Operating reports

Implementation Report

ITU-D strategic, operational and financial plans

January – December 2018

ITU-D strategic, operational financial plans

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Overview of ITU-D Strategic and Operational Plan Implementation

January – December 2018

The following is a summary of results achieved, for the period January to December 2018, on the overall implementation of the five objectives of the ITU-D Strategic and Operational Plan.

Five ITU-D Objectives

Objective 1:

"Foster international cooperation on telecommunication/ICT development issues"

1.1 World Telecommunication Development Conference (WTDC)

- The next World Telecommunication Development Conference (WTDC) will be held in 2021. The final report of the World Telecommunication Development Conference 2017 (WTDC-17), convened in Buenos Aires, Argentina, from 9 to 20 October 2017, has been made available.
- The ITU Telecommunication Development Bureau (BDT) Management Retreat was held from 5 to 9 February 2018 in Geneva. Participants analyzed the current state of play in the ICT industry in light of the outcomes of WTDC-17 and how BDT will fulfil its mandate in a rapidly changing, increasingly complex, and ever-more challenging environment. The key areas discussed during the retreat form the basis for a robust strategy and action plan for BDT to respond to the massive changes occurring in the industry, while at the same time meeting the great expectations of members.

WTDC	Resolutions 1, 5, 17, 24, 30, 33, 37, 50, 59, 61, 81
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 111, 135, 140, 151, 154, 165, 166, 167
Council	Resolution 1372
WSIS Action Line	WSIS Action Lines C1 and C11
Contributing to SDG Targets	SDGs: 1, 3, (target 3.d), 5, 10, 16 (targets 16.5, 16.6, 16.8), 17 (targets 17.9, 17.16, 17.17, 17.18, 17.19)

1.2 Regional preparatory meetings (RPMs)

- The next Regional Preparatory Meetings (RPMs) will be held in 2020 and 2021.
- With the aim of facilitating implementation of regional initiatives, a series of Regional Development Forums took place in 2018:
  - ITU Regional Development Forum for Africa- in Accra, Ghana on 19-20 July 2018.
  - ITU Regional Development Forum for the Arab States – in Algiers, Algeria on 12-13 February 2018.
  - ITU Regional Development Forum for the Americas Region- in Lima, Peru on 25 May 2018.

- ITU Regional Development Forum for the Asia and the Pacific Region- in Bangkok, Thailand on 21-22 May 2018.
- ITU Regional Development Forum for Europe- in Prague, Czech Republic on 11 June 2018.

WTDC	Resolutions 1, 5, 17, 25, 30, 31, 33, 37, 48, 50, 59, 61, 81
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 111, 135, 140, 165, 167
WSIS Action Line	WSIS Action Lines C1 and C11
Contributing to SDG Targets	SDGs: 1, 3, (target 3.d), 5, 10, 16 (targets 16.5, 16.6, 16.8), 17 (targets 17.9, 17.16, 17.17, 17.18, 17.19)

1.3 Telecommunication Development Advisory Group (TDAG)

The 23rd meeting of the Telecommunication Development Advisory Group (TDAG) took place from 9 to 11 April 2018 at ITU headquarters in Geneva.

The 23rd meeting of TDAG had a broad agenda as it marked the first TDAG meeting after the World Telecommunication Development Conference 2017 (WTDC-17). In particular, this meeting discussed the following topics:

- Outcomes of WTDC-17 and their implications on the work of ITU-D, including the TDAG scope of work, collaboration with the other Sectors and financial implications of the approved regional initiatives.
- Implementation of the ITU-D Strategic Plan and Operational Plan 2017 and ITU-D four-year rolling Operational Plan 2019-2022.
- ITU-D contribution to the implementation of the WSIS outcomes and 2030 Agenda for Sustainable Development.
- ITU-D Study Group-related matters.
- Regional Development Forums (RDFs).
- Major ITU-D events and initiatives, including the Global symposium for regulators (GSR), capacity building activities, innovation, and the World Telecommunication/ICT Indicators Symposium (WTIS).
- Membership, partnership and private sector-related matters.
- Calendar of ITU-D events.

WTDC	Resolutions 1, 5, 17, 24, 30, 33, 37, 50, 59, 61, 81
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 111, 135, 140, 151, 154, 165, 166, 167
Council	Resolution 1372
WSIS Action Line	WSIS Action Lines C1 and C11
Contributing to SDG Targets	SDGs: 1, 3, (target 3.d), 5, 10, 16 (targets 16.5, 16.6, 16.8), 17 (targets 17.9, 17.16, 17.17, 17.18, 17.19)

1.4 Study Groups

- The ITU-D study groups held their first Study Group 1 and 2 meetings for the 2018-2021 study period from 30 April to 4 May and from 7 to 11 May, respectively. The meetings *launched the work on the study 14 Questions, agreed on detailed work plans and prepared preliminary draft outlines for the foreseen deliverables.* The meetings appointed 139 new rapporteurs and vice-rapporteurs. In conjunction with the dedicated meeting for Question 5/2 (Utilizing telecommunications/ICTs for disaster risk reduction and management) *a panel session on Early Warning Systems (EWS) was also held where* experts gathered to share their knowledge and experience on early warning systems, including safety information systems, with ITU-D members. Such sessions were deemed useful in progressing the work on annual deliverables.
- The 2018 ITU-D SG1 and SG2 Rapporteur Group meetings were held from 17 September to 11 October 2018. The meetings refined the outlines of SG1 and SG2 Question deliverables and continued drafting and exchanging on chapters of reports, guidelines and case studies. In conjunction with the meetings, 10 focus sessions/workshops and capacity building sessions were held on topics related to the Questions 1/1, 4/1, 7/1, 1/2, 2/2, 3/2, 4/2, 5/2, 6/2, and 7/2. Insightful and useful information gathered during the sessions will contribute towards the development of possible annual deliverables. The first set of annual deliverables is foreseen for some study Questions for consideration at the March 2019 meeting.
- To facilitate coordination and further strengthen collaboration between the two ITU-D study groups and the study groups in the other sectors, the work on three mapping tables evolved during the SG1 and SG2 Rapporteur Group meetings. The tables include a revised mapping of ITU-D SG1 and SG2 Questions of interest to working items and Questions in ITU-T study groups, a draft matrix of mapping between ITU-R Working Parties and ITU-D SG1 and SG2 Questions, and a draft matrix of relationships and interactions between study Questions in ITU-D SG1 and SG2.
- In addition, in 2018 synergies were explored between study group topics, and workshops and seminars held in the regions. Positive examples can be seen from pilots conducted in Hungary (together with a regional seminar 5G Implementation in Europe and CIS), Mexico (together with the ITU Regional Economic Dialogue (RED) on Telecommunications/ICTs for Latin America and the Caribbean), and Burkina Faso (together with the 2018 Regional Economic Dialogue (RED) for Africa).
- The two ITU-D study groups agreed to proceed with the implementation of the Council 2017 initiated a pilot project for participation of SMEs in ITU study groups. In 2018, seven SMEs participated in the work of the ITU-D study groups through the pilot project with the support of their Administrations. Several SMEs also submitted and presented contributions to the ITU-D SG1 and SG2 meetings. Areas such as cloud computing, rural access, cybersecurity, and ICT applications have been of particular interest to these SMEs.
- ITU Regional Economic Dialogue on Telecommunications/ICTs for Latin America and the Caribbean (RED-AMS) was held from 4 to 6 September 2018, in Mexico City, Mexico. During the RED, the ITU-D Study Group 1 Question 4/1 Experts' Knowledge Exchange meeting was also held, with the aim of discussing and gathering information on regional experiences on the topics related to the Terms of Reference of Question 4/1.

WTDC	Resolutions 1, 2, 5, 9, 17, 21, 30, 33, 50, 59, 61, 80, 81
ITU-D	Recommendations 15, 16, 17, 19, 20, 21, 22
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 133, 135, 140, 154, 165, 166, 167
Council	1372

WSIS Action Line	WSIS Action Lines C1 and C11
Contributing to SDG Targets	SDGs: 1 (target 1.b), 3 (target 3.d), 5, 10, 16 (targets 16.5, 16.6, 16.10), 17 (targets 17.9, 17.16, 17.17, 17.18)

Objective 2:

"Foster an enabling environment for ICT development and foster the development of telecommunication/ICT networks as well as relevant applications and services, including bridging the standardization gap"

2.1 Policy and regulatory frameworks

- ITU-D continues to provide high-quality data, research, analysis, and tools to support the ITU membership in defining, elaborating, implementing and reviewing transparent, coherent and forward-looking strategies, policies, legal and regulatory frameworks as well as in moving towards evidence-based decision-making. The annual questionnaire to ITU-D membership has been sent to gather information on regulatory and policy issues and tariff policy issues. The 2017 regulatory and policy data has been published on the ICT Regulatory Tracker, and made available on the ITU website. Contributions have been made with specific regulatory and policy and tariff/economic information and reports submitted to ITU-D Study Groups and published on the ITU website.
- ITU web portals have been published and are updated regularly with new information on topical regulatory, policy and economic issues. They include portals on International Mobile Roaming (IMR) Resources, Quality of Service, the Digital Ecosystem, Infrastructure Development as well as a Regional Regulatory Associations Portal that brings together regulatory resources and ITU activities on topical issues of interest as well as activities and initiatives by regulatory associations, regional and international organizations and other stakeholders. The portals also highlight key findings from ITU publications, studies, research, ITU Study Groups, and data and analysis from the ITU ICT Eye.
- ITU prepared publications on topical regulatory and market environment issues, including an ITU Report on Setting the stage for 5G: Opportunities and challenges; a Report on Regulatory challenges and opportunities in the new ICT ecosystem; and a series of discussion papers prepared for and presented at GSR-18 on artificial intelligence for development.
- The 18th edition of the Global symposium for regulators (GSR-18), held in Geneva, Switzerland, from 9 to 12 July attracted over 600 participants, including government ministers, heads of regulatory agencies and C-level industry executives from more than 125 countries. The theme of GSR-18 was "New Regulatory Frontiers". The event culminated with the adoption by ICT regulators of a set of best practice guidelines on new regulatory frontiers to achieve digital transformation. A series of thematic pre-events took place on such topics as the Global Dialogue on Artificial Intelligence, Internet of Things and Cybersecurity – Policy and regulatory challenges and opportunities. The pre-event day also included the Regional Regulatory Associations Meeting (RA) and the 9th Private Sector Chief Regulatory Officers (CRO)/Industry Advisory Group for Development (IAGDI) Meeting.
- Capacity Building Programme on Quadplay: Costing and Pricing of Infrastructure Access for Arab States region was organized in Rabat, Morocco from 9 to 12 July 2018. The training attracted more than 60 participants from Arab States region representing 18 Member States, including

Palestine (based on resolution 99), private sector entities, national organizations, and members of Academia.

- ITU-D assisted Sudan and developed national Spectrum Pricing Framework. The framework aims to promote spectrum efficiency usage in Sudan.
- ITU organized a successful Interactive Session for WSIS Action Line C6 (Enabling Environment) on Sharing Collaborative Regulatory Approaches for Digital Transformation, highlighting cooperation at the international, regional and national levels and sharing experiences, best practices and tools for digital transformation.
- ITU-D is implementing a 3-year project to harness the potential of ICTs to strengthen Digital Financial Services (DFS) and Digital Financial Inclusion (DFI) in China, Egypt, and Mexico. Within this context, ITU-D raised awareness on the enabling environment for financial inclusion in Egypt and Mexico through the preparation of a draft country assessment report on Digital Financial Inclusion and defined priority areas of leveraging ICTs for DFI in China as part of the Financial Inclusion Global Initiative. Enhanced regulatory cooperation for Digital Financial Services in China with bringing in the stakeholders in country for implementation for project in China and a project document was signed between ITU and CAICT.
- More than 40 Arab and African participants were trained on telecommunication numbering planning trends, numbering policies and the impact and implication of National Numbering Plan implementation during the regional workshop on Telecommunication Numbering Planning and Policies for Arab States and Africa regions organized back-to-back with Regional Study Group Meeting of ITU-T SG2. The workshop was organized on 25 April 2018 in collaboration with TSB and kindly hosted by CIFODECOM of Tunis.
- ITU developed and provided a course, in collaboration with the Government of India, on the emerging digital landscape and regulatory framework as digital payments, new market participants and products have disrupted the market. Three training modules on DFS and Digital Payment have been developed for the Government of India though internal expertise in close collaboration between ITU-D and ITU-T. An online training was held from 1 to 15 October that enhanced the capacity of 67 Indian participants in the area of understanding digital payments.
- The following activities were coordinated in relation to the enabling environment for ICT development, regulation and policy for Caribbean countries, including Update of National ICT Plans, Update of Broadband Plans, bSmart Project, and Accessibility and Affordability:
    - Under the HIPCAR project (Enhancing Competitiveness in the Caribbean through the Harmonization of ICT Policies, Legislation and Regulatory Procedures), Jamaica sought and received assistance from ITU to provide a sensitization workshop to introduce the HIPCAR methodology and the HIPCAR model text and to discuss the potential impact of the introduction of Privacy and Data Protection Legislation. Recommendations and amendments were prepared based on the outcomes of the workshop and consultations with the Ministry. A draft of the proposed legislation and Draft Data Protection Act were prepared. Since then, a Data Protection Bill (DPB) was prepared and tabled in the Houses of Parliament. The DPB contemplates the establishment of an Office of the Information Commissioner (OIC) to be responsible of ensuring compliance with the Data Protection Act and the Access to Information Act. An ITU expert is currently working on the OIC.
    - A bSmart project is under preparation for ITU to assist the Government of the Bahamas. Through this project, ITU will provide technical support, advice and guidance to contribute to the country's agenda on diversification, improvement of public services, enhanced security, enhancement of the tourism industry, developing an advanced ICT infrastructure and improving the quality of citizens' lives.
    - ITU is providing support to Antigua and Barbuda in reviewing the Telecommunications Act and identifying priorities supporting Regulations consistent with the Act. Similarly, in collaboration with PAHO, ITU is assisting Guyana with the development of an e-health

national strategy. The draft strategy was prepared by ITU, based on expertise and experience, will be introduced into the longer process that Guyana and PAHO will conclude in 2019.

- ITU held a regional workshop on 5G, IoT, m-Payment — Emerging Technologies, Eco-Systems, and Regulatory Aspects in St. John's, Antigua and Barbuda, from 17 to 19 October, 2018.

