the United Nations University (UNU) in the preparation of a [Regional E-waste Monitor for the Commonwealth of Independent States (CIS) plus Georgia, Turkmenistan and Ukraine (CIS+)](https://www.itu.int/en/ITU-D/Environment/Documents/Publications/2021/English_REM_2021_CIS+GEORGIA_WEB_final_nov_24_pages.pdf).

GESP finalized its delivery of technical assistance to [Malawi](https://www.itu.int/en/ITU-D/Environment/Pages/Spotlight/E-waste-data-in-Malawi.aspx), [Botswana](https://www.itu.int/en/ITU-D/Environment/Pages/Spotlight/Improving-Data-Collection-in-Botswana.aspx) and [Namibia](https://www.itu.int/en/ITU-D/Environment/Pages/Spotlight/E-waste-data-in-Namibia.aspx) in the area of e-waste statistics and data collection, through online capacity building and close support to national statistics offices and other institutions and ministries. These countries each finalized a National E-waste Monitor, with the National Statistics Offices having taken the lead in the quantification of e-waste generation, flows and importation of electronics.

### E-waste regulation

BDT also supported countries in preparing various instruments for e-waste regulation:

* A draft national e-waste management policy or strategy was developed for Burundi, Botswana, Gambia, Malawi and Namibia.
* A draft national e-waste management regulation was prepared in Dominican Republic
* Support was provided to Uzbekistan with recommendations on how to improve its legal regime governing the management of e-waste.
* Further support was delivered to Rwanda for the implementation of the existing e-waste regulation.

Following on from the successful e-learning course on “[An Introduction to E-waste Policy](https://academy.itu.int/training-courses/full-catalogue/introduction-e-waste-policy-1)” with over 250 participants in the first year, ITU finalized a sequel to this with an e-learning deep dive into the development of e-waste regulation based on the EPR principle. The introductory e-learning is available in English, French, Spanish and Arabic.

### Greening Digital Transformation

ITU and the World Benchmarking Alliance (WBA) jointly authored and [launched in June 2022](https://www.itu.int/en/mediacentre/Pages/PR-2022-06-22-Green-tech-firms-for-sustainable-future.aspx) the on ['Greening digital companies: Monitoring emissions and climate commitments'](https://www.itu.int/en/ITU-D/Environment/Pages/Toolbox/Greening-Digital-Companies.aspx) report. It documents the emissions and energy use of 150 of the world's leading tech companies. Beyond assessing corporate climate data and targets, the report highlights best practices for digital companies to slash their emissions and achieve carbon-neutral operations. Based on the findings of the report, ITU and WBA organized [two webinars](https://www.itu.int/en/ITU-D/Environment/Pages/Events/2022/Greening-Digital-Companies.aspx) on Greening Digital Companies in June 2022. For World Environment Day 2022, an [ITU News blog](https://www.itu.int/hub/2022/06/tech-companies-take-steps-towards-net-zero/) summarized key findings from the report.

BDT continued the development of its database and global data collection to monitor and track ICT sector GHG emissions and energy use in countries. Emissions data is being collected from ICT companies that publish such data with estimates made for the missing companies. At the same time, ICT sector regulators are being contacted regarding the feasibility of collecting emissions data to feed into the database in the future.

Furthermore, BDT engaged with four master’s students from the Graduate Institute of International and Development Studies, Geneva on a capstone research project on [‘ICTs for Climate Change Action’](https://www.itu.int/hub/2022/03/tech-transfer-digital-public-goods-climate-action-africa). The research explored how Internet of Things can be leveraged to mitigate climate change impacts in the agricultural and energy sectors in Sub Saharan Africa. The research found that local capacity building and digital skills training are key to developing and scaling IoT projects for sustainable energy uptake in Africa, with IoT applications in the energy sector relying on more complex infrastructure and technology compared to agriculture projects.