- A large scale Project Document to assist the Brazil regulatory body with the review of the telecommunications regulatory framework was signed and the first wire transfer for USD 2.7 million dollars has already been made. It foresees to provide ITU recommendations (i) to modernize and update the Brazil General Law of Telecommunications (LGT); (ii) to change the scope of concession contracts with telecommunication service providers, aiming at increasing infrastructure investments and the expansion of broadband access networks; (iii) for the creation of a Strategic Plan of digital transformation; (iv) to build confidence and improve regulator relationship with consumers of telecommunication services; (v) to make the Brazil regulator a reference in the use of data and analytics for decision making, and (vi) to provide training courses to improve the performance and management of the workforce necessary to fulfil the responsibilities and the mandate of the regulator. The first stage of the project implementation is foreseen to commence in the second quarter of 2019.
- A new project document has been prepared to assist and guide the MinTIC in Colombia in matters relating to the administration, maintenance and operation of the registry of country code top-level domain names (ccTLD) of Colombia.co. The implementation is foreseen to start in the first quarter of 2019.
- A case study on the evolution of ICTs considering the economic perspective and the policy and regulatory environment was prepared for Ecuador.
- E-agriculture forum on developing an e-agriculture strategy for the Americas: A Regional Capacity Development Workshop on national e-agriculture strategies in the Caribbean took place from 13 to 17 July 2018.
- Schools on Digital Policies: The School of Digital Policies (EPD) is the result of ITU partnership with the Fundacion Getulio Vargas (Brazil). Its main objective is to deliver short training on the Internet from the governance standpoint and to emphasize the importance of promoting the democratization of ICT access by means of digital public policies. Preparation of instructional material was finalized in July and the course was delivered through the ITU Academy and its e-learning platform. The pilot course targets professionals of the Brazil Public Administration, and the delivery started in September 2018. The online phase of the course was finalized in October 2018, and a face-to-face two-day meeting was held in Rio de Janeiro from 18 to 19 October 2018. The EPD initiative will offer courses to the Caribbean in 2019.
- The ITU Regional Economic Dialogue on Telecommunications/ICTs for Latin America and the Caribbean (RED-AMS) was organized by the ITU Americas Regional Office, together with the BDT/IEE Regulatory and Market Environment Division (RME) in close collaboration with the Federal Telecommunications Institute (IFT) of Mexico. The RED is a discussion platform for Member States and Sector members in the Latin America and Caribbean countries, bringing new and topical regulatory and economic issues, ideas and innovative solutions to the front, responding to the BaAP mandate. 176 delegates from 14 countries participated in the dialogue. The RED brings together representatives from Regulatory Associations, Regional Consumer Associations and Private Sector Associations, such as the Eastern Caribbean Telecommunications Authority (ECTEL), the Telecommunications Regional Technical Commission - Central America (COMTELCA), la Procuraduría Federal del Consumidor de México (PROFECO), GSMA, the Asociación Interamericana de Empresas de Telecomunicaciones (ASIET), and others. More information is available at the RED Website: https://www.itu.int/en/ITU-D/Regional-Presence/Americas/Pages/EVENTS/2018/20570.aspx
- ITU-D Study Group 1 Question 4/1 Experts' Knowledge Exchange- Economic policies and methods of determining the costs of services related to national telecommunication/ICT networks

was held on 6 September in Mexico, back to back with the Regional Economic Dialogue of Telecommunications/ICTs for Latin America and the Caribbean (RED), which had a purpose to collect the regional experience on the topics related to the Terms of Reference of Question 4/1.

- Assistance was provided to Brunei Darussalam in the assessment of national market readiness for future IMT-2020 (5G) networks.
- Assisted Philippines in developing the criteria for selecting a new major player to provide broadband services.
- Raised awareness for around 150 policy makers in China on Big Data through ITU-MIIT Seminar (26-27 June, Nanning, China).
- Assistance was provided to Bangladesh Telecommunications Regulatory Commission on reviewing the International Long Distance Telecommunication Policy and carried out stakeholder consultations with recommendations on streamlining the licensing regime and competition safeguards.
- Discussed regulatory and policy aspects of digital economy at the Regional Workshop on "National Strategies of Digital Transformation" held in Issyk-Kul, Kyrgyzstan and attended by 80 participants from 16 countries, including 2 heads of administrations and 1 head of a regulatory agency.
- The ITU Africa Regional Office assisted ARTCA in a meeting organized in Malabo in July to revamp this assembly of Regulators of Central Africa. A new chair and action plan have been approved, including the Roaming Project in the CEMAC (Economic Community of Central African States) countries.
- Workshop on 5G, IoT, m-Payment, Emerging Technologies, Eco-Systems, and Regulatory Aspects, was held in St. John's, Antigua and Barbuda from 17 to 18 October 2018. The aim of this workshop is to give a thorough introduction to the emerging technologies and eco-systems of 5G and Internet of Things (IoT), which are starting to become a reality and expected to be rolled out broadly by 2020.
- Improved management of top level domain name for Maldives while assisting the Communications Regulatory Authority of Maldives and made recommendations on "Governing framework for .mv CCTLD for Maldives" in July 2018 in collaboration with Asia Pacific Top Level Domain Association.
- Improved policy and regulatory capacity and skills of 60 participants from 21 countries for Regulators Roundtable and 50 participants from 21 countries for Industry Roundtable through joint ITU-BTRC Asia-Pacific Regulators' Roundtable on "New Regulatory Frontiers to support Digital Economy" from 6 to 7 August 2018 in Dhaka, Bangladesh.
- ITU-D started assistance to Somalia on the establishment of an effective ICT Strategy and Policy framework and provided clear and transparent procedures & mechanisms to facilitate ICT policy and sectoral strategy framework. The ICT Strategy and Policy framework is expected to be delivered and validated by around March of 2019.
- ITU-D assisted Uganda on finalizing the Digital Uganda Vision document, which was validated during a workshop held in Kampala on 29 November 2018.
- Awareness was raised among diverse audience constituted by policy makers, technical professional and academia, among others, attending the "AFRICA eCommerce Week" in Nairobi, 10 to 14 December 2018. ICT infrastructure policies issues were dealt with through the organization of a three-hour session on "Expanding access to affordable and reliable Infrastructure and services".
- Assessment studies were launched in the Arab States region on enabling environments for Big Data and on digital financial services with a focus on the ICT sector.
- Activities of the Arab Regional Initiative on Digital Financial Inclusion were promoted through the ITU-UNESCO Digital Inclusion Week in the Arab States region organized on 24-28 September 2018.
- Quality of service (QoS) and quality of experience (QoS) framework and guidelines for ECOWAS region were developed and adopted following the second validation workshop held in Abidjan, Côte d'Ivoire on 16-19 July 2018. 71 delegates participated at the workshop. Similarly, the

QoS and QoE framework and guidelines for SADC Member States were completed following a validation meeting held from 6 to 7 August in Luanda Angola with 32 participants from eight (8) CRASA Member States, namely Angola, Botswana, Eswatini, Lesotho, Malawi, Namibia, and Zimbabwe. Consumer/QoS and QoE issues related to Digital Financial services discussed were incorporated in the said guidelines and frameworks.

- The ITU Regional Economic Dialogue on Telecommunications/ICTs for Africa (RED-AFR) was organized by the ITU Africa Regional Office, together with the BDT/IEE Regulatory and Market Environment Division (RME), from 8 to 9 October 2018 in Ouagadougou, Burkina Faso. 102 delegates from 23 countries attended the dialogue.
- ITU-D Study Group 1 Question 4/1 and Question 6/1 Experts' Knowledge Exchange for Africa was held on 9 October back-to-back with the Regional Economic Dialogue of Telecommunications/ ICTs for Africa (RED), which had a purpose to collect the regional experience on the topics related to the Terms of Reference of Question 4/1 and Question 6/1.
- Capacity Building Programme on Costing and Pricing of digital services and infrastructure for the Africa region was organized in Ouagadougou, Burkina Faso from 10 to 12 October 2018. The training attracted more than 75 participants from Africa region, representing 24 Member States.
- A review of the ICT related policies and Communications Act 2009 for the Government of Namibia was completed, and a draft Act was developed. The process started with a first national stakeholders consultation meetings and training held from 17 to 21 September 2018 in Windhoek Namibia, resulting in a report on policy recommendation for amendment. A second validation meeting was held from 26 to 30 November 2018, which reviewed the draft legal texts for the new communications act.
- In order to better improving the management of the interconnection environment in Comoros, ANRTIC has sought the assistance of the ITU for the development of a telecommunications cost modeling for fixed and mobile networks. Assessment mission has been conducted from 16 to 22 December 2018, in Moroni, where meetings held with the main actors and followed by a training workshop on cost modeling of electronic communications networks attended by 30 professionals. During the workshop, the different approaches for setting interconnection tariffs were presented in addition to the cost modeling methods and their characteristics. A report with the recommendations that would facilitate the development of a coherent, reliable and sustainable cost modeling system has been issued and shared with the beneficiary.

WTDC	Resolutions 1, 9, 17, 21, 23, 30, 32, 43, 48, 62
PP Resolutions	PP Decisions 5, 13, PP Resolutions 25, 71, 102, 135, 138, 154, 165
WCIT	Resolution 3
WSIS Action Line	WSIS Action Line C6 of the Geneva Plan of Action and §§ 112-119 of the Tunis Agenda for the Information Society
Contributing to SDG Targets	SDGs: 1 (targets 1.1, 1.2, 1.3, 1.4, 1.5, 1.a, 1.b), 2 (targets 2.3, 2.4, 2.c), 3 (targets 3.8, 3.d), 4 (targets 4.3, 4.4, 4.5, 4.7, 4.c), 5 (targets 5.1, 5.b), 7 (targets 7.a, 7.b), 8 (targets 8.2, 8.3, 8.9, 8.10), 9 (targets 9.1, 9.3, 9.5, 9.a, 9.c), 10 (targets 10.3, 10.c), 11 (target 11.1), 12 (targets 12.8, 12.b), 13 (target 13.3), 16 (targets 16.6, 16.7, 16.8, 16.10, 16.b), 17 (targets 17.6, 17.8, 17.9, 17.14, 17.16, 17.17)

2.2 Telecommunication/ICT networks, including conformance and interoperability and bridging the standardization gap

- Basic National Spectrum Management System Project is to assist developing countries to establish basic structure of spectrum management system. Currently, projects for Comoros, Bolivia, and Kyrgyzstan are ongoing. The results of the assistance will be the work plan for countries for implementing/updating their spectrum management structures and activities.
- Within the framework of the above mentioned project, assistance was provided to support Comoros, as the first beneficiary country for this project, to have a spectrum management regulatory framework, aligned with best practices observed elsewhere. The assistance took place in two phases. The first phase led to the development, in November 2017, of a roadmap for effective and efficient spectrum management. The second phase, which runs from 16 to 20 April 2018, is a series of training on radio spectrum and a workshop on Analogue to Digital Transition (A-D Transition).
- An excellent exchange of opinions and feedback between more than 100 delegates coming from 13 countries, the speakers and the representatives of the local, regional and international companies took place during the Regional Workshop on Emerging Technologies, Algiers, Algeria, on 14 and 15 February 2018. Fruitful discussions addressed the opportunities, benefits and challenges of the emerging technologies in the development of the ICT applications and services and related regulation issues.
- Further developments to Spectrum Management System for Developing Countries (SMS4DC) software is under upgrade process in two parts, including the administrative function and radio communication function. USB installation is available now in addition to a CD format. Eight countries were assisted in operation and installation of the software and on higher resolution map.
- A new SMS4DC training is under organization by PIRRC (Pacific ICT Regulatory Resource Centre) for the new features of the tool and installing higher resolution map.
- Assistance to MACRA in SMS4DC tools and training support. Malawi, Africa, purchased SMS4DC and supported with training. An ITU expert mission to MACRA, Malawi trained 9 MACRA staff, from 10 to 14 December 2018. MACRA is now in possession of SMS4DC tool and after training of 9 staff, they are able to use the tool for analysis of FM Band in broadcasting networks/stations.
- As a part of Technical Assistance to Indonesia on the radio frequency usage for small vessel used for fishing activity, a national workshop was conducted in April 2018 on developing regulations for maritime wireless communication with 75 participants from over 15 organizations.
- Caribbean Spectrum Management Task Force: 31 January to 2 February 2018 for around 30 participants from Caribbean countries provided contributions on the relevant reports of the Task Force (digital broadcasting transition, cross-border frequency coordination, emergency communication, spectrum pricing).
- Spectrum management and digital transition: ITU is in the process of providing assistance to Guyana in relation to the Spectrum Management Technical Assistance Services as well as Spectrum Management Spectrum Management Training Workshop.
- ITU-D and ITU-R have completed the exercise on Frequency Coordination for Central America and the Caribbean that started in 2017. The 4th and final meeting took place in September from 11 to 14 2018 in Belize. The achieved average percentages were around 96 per cent for UHF band and 94 per cent for VHF band of assignable digital TV channels, i.e. the percentage of the frequency requirements which are compatible with each other and with operating analogue and other primary services' stations. More detailed information can be found at https://www.itu.int/en/ITU-R/terrestrial/broadcast/Americas/Pages/default.aspx
- IPv6 and IoT (Internet of Things) Expertise Centre: BDT and MUST (Malaysia University of Science and Technology) continue working towards the establishment of an ITU IPV6/IoT Expertise Centre for supporting Member States in their transition from IPv4 to IPv6 for IoTs.

- Assistance to Member States is ongoing with the development of a Guide on the implementation of IoT in the Immigration processes for developing countries. Broadband connectivity and developing ICT applications to provide free or low cost digital access for schools and hospitals, and for underserved populations in rural and remote areas in selected countries: In Burundi, the broadband wireless network is fully operational with 437 institutions and users connected to broadband wireless network with USD 110 000 as net revenue per year for the incumbent telecommunication operator ONATEL. The total broadband connectivity Installed is now 622 Mbit/s (4 STM1) paid by ONATEL every month. The Broadband Wireless Network in Burkina Faso is fully installed and operational. In Djibouti, all 5 provinces are connected and the Broadband Network is fully operational. Broadband Network based on Huawei 4GLTE is installed in Eswatini. Broadband wireless network is also installed in Antigua and Barbuda, and Saint Kitts and Nevis, and Rwanda. Procurement for the broadband wireless network in Mali is in progress. The international call for proposals has been done. The technical evaluation is following.
- Analyzing broadband access technology "Li-Fi" (Light Fidelity / Optical access Technology) evaluated for developing countries in particular on GigaHotspots (out / in Door). Li-Fi uses visible light, Ultraviolet and Infrared: The spectrum is very large as compared to the entire radio frequency spectrum.
- ITU-D continues to implement and update the ITU Broadband Maps with information obtained from administrations, regulators operators and public sources (http://itu.int/go/Maps). At the time of this reporting, the map presents information from 443 operator networks and 21 806 nodes worldwide. The research on the transmission links has reached 13 726 736 km of routes, representing 3 546 379 km of networks imported to the map.
- As the sole facilitator of WSIS Action Line C2, BDT is leading activities on information and communication infrastructure focusing on the achievements of the SDG 9 (infrastructure, industry and innovation). During the WSIS Forum 2018, 3 presentations were delivered for the Action Line C2 Facilitation Meeting.
- Digital broadcasting transition: A digital switch-over database was updated based on information from around 10 countries (see http://www.itu.int/en/ITU-D/Spectrum-Broadcasting/Pages/DSO/Default.aspx).
- Forum on the Conformance and Interoperability (C&I) in Innovation for Youths (25-27 June 2018) and a workshop on Establishing a Mutual Recognition Agreement (MRA) for the Caribbean Countries (28-29 June 2018) were held in Port-of- Spain, Trinidad & Tobago. These events highlighted the importance of C&I for young IoT developers and served as forums for the discussion of the implementation of a MRA for the CARICOM region. Follow-up of the event with the Virtual Testing exercise took place in December 2018.
- Training on Conformance and Interoperability (C&I) for the Americas Region. Coordination is ongoing with countries of the Americas region to achieve a final design on the activity to be implemented.
- Organized online training through ITU Asia-Pacific Centre of Excellence e-learning Programme on Internet of Things: Overview and Applications during 23 April – 20 May 2018 building the capacity of 268 participants in China.
- Developed and delivered training on conformity and interoperability from 10 to 14 September 2018 Shenzhen, China resulting in enhanced skillsets of over 50 participants from countries across the Asia-Pacific region and Africa region, and including India, Bangladesh, Philippines, Indonesia, Sri Lanka, Sultanate of Oman, Thailand, China, excluding presenters and secretariat, and built hands on practical capacity in actual testing environment through visit to the Test Lab.
- Project to support and cooperate with the Ministry of Information and Communication Technologies (MinTIC) of Colombia in the development of studies, analyses and proposals related to (i) the diagnosis and updating of National Technical Plans of Radio Broadcasting - PTNRS; (ii) to define the technological strategy for the new AM and FM broadcasting in the Republic of Colombia; (iii) new technologies for broadcasting; (iv) to the proposal of a manual of good

practices for assembly of radio stations; (v) to the technical specification of a web tool for management and control of the PTNRS and the radio broadcasting concessionaires; as well as (vi) training and socialization activities.

- Project to contribute to the Ministry of Information and Communication Technologies (MinTIC) of Colombia, in the development of a diagnosis and audit of the Spectrum Allocation by Objective Selection process in order to strengthen the management, analysis, administration, planning and allocation of the radio spectrum within the framework of the integrated management model of the Ministry.
- Project for a strategy design for the implementation of international best practices in the allocation of spectrum attributed to the IMT service in Colombia. The main objective of this project was to combine cooperation and technical assistance efforts to contribute in the validation and improvement of Spectrum Assignment processes for IMT (International Mobile Telecommunications) bands in Colombia.
- A Caribbean Forum on the Conformance and Interoperability (C&I) in Innovation for Youths and a workshop on establishing a Mutual Recognition Agreement (MRA) for the Caribbean Countries, took place on 25-27 June and 28-29 June 2018, respectively, in Port-of- Spain, Trinidad & Tobago.
- Ongoing study on Interconnectivity & Reduction of telecommunication service prices and Internet access cost for South America countries. Ongoing coordination with ASETA (Andean Telecommunication Association) and beneficiary countries for the development of the study, which is focused on the Andean countries: Colombia, Ecuador, Peru and Bolivia. This study is meant to determine the situation of international interconnectivity and to describe the reasons for Internet access cost. Additionally, it will foster international interconnectivity between the countries.
- Support Surinam to define the National IXP model. This activity is organized with the Telecommunicatie Autoriteit Suriname (TAS). During the first three months of 2018, the study was coordinated with national stakeholders. All stakeholder of Suriname have chosen a non-profit model for the National IXP. The final report has been delivered. By the end of November the operators signed the act to elect the temporary executive committee to start the legal implementation of the National IXP for Suriname. In 2019, they will implement it physically at a local Data Centre as the host.
- Support on cross border frequency coordination for Central America and Caribbean countries. Close to 30 Administrations participated in the coordination exercise started on 8 March 2017 where ITU-D fully collaborated with ITU-R. The fourth and final meeting took place in September 2018 in Belize. It was a successful coordination, achieving average percentages of 96 per cent for UHF band and 94 per cent for VHF band of assignable digital TV channels after 40 iterations in UHF and 27 iterations in VHF and 4 meetings. The results and more details on the process can be found at https://www.itu.int/en/ITU-R/terrestrial/broadcast/Americas/Pages/default.aspx
- Cyber-security and Disaster Reduction Programme: Further to the post-implementation review of the project on National CIRT Establishment in Barbados, ITU was requested and has agreed to provide support and assistance with the continuation of the project towards full operationalization of the Barbados National CIRT.
- Raised awareness on spectrum policy, spectrum regulation, spectrum pricing methodologies and spectrum management for staff of the Sudan National Telecommunication and Postal Regulatory Authority during a national training workshop organized in Khartoum from 9 to 13 March. The workshop also validated the spectrum-pricing framework.
- More than 170 delegates from the Arab States region participated in the 4th Annual Middle East and North Africa Spectrum Management Conference 2018 organized in collaboration with Forum Global, which followed by the ITU Regional Workshop on the Future Utilization of UHF Band in the Arab States region, Including the 700 MHZ Band, held in Marrakech – Morocco, on 12 April 2018. The workshop provided a platform for 70 participants from administrations, regulators, broadcasters, and industry to look at the progress that has been made with the allocation of

the 700 and 800 MHz bands across the region and the band plans that are emerging, and then look at the picture in the wider UHF band (including 600MHz) and at the likely future shape of the UHF band as a whole across the region.

- Increased capacity and facilitated knowledge exchange in the CIS on Mobile Number Portability, Conformance and Interoperability, Testing of Telecommunication Equipment at the ITU Regional Workshop, held on 1 and 2 March in Moscow, Russian Federation and attended by 60 participants from 5 countries.
- Discussion paper on the Future of Cable TV has been developed, and the ITU Workshop on The Future of Cable TV was jointly organized by ITU-D and ITU-T on 24 and 25 January 2018 in Geneva, Switzerland.
- The 6th Latin American Telecommunications Congress was co-organized in Varadero, Cuba, with GSMA LA, ASIET and the Development Bank of Latin America from 11 to 15 June with an attendance of more than 300 participants from 30 different countries, including representative from 17 international organizations and 32 companies. A Forum on Broadband for Rural Areas was organized on June 11 in that framework (http://www.clt.lat/2018/eng/).
- Spectrum management and digital transition for Caribbean countries. ITU direct assistance to Guyana through its National Frequency Management Unit (NFMU) in assessing and reviewing its spectrum assignments as part of its reform process.
- Organized ITU Asia Pacific Centre of Excellence (CoE) Training on Monitoring RF spectrum in modern wireless era from 16 to 20 April 2018 involving 3 participants from 13 countries and 4 exhibitors.
- More than 170 delegates from the Arab States region participated in the 4th Annual Middle East and North Africa Spectrum Management Conference 2018 organized in collaboration with Forum Global, which was followed by the ITU Regional Workshop on the Future Utilization of UHF Band in the Arab States region, Including the 700 MHZ Band, held in Marrakech, Morocco, on 12 April 2018. 70 participants discussed the progress that has been made with the allocation of the 700 and 800 MHz bands across the Arab States region and the band plans that are emerging, and then look at the picture in the wider UHF band (including 600 MHz), and at the likely future shape of the UHF band as a whole across the region.
- As part of the implementation of the Basic national spectrum management project, in which Comoros is one of the beneficiaries, the second phase of the assistance run in Moroni from 16 to 20 April 2018, where a series of training on radio spectrum and a workshop on Analogue to Digital Transition (A-D Transition) have been provided to the ANRTIC staff.
- Spectrum Management Assistance Workshop was held on 23 and 24 July 2018 at Accra, Ghana and assisted regional member countries on spectrum monitoring and cross border issues.
- Supported Ethiopia with technical expertise to investigate and find solutions to the harmful interference between AM broadcaster and fixed line telephone network in the city of Harar, Ethiopia.
- Kyrgyzstan was assisted on the spectrum management for economic and technical side on 6-10 August by two experts, and the final report is under preparation.
- Bolivia was assisted on establishing basic spectrum management system from 17 to 25 May, and the final recommendation was delivered to beneficiary country.
- Workshop in Budapest for Central-Eastern European and CIS countries on 5G implementation, more than 100 participants from 20 countries (03/07/2018- 05/07/2018: 5G Implementation in Europe and CIS: Strategies and Policies Enabling New Growth Opportunities, Budapest, Hungary).
- Twinning assistance to Albania from Hungary on spectrum management strategy and procedures.
- 2nd Annual CIS and Central and South-Eastern European Spectrum Management Conference and ITU Regional Workshop- Broadband Development based on 4G and 5G Technologies (Almaty, Kazakhstan, 17 to 20 September 2018). More than 50 participants from 15 countries.

- Raised skillsets of over 50 participants from countries across the Asia-Pacific region and Africa region and built hands-on practical capacity in actual testing environment through visit to the Test Lab of SAICT, Shenzhen under ITU Asia-Pacific centre of excellence training on conformity and interoperability, 10 to 14 September 2018, Shenzhen, China.
- 15 participants from Algeria were trained to C&I Testing Regime and to technical and regulatory requirements for ICT equipment authorization. Different types of C&I Labs, the process for building C&I Lab and cost estimates were presented and discussed.
- Capacity building workshop for Member States in the Africa region in conformity and interoperability of networks and equipment. Improved capacity in conformity and interoperability for about 14 Member States, Angola, Burkina Faso, Ethiopia, Kenya, Lesotho, Mali, Mauritius, Mozambique, Rwanda, Senegal, South Sudan, Tanzania, Togo, and Zambia.
- Regional Workshop for Europe and CIS regions on Digital Future powered by 4G/5G was held in Kiev, Ukraine, from 14 to 16 May resulting in raised capacity of stakeholders and improved regional and interregional cooperation on 4G/5G, spectrum management and broadcasting. The workshop attracted 100 participants from 12 countries.
- Raised capacity of stakeholders on satellite communication and improved cooperation between satellite operators at the ITU Regional Workshop held in Minsk, Belarus from 22 to 23 May. The workshop was attended by 40 participants from 6 countries.
- Improved cooperation on broadband among policy makers, regulators and the private sector in the CIS region at the ITU Regional Workshop held in Dushanbe, Tajikistan on 29 and 30 May. The workshop attracted 30 participants from 6 countries.
- Raised capacity of stakeholders and improved cooperation on IoT-related issues at the ITU Regional Forum on Internet of Things, Telecommunication Networks and Big Data as basic infrastructure for the digital economy, which was organized jointly with ITU-T in Saint Petersburg, Russian Federation from 4 to 6 June attracting 106 participants from 20 countries. The Forum also resulted in concrete project proposals to be implemented within CIS RI5.
- Held Regional Workshop on Broadband Development based on 4G and 5G Technologies, Almaty, Republic of Kazakhstan, 17 and 18 September, attended by 93 participants from 18 countries.
- Co-organized 2nd Annual CIS and Central and South-Eastern European Spectrum Management Conference, Almaty, Republic of Kazakhstan, 19 and 20 September 2018, attended by 179 participants from 20 countries.
- The 5th Annual Latin America Spectrum Management Conference, and a Workshop on Spectrum and Community Networks were co-organized with the Forum Global. 167 registered participants coming from 16 different countries (12 from Latin America). Both events raised all stakeholder capacity to understand the importance of managing efficiently spectrum resources. Visibility of community networks increased as a feasible alternative to connect the unconnected. A project was drafted to work with Internet Society and the Fundacion Getulio Vargas (Brazil) in the development of a toolkit and the implementation of ad hoc assistance to implement community networks.
- From 10 to 14 September 2018, an ITU-ITSO training on satellite communications was offered in Quito, Ecuador. The event was attended by 44 delegates from Brazil, Ecuador, and Paraguay. The feedback of the course reflected high satisfaction.
- In cooperation with TSB organized Regional Workshop on Deployment of VoLTE/ViLTE Networks based on IMS. From Standardization to Implementation, Samarkand, Uzbekistan, 2 and 3 October, attended by 30 participants from 5 countries.
- Hosted RCC-CEPT Coordination Meeting on WRC-19 preparation Moscow, at the ITU Regional Office for CIS, on 5 and 6 October, attended by 22 participants from 9 countries.

- Enhanced capacity of Arab States region countries and the coordination among satellite members who have had participated in the ITU-ITSO regional workshop on Satellite Communication held in Rabat, Morocco from 26 to 30 November 2018.
- Provided expert assistance to Kyrgyzstan on spectrum conversion for Internet of Things.
- Identified regional challenges that should be addressed by stakeholders in the region as well as highlighted regional opportunities that can be seized, particularly ones that may lead to the implementation of the Sustainable Development Goals via Internet of Things, implementation of Smart Cities and Big Data at the ITU Annual Regional Forum on Internet of Things, Smart Cities and Big Data for countries in the Arab States region held in Kuwait City, Kuwait, 17 December 2018.
- More than 100 participants from administrations, private sector, intergovernmental organizations operating satellite systems, regional and other international organizations, and academia from 8 countries from the Arab States region attended the ITU Arab Regional Workshop on Furthering IMT Development: Policy, Spectrum Valuation and Auctions in the Arab States region, held in Riyadh, Saudi Arabia, from 18 to 19 December 2018. It provided platform to specialists to become familiar with the main economic principles underpinning the efficient SM and to learn about the best practices in spectrum valuation and applying market-based mechanisms for spectrum awards, and learn the specific case studies and share experiences regarding conduct of recent IMT spectrum auctions as well as applying administrative spectrum pricing.
- 17 Participants from Mauritania trained on the development of national programme on conformance and interoperability during the training organized in Nouakchott from 17 to 19 December 2018. Assistance for Cameroon and Sierra Leone implementing an IPv6 test bed that would also serve the neighbouring countries in training a critical mass of actors able to handle IPv4 to IPv6 migration process.

WTDC	Resolutions 1, 9, 10, 11, 13, 17, 18, 20, 21, 22, 23, 25, 30, 32, 35, 37, 39, 43, 47, 48, 50, 51, 52, 57, 62, 63, 77 Recommendations 17, 19, 22
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 101, 123, 176, 177, 178, 203
WRC	Resolutions 12, 55, 212, 223, 224, 238, 908 Recommendation 207
WTSA	Resolutions 17, 20, 29, 44, 64, 72
WCIT	Resolution 5
WSIS Action Line	WSIS Action Lines C2, C3, C7 and C9 of the Geneva Plan of Action and the section "Financial mechanism for meeting the challenges of ICT for development" of the Tunis Agenda for the Information Society.
Contributing to SDG Targets	SDGs: 1 (targets 1.a, 1.4), 4 (targets 4.4, 4.6, 4.a, 4.c), 6 (targets 6.5, 6.a, 6.b), 7 (targets 7.1, 7.b), 8 (targets 8.2, 8.5), 9 (targets 9.1, 9.4, 9.5, 9.a, 9.b, 9.c), 11 (targets 11.1, 11.5, 11.a, 11.b), 17 (targets 17.3, 17.5)

2.3 Innovation and partnership

- Partnership and resource mobilization enhanced through direct contacts, networking, conference calls, missions and meetings. Between 1 January and 31 December 2018, 38 new partnership agreements have been signed with the following breakdown:
  - Thematic: 13 on enabling environment, 6 on infrastructure, 4 each on capacity building, on cybersecurity, and on multi-thematic, 2 each on emergency, on ICT-applications and on e-waste, and 1 on digital inclusion.
  - Beneficiary regions: 19 Global, 5 each in Americas and in Asia-Pacific, 4 in Africa, 3 in Arab States region and 1 each in Europe and in CIS regions.
- Sponsorship Opportunities: Since January 2018, 4 sponsorship opportunities have been opened for ITU-D Study Group meetings, ICT④SDGs: ITU-Academia Partnership Platform, GSR-18 and ITU-D Study Group Rapporteur Group meetings. They have been posted on the ITU-D interactive sponsorship opportunities platform/webpage launched in 2017. Out of the 38 new partnership agreements signed, 10 are sponsorship agreements.
- ITU-D membership: 8 new sector members, 4 Associates and 37 affiliated Academic institutions have joined the work of ITU-D in 2018.
- A special Innovation track was held at WSIS Forum in March 2018, with the aim to share global knowledge and opportunities on ways to accelerate digital transformation through Building Digital Innovation Ecosystems, in four focused sessions, with over 300 participants and 39 expert speakers, including a high level panel, and keynote speakers from industry, bilateral and multilateral development agencies, entrepreneurs, innovation experts, etc.
- To accelerate digital transformation in ITU-D membership, technical assistance was provided to Serbia, and Bosnia and Herzegovina, to assess their digital transformation capabilities. As a result, two publications co-created with the concerned countries were launched during WSIS: Digital innovation profiles for Bosnia and Herzegovina, and Serbia. Digital Innovation Profiles (DIP) are part of the ITU-D new series of information and communication technology (ICT) focused innovation ecosystem snapshots, which offer a quick assessment of the existing capacity to accelerate digital transformation and an overview of opportunities and challenges facing the countries' ecosystems. It helps countries accelerate digital entrepreneurship and the digital innovation ecosystem.
- Technical assistance provided to the Republic of Moldova concluded with the launch of the publication on the ICT-centric innovation ecosystem country review for Republic of Moldova. This publication offers a comprehensive analysis with recommendation on how Moldova can upgrade its ICT policies with innovation and digital entrepreneurship policies, and thus accelerating digital transformation.
- Technical assistance was provided to the Republic of South Africa to develop a digital transformation centre through conducting several workshops with inclusive participations of over 80 national stakeholders across sectors. As a result, a draft Digital Innovation profile was published at ITU Telecom World 2018, as well as the launch of Digital Transformation Centre Initiative, to help South Africa navigate technological changes. The launch initiative was attended by several ministers from South Africa as well as other countries in the Africa region.
- Technical assistance to Montenegro was provided through conducting workshops and qualitative interviews of over 90 stakeholders, to develop digital innovation ecosystem in the country, and in line with the Regional Initiative for Europe on ICT centric innovation ecosystem.
- A high level knowledge sharing of evidence based innovation practices where delivered in collaboration with UNIDO during ITU Telecom World 2018 in a Forum session Digital innovation ecosystems: the key to Industry 4.0.