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| **Regional Initiatives**   * In ITU Regional Office for Africa in partnership with UNEP has been supporting African governments to develop policies, regulations and strategies including the implementing the Extended Producer Responsibility (EPR) concept to set the basis for a future implementation of the sound management and measurement of electronic waste with support extended 8 countries in sub- Saharan Africa in 2022. * The Regional Office for Arab States provided assistance to Iraq and the State of Palestine in developing National Emergency Telecommunications Plans. * The regional office for the Arab States was also engaged in the preparations for COP27 which was held in Sharm El Shaikh in Egypt. This was a collaboration as part of the UN system in Egypt engaging in this event. * In the CIS region, ITU provided support to Kyrgyzstan to develop a spatial data infrastructure (SDI), a common platform to store data related to the monitoring and mapping of climate and water resources, to support policy and regulatory decision-making across Central Asia. SDI hosts data through a combination of remote sensing, geospatial analysis, in-site measurement and regional reporting. SDI enhances sharing of spatial data among government departments and organizations and facilitates better access to information across the region for discovery, viewing and download. * In the Europe Region, the joint ITU-UNEP-UNITAR E-Waste Project for the Western Balkans is being rolled out in Albania, Bosnia and Herzegovina, Serbia, Montenegro and North Macedonia. In 2022, the project trained 20+ national focal points across the countries and across entities (Ministries of ICTs, Ministries of Environment, and National Statistical Offices) on how to collect and analyze e-waste related data. This is along the development of a Regional E-Waste Monitor Report to analyse trends in the transboundary movement of e-waste, inform policymakers, industries, and businesses about regional e-waste data, and support the development of national and regional counter-measures through policies, regulations, awareness-raising, and industrial response. |

# Networks and digital infrastructure: Making reliable connectivity available to everyone

### ITU broadband maps: Identifying ICT infrastructure availability and gaps to connect people

BDT continued to develop the ITU [broadband maps](https://www.itu.int/en/ITU-D/Technology/Pages/InteractiveTransmissionMaps.aspx) **and** data research and validation were enhanced to promote understanding and investment opportunities of network infrastructure to take stock of worldwide connectivity. The ITU data managed on global transmission networks provides unique information from more than 600 operators and 19 million high-speed information highways (backbones). Through the overlaying of multiple ICT infrastructure data and specific industry data (e.g. schools, FinTech, health centres, etc.) the broadband map of ICT infrastructure is providing continued support to key ITU activities and projects focusing on the reliable connectivity to all BDT impact pathways. Examples are school mapping initiatives (e.g. GIGA, and FCDO-ITU partnership), which use schools and ICT infrastructure data for connectivity analysis, and the [Financial Inclusion mapping](https://www.itu.int/en/myitu/News/2020/10/06/07/37/Mapping-financial-inclusion-Mexico-FIGI) for the FIGI initiative.

ITU has developed a methodology and software to assess last-mile infrastructure costs. The following trainings on the methodology and the tools were delivered between May and October 2022:

* a Last Mile Connectivity and Mapping training during the Broadband week in Kazakhstan
* a Last Mile Internet Connectivity Online instructor-led course
* a regional training [on Last Mile Connectivity (LMC) training for Asia and the Pacific 2022](https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/Pages/Events/2022/LMCASP22/main.aspx)
* and a self-paced [Last mile connectivity course](https://academy.itu.int/training-courses/full-catalogue/last-mile-internet-connectivity-0) is available at ITU Academy.

In collaboration with CRASA, ITU facilitated the CRASA workshop on “International Space Regulatory Framework and Space Economy: Harnessing the Potential of the Space to Accelerate Digital Transformation in the Southern African Development Community Region”, held in Kinshasa, Democratic Republic of Congo in March 2022.

The policy and regulation initiative for Digital Africa region (PRIDA) was launched in 2018 to foster universally accessible and affordable wireless broadband across the Africa region in order to unlock future benefits of Internet-based services. The 3.5-year initiative is a [multi-partner project](https://www.youtube.com/watch?v=6NYLHZqeEvo) by the European Union, the African Union, and ITU. Key achievements until the end of 2022 include:

* the publication of technical reports such as “Guidelines on radio-frequency regulation based on ITU Radio Regulations, ITU-R Recommendations, Reports and Handbooks, regional harmonization frameworks, case studies, country experiences and regional consultations” and “Spectrum Management Guidelines for the Introduction of IMT in Africa”, “Report on the assessment of the current cross-border coordination agreements in Africa”, “Report on the current version of the harmonized calculation method for Africa” and “A gender sensitivity review of the PRIDA project.”
* the Harmonized Calculation Method for Africa (HCM4A) agreement was signed by 41 African countries in Addis-Ababa, Ethiopia in September 2022. The signature is one of the major milestones of the PRIDA Project. Next steps will be the agreement on implementation and the development of a dedicated software.

In 2021 ITU and UNHCR further strengthen the global partnership around meaningful connectivity for refugees in pursuit of enhanced digital cooperation in support of forcibly displaced, stateless people and their hosting communities, with impactful projects and initiatives in mind. In September 2021 ITU and UNHCR teams met to exchange, explore and set out the partnership roadmap around four areas under which specific joint opportunities have been identified: joint programmes and operations; research, advocacy and communication; data learning and capacity building, and coordination and partnerships.

### Conformity and interoperability of ICT products and networks

ICT products are the proxies to the digital economy. Under the conformance and interoperability (C&I) programme umbrella, BDT has led the implementation of Pillars 3 (capacity building) and 4 (assistance to membership) by providing guidance on frameworks for market entry of ICT devices.

In 2022, English and French-speaking and participants from the Africa region enhanced their skills through trainings on C&I. This included the topics of specific absorption rate, radio frequency, electromagnetic field, and digital terrestrial television (DTTV). DTTV trainings covered legal aspects of conformity and interoperability, guidelines of C&I regimes including type approval regulation, and policy and regulation of conformity and interoperability establishment and development.

### Spectrum Management: WTDC Resolution 9 (Rev. Kigali, 2022)

A summary of the ITU activities for the implementation of Resolution 9 on spectrum management are listed in the table below sorted by the thematic overview of assistance provided and the number of activities carried out.

| Topic | Number of activities |
| --- | --- |
| Assistance in raising the awareness of national policy-makers as to the importance of effective spectrum management for a country's economic and social development | 35 |
| Training and dissemination of available ITU documentation | 25 |
| Assistance in developing methodologies for establishing national tables of frequency allocations and spectrum redeployment | 15 |
| Assistance in setting up computerized frequency management and monitoring systems | 15 |
| Economic and financial aspects of spectrum management | 12 |
| Assistance with the preparations for world radiocommunication conferences (WRCs) and with follow-up and implementation of WRC decisions | 25 |
| Assistance with participation in the work of the relevant ITU-R study groups and their working parties | 8 |
| Transition to digital terrestrial television broadcasting | 1 |
| Assistance in identifying the most efficient ways to utilize the digital dividend | 9 |
| Emerging technologies and approaches in using spectrum | 24 |
| Innovative ways of spectrum licensing | 12 |
| Assistance with interference caused by devices in derogation of national spectrum allocations | 5 |
| Assistance in resolving seasonal interference caused by anomalous propagation of radio waves | 1 |
| SMS4DC development and training | 11 |
| Total | 160 |