- An Innovation Power Session on Monitoring ICT centric innovation policies and programmes to build technical knowledge and capacity about measuring ICT centric innovation capabilities, was delivered during ITU Telecom World 2018 with attendance from over 50 participants from policy makers, entrepreneurs, financiers, academia, corporate and SMEs.
- From 4 to 7 September in Busan, Republic of Korea, held the annual Young ICT Leaders Forum as a part of the MoU from PP-2014 between the city of Busan and ITU. In 2018, the theme of the forum was "Nurturing Digital Innovations for sustainable smart cities", and 71 people from 50 countries were trained and certified on how to build smart cities ecosystem in Busan.
- There is a MoU that has been signed with the Association of the East Asian Nations (ASEAN) in 2015. The same has now been extended until 2021. Under this MOU, activities related to Child Online Protection and Next Generation Universal Service Obligation are being carried out.
- In November 21-23 in Oslo Norway, ITU held the regional innovation forum for Europe, with theme "Fostering Digital Entrepreneurship and Startups Ecosystem" where 15 people from 6 countries in Europe were trained and certified with skills to build ICT centric innovation ecosystems. As a result of the forum, one flagship project on nurturing ICT innovations was conceptualized as outcome by an academic member of ITU, Oslo Metropolitan University.
- Initial technical assistance was provided to Zimbabwe, 3 to 7 December 2018, through conducting initial qualitative assessments of the ICT centric innovation ecosystem, with aim to develop a digital innovation profile for the country.
- Ongoing technical assistance to Thailand on ICT centric innovation ecosystem, was delivered through a Multi-stakeholder Workshop on Bridging the Digital Innovation Divide, co-organized by ONDE, was held on 8 and 9 May 2018 in Bangkok, Thailand. The workshop was attended by 55 national stakeholders representing 25 organizations including ICT policy makers, media, private sector, entrepreneurial support organizations, financiers, and academic; and as a result 13 national stakeholders were trained and certified for skills to build ICT centric innovation ecosystems.
- ITU collaboratively worked with organization on ICT centric innovation and digital transformation through specific events, knowledge sharing or initiative. In 2018, UNIDO partnership led to a joint event on the sideline of the Study groups in September, as well as ITU participating in other UNIDO events including MBR initiative where ITU scope a global challenged to funded and run through the UNIDO-GMIS partnership.
- To share knowledge and enhance membership capabilities to accelerate digital transformation, a new publication on Good practices for developing, driving and accelerating ICT-centric innovation ecosystems in Europe was launched at WSIS Forum. This regional report on innovation aims to provide an overview of the many good practices in Europe, covering startups, government, academia, financing entities and more, towards accelerating digital transformation, which may serve as a basis for better policies in countries where gaps have been identified.
- To accelerate capacity building initiatives on innovation, the publication, Bridging the digital innovation divide: A toolkit for strengthening ICT-centric ecosystems, was made available in all six official UN languages giving ITU-D membership access to the ITU scalable and multi-stakeholder driven framework for assessing, making context specific guidelines and recommendations to foster digital entrepreneurship and ICT innovation ecosystems.
- To facilitate evidence base knowledge sharing on innovation practice, Good practices that accelerate digital transformation in Europe was published during WSIS 2018.
- Project funding was secured for ICT centric innovation capacity building of at least six ITU Member States through funding from the Republic of Korea.
- In order to seek to highlight the importance of conformance and interoperability and to sensitize innovators/developers, and persons who support pre-compliance testing of Internet of Things (IoT) product solutions to matters that necessarily precede the commercial deployment of an IoT product solution a Caribbean Forum on the Conformance and Interoperability (C&I) in

Innovation for Youths was held from 25 to 27 June 2018 where more than 16 developers and other participants from seven countries in the region participated.

- WSIS Panel design and delivery: An insight into "ICT-centric economic growth, innovation and job creation" (19 March 2018) within WSIS session on "Building Vibrant ICT Centric Innovation Ecosystems". The event served as a platform to further promote the ITU book on ICT4SDGs, showcasing examples of successful PPPs (Public Private Partnerships) and enhanced engagement of Academia in ITU work.
- For internal innovation, BDT innovation organized and delivered a workshop on resource mobilization during the senior BDT retreat, through developing a strategic framework (with five tools) for resource mobilization. As a result, a quick win roadmap was developed with 10 priority actions to strengthen ITU-D resource mobilization. Additionally, a new tool was also developed and tested for smart society question in Study Groups to facilitate new approaches in the study groups.
- In order to continue fostering ITU involvement with the academic community, the Partnership Platform on ICT④SDGs: ICT-enabled Economic Growth, Innovation and Job Creation for Sustainable Development was held at London School of Economics in London, UK, on 22 and 23 May 2018, with the participation of over 100 leading academicians as well as representatives from the public and the public and private sectors. It provided an opportunity for an interactive dialogue with the stakeholders within the ICT-centric ecosystem and the development community. Moreover, the event provided a forum to share emerging opportunities in the digital world and to discuss how upcoming technologies such as artificial intelligence, big data and others can be further studied to contribute to the Sustainable Development Goals (SDGs).
- Partnership with WHO Zimbabwe enabled local involvement in eHealth Strategy development and facilitate its finalization for Zimbabwe, a component of the telemedicine project.
- In accordance with the outcomes of Resolution 71 approved by WTDC-17, the 1st meeting of the Industry Advisory Group for Development Issues (IAGDI), was held at GSR-18 with 9th Private Sector Chief Regulatory Officers' (CRO) meeting. Attended by over 100 high-level industry executives as well as members from the public sector and academia, the Group agreed that the facilitation of access to connectivity for everyone in a sustainable manner as a key action to advancing inclusiveness towards the achievement of sustainable development. To achieve connectivity for everyone, the group has put forward the adoption of a multi-stakeholder engagement approach, the harnessing of the power of new technologies, and the establishment of an effective cross-sector collaboration –and cooperation framework to enable new business models, as fundamental to addressing the following areas:
  - Ubiquitous infrastructure deployment;
  - The drive up of broadband **adoption** and usage rates; and
  - The creation of an environment where **innovation** can flourish.

For each area, the group has further identified a number of calls for actions that industry in collaboration with regulators and governments are encouraged to adopt and act upon to ensure the advancement of sustainable development.

- Assisted the Arab Incubators and Techno-parks Network (ARTECNET) to reach an agreement on the following projects to be initiated in the Arab States region:
  - Training Project for Incubator managers and entrepreneurs
  - Soft-landing + Acceleration Programme
  - ARTCNET Award for Entrepreneurship
  - Website Development and online platform for the ARTECNET network

- 24 managers of ICT incubators and other support structures for entrepreneurs were trained during the Business Incubation Management Training, 30 July to 1 August 2018, in Amman, Jordan.
- With the aim of building partnerships across UN in the implementation of the ICT4SDG projects, ITU contributed to the Regional Forum on Sustainable Development for UN Economic Commission for Europe Region, 1 to 3 June, Geneva, Switzerland, where more than 400 delegates were briefed and encouraged to build partnerships with ITU in the implementation of the projects in Europe.
- With the aim to promoting partnership with academia and engage them in ITU work, the ITU Arab States Regional Office contributed to Egypt Academia event on "Encouraging Egypt's Universities and Research Institutions on ITU works", that held in Cairo, Egypt 22 Nov 2018.

WTDC	Resolutions 1, 5, 30, 33, 50, 59, 71, 157
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 72
WSIS Action Line	WSIS Action Lines 3, 4, 5, 6, and 7 of the Geneva Plan of Action and the section "Financial mechanism for meeting the challenges of ICT for development" of the Tunis Agenda for the Information Society.
Contributing to SDG Targets	SDGs: 1 (targets 1.a; 1.b), 2 (targets 2.a, 2.c), 3, 4 (targets 4.a, 4.b, 4.3, 4.7), 5 (targets 5.b, 5.6), 8 (target 8.2, 8.3, 8.6, 8.10, 8.b), 9 (targets 9.5, 9.b, 9.c), 10, 11 (targets 11.1, 11.4), 12, 13 (target 13.3), 16, 17 (targets 17.1, 17.3, 17.9, 17.14, 17.16, 17.17)

Objective 3:

"Enhance confidence and security in the use of telecommunications/ICTs, and roll-out of relevant applications and services"

3.1 Building confidence and security in the use of ICTs

- A coordination meeting was hosted by the World Bank in Washington from 26 to 27 February 2018 in order to set up a road map to finalize the development of the national cybersecurity strategy toolkit that will represent a single resource for any country to gain a clear understanding of the purpose and content of a national cybersecurity strategy and how to develop one. This project is a multistakeholder effort facilitated by ITU and in partnership with the CCI, CTO, GCSP, GCSCC University of Oxford, Deloitte, Microsoft, NATO CCDCOE, Potomac Institute, RAND Europe, UNCTAD and World Bank.
- From 14 to 16 March 2018, ITU undertook technical assessments to evaluate the preparedness for the establishment of Computer Incident Response Teams (CIRTs) for Kyrgyzstan and Malawi. In Malawi, a partnership has already been established to implement the designed CIRT.
- On 15 March 2018, ITU conducted a high-level simulation of cyber-related crisis scenarios for top-level government officers and critical infrastructure operators in Mauritius, the purpose of this simulation was to raise awareness among high-level decision makers and familiarize them with the challenges of dealing with cyber-related crisis scenarios that require their involvement.

- Carried out coordination meetings with representatives from Naïf Arab University for Security Sciences and the Academy of Scientific Research to discuss how to get the academia more involved with cybersecurity and how to develop and integrate academic courses/workshops/handbooks on cybersecurity in the academic programmes of engineering and computer sciences faculties. This is to meet the expected results associated to the Arab regional initiative on confidence and security in the use of telecommunications/ICTs. Concrete actions will be done in the near future.
- Contributed to the conference on promoting cybersecurity culture in Schools in Tunisia on 20 June 2018, and promoted the ITU Arab States regional study on the "Legal framework on child online protection: A guide for the Arab States region and the efforts have been done related to Awareness-raising tools for child online protection. In addition participated and represented the ITU Arab States Regional Office in the Conference on Youth and Citizenship, held in Gammart, Tunisia, 29 and 30 October 2018 and organized by the Presidency of the Republic of Tunisia and DCAF.
- Provided assistance to the Administrations of Kazakhstan and Kyrgyzstan in preparing data for the Global Cybersecurity Index (GCI).
- The regional cybersecurity event on Cybersecurity from La Plata River was held at the University of La Plata from 4 to 8 June 2018. The event included the following parts:
  - Sessions for decision taken level on Critical Infrastructure;
  - 30 deep technical trainings on cybersecurity;
  - One training provided by FIRST;
  - One Child Online Protection session;
  - Seven scenarios for the Cyberdrill (hands on exercises).

The event had 117 attendees, representing 10 countries of the region: Argentina, Bahamas, Brazil, Chile, Cuba, Ecuador, El Salvador, Guyana, Paraguay, and Uruguay.

- Technical assessments were carried out from 16 to 20 April 2018 to evaluate the preparedness for the establishment of Computer Incident Response Teams (CIRTs) for Samoa in partnership with APNIC, Global Cyber Security Centre, Oxford University, Oceania Cybersecurity Centre, Australia , supported by the Department of Communications and Arts , Australia and raised awareness of about 50 participants by delivering hands-on training workshops aimed at building and strengthening human capacity in cybersecurity related matters in general and CIRTs in particular.
- Technical assessments were carried out from 4 to 8 June 2018 to evaluate the preparedness of Computer Incident Response Teams (CIRTs) for Tonga in partnership with APNIC, Global Cyber Security Centre, Oxford University, Oceania Cybersecurity Centre, Australia, and supported by the Department of Communications and Arts, Australia.
- Raised awareness of 51 participants from 6 countries through the ITU Asia Pacific Centre of Excellence Training Course on Cybersecurity that was delivered from 12 to 16 May 2018 in Tehran, Iran.
- National IGF forum was organized in Ebolowa, Cameroon, the meeting gathered all bodies and institutions from the country southern region to be acquainted to Internet management and cybersecurity issues.
- Built capacity of 34 participants in the area of Internet and IPv6 Infrastructure Security in Asia-Pacific region through ITU Asia and Pacific region centre of excellence training.
- Regional Workshop for Europe and CIS on Cybersecurity and Child Online Protection was held in Odessa, Ukraine from 4 to 6 April resulting in raised capacity of stakeholders an improved regional and interregional cooperation on combatting cybercrime and child online protection. The workshop attracted 50 participants from 14 countries.

- Conducted ITU Cyber Drill - ALERT for CIS Region (including the training on CIRTs/CSIRTs management on 3 and 4 September and a series of workshops on current cybersecurity issues and cyber drill exercises from 5 to 7 September), Baku, Republic of Azerbaijan, attended by 67 participants from 12 countries and from 1 to 5 October in Grand Bassam attended by more than 100 participants from 12 countries.
- Capacity building workshop organized for Cameroon law enforcement officers and intelligence officers, in Limbe, Cameroon, from 25 June to 3 July, about 40 participants attended.
- Conducted cybersecurity readiness assessment workshops in the Democratic Republic of the Congo, Malawi, and Niger, for cybersecurity preparedness and national CIRT implementation.
- Conducted Malawi CIRT design workshop, in Lilongwe, 5 to 9 November. The workshop attracted more than 70 participants.
- Expertise provided to SADC capacity building workshop on cybersecurity and SADC regional cyberdrill, in Mauritius from 10 to 13 September.
- Launched the National Cybersecurity Strategy Guide during ITU Telecom World 2018, as multistakeholder effort facilitated by ITU.
- Organised a Cybersecurity , CERT. ICANN ecosystem workshop in partnership with ICANN, in Ouagadougou, Burkina Faso, from 15 to 19 October 2018 attended by 45 participants from 10 countries.
- Shared best practices in cybersecurity during Central Africa Internet governance forum held in Brazzaville, Republic of the Congo, 13 and 14 December.
- Built capacity of 47 representatives from the telecommunication and financial sector on cyber threats targeting the critical infrastructure for banking industry, during the ITU Regional Workshop on securing the critical infrastructure for financial industry held in Cairo, Egypt, 14 and 15 October 2018.
- Organized the Regional Cybersecurity Week 2018 for the Arab States region, from 21 to 25 October 2018, in Kuwait in partnership with the ITU Arab Regional Cybersecurity Centre (ARCC). The cybersecurity week consisted of the following activities: Regional Cybersecurity Summit (2 days); ITU Regional Cyber Drill – ALERT (3 days); ITU-T SG 17 ARB second meeting (in parallel with the technical scenarios drill); and 6th Annual Arab Cybersecurity Cooperation Team (ACCT) meeting. The week aimed at discussing and sharing expertise on how to tackle emerging threats to the national and regional security sector, enhancing skills of the participating Arab States region national CIRTs, and providing a platform to ensure better cooperation and communications among those CIRTs. 18 teams from 15 Arab States region countries participated in the ITU Cyber Drill- ALERT for Arab States region.
- The ITU High Level Regional Meeting for Building Partnership with Academia in the Field of Cybersecurity, was organized on 4 December 2018, in Amman, Jordan. The meeting was a success and it witnessed interactions and discussions from 30 participants from 7 Arab States region countries on the role of academia in promoting the cybersecurity culture and the potential of the active participation of the universities in the work of ITU.
- The ITU Arab States Regional Office in collaboration with Naif Arab University for Security Sciences (NAUSS), organized a training course for the Saudi public prosecutors commission on cybersecurity and data privacy in Cairo from 9 to 13 December 2018. The training attended by 22 trainees.
- Conducted a validation workshop for the draft report of the National Cyber Security Strategy for Mauritania 2019- 2022 that has been developed by an ITU expert, in collaboration with the Ministry of Higher Education and Scientific Research and ICT in Nouakchott, Mauritania, 18 December 2018.
- Technical assessments were carried out from 19 to 21 December 2018 to evaluate the preparedness of Computer Incident Response Teams (CIRTs) for Mauritania. The report is under revision.