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| **Regional activities**  *Africa region*   * In February 2022 the Government of Uganda and ITU project ‘Technical Assistance and Training to Uganda on National ICT Development’, financially supported by China’s South-South Cooperation Assistance Fund (SSCAF) was launched. Transformative projects and partnerships that aim to support countries’ implementation of national digital transformation priority areas are at the forefront of the work in the region.   *Americas region*   * ITU New Technologies and Internet Colloquium (ITEC-22) was held in Cancún México in June. ITEC 2022 focuses on the adoption and deployment of new environmentally friendly technologies that support resilience in health and was attended by more than 100 delegates from 11 Member States. * The Spectrum Monitoring Project for Cuba has been implemented. It is expected to be completed in 2023. * Project for Specialized Technical Assistance for the Assessment of Frequency Bands for Advanced Mobile Systems in Ecuador * In Ecuador, ITU has carried out an assessment of the 850MHz, 900 MHz, extended AWS (1700MHz-2100MHz), 1900MHz, 3.5GHz bands and their valuation based on a diagnosis of the use of spectrum and carrying out a comparative analysis of global best practices. The findings of the assessment will facilitate the work of ARCOTEL on granting concessions. * The internet speeds and rates payable by all Government and Government-assisted schools in Barbados were examined to determine the impact on affordability if internet speeds were upgraded based on several scenarios. A complementary project has been implemented to bridge the digital divide in a rural community in Barbados with limited broadband Internet service, which has continued in 2023.   *Arab States region*   * The Regional Office implemented various capacity development programs such as digital regulation training, IPv6 and IoT training, and satellite communication training for participants from the Arab region and other countries. * ITU has been involved in various initiatives related to network and digital infrastructure in the Arab region. In particular, direct assistance was provided to Mauritania to develop a Digital ICT resilient assessment report; four countries from the region were assisted in developing their national IPv6 transition strategies; Sudan and Somalia have received assistance on spectrum utilization and spectrum re-farming. * The interactive transmission map for Arab States region was updated though efforts made in liaison with HQ to update the map for the Arab region. * The Regional Office has also supported Giga activities in the region by exploring potential beneficiaries and mapping school connectivity in Palestine.   *Asia-Pacific region*   * In 2022, technical assistance was provided to LDCs and SIDS: * Lao PDR received assistance for the development of Conformance and Interoperability rules for Radio and Telecommunication Terminal Equipment (R&TTE). * Papua New Guinea was assisted in developing rules on Quality of Service and Experience. * Technical assistance was provided to Cambodia on updating National Radio Frequency Spectrum Charging Regime. * Under the umbrella of the regional Centres of Excellence network, the Regional Office continued the collaboration with the State Radio Monitoring Center (SRMC) of China and the University Technology Malaysia (UTM) to develop technical materials in the area of spectrum management, radio frequency monitoring and electromagnetic fields. * With support from DITRDCA- Australia, the Regional Office organized ITU Regional Radiocommunication Seminar 2022 for Asia and the Pacific (RRS-22-Asia-Pacific) in Nadi, Fiji from 12-17 December 2022.   *CIS region*   * As part of regionalization of the project and in cooperation between OJSC "Giprosvjaz" (Belarus) and Bonch-Bruevich Saint Petersburg State University of Telecommunications, a statement of intent was signed for mutual support in the development of scientific-technical, human, innovation and production potential, facilitation of solutions to socio-economic problems, training and retention of specialists, and engagement through joint projects in digital development and the establishment of the digital economy. * The Connect2Recover study of digital resilience in Kazakhstan assessed the practices for collection of ICT data at the national level advice was provided on measures to increase broadband access. Particular emphasis was placed on an analysis of government objectives and plans with regards to school connectivity. * The ITU Regional Office organized national training courses on the subject "Launch of networks of mobile communication of the next generation (IMT-2020/5G)" in Azerbaijan, Kazakhstan, Kyrgyzstan and Uzbekistan. A total of more than 290 specialists took part, representing administrations, regulators, communication operators and other ICT sector organizations. * In May 2022, a dedicated event on broadband access in Kazakhstan provided representatives of the telecommunication sector knowledge on various software products created as part of the global and regional initiatives of the ITU to map broadband infrastructure and determine the most promising connection options.   *Europe region*   * ITU Office for Europe produced the ITU Guidelines for establishing and strengthening broadband mapping systems to serve as a baseline tool for non-EU ICT regulators and other national institutions in charge of broadband mapping systems in the establishment or strengthening of broadband mapping tools. The guidelines address both pillars of strategic and regulatory matters, and project setup and technical requirements. The Guidelines draw upon the experiences of various stakeholders, including EU national regulators, BEREC and the European Commission. * ITU Office for Europe assisted Bosnia and Herzegovina with developing the technical specifications for the establishment of national broadband mapping systems. * Started in 2022 and completed in early 2023, ITU Office for Europe assisted Republic of Moldova and produced the technical specifications to establish a broadband mapping system while ensuring interoperability with the register of physical infrastructure. The technical specifications focus on the project's organizational aspects and human capacity requirements while defining the system concept, functionalities and technical requirements. |

# Policy and regulation: Supporting collaborative policy and regulatory frameworks for digital market development and user well-being

### Digital policy and regulation

The ITU/World Bank [Digital regulation platform](https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdigitalregulation.org%2F&data=05%7C01%7CYoulia.Lozanova%40itu.int%7Ccd88bb4f818c4484ce6708db47b902e2%7C23e464d704e64b87913c24bd89219fd3%7C0%7C0%7C638182633186791550%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=snJfXCESijGeQAoDN6%2BAD48EA%2B%2BGDw2zekHJ5PS%2BmJo%3D&reserved=0) provides practical guidance and best practice for policymakers and regulators across the globe concerned with harnessing the benefits of the digital economy and society for their citizens and firms. New articles are posted on the platform on a regular basis. The latest articles focus on the infrastructure sharing imperative, towards gigabit networks – a few considerations from the United Kingdom (a case study), and the emerging technologies (AI) challenges and principles of regulation.

Primarily based on the ITU/World Bank Digital Regulation Platform, a *Global Digital Regulation Online Training* was carried out in September 2022. The training included 13 sessions focusing on topical regulatory aspects. 212 participants registered and 102 received a certificate. The training was developed as part of the collaboration between Saudi Arabia and the International Telecommunication Union (ITU) on assistance in telecommunication/ICTs to ITU Member States.

The [G5 accelerator](https://gen5.digital/) provides practical step-by-step support for countries already embarked or planning to embark on their digital transformation journey. The interactive platform provides analytical tools based on the [ICT Regulatory Tracker](https://app.gen5.digital/tracker/metrics) and the [G5 Benchmark](https://app.gen5.digital/benchmark/metrics) allowing national decision makers, development agencies and the private sector to explore the policy and regulatory environment for the digital transformation by comparing data across 193 countries and economies, 120 individual indicators over 15+ years. The [2022 edition of the ICT Regulatory Tracker](https://app.gen5.digital/tracker/metrics) was released in October 2022.

The [library of country reviews](https://gen5.digital/national-approaches/library-of-national-approaches-to-collaborative-governance/) articulate the benefits of Fifth-generation collaborative digital regulation, G5, at country level, and anchor these benefits in experience and evidence. Each of the collaborative regulation country reviews offers a high-value, authoritative analysis of the country regulatory landscape and a clear-eyed view of the path ahead towards G5 regulation. In 2022, new country reviews were developed in close collaboration with the regulatory authorities in [Saudi Arabia](https://digitalregulation.org/wp-content/uploads/21-00770_R3_Saudi-Arabia-digital-transformation_E.pdf), [Mexico](https://digitalregulation.org/wp-content/uploads/22-00076_R2_Collaborative-regulation-for-digital-transformation-in-Mexico_BAT.pdf), Kenya, Colombia and Brazil.

### Economic policies for digital transformation

ITU organized the [ITU Policy and Economic Colloquium for the Americas region (IPEC 2022)](https://www.itu.int/en/ITU-D/Regional-Presence/Americas/Pages/EVENTS/2022/IPEC-2022.aspx) which included the Regional Economic Dialogue (RED) (Mexico City, 22-26 August 2022). The RED focused, among other interesting subjects, on regulatory and economic challenges to achieve digital transformations; regulatory and economic incentives to foster affordable digital services by promoting investment for meaningful connectivity; financing the investment for effective digital infrastructure deployment. It was also the occasion to present the main themes of the ITU-D Study Group 1 Question 4/1 on Economic aspects of national telecommunications/ICTs.

The [ITU Workshop on "Economic and fiscal incentives to accelerate digital transformation of data and applications over telecommunication infrastructure"](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/2022/1103/Pages/default.aspx) jointly organized by the ITU-T and ITU-D (Geneva, Switzerland​, 3-4 November 2022) provided a forum for discussions, between policy makers, regulators, private sector, taxation and standardization experts and other stakeholders from the membership of ITU, on the various industry perspectives on the economic, regulatory, and fiscal landscape in which ICT operators and content and application providers operate; the impact of international tax agreements on ICT markets; perspective of independent researchers focusing on technical points relevant to the fiscal environment; and finally the views on taxation from the perspective of Civil Society.

The Publication of the [ITU Outcome Report on Economic and fiscal incentives to accelerate digital transformation](https://www.itu.int/pub/D-PREF-EF.GOV_PS-02-2022) (November 2022) provides the main ideas from economic experts, who met at the [ninth ITU economic experts roundtable](https://www.itu.int/en/ITU-D/Regulatory-Market/Pages/Events2022/EconomicRoundTable2022.aspx), on innovative economic and fiscal incentives and instruments that can stimulate the deployment of digital infrastructure, especially in rural and unserved areas, as well as the introduction of advanced technologies.

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| **Regional Initiatives**  *Americas*   * + Regulatory technical assistance was provided to the Dominican Republic, through which a regulatory improvement roadmap was designed and the Regulatory Sandbox on telecommunications was designed.   + A Regulatory Capacity Development program was carried out for Central American countries in partnership with COMTELCA, benefiting 52 officials from regulatory bodies and ministries in the region.   + Trinidad and Tobago received assistance in formulating a draft Digital ID policy and legislation which shall harmonize and congregate local efforts and targets to promote civil rights and leverage social outreach.   + ITU has been providing Brazil with technical assistance on enhancing the regulatory environment for digital transformation, with special emphasis on modifying the telecommunications regulatory framework and prioritizing the revision of the General Telecommunications Law.   + IPEC-22 was held in Mexico City, Mexico in August 2022. The event was organized by BDT in partnership with the Federal Institute of Telecommunications (IFT). IPEC-22 was attended by more than 300 delegates from 16 Member States. During the event, the Digital Regulation for the Americas Region Course was delivered based on the ITU-World Bank Digital Regulation handbook and platform. The scope of this course was the introduction of specific aspects of digital policy and economic regulation to enhance knowledge of participants on the issues at stake.   *Arab States*   * The Regional Office for Arab States has embarked on providing regulatory technical assistance to Syria and State of Palestine. * Additional initiatives are being discussed in Comoros, Iraq, Jordan, Libya and Mauritania.   *Asia-Pacific region*   * In Asia-Pacific, ITU supported the governments of Papua New Guinea, Samoa and Vanuatu in developing or strengthening their national legal frameworks, digital policies or strategies. |