- During 2018, the ITU Arab States Regional Office raised awareness on COP in different for a through participating actively in the regional events, and providing advocacy and sharing information with the governments regarding the child online protection and child digital citizenship.
- ITU Arab States Regional Office discussed with the new chairman of the CWG on COP the possible collaboration between ITU and Aqdar on child online protection in the Arab States region for the coming years.
- Assistance provided to Sudan in developing its national child online protection strategy.
- Carried out CIRT assessment for Samoa in collaboration with APNIC while Oceana Cybersecurity Centre (OCSC) and Global Cybersecurity Centre (GCSC), OXFORD developed Country Maturity Matrix from 16 to 20 April 2018.
- Carried out CIRT assessment for Tonga in collaboration with APNIC while Oceana Cybersecurity Centre (OCSC) and Global Cybersecurity Centre (GCSC), OXFORD developed Country Maturity Matrix from 4 to 8 June 2018.
- Developed national cybersecurity strategies of Bhutan and Kiribati in November 2018.
- Built capacity of 5 participants from Afghanistan on cybersecurity organized in New Delhi, India in December 2018.
- Child Online protection workshop in Myanmar in 2018. The workshop was attended by the Union Minister, Ministry of Transport and Communications, Deputy Minister of Transport and Communications, high level government officials from Ministry of Transport and Communication, Information Technology and Cyber Security Department, Posts and Telecommunications Department, Supreme Court of the Union of Myanmar, Police Department. Attorney General Office, Ministry of Social Welfare, Relief and Resettlement, Children Thailand Foundation, and UNICEF.

WTDC	Resolutions 1, 5, 9, 15, 30, 33, 37, 45, 50, 59, 64, 67, 69, 78, 79
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 72, 130, 179, 181
WTSA	Resolutions 50, 52, 58
WSIS Action Line	WSIS Action Line C5
Contributing to SDG Targets	SDGs: 1, 3 (target 3.5), 4 (target 4.a), 5 (targets 5.2, 5.3, 5.b), 7, 8, 9, 10 (target 10.2), 11, 16, 17

3.2 ICT applications and services

- A #HackAgainstHunger was organized in collaboration with the Food and Agriculture Organization (FAO) to identify and support innovative solutions, aiming at addressing challenges in regards of food and agriculture. It included 3 local hackathons in Rwanda (Kigali), and in the Caribbean (one event in Jamaica and another one in Trinidad and Tobago), as well as a Special Track Hackathon in Geneva during the WSIS Forum 2018. 80 participants coming from 33 different countries forming 13 teams have competed to develop innovative digital services to end hunger. Three teams were awarded based on the feasibility and potential impact of their innovation, the overall winner being the Jamaica Team.
- ITU co-organized the Mobile Learning Week 2018 with UNESCO that focused on the challenges and strategies to offer digital skills development opportunities for all. The annual gathering featured a symposium, workshops on innovative projects and policies, strategy labs, as well as a policy forum

on national educational initiatives with ministers of education, technology and communications to prepare for the digital economy.

- A project on Digital Identity for Development was launched to assist countries, particularly low and middle-income countries (LMICs), to deploy digital identity initiatives that can enable value-added services in most digital economy areas, including financial services, health, agriculture, education, etc. The project will take stock of existing digital identity initiatives and develop implementation toolkit to provide a Roadmap to deploy digital identity for Foundational or Functional Identification.
- A special Track within the AI for Good Summit on using artificial intelligence applications as a potential game changer to achieve Universal Health Coverage is organized to identify quick-win areas and types of AI applications that hold high-potential impact on health outcomes. IT also deals with how to address bottlenecks and challenges that prevent society from taking full advantage of them.
- M-health and e-health initiative in the Americas region: ITU and PAHO agreed on the Application of the National eHealth Strategy toolkit to Guyana. The complete draft strategy was finalized and submitted as an ITU contribution into the longer process PAHO and Guyana will continue until July 2019. (https://www.itu-ilibrary.org/science-and-technology/national-ehealth-strategy-toolkit_pub/8069793a-en)
- Within CIS RI1, developed content for the specialized multimedia courses focusing on the use of ICTs in healthcare, including telemedicine and courses for IT specialists on the maintenance of medical information systems (jointly with Odessa National Academy of Telecommunications, Ukraine).
- As a part of its role in disaster risk reduction in the Caribbean, ITU has commissioned the deployment of a mobile multi-hazard early warning and information sharing platform in the region in concert with the regional disaster management agency CDEMA.
- Regional Workshop for CIS and Asia-Pacific on Big Data and Cloud Computing was held in Tashkent, Uzbekistan from 19 to 20 June resulting in raised capacity of stakeholders and improved regional and interregional cooperation on Big Data and Cloud Computing. The workshop attracted 90 participants from 8 countries.
- Assistance was provided to Afghanistan and Pakistan in the development of their e-agriculture strategy in partnership with FAO and national government.
- FAO and ITU published E-agriculture in Action with focus on Drones in Agriculture case studies.
- Raised awareness on digital transformation through ITU booth during the Asia-Pacific Forum for Sustainable Development on ICT for Transformation and Resilience.
- FAO-ITU E-agriculture Solutions Forum 2018 was hosted by the Ministry of Agriculture and Rural Affairs (MARA), China and co-hosted by the Chinese Academy of Agricultural Engineering at Nanjing, China from 15 to 17 November, 2018, which was attended by around 235 participants from about 40 countries. The Forum shared knowledge and information on successful e-agriculture solutions and identifying ways of scaling up implementations at national level.

Awareness raised on Digital Health through a number of events:

- Two presentations were delivered by ITU during the Geneva Health Forum on how to address digital health fragmentation and to achieve Digital Health Integration on 10 and 11 April.
- Presentation delivered on ITU and FAO joint efforts related to E-agriculture Strategy- Sustainable ICTs for Agriculture at the 6th International Conference on Oil Palm and the Environment (ICOPE 2018), Bali (Denpasar), Indonesia.
- In June 2018, ITU co-chaired a session with ASEAN Joint working group meeting. During the session ITU and ASEAN decided to continue working on enhancing the existing collaboration

on USO 2.0 and Child Online Protection. It was also decided that more awareness on reporting data for the ITU IDI would be created.

- ITU co-organized with WHO AFRO and Transform Africa Summit a Digital Health Hub at the Transform Africa Summit, 8 and 9 May 2018. The Hub featured a number of policy dialogues and best practices for digital health implementation in Africa.
- An e-Agriculture Strategy Development Regional Workshop for the Caribbean was held in Georgetown Guyana in July 2018 in collaboration with FAO and CTU. As an outcome to this Forum ITU, FAO and Compete Caribbean have concluded an agreement to collaborate on a project to develop a Regional e-Agriculture Strategy for the Caribbean and national e-Agriculture Strategies for 4 countries.
- A needs assessment of Emergency Communication Systems with the objective of implementing a mobile early warning system and communication platform was performed for the following countries**:** Antigua and Barbuda, Barbados, Nassau Bahamas, Saint Lucia, from 18 September to 19 October 2018. The Virtual Vision platform as a mechanism for real time, inter-agency, national and regional information sharing, reporting and early warning is being introduced to these countries.
- In cooperation with the ITU Office for Europe Organized Regional Workshop for Europe and CIS on eHealth Development Odessa, Ukraine, 17 to 19 October, attended by 40 participants from 12 countries.
- Organized CIS centre of excellence Face-to-face Training on Using Adaptive Technologies to Transmit Multimedia Content over Radio Channels, Odessa, Ukraine, 14 December, completed by 30 participants from 3 countries.
- Built capacities of 30 representatives from the Ministries of Health, Ministries of ICTs and WHO national offices on how to formulate national strategies in e-health in a regional workshop that took place in Beirut, Lebanon from 19 to 21 November 2018 in collaboration with the WHO.
- Scoped that smart learning policies in Sudan as part of an assistance to Sudan to review their national smart learning policies in collaboration with UNESCO in a mission that took place from 18 to 25 September 2018.
- Trained focal points from Malawi and the Eswatini in statistics and indicators to facilitate e-strategy development in all sectors. Focal points were able to understand the importance of statistics and indicators in e-strategy framework development associated to all sectors. They were exposed to capacity and knowledge to asses and analyse e-readiness for the country in order to develop e-strategies in each sector of the economy.
- Trained two focal points in e-health strategy development in Zimbabwe during the Regional Digital Health workshop in Maseru, Lesotho, 21 to 30 November 2018. The focal points understand the importance of ICTs and its application in health and are able to assist in the development of e-health strategy.
- ITU in partnership with WHO supported Senegal in its mDiabete project, as a component of the global “Be Healthy, Be Mobile” programme conducted by the two sister UN agencies.
- ITU, WHO, UNESCO and FAO assisted Niger in organizing a national workshop in August 2018, as a milestone towards implementing their National Niger 2.0 e-strategy aiming at using ICT and particularly e-applications to empower populations and improve their standard of living.

WTDC	Resolutions 1, 5, 30, 54
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 72, 139, 140, 183, 202
WSIS Action Line	WSIS Action Line C7 of the Geneva Plan of Action
Contributing to SDG Targets	SDGs: 2, 3, 4 (targets 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7), 6, 7, 8 (targets 8.1, 8.3, 8.8), 9 (targets 9.1, 9.b), 11

Objective 4:

"Build human and institutional capacity, provide data and statistics, promote digital inclusion and provide concentrated assistance to countries in special need"

4.1 Capacity building

- The 6th meeting of the Group on Capacity Building Initiatives (GCBI) was held successfully from 27 to 28 February 2018. The meeting reviewed the strategic capacity building developments that have taken place in the past year, discussed the capacity building-related outcomes of WTDC-17 and provided guidance on the implementation of the recommendations.
- The Central Evaluation and Accreditation Agency (ZEvA), a member of the European Association for Quality Assurance in Higher Education, has awarded the Spectrum Management Training Programme (SMTP) its quality label for higher education and recognition of the SMTP modules as equivalent to Master's degree modules. With this award, the SMTP can be aligned to Master's degree programmes internationally, making it easier for Universities to adopt the programme.
- All modules that make the basic level certificate of the SMTP have been translated into Spanish.
- The capacity building session for WSIS AL C4 was successfully facilitated on 9 March, under the theme Building ICT skills for social entrepreneurs. The session featured speakers from ILO, government of Mexico and social entrepreneurs. About 50 participants attended the session.
- Co-organized the 2018 Mobile Learning Week 2018 in partnership with UNESCO under the theme Skills for a connected world. The event was held in Paris during the week of 26 to 30 March 2018. Contributions relating to capacity building in the digital economy were made to a number of sessions during the event.
- The Global ICT Capacity Building Symposium (CBS-2018) was successfully conducted in Santo Domingo, Dominican Republic from 18 to 20 June 2018, under the theme Developing skills for the digital economy and society. The symposium attracted 331 participants from 36 countries. The outcomes of the symposium are expected to provide strategic guidance to the national and international community on issues of skills development in the field of ICT and digital technologies.
- The second issue of the online publication "Capacity Building in a Changing ICT Environment 2018" was released in June 2018. It features articles that highlight different levels of skills required, from basic digital skills that are aimed at raising ICT awareness and enabling use of simple applications to advanced digital skills targeted at more complex requirements such as network management and data analytics. In addition, the publication present a number of concrete examples in capacity building projects carried out across different regions of the world.

- The development of the ICT and Climate Change Training Programme (ICT&CCTP) has been completed. The materials are now ready for delivery.
- The training course on Enabling communication for all through ICT accessibility was converted to self-paced online mode. The course was launched in August with an enrolment of 70 participants.
- The Annual Regional Human Capacity Building Workshop for the Africa region combined with the Regional Training on Internet Governance was organized in Abuja, Nigeria, from 27 to29 August 2018. The workshop attracted more than 100 participants.
- Training of trainers to use ICT to include people living with disabilities in expanded Community Information Centre in Zimbabwe. Implementation from 8 to 12 October 2018 that attracted 51 participants with sub-Sahara regional representation from Botswana, Cote d'Ivoire, Mali, Uganda, and Zimbabwe. People with disabilities and train of trainers were exposed to the tools available on the market to assist them access computers and they acquired computer skills.
- Eswatini was assisted in finding and arranging for a regulatory tour to one of the top regulators in order to enhance capacity of the newly created regulator.
- The review of the operational processes and procedures (OPP) document of the centres of excellence network has been completed. The revised OPP document is available in all six UN official languages.
- The centres of excellence network delivered 55 courses, training 1 840 participants between January and December 2018.
- In collaboration with other partners, 20 courses were implemented between January and December with a total of 1 883 participants.
- The selection process for the new centres of excellence cycle 2019-2022 was completed. Out of 64 applications received, 31 centres were selected across the six regions delivering training in 16 different priority areas. The new Steering Committees will hold their first meetings in January-February 2019 and operations of the new centres of excellence will start thereafter. A performance evaluation of the centres of excellence cycle 2014-2018 was also completed and a report prepared.
- 24 participants have been enrolled for the online master of communications management (eMCM) course between January and February 2018. 3 participants are now working on their dissertations.
- ITU held a workshop on 5G, IoT, m-Payment, Emerging Technologies, Eco-Systems, and Regulatory aspects, in St. John's, Antigua and Barbuda on October 17 to October 19, 2018, with the participation of 23 participants from 8 countries, and representatives from the government, operators and service providers. As a result of the workshop it is expected that the participants be able to analyse the existing opportunities in these emerging eco- systems, and motivate the shareholders and decision makers about future investments and directions.
- The ITU online indigenous training course on *Communication Innovative Tools for the strengthening of Indigenous Communities of the Americas Region* has received over 600 registrations. ITU accepted enrolment of 150 in each class. Only one class was planned for this year. The other 300 were invited to attend the two classes planned for 2019. See more at https://www.itu.int/en/ITU-D/Digital-Inclusion/Indigenous-Peoples/Pages/default-bis.aspx
- ITU-D has also developed instructional material for a Training Programme for Indigenous Technicians on Community Networks. This training will be partially delivered online and it is foreseen to have a 2-week hands-on in-site training. Training delivery shall start in the second quarter of 2019.
- Schools on Digital Policies: The School of Digital Policies (EPD) is the result of ITU partnership with the Getulio Vargas Foundation (Brazil). Its main objective is to deliver short training on the Internet, from the governance standpoint and emphasize the importance of promoting the

democratization of ICT access by means of digital public policies. Civil servants from the Brazil Public Administration and a few representatives from the Private Sector (35 in total) benefitted from the course. The EPD Initiative will offer courses to the Caribbean sub region in 2019.

- Capacity building to support ITU members in the definition of global ICT policy & regulation and business & management of technical issues:
  - Online training courses were delivered within the ITU network of centres of excellence within the Americas region in Communication Protocols for IoTs and Satellite Communication, Optical Networks, LTE and 5G, Spectrum Management, Cybersecurity and Climate Change.
  - Online training courses were delivered within the ITU network of centres of excellence for the Africa Region on Emerging Trends in Regulation of ICTs on 5-30 March 2018, on Social Media Content Regulation on 2 – 27 April 2018 and four courses on SMTP OM1 to OM3 from January to June 2018.
  - An online training course on Smart Sustainable Cities was launched and delivered through the ITU Academy platform. This is an ITU initiative implemented in partnership with CITEL/OAS benefitting 12 countries (Anguilla, Argentina, the Bahamas, Bolivia, Barbados, Egypt, India, Jamaica, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, and Yemen).
- An online training course in the field of Digital Economy was delivered through the ITU Academy platform. This is an ITU initiative implemented in partnership with CITEL/OAS benefitting 13 countries (Argentina, Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Nicaragua, Panama, Peru and Venezuela).
- An online training course on Consumer Protection is under preparation. It will be a self-paced training course to be delivered through the ITU Academy platform. This is a direct assistance requested by ANATEL, the Brazil National Telecommunication Agency.
- An ITU / ITSO Workshop on Satellite Communications was organized in Quito, Ecuador from 10 to 14 September and attended by 44 participants from Brazil, Ecuador, and Paraguay. Participants were formally tested at the end of the workshop with a 100 per cent approval rate. Paraguayan representatives offered to host the workshop in 2019.
- Under the partnership ITU-ITSO, a face-to-face training course hosted by Ecuador was delivered in the field of satellite communication in September 2018.
- Two ITU/ITSO face-to-face training courses were delivered in Dakar, Senegal from 23 to 27 July 2018 for French speaking countries in Africa and in Abuja, Nigeria from 22 to 26 October 2018 for English speaking countries in Africa.
- ITU launched the Strategic Telecommunication Management Programme, which is organized in partnership with UBP and in collaboration with ANTEL, ASETA and COMTELCA. This is continuing education online programme comprised of 9 modules, to be delivered under the ITU Academy platform in 2018 and 2019.
- Under the ITU-Rohde&Schwarz partnership, one capacity building workshop in Munich, Germany, was held in June 2018 and one workshop was held in Singapore, in October 2018, under the umbrella of the ITU Academy. It concerns capacity building workshops on Implementation of radio monitoring systems according to ITU-R recommendations. A total of 35 participants, primarily from developing countries, were trained.
- Participants from Arab States region were trained on the proper design of FTTx point-to-point and point-to multipoint passive optical networks (PON) with home-run, centralized, and distributed topologies in a regional ITU centre of excellence Face to Face Training on FTTx Outside Plant Design organized in Tunis, Tunisia, 12 to 16 March 2018. The training was attended by 9 participants.
- Enhanced skills of participants from Arab States region on Business analysis of ICTs in a regional ITU centre of excellence online course on business analysis of ICT applications and services

organized in cooperation with SUDACAD, Khartoum, Sudan, from 12 to 22 March 2018. The course was attended by more than 30 participants.

- Equipped the participants with an advanced understanding of the project management applied to ICT projects in a regional ITU centre of excellence course on project management for ICT applications and services organized in cooperation with SUDACAD, Khartoum, Sudan, from 16 to 18 April 2018. The course was attended by 13 participants.
- Enhanced knowledge and skills on ICTs apps and services business analysis in a regional ITU centre of excellence course on Business analysis for ICT applications and services organized in cooperation with SUDACAD, Khartoum, Sudan, from 23 to 25 April. The course was attended by more than 30 participants. Due to popular demand for this course, another session was organized and attended by more than 30 participants.
- Participants from Arab States region were trained on process to identify the risks that might have an impact on the ICTs apps and services projects during a ITU centre of excellence course on Risk Management for ICT Implementation and Services organized in cooperation with SUDACAD in Khartoum from 1 to 3 May 2018. The course was attended by more than 25 participants.
- Strengthened capacities of the ITU regional membership in the field of technical and policy of Internet governance in a regional ITU centre of excellence course on Internet Governance: Policy and Technical Perspective organized in cooperation with SUDACAD in Khartoum from 15 to 17 July 2018. The course was attended by more than 30 participants.
- Trained the participants from Arab States region on understanding the concept of fiber characterization and the measurement techniques of optical infrastructures in a regional ITU centre of excellence Face to Face Training on Optical Fiber Characterization organized in Tunis, Tunisia from 09 to 13 July 2018. The training was attended by 10 participants.
- Enhanced skills of participants from Arab States region on core concepts of SDN and Open Flow and methods of implementing and configuring SDN environment in a regional ITU centre of excellence course on Software Defined Networking (SDN) and Open flow Protocol Practical Implementation organized in cooperation with SUDACAD in Khartoum from 15 to 17 July 2018. The course was attended by over 30 participants.
- Equipped the participants with knowledge of understanding and implementation of LTE-Advanced and Beyond Networks during a ITU centre of excellence course organized held in Tunis, Tunisia from 12 to 16 November 2018. The course was attended by 8 participants.
- Enhanced skills of participants from Arab States region in the field of Training Needs Analysis and Development of Training Plans for ICT Organizations" organized in Khartoum, Sudan from 21 to 23 Oct 2018. The training was attended by over 30 participants.
- A needs assessment of Emergency Communication Systems with the objective of implementing a mobile early-warning system and communication platform was performed in Barbados, Nassau, Bahamas, Antigua and Barbuda, and Saint Lucia from 18 September to 19 October 2019. The Virtual Vision platform is a mechanism for real-time, inter-agency, national and regional information sharing and reporting and is being introduced to these countries.
- A Hands-on Spectrum Management training using the ITU SMS4DC Software for Somalia delayed from December 2018 until February 2019 in Mogadishu, Somalia.
- More than 550 participants have built their capacity through 10 ITU Asia-Pacific ITU centre of excellence training programmes in the areas of mobile broadband, QoS, Internet and IPv6 infrastructure security, monitoring RF spectrum in modern wireless era, cybersecurity, IoT technologies and applications for Smart Cities, conformity and interoperability and 5G Planning, Blockchain ecosystem and decentralization, competition analysis in digital applications environment, traffic engineering and advanced wireless network planning, IOT overview and applications.

- Regional Training on The Use of Drones, Satellite Imagery and GIS for Agriculture was held from 4 to 8 June 2018 at the Asian Institute of Technology, Thailand (36 participants) in partnership with FAO and GIC.
- Training on IoT platform and application development in Thailand, co-organized by the National Broadcasting and Telecommunications Commission (Thailand), the National Electronic and Computer Technology Centre (Thailand) and the International Telecommunication Union (ITU) built capacity of around 50 participants in the area of IOT applications.

WTDC	Resolutions 1, 5, 9, 15, 20, 21, 22, 30, 32, 33, 36, 40, 50, 59, 73, 77
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 72, 137, 139, 140, 176, 188, 189, 197, 199, 202
Council	Resolution 1143
WTSA	Resolutions 54, 59, 72
WSIS Action Line	WSIS Action Line C4 of the Geneva Plan of Action and §§ 8, 22, 23a, 26g, 49, 51, 65, 72h, 86, 87, 90c, d, f, 95, 114b of the Tunis Agenda for the Information Society.
Contributing to SDG Targets	SDGs: 1 (target 1.b), 2 (target 2.3), 3 (targets 3.7. 3.b. 3.d) , 4 (targets 4.4, 4.7), 5 (targets 5.5, 5.b), 6 (target 6.a), 8 (Target 8.2), 9 (targets 9.1, 9.b, 9.c), 12 (targets 12.7, 12.8, 12.a, 12.b), 13 (targets 13.2, 13.3, 13.b), 14 (target 14.a), 16 (target 16.a), 17 (target 17.9, 17.18)

4.2 Telecommunication/ICT statistics

- ITU enhanced information and knowledge of policy-makers and other stakeholders on current telecommunication/ICT trends and developments based on high-quality, internationally comparable telecommunication/ICT statistics and data analysis via the latest edition of the ITU World Telecommunication/ICT Indicators Database, which was released in July 2018. The data will enable users to take informed decisions in the field of ICT, based on internationally comparable statistics.
- ITU increased capacity and skills of producers of telecommunication/ICT statistics to carry out data collections at the national level based on international standards and methodologies via the following events:
    - Regional Workshop on ICT Statistics for the CIS region held in Almaty, Kazakhstan, on 31 January to 1 February 2018. The workshop was organized jointly by the ICT Data and Statistics Division and the ITU Area Office for CIS, in cooperation with the Ministry of Information and Communication of the Republic of Kazakhstan and with the support of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan. The meeting was attended by 79 participants, including representatives from Azerbaijan, Belarus, India, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan and Uzbekistan. In addition, representatives from RCC attended the meeting. Seven experts participated remotely, including representatives from Armenia, Moldova and Ukraine.
    - Regional Workshop on ICT Statistics for the Asia-Pacific region held in Manila, Philippines, from 14 to 16 March 2018. The workshop was organized by ITU and was hosted by the Department of Information and Communications Technology (DICT) Philippines. It was attended by 91 participants from 10 countries representing national statistics offices, national regulatory authorities and ministries of Fiji, India, Iran, Malaysia, Mongolia, Papua

New Guinea, Philippines, Sri Lanka, Thailand and Vanuatu. Representatives from an operator from India also participated.

- Regional Workshop on ICT Statistics for the Africa region held in Lilongwe, Malawi on 20-21 March 2018. The regional workshop was attended by 69 participants representing 24 countries (Benin, Burkina Faso, Burundi, Botswana, Côte d'Ivoire, Democratic Republic of Congo, Gambia, Ghana, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, South Sudan, Tanzania, Togo, Uganda, Zambia and Zimbabwe) and ITU. The workshop was attended by representatives of communication administrations, regulators, national statistical offices and other interested stakeholders of the countries of the region. The workshop was organized jointly by the ICT Data and Statistics Division and the ITU Area Office for the Africa, in cooperation with the Ministry of Information and Communication Technologies and the National Statistical Office (NSO) of Malawi with the support of the Malawi Communications Regulatory Authority (MACRA).
- National Workshop on ICT Statistics for Malawi held in Lilongwe, Malawi on 22 March 2018. The telecommunication indicators collected by Malawi Communications Regulatory Authority (MACRA) from operators were discussed in detail, focusing on those indicators where MACRA or the operators have difficulties complying with the methodologies. The IDI results for Malawi were presented, as well as measurement of a number of emerging areas, such as M2M subscriptions, cybersecurity, children online and E-waste.
- Other national ICT indicators workshop conducted were conducted in Benin, 23-24 April; Chad 12-15 November and Burundi, 16-20 December, 2018 all aimed at strengthening the capacity of national stakeholders and to discuss in greater detail the methodology to ICTs data and improve national coordination.
- Regional Workshop on ICT Statistics for the Arab States region held in Manama, Bahrain from 26 to 27 March 2018. The workshop was organized jointly by the ICT Data and Statistics Division and the ITU Area Office for the Arab States, in cooperation with the Ministry of Transportation and Telecommunications of Bahrain. The meeting was attended by 27 participants representing eight countries (Bahrain, Djibouti, Egypt, Iraq, Oman, Saudi Arabia, Sudan, and the United Arab Emirates), as well as three regional telecommunication operators (Mobile Company, Saudi Telecom, and Emirates Telecommunication Corporation – Etisalat).
- National ICT indicators workshop for Benin. Held in Cotonou, Benin, on 2 and 3 May 2018, the workshop was attended by 31 participants representing 15 different institutions, including representatives of communication administrations, regulators, operators, national statistical offices and other interested stakeholders, who are responsible for collecting and producing ICT statistics.

- ITU Asia-Pacific Sub-Regional Workshop on ICT Indicators and the IDI held from 22 to 23 November 2018 in Nadi, Fiji. The workshop was held to strengthen the capacities of countries to collect, produce, analyze, and disseminate quality indicators and statistics on telecommunication/ICT in a timely manner with emphasis on the IDI and SDGs. It was attended by 26 participants representing PITA, ministries, operators, national statistical offices and other interested stakeholders, who are responsible for collecting and producing ICT statistics.
- As part of ITU assistance to SADC Secretariat in the implementation of SADC ICT Observatory phase 1 a SADC Regional Capacity Building Workshop on ICT statistics, held in Botswana from 10 to 14 December 2018. The workshop was organized by SADC, while ITU was invited to deliver 10 presentations related to its work on ICT statistics, including the indicators and methodologies used in the data collection, ITU questionnaires, and indicators used to monitor international targets. The presentations were prepared by ITU-D and delivered by a colleague from the ITU Harare Office, as the event was held during WTIS 2018. The materials and support for the workshop was highly appreciated by the SADC secretariat and participants from its member countries. The event was attended by 41participants from 9 SADC member countries. ITU analyzed information society developments by releasing the Measuring the Information

Society Report 2018, which enhanced information and knowledge of policy-makers and other stakeholders on current telecommunication/ICT trends and developments based on high-quality, internationally comparable telecommunication/ICT statistics and data analysis.

- ITU continued to develop internationally agreed standards, definitions and methodologies, through the 9th Meeting of the ITU Expert Group on Telecommunication / ICT Indicators (EGTI) and the 6th Meeting of the Expert Group on ICT Household Indicators (EGH), which were held back to back in Geneva, from 16 to 19 October 2018. EGTI attracted 127 participants, including experts from regulators, telecommunication operators, ministries and national statistical offices from 54 countries, as well as ITU-D Sector Members, other UN agencies and regional organizations. EGH attracted 124 participants, including experts from national statistical offices, ministries, and regulators from 50 countries, and from ITU-D Sector Members, research institutions, international and regional organizations, and the ICT industry.
- ITU successfully organized the 16th World Telecommunication/ICT Indicators Symposium (WTIS-18), which attracted more than 320 participants from 85 countries, representing public and private organizations including ministries, regulators, national statistical agencies, universities and research institutions, telecommunication operators, ICT firms, and regional and international organizations. WTIS-18 highlighted the important work that ITU is carrying out in terms of ICT statistics and the role of WTIS in bringing together ICT data producers and users, and the opportunities it provides in terms of discussing ICT measurement issues, sharing experiences, and learning from each other. The Symposium highlighted the continued need for high-quality, timely, and disaggregated ICT data to assess the impact of telecommunications, ICTs and emerging technologies on social and economic development. The Symposium addressed the question why data analysis is important for assessing the economic and social impact of ICTs, and how this should feed into policy, noting that data should inform, but not drive policy. The Measuring the Information Society Report 2018 was launched during the Symposium, featuring chapters on ICT trends, ICT skills, revenue and investment, and ICT prices. The reports by the Expert Group on Telecommunication/ICT Indicators (EGTI) and the Expert Group on ICT Household Indicators (EGH) were also presented and endorsed by the Symposium.