# Statistics: Helping countries with evidence-based ICT policy adoption for digitally inclusive societies

### Research and analysis

Launched at the World Telecommunication Development Conference 2022, the [***Global Connectivity Report 2022***](https://www.itu.int/gcr2022)provides a detailed assessment of the current state of connectivity and features solutions and good practices to accelerate progress towards universal and meaningful connectivity.

Released in November 2022, the flagship publication [***Facts and Figures***](https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx) features estimates for 2022 for the world, regions and special country groups for key indicators, providing a timely overview of the state of connectivity around the world. With its hard evidence and global reach, *Facts and Figures* is a powerful advocacy tool to put digital development on top of the policy agenda.

Released in April 2022, the[***Policy Brief on Affordability of ICT Prices 2021***](https://www.itu.int/en/ITU-D/Statistics/Pages/ICTprices/default.aspx) and its accompanying [data tool](https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/IPB.aspx) highlights the digital vulnerability of poorer communities, where people face a hard choice between having connectivity, which has become an even greater necessity in the pandemic and meeting other basic needs.

Achieving universal and meaningful digital connectivity —the possibility for everyone to enjoy a safe, satisfying, enriching, productive and affordable online experience— is key for enabling digital transformation and meeting the Sustainable Development Goals. In April 2022, as part of the implementation of the UN Secretary-General’s Roadmap for Digital Cooperation, ITU and the Office of the UN Secretary-General’s Envoy on Technology launched a set of aspirational [**Targets for universal and meaningful connectivity**](https://www.itu.int/itu-d/meetings/statistics/umc2030/), following a long consultative process. The targets will help prioritize interventions, monitor progress, evaluate policy effectiveness, and galvanize efforts around achieving universal and meaningful connectivity by the end of the decade.

### Measuring digital development

The beta version of the [**DataHub**](https://datahub.itu.int/) was released in April 2022. ITU’s new data platform is the world’s richest source of ICT statistics and regulatory information, featuring hundreds of ICT indicators on connectivity, markets, affordability, trust governance, and sustainability.

Issued in November 2022, the [**Guidelines on using Mobile Phone Big Data for Measuring ICT SDG Indicators**](https://unstats.un.org/wiki/display/MPDMIS) provide methodologies on how to use mobile phone data to calculate two SDG ICT indicators (mobile population coverage, Internet use). This output is part of ITU’s [ongoing work on using big data](https://www.itu.int/en/ITU-D/Statistics/Pages/bigdata/default.aspx).

[**WTDC Resolution 8**](https://www.itu.int/dms_pub/itu-d/opb/tdc/D-TDC-WTDC-2022-PDF-E.pdf) on Collection and dissemination of information and statistics was revised during WTDC in June 2022. [**PP Resolution 131**](https://www.itu.int/dms_ties/itu-s/md/22/pp/c/S22-PP-C-0202!!PDF-E.pdf)on Measuring information and communication technologies to build an integrating and inclusive information society was revised at the Plenipotentiary Conference in Bucharest in October 2022. The next text provides clear guidance for reviewing and publishing the ICT Development Index (IDI).

In 2022, direct assistance was provided to Azerbaijan to enhance national ICT statistics system and ensure their compliance with ITU standards.

# Study group work

ITU-D Study Groups 1 and 2 (SG1 and SG2) were established in accordance with Resolution 2 (Rev. Kigali, 2022). Over the 2023-2026 cycle, SG1 will examine topics related to the enabling environment for meaningful connectivity, through seven study Questions. SG2 will comprise nine questions on technical topics related to digital transformation.

The first meeting of Study Group 1 following WTDC-22 took place 28 November to 2 December 2022 attracting 257 participants from over 63 countries. 94 contributions were received including 39 liaison statements. Statistics summarizing participation by region, contributions by Question, and other data may be found in Document [1/ADM/3](https://www.itu.int/md/D22-SG01-ADM-0003). All meeting documents can be downloaded from the [meeting website](https://www.itu.int/net4/ITU-D/CDS/sg/blkmeetings.asp?lg=1&sp=2018&blk=20348).

The first meeting of ITU-D Study Group 2 (SG2) following WTDC-22 was held from 5 to 9 December 2022 attracting 268 participants from 64 countries. Some 96 documents were reviewed to advance the work. Statistics summarizing participation by region, contributions by Question, and other data may be found in Document [2/ADM/3](https://www.itu.int/md/D22-SG02-ADM-0003/en).

In both study groups, the first meetings considered the expected results agreed on by the membership at WTDC-22, identified methods for conducting its work and developing draft work plans for each study Question. Draft initial outlines and tables of contents of the expected outputs for all Questions and detailed lists of responsibilities were also prepared. They also formed 14 rapporteur group management teams by appointing new rapporteurs and co-rapporteurs and vice-rapporteurs to lead the Questions under study. Several topics and proposals for collaboration were also explored with other ITU Sectors and expert groups, as well as synergies with BDT projects and initiatives. Onboarding sessions took place during the plenaries of both study groups which aimed to help, in particular new delegates, by providing an overview of the study groups and various information to help them to get involved in the activities of the study groups.

# Regional Development Forums

In 2022, the Regional CIS Forum held in February 2022 brough together in hybrid format more than 190 participants from 10 countries (Azerbaijan, Armenia, Belarus, Kazakhstan, Kenya, Kyrgyzstan, Russia, Turkmenistan, Uzbekistan и Switzerland) representing national telecommunication administrations, municipal authorities, international organizations, R&D establishments, communication operators, digital services providers and the private sector.

The Arab States RDF Forum was held virtually with over 150 participants from the region engaging in the discussion which included the progress in the regional office as well as the major initiatives in the regional office to be considered by the region in its planning.

# UN Collaboration

BDT has continued to play an instrumental role in a number of partnerships and joint initiatives with the UN Secretariat and UN Specialized Agencies.

Launched in March 2022, the UN Secretary General set up the UN Early Warning for All initiative (EW4A) that stipulates that “in 5 years every person in the world should be protected by an early warning system”. WMO and UNDRR are in charge of the overall lead of this initiative and ITU is leading on the pillar on ‘Warning Dissemination and Communication’ with the support from UNDP, REAP, IFRC, WMO, and IOM. This pillar highlights the new opportunities brought by ICT growth to reach people at risk, especially on the use of mobile networks for alerting via cell broadcast, as well as the importance of people-centered approach and community engagement to make sure the alerts are understandable and actionable.

ITU, the Digital Public Goods Alliance (DPGA) and the World Meteorological Organization (WMO) issued a call and [report](https://www.itu.int/en/ITU-D/Environment/Documents/Publications/2022/Final%20-%20Climate%20Change%20Adaptation%20CoP%20Report%20-%20Jan.24.docx.pdf) for weather, climate & hydrological information datasets to be made open and freely available as digital public goods. This was driven by the efforts of the DPGA's Climate Change Adaptation Community of Practice that focused on DPGs with the potential to impact climate and weather services.

BDT remains involved in the [Circular Electronics Partnership (CEP)](https://cep2030.org/) which includes almost 50 companies who have come together to develop an industry vision and roadmap until 2030 for the electronics sector. Earlier this year, a [blueprint for action](https://cep2030.org/files/cep-system-map-2022.pdf) which establishes a common understanding of what the CEP means by “circular electronics” and the system needed for change at scale.

In the Africa region, within the framework of the activities under the International Centre of Digital Innovation (I-CoDI), a Regional Hub for Africa has been established with dedicated physical space in the Regional Office that aims to bring together different partners and create synergies around ongoing activities using different innovative approaches, tools and processes that can solve complex connectivity challenges for meaningful connectivity. It also aims to foster collaboration across governments, UNCTs, development partners, private sector, academia and other stakeholders to implement joint initiatives to advance digital transformation in the Africa region.

the Cabo Verde UNCT team joint initiative on ‘Digital strategy and financing’, a partnership of exchanges at the national level built on shared goals and priorities, placing the country’s digital development at the centre, 'has been established to optimize development cooperation and resource mobilization between UN agencies (UN-ITU-UNECA) and Multilateral Development Banks (World Bank, AfDB). ITU is contributing to rural and school connectivity and digital skills for youth for the next United Nations Cooperation Framework (UNCF) 2023-2027. Building on this platform of exchanges, ITU and UN will collaborate to implement programmes in line with the Digital Cabo Verde Agenda.