WTDC	Resolutions 1, 5, 8, 30, 33, 37, 43, 50, 51, 52, 57, 59, 60
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 71, 72, 131, 137, 139, 140, 176, 188, 189, 197, 199, 202
WSIS Action Line	Telecommunication/ICT statistics are relevant to the monitoring of the implementation of all WSIS Action Lines of the Geneva Plan of Action and are referred to in paragraphs 112-119 of the Tunis Agenda for the Information Society, as well as paragraphs 70 of the Outcome Document of the High-Level Meeting of the General Assembly on the Overall Review of the Implementation of WSIS Outcomes
Contributing to SDG Targets	Telecommunication/ICT statistics are relevant to the monitoring of the implementation of all SDGs and are referred to in paragraphs 48, 57, 74-76, 83 of the 2030 Agenda for Sustainable Development

4.3 Digital inclusion of people with specific needs

Youth

- ITU shared innovative strategies with membership on building their national digital skills development strategies by publishing the ITU Digital Skills Toolkit on the ITU Publications website at https://www.itu.int/pub/D-PHCB and ITU-D website at https://www.itu.int/en/ITU-D/Digital-Inclusion/Pages/Reports.aspx. The Digital Skills Toolkit is available in the six ITU official languages along with e-pub and Kindle versions. Awareness on the Digital Skills Toolkit along with the joint ITU-ILO Digital Skills for Jobs Campaign of the global initiative on Decent Jobs for Youth to incentive stakeholders to train 5 million young women and men with job-ready digital skills was shared with 1 250 ITU members and other stakeholders during the WSIS High Level Dialogue on Digital Skills on 21 March, at Mobile Learning Week in Paris from 26 to 30 March, jointly organized by ITU and UNESCO, Digital Skills for Everyone: Accelerating Europe's Competitiveness and Inclusive Growth, 5 April 2018, Brussels, Belgium; Enabling Digital Entrepreneurship through Better Connectivity and Skills, E-Commerce Week, 16 April 2018, Geneva, Switzerland; Digital Skills for African Youth, Technical Session 6: Adapting and developing agility through a comprehensive national digital skills for enhanced employability, productivity and innovation capacity, 18 and 19 April 2018, Tunis, Tunisia; Innovations on Decent Jobs for Youth, 2 and 3 May 2018, Geneva, Switzerland; the 21st session of the UN Commission on Science and Technology for Development(CSTD), hosted by UNCTAD in Geneva on 15 May; the Commonwealth ICT Forum 2018, in Port of Spain, Trinidad and Tobago on 1 to 3 October; Women4Mediterranean, organized by Union for the Mediterranean on 10 and 11 October, in Lisbon, Portugal; the Arab Round Table on Youth and Citizenship, 29 and 30 October in Tunis, Tunisia; the Sub regional workshop on digital skills development in the Pacific [ITU-PITA] from 21 to 23 November in Nadi, Fiji; and the Network for Public Service Innovations through South-South Network of the Global South-South Development Expo, 30 November, UN Headquarters, New York.
- In order to attract more partners, a new website for the Digital Skills for Jobs campaign was published on the engagement platform of Decent Jobs for Youth at https://www.decentjobsforyouth.org/campaign/2 along with the ITU commitment to Decent Jobs for Youth at: https://www.decentjobsforyouth.org/commitment/58. One campaign partner, Mariana Costa, the CEO of Laboratoria, an all-women's coding bootcamp in Latin America, presented her work at TedXNations in Geneva on 6 December, while a Laboratoria graduate, a beneficiary of the Digital Skills for Jobs campaign, was featured in ITU News at https://news.itu.int/laboratoria-world-youth-skills-day/. New campaign partner, Blossom Academy of Ghana submitted its commitment to the Campaign in the 4th quarter of 2018. Digital Skills for Decent Jobs for Youth project concept notes have been developed for the Arab States, Africa, Asia Pacific, and Europe regions, and partnerships with other entities in implementing these projects, including ILO, UNDP, the Union for the Mediterranean, and the African Development Bank, are under discussion.

Gender

- 131 countries organized International Girls in ICT Day events in 2018, encouraging 57 748 girls participating in 2 186 events to take up ICT careers and studies. There were events in 20 countries of the African Region, in 31 countries in the Americas region, 10 in the Arab States region, 22 countries in the Asia and Pacific region, 8 countries in the CIS region, and 30 in the Europe region. New countries joining the campaign in 2018 include Mongolia, Solomon Islands, Tajikistan, Timor-Leste, and Uzbekistan. ITU Sector Members, Cisco organized events for 4 349 girls and Microsoft for 3 600. Colombia, Chile, Germany, Guatemala, Italy, Netherlands, Senegal, and Spain attracted the largest numbers of girls.
- The Girls in ICT Day in the Arab States region was promoted and assistance and guidance were provided to organizers from the region when needed. More than 8 events were organized in the region.

- In line with the International Girls in ICT Global Campaign the ITU Americas Regional Office in partnership with UN Women and other local collaborators organized a digital inclusion event for 80 girls attending public schools in Brasilia, Brazil. This event was focused on motivating the girls to embrace technological careers. The event offered workshops on Digital Storytelling, Programming with Scratch and App Inventor and Robotics. During the event, ITU and UN Women also organized several conversation groups that discussed issues such as entrepreneurship and financial independence, violence against women, self-defense, self-analysis and empowerment, among other relevant issues. The event was carried out on 23 and 24 June 2018. The event was a big success and as a result, another TIC TAC event is being organized for the month of November 2018, including UNESCO and other relevant partners. The name TIC TAC stands for: TIC=Information and Communication Technologies (for its acronym in Portuguese); and TAC for transformation, access and knowledge (also considering the first initials of these words in Portuguese).
- Participated remotely in the Girls in ICT Day organized by the University College of Applied Sciences in Gaza, Palestine.
- 25 Girls were trained on digital marketing and social media best practices during the workshop organized under the "Girls in ICT Day" initiative in Aswan, Egypt on 6 and 7 May 2018, as part of the cooperation agreement signed between ITU-ARO and GIZ Egypt.
- Around 50 events were carried out on Girls in ICT Day in the Asia and Pacific region. In Thailand, three trainings on Agritech using ICTs in partnership with MDES (Thailand), FAO, UNESCO, DTAC, CISCO, others were carried out between April and December 2018 to build skills of more than 150 girls.
- There have been 360 500 Girls in ICT Day Portal views, with 185 859 reached by the Girls in ICT Day Facebook posts. #GirlsinICT reached over 93 million accounts for an estimated exposure of 379 million timeline deliveries.
- In the first quarter, outreach was conducted with ITU members and other stakeholders to encourage them to organize Girls in ICT Day events as part of the 2018 International Girls in ICT Day Campaign. To incentivize more stakeholders to take action, ITU developed an online map where stakeholders can post information and pictures about their Girls in ICT Day events, and conducted a "Put yourself on the map" campaign that proved to be very successful in incentivizing organizers to share information about their activities.
- ITU also raised awareness among students at the Webster University, Geneva in support of International Girls in ICT Day and encouraged young girls during an event organized at Webster University on 6 March to take on a career in ICT during the ITU-D presentation on "Empowering girls though technologies." ITU raised awareness about International Girls in ICT among some 250 stakeholders participating in Women4Mediterranean organized by Union for the Mediterranean on 10 and 11 October, in Lisbon, Portugal; as well as at the International Day of the Girl Child event at UN Headquarters in New York on 11 October and the ITU Regional Conference on ICT for Women in the Arab States region: ICT for Women's Empowerment, Beirut, Lebanon on 26 and 27 November 2018.
- Organized the ITU Regional Conference on ICT for Women in the Arab States region: ICT④ Women's Empowerment under the patronage of the Ministry of Telecommunications of Lebanon, at the kind invitation of OGERO Telecom, and in collaboration with the Arab Women Organization (AWO), Internet Society (ISOC), World Bank Group (WB), and the Lebanese League for Women in Business (LLWB). The Conference held during the period 26 and 27 November 2018, in Beirut, Lebanon. More than 105 representatives from 13 Arab States region countries representing policymakers, business leaders, UN agencies and civil society, attended the event to share information on existing activities and initiatives within the Arab States region countries and define a way forward to consolidate the activities towards a regional framework for cooperation. Furthermore, the conference helped regional stakeholders to further discuss the challenges and opportunities, and evaluate appropriate tools and approaches to empower women. The strong partnership with well-recognized entities witnessed in this conference led to reaching out a wide variety of involved stakeholders and high-level participation.

- Awareness was raised by developing and publishing ITU News stories and sharing them on the Girls in ICT Portal, reflecting actions that countries like Pakistan and Thailand are taking to train girls and young women with digital skills for their economic empowerment.
- ITU also began preparations for the 2019 International Girls in ICT Day, including developing the 2019 Girls in ICT Day visual concept and related resources.

ICT accessibility

Awareness was raised among over 1 500 ITU Members and stakeholders on ITU-D activities and events, and key resources made available to support our Members in implementation of ICT accessibility as follows:

- Among over 50 UN representatives and relevant participants on ITU-D activities on ICT accessibility that could apply for persons with age-related disabilities during the seminar "Basics on ageism" organized by UN in cooperation with WHO and ILO on 30 January 2018.
- Among 100 representatives from all UN agencies and related stakeholders, including disabled persons organizations, were informed about the activities and resources of ITU-D that contributed to the global implementation of ICT Accessibility under Article 9 of the UN Convention on the Rights of Persons with Disabilities during the UN-CRPD (Committee on the Rights of Persons with Disabilities) held in Geneva on 14 February. The Committee recognized that ICTs cross-cut through all articles of the Convention and that ITU is a key partner in the process of implementation of the Convention.
- Among nearly 700 participants from over 70 countries on the importance of implementing ICT Accessibility and key resources developed by ITU during the ITU Forum on ICT Accessibility organized within the Zero Project Conference in Vienna (Austria) from 21 to 23 February. At the Forum, BDT also announced the First joint ITU-EU Accessible Europe event to take place in December 2018 and positioned ITU-D as a key partner in the implementation process.
- Among key stakeholders in Sudan as part of the assistance to formulate the national ICT Accessibility Policy of Sudan.
- Among over 50 ITU members and other stakeholders participating in the WSIS workshop on 23 March, Practical applications of ICTs supporting digital inclusion and access to information, services and livelihood for people with disabilities, were made aware of ITU-D work and resources to support ITU membership in the implementation process of ICT accessibility in their respective countries and related businesses.
- Among over 500 key thought- leaders, professionals, corporations, service organizations and related representatives of the assistive and accessible technologies market, during an interactive session on Global Accessibility Policy Up-data, at the 2018 M-Enabling Summit, held from 11 to 13 June in Washington DC, United States of America.
- Built capacities and raised awareness of around 120 participants in the High Level Forum on Digital Inclusion organized during ITU-UNESCO Digital Inclusion Week that took place from 24-28 September 2018.
- Assisted Sudan in formulating their national ICT Accessibility Policy.
- Trained 12 web developers on web accessibility for digital financial services in a regional workshop that took place in Cairo, Egypt, on 17 October 2018.

Key resources in ICT accessibility developed

- A set of 3 self-paced online training courses entitled ICT Accessibility: the key to inclusive communication were developed. These courses aim to provide a good understanding of ICT accessibility among all relevant stakeholders, in particular focusing on related policies, regulations, technology trends and public procurement rules. This course was developed in

response to the outcomes of WTDC-17, in particular the ITU Regional Initiative for Europe that calls for building human capacities in field of ICT accessibility. These free online certificate courses consist of three modules as follows:

- Module 1: Enabling communication for all though ICT accessibility;
- Module 2: ICT accessibility policy regulations and public procurement standards;
- Module 3: Achieving ICT accessibility through public procurement.

- 15 video tutorials on how to develop and remediate accessible digital documents (General introduction; Word, Pdf, Excel, and PP) were developed in English, French, and Spanish, and launched during the Study Group on Q7/1 to ITU Members on 28 September.
- Promotional materials were developed (project document, presentation and video) for the ITU-D Programme in web accessibility: Internet for @ll. See more at https://www.itu.int/en/ITU-D/Digital-Inclusion/Pages/Reports.aspx

Training provided in ICT accessibility to over 200 ITU members and related stakeholders

- Capacity in ICT Accessibility was strengthened to over 70 ITU Members participants to the Rapporteurs Group of Q7/1 on 28 September.
- In support to ARB Regional Initiative: A train the trainers' course was developed and customized for the Arab States region on Accessible Digital Content and Remediation for the stakeholders delivering digital financial services. The training was delivered to over 40 persons from 16 to 18 October 2018 in Cairo, Egypt.
- A Workshop on how to use ICTs for People Living with Disabilities took place from 8 to12 October in Harare, Zimbabwe.
- Training was also provided during the 5th Accessible Americas event (90 trainees obtained ITU certificate).

Support to Regional Initiatives

- In support of the Americas regional initiative, the regional event, Accessible Americas V: ICTs for ALL, took place in Jamaica from 28 to 30 November 2018. The ITU work in Digital Inclusion and existing key resources were made available to support ITU members and stakeholders in their process of implementing ICT accessibility to create digital inclusive societies in the Americas region was shared with 214 participants. In support to the development of experts in ICT accessibility in the Americas region, a training session certificate, Fundamentals in ICT accessibility, was provided by the ITU-D Focal Point in ICT Accessibility to all participants; 90 trainees successfully achieved the knowledge and obtained ITU certifications.
- In support to Europe regional initiative on implementation in ICT accessibility, at the first regional event Accessible Europe- ICT for ALL, in Austria, from 12 to 14 December, awareness was raised to 150 participants in ITU work and key resources available to support regional implementation. Additionally available resources and existing best practices in purchasing accessible public procurement and developing accessible websites and digital accessible content were shared in this regional forum.
- In support to the Africa region regional initiatives, and assistance, ITU developed the draft policy on ICT Accessibility for ECOWAS that was validated in a workshop held in Nigeria, 3 and 4 December 2018.

Indigenous Peoples

- The 2017 curriculum of the on-line training course on Indigenous Radio/Networks – Communication Innovative Tools for the strengthening of Indigenous Communities of the

Americas Region, was revised to up-date the topic with more recent technologies and ensure an overall knowledge of the topic.

- Delivery of the revised online training course on Communication Innovative Tools for the strengthening of Indigenous Communities of the Americas Region, has received over 600 registrations (instead of max 100). ITU accepted 150 in each class and will deliver two classes in 2018. The first class was held from July to October, the second class from September to December. See more at (https:// www .itu .int/ en/ ITU -D/ Digital -Inclusion/ Indigenous -Peoples/Pages/ default -bis .aspx).
- A second blended training programme for Indigenous people in the Americas region (online and hands-on/face-to-face training) was developed, to build the capacity of indigenous technicians to ensure the self-sustainability of indigenous community-related networks. The course is foreseen to start delivery in 2019.

Digital Inclusion – general

- 192 digital inclusion programmes and practices were shared on the Digital Inclusion Newslog during 2018, with 6 585 views of the newslog posts. Awareness was raised and these best practices shared among ITU members through the weekly publication of innovative digital inclusion practices and strategies on the ITU-D Digital Inclusion newslog at: http://digitalinclusionnewslog.itu.int/.
- ITU raised visibility for and shared its key digital inclusion resources in the G20 Repository of Digital Policies.

WTDC	Resolutions 1, 5, 9, 11, 15, 20, 21, 22, 23, 30, 32, 55, 58, 68, 76, 77
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 30, 32, 33, 34, 36, 37, 64, 70, 71, 131, 139, 140, 175, 184, 198, 202
WTSA	Resolution 55, 69
WSIS Action Line	WSIS Action Lines C2, C4 and C7 and C8 of the Geneva Plan of Action and § 90 of Tunis Agenda for the Information Society
Contributing to SDG Targets	SDGs: 1 (targets 1.2, 1.4, 1.a, 1.b), 4 (targets 4.1, 4.2, 4.3, 4.4, 4.5, 4.a, 4.b), 5 (5.1, 5.5, 5.b, 5.c), 8 (targets 8.2, 8.3, 8.5, 8.6, 8.10, 8.b), 9 (target 9.c), 10 (targets 10.2, 10.3), 11 (targets 11.2, 11.7, 11.c), 16 (target 16.b), 17 (targets 17.6, 17.7, 17.8, 17.17)

4.4 Concentrated assistance to LDCs, SIDS and LLDCs

- ITU delivers targeted assistance to countries with specific needs, including LDCs, SIDS, LLDCs and countries with economies in transition in a number of priority areas.
- ITU improved the capacity of LDCs, LLDCs, and SIDS, shared guidelines and best practices, and provided policy guidance through the report on ICTs, LDCs, and the SDGs – Achieving Universal and Affordable Internet in the LDCs. The report, which was produced in cooperation with the UN Office of the High Representative for Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLs), focuses on ICT infrastructure and affordability developments (SDG 9, Target 9c). It offers a new, three-dimensional framework, which classifies LDCs into three categories based on their overall performance across the areas of access, affordability and skills. This will help countries identify areas that are most pressing and where to direct policy and scarce financial and human resources.