The ITU and United Kingdom’s FCDO partnership around four streams of work to support digital inclusion in Digital Access Partnership countries in Africa, namely support toward a strengthened enabling policy and regulatory environment, sustainable connectivity models, partnerships, and digital skills, saw stakeholders engaged through the work in Kenya and Nigeria and new work launched in South Africa. The platform provided for stakeholders in the national ecosystem to engage, share, and tap into each other’s expertise and insights for future joint work.

During the 72nd session of the WHO Regional Committee meeting for Africa, ITU and WHO with support from USAID organized a Ministerial meeting on the use of Artificial Intelligence for Health as a side event in August 2022. The event brought together Ministers of Health and ICT to share experiences and emphasize the critical role of integrating digital technologies to advance digital transformation in the health sector.

In the Americas region, ITU provided expertise to UNICEF country office on Child Online Protection. In Argentina, ITU has been contributing at the invitation of UNICEF to Generation Unlimited.

In the CIS region, as part of UNCTs in Belarus, Kazakhstan, Kyrgyzstan and Uzbekistan, the CIS Regional Office has been raising awareness about ITU’s global and regional activities and explore potential areas of partnership. The Regional Office also engaged in the development of Common Country Assessments (CCA) and joining the United Nations Sustainable Development Cooperation Frameworks (UNSDCF) 2021-2025 for Kazakhstan and Uzbekistan. In Russian Federation, ITU cooperated with the UN Information Center and contributed to the UN Bulletin. The Regional Office for CIS was also part of the UN Digital Transformation Group for Europe and Central Asia, co-lead by ITU and UNECE. Along with the UN Agencies in the Region the cooperation is continued with the Economic Commission for Europe (UN ECE) and the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP).

The ITU Regional Office for Arab States has been actively engaging with the UN in the Arab region, partnering with various UN agencies and participating in UNCT meetings. The Regional Office have established a Joint Team on Digitalization and Innovation and partnered with WHO and FAO to assist countries in developing national strategies on digital health and agriculture in Egypt. The office has also participated along with the UN ESCWA in the regional ICT strategy for the Arab States. The office has also participated in several UNCT or bilateral meetings with UN RCs, including in Algeria, Bahrain, Egypt, Jordan, Morocco and Saudi Arabia. A regional UN engagement strategy is being prepared and developed as a result of these discussions with the UN RCs as well as the UN Regional Coordination Office. The Regional Office for Arab States has also been working on developing multi-year programs in Iraq and Mauritania. In 2022, The regional office became a signatory of the Bahrain UN Sustainable Development Cooperation Framework (SDCF), making it the first to be signed in the region. Furthermore, discussion started and are ongoing on other countries to include the ITU in the UN SDCFs as appropriate. At the moment, the ITU is a signatory on the UN SDCFs in Bahrain, Egypt and Algeria, with other discussions going on.

In the ITU Regional Office for Europe has been partnering with various UN agencies and participating in UNCT meetings and tasks supporting ICTs for SDG In addition, the Office contributes to CCAs, UNSDCF, and EU reporting processes. The Office has engaged with Member State Administrations and stakeholders in Albania, Bosnia and Herzegovina, Georgia, Moldova, Montenegro, North Macedonia, Serbia and Ukraine. In 2022, the ITU Office for Europe was signatory of 5 UN Sustainable Development Cooperation Framework in the Europe Region and is member of all 9 UNCTs.

The ITU Office for Europe is co-chairing two regional working groups of the UN on digital development. The [UN Digital Transformation Group for Europe and Central Asia,](https://uneuropecentralasia.org/en/un-digital-transformation-group-europe-and-central-asia) co-chaired with UNECE, engage representatives of FAO, ILO, IOM, UNDP, UNEP, UNESCO, UNFPA, UN Habitat, UNICEF, UNIDO, UNWTO, UN Women, WHO, WIPO, WMO, and IFAD. It facilitates improved cooperation between UN agencies and their partners. ITU has likewise joined the UN Brussels Team (UNBT) to strengthen cooperation with the EU structures and collaboration on the ICT projects advancing the achievement of SDGs. ITU co-chairs the “UN Brussels Task Force on Digitalization for the SDGs” together with UNESCO Office in Brussels.

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