- ITU enhanced capacity and expertise in Bolivia and Paraguay, two landlocked developing countries, by sharing guidelines and best practices, and providing policy guidance, through two separate country case study, one on Bolivia and one on Paraguay: Landlocked developing countries (LLDCs) in the Americas: Connectivity challenges and opportunities.
- To improve access to information and best practices and build capacity, ITU, together with UNCTAD and the e-*Trade for All initiative*, organized the thematic workshop on *ICT access and use in the LDCs, LLDCs and SIDS – Opportunities for sustainable development and trade*. The event, which was organized during the WSIS-18 Forum, highlighted constraints faced by LDCs, LLDCs and SIDS, and provided insights on how to make effective use of ICTs to foster sustainable development.
- ITU is assisting Jamaica with the establishment of the Office of the Information Commissioner (OIC) which would have responsibility for ensuring compliance with the Data Protection Act and the Access to Information Act.
- ITU is providing support to Antigua and Barbuda in reviewing the Telecommunications Act and to identify priority supporting regulations consistent with the Act. Similarly, in collaboration with PAHO, ITU is assisting Guyana with the development of an e-health national strategy.
- An internal technology assessment revealed that the existing IT infrastructure and platform of Caribbean Telecommunications Union (CTU) are inadequate to sustain the operations of the CTU Secretariat currently and in the future. ITU provided assistance to the CTU in this regard to enhance the technical infrastructure of the CTU Secretariat through procuring the core network, server and connectivity equipment and associated training and installation support, for the IT network upgrade.
- ITU built national expertise in Sudan by developing the new Spectrum Pricing Policy Framework, and by training 15 staff from the Sudan Telecommunications and Postal Regulatory Authority (TPRA) on this new framework.
- ITU developed a Spectrum Pricing Policy Framework for Sudan to optimize and standardize the use of spectrum as national scarce resources. The framework was validated during a national training workshop for Sudan organized in Khartoum, Sudan from 9 to 13 March.
- ITU started developing ICTs Strategy and Policy Framework for Somalia. The goal of this assistance is to establish an effective ICT Strategy and Policy framework and provide clear and transparent procedures and mechanisms to facilitate ICT policy and sectoral strategy framework in Somalia. The product is expected to be delivered by mid-December 2018.
- ITU provided technical assistance to Uganda to finalize the Uganda Digital Vision document and organized the Validation Workshop in Kampala on 29 November 2018. ITU-D also provided the financial support for the final editing and publishing of the document after the validation.
- ITU built national expertise in the National Communications Commission of South Sudan on Market Analysis, Number Plans and Tariff Regulations by providing training to 3 professional from NCA.
- ITU highlighted the importance and potential of ICT infrastructure to foster trade, in particular through e-commerce, in the LLDCs by contributing to the Ministerial Meeting of Landlocked Developing Countries on Trade and Transport in Kazakhstan, on 17 and 18 May 2018.
- ITU awarded between 360 and 380 fellowships to participants from the Least Developed Countries.
- For the year 2018, ITU has allocated a budget of 1 083 000 Swiss Francs (CHF) to the LDCs. Furthermore, ITU has allocated to the LDCs for the decade 2011-2020 a total budget of 13 103 000 CHF.
- ITU published success stories to increase the visibility of ITU work and the role of ICTs for the sustainable development of the LDCs, LLDCs and SIDS.

WTDC	Resolutions 16, 17, 18, 21, 25, 26, 30, 33, 36, 37, 50, 51, 52, 53, 57, 60
PP Resolutions	PP Decisions 5, 13 PP Resolutions 25, 30, 32, 33, 34, 36, 70, 71, 123, 124, 125, 126, 127, 135, 159, 160, 161, 193, 200, 202
WRC	Resolution 12
WCIT	Resolution 1
WSIS Action Line	WSIS action lines C4 and C7 of the Geneva Plan of Action and §§ 9, 23, 26, 49, 59, 87 and 95 of the Tunis Agenda for the Information Society
Contributing to SDG Targets	SDGs: 1 (target 1.4), 3, 4 (targets 4.3, 4.5, 4.6, 4.a, 4.b), 5 (target 5.b), 6, 8 (target 8.5), 9 (targets (9.1, 9.2, 9.5, 9.a, 9.c), 10 (targets 10.2, 10.b), 11 (targets 11.1, 11.2, 11.7), 12 (target 12.b), 13 (target 13.b), 14, 15, 16, 17 (targets 17.7, 17.8, 17.9, 17.18)

Objective 5:

"Enhance environmental protection, climate change adaptation and mitigation and disaster management efforts through telecommunication/ICTs"

5.1 ICTs and climate-change adaptation and mitigation

- The Global E-waste Monitor 2017, which was published by the Global E-waste Statistics Partnership (ITU, UNU, ISWA), has been translated into all six official UN languages.
- ITU built capacity on e-waste during a one-day training workshop on e-waste statistics, during the ITU Green Standards Week. The training, which was attended by 80 participants, was organized in collaboration with the Global Partnership on E-waste Statistics. It focused on providing an overview of the current statistics on e-waste and the methods of producing electronic waste statistics at a national level to help more countries generate e-waste data.
- ITU built capacity on Electromagnetic Fields (EMF) considerations in sustainable environment including its measurements methods and related policy in a regional ITU Forum and Training - With ICTs everywhere - How safe is EMF? - organized part of the ITU Green Standard Week events and hosted by Universal Communications Service Access Fund (UCSAF) and Tanzania Communications Regulatory Authority (TCRA). The forum was held on 10 April 2018. The Forum on EMF attended by more than 80 participants.
- ITU raised awareness about the global e-waste challenge and built synergies with UN and private-sector partners by organizing a high-level dialogue session on "Building the E-waste Coalition" during the WSIS Forum 2018 during the WSIS Forum 2018 it organized a high-level dialogue session on Building the E-waste Coalition. This event was organized as part of the ITU role in the Environment Management Group (EMG) and together with UN Environment. A letter of Intent was signed by all participating UN entities to consider concrete action and wide coordination and collaboration on tackling e-waste.
- As part of the process to build an E-waste Coalition, all UN agencies that signed the Letter of Intent during the WSIS Forum 2018, the World Business Council for Sustainable Development (WBCSD), and under the overall leadership of the World Economic Forum (WEF) are preparing

a joint report on the vision towards the circular economy, with a focus on e-waste. This report will increase awareness about the need to address the e-waste challenge and provide selected policy guidance to the public and private sector.

- ITU built capacity and raised awareness on the topic of climate change, disaster management and the role of ICTs by organizing a session on E-Environment: Multi-hazard Early Warning Systems and the Role of ICTs. This event, which took place during the World Summit on the Information Society Forum 2018, was organized jointly with WMO. It highlighted the critical role that ICTs play as an integral component of multi-hazard early warning systems (MHEWS) to monitor the environment and to effectively disseminate alerting messages of different type of hazards to those at risk.
- ITU published the Handbook for the development of a policy framework on ICT/e-waste to help build capacity and guide countries in developing e-waste policies. This handbook provides guidance on the key aspects to be taken into account when designing, implementing and improving a legal, regulatory and policy framework on ICT/e-waste. The proposed framework will facilitate the management of ICT/e-waste based on the concepts of sustainable development, green ICT and the circular economy.
- ITU-D published the Developing an E-waste National Policy and Regulatory Framework for Malawi, which outlines a national policy and regulatory framework, including a strategy and action plan for electrical and electronic waste (e-waste) management in Malawi. ITU is finalizing the establishment of the e-waste pilot plan project that is jointly developed by ITU-D and Universidad Nacional de La Plata in Argentina. The project is in its final phase of implementation and the e-waste pilot plant will soon be operational.
- As a part of its role in disaster risk reduction in the Caribbean, ITU has commissioned the deployment of a mobile multi-hazard Early Warning and Information sharing platform in the region in concert with the regional disaster management agency CDEMA. As a first step, a needs assessment of Emergency Communication Systems with the objective of implementing a mobile early warning system and communication platform was performed for the following countries**:** Antigua and Barbuda, Barbados, Bahamas, Saint Lucia, from 18 September to 19October 2018. The Virtual Vision platform is a mechanism for real time, inter-agency, national and regional information sharing, reporting and early warning is being introduced to these countries.
- ITU has finalized the implementation of the e-waste Pilot Plant Project that was jointly developed with University of La Plata in Argentina. The aim of the project was to establish a Pilot Plant that will provide concrete responses to the e-Waste problems in cities in line with the Sustainable Development Goals. As part of the implementation review, ITU-D finalized the development of the promotional video on the implementation of this pilot plant and the development of a report on Successful Electronic Waste Management Initiatives, which provides information of different e-waste management initiatives in 6 different countries around the world.
- Arab States Regional Office finalized the project document and cooperation agreement on a regional e-waste monitor project to be signed with UNU. The objective of this project is to collect and improve e-waste statistics in the Arab States region. The project will improve data availability and quality, availability of policies and regulations and awareness through a capacity building workshops and a Regional E-Waste Monitor for the Arab States region. It will also communicate the data on e-waste to policy makers, the media, and other relevant stakeholders.
- Enhanced cooperation through participation in 50th session of ESCAP/WMO Typhoon committee in Viet Nam in February 2018.

WTDC	Resolutions 17, 21, 30, 32, 37, 50, 52, 53, 66
PP Resolutions	PP Decisions: 5, 13, PP Resolutions: 25, 71, 182
WTSA	Resolution 73
WSIS Action Line	Action Line C7 (e-environment) of the Geneva Action Plan is closely linked to Output D.5.1.
Contributing to SDG Targets	SDGs: 3 (target 3.9), 5 (target 5b), 9, 11 (targets 11b), 13 (targets 13.1, 13.2 and 13.3), 14, 15

5.2 Emergency Telecommunications

- ITU built disaster preparedness in Zambia by completing the implementation of two early warning systems (EWS) in Mbeta Island and Kasaya Village in Zambia. The systems are being used to provide early warnings to population on flooding and mudslides. ITU completed the development of a promotional video on the implementation of these two Early Warning Systems (EWS).
- ITU strengthened the ability of countries to coordinate disaster relieve efforts and cope with the immediate effects of disasters by providing emergency telecommunication equipment to Tonga and Papua New Guinea. Emergency disaster response to Tonga followed the destruction caused by Tropical Cyclone Gita that hit the island in February. ITU also assisted Papua New Guinea after the devastation caused by a 7.5 magnitude earthquake that struck in February.
- ITU built capacity and raised awareness on the topic of climate change, disaster management and the role of ICTs by organizing a session on E-Environment: Multi-hazard Early Warning Systems and the Role of ICTs. This event, which took place during the World Summit on the Information Society Forum 2018, was organized jointly with WMO. It highlighted the critical role that ICTs play as an integral component of multi-hazard early warning systems (MHEWS) to monitor the environment and to effectively disseminate alerting messages of different type of hazards to those at risk. Participants had the opportunity to highlight some concrete solutions and discuss the importance of MHEWS checklist for a better collaboration among various stakeholders, including disaster risk management agencies, meteorological and geological services, ICT regulators, NGOs, UN entities and private ICT operators.
- ITU is finalizing the development of the Global Guidelines for Developing National Emergency Telecommunication Plans (NETPs). This will be a guiding document for ITU Member States. ITU is finalizing the development of the NETPs and implementation frameworks for Guatemala, Samoa, and Vanuatu, and preparing technical assistance in the development of NETPs for Papua New Guinea, and the Solomon Islands.
- A panel session on Early Warning Systems was organized jointly with the ITU-D Study Group 2 Question 5/2 on *Utilizing telecommunications/ICTs for disaster risk reduction and management*. This session took place on 8 May 2018 and focused on disaster prediction and detection, emergency alerting, and safety confirmation and evacuation guidance.
- A workshop on *Disaster drills and emerging technologies on disaster management* was organized by the ITU-D Study Group 2 Question 5/2 on *Utilizing telecommunications/ICTs for disaster risk reduction and management*. This session took place on **3 October 2018.**
- Emergency Communications for Central America countries, including communications equipment and the development of NEPTs. ITU is currently implementing the project *Proyecto piloto para el uso de las TIC para situaciones de emergencia y desastres en la región de las Américas* to assist and support Central American countries (Costa Rica, Dominican Republic, El Salvador,

Guatemala, Honduras, Nicaragua, and Panama) in improving their capabilities of emergency telecommunications and to improve response to emergencies and disasters. Beneficiary countries have received an emergency tool kit that will allow their integration into a regional network of emergency Winlink-based telecommunications. ITU in cooperation with IARU and FMRE and the respective administrations launched operations in 5 countries: On 10 September, HR0COP in Honduras; on 9 October, TI0BCR in Costa Rica; on 6 November, HI8COE in Dominican Republic; on 8 November, TG0CND in Guatemala; and on 28 November, YN1SN in Nicaragua. Preparations are underway to launch operations in El Salvador and Panama in early 2019.

- The International Telecommunication Union (ITU), Caribbean Telecommunication Union (CTU), the Inter-American Communication Commission (CITEL), and the Regional Technical Communication Commission of Central America (COMTELCA) signed a Letter of Intent (LOI) to establish an Agreement on *The use of ICTs for emergency and disaster situations in the Americas region*.
- ITU is undertaking a study on *Assessment of Emergency Telecommunication plans and systems in the Caribbean Region for broadcasters*. This is a follow up from the study done earlier for telecommunications in the region. All these activities are congruent to the Emergency Telecommunications WINLINK Project that is under implementation for the Caribbean (see above).
- The III Regional Workshop: Technologies to mitigate effects of Natural Disasters was organized on 1 and 2 August in Quito, Ecuador. The event was attended by more than 200 participants.
- ITU attended The Caribbean Broadcasting Union (CBU) 49th Annual General Assembly in Kingston, Jamaica from 13 to 15 August 2018, and made presentation on the work and support of ITU on disaster management initiatives using ICTs and other initiatives.
- ITU has supported the deployment of a mobile multi-hazard early warning and information sharing platform in the Caribbean region in coordination with the Caribbean Disaster Emergency Management Agency (CDEMA) (to ensure suitability and relevance to the needs of region). This platform allows the public and stakeholder agencies to submit reports and share information in real-time concerning hazards and disasters. All information is routed to the Disaster Management Office (DMO) and its staff via the application control panel. Once approved by DMO staff, alert notifications, early warning sirens and heat map content are then released to the public via the mobile application.
- ITU is planning participation and contribution at the Global Platform for Disaster Risk Reduction 2019 (GP2019) conference organized by UNISDR and hosted by the Government of Switzerland to be held in Geneva (CICG) from 13 to 17 May 2019. ITU along with other international partners contributes to the organization of the International Conference on Multi-Hazard Early Warning Systems that will be held during the GP2019 led by WMO and in partnership with ITU, UN-SPIDER, UNISDR, UNDP, European Commission, World Bank, WFP, and others.
- ITU has attended and contributed to the Technical Meeting on the Common Alerting Protocol (CAP) (Geneva, 3 and 4 December 2018) organized by WMO in Geneva. The meeting was attended by several national meteorological agencies, part of the WMO Expert Group on Multi-Hazard Impact Based Forecast and Warning services. Common Alerting Protocol (CAP ITU-T X.1303) is an enabler of dissemination of alerting information and ITU and WMO and looking into possibilities of coordinating their work in the area of CAP implementation and monitoring. .
- ITU Arab States Regional Office is developing a Model Policy and Regulatory Frameworks on use of telecommunications/ICTs in Emergency and Disaster Management in the ITU Arab States region. The objective of this Model Policy and Regulatory Frameworks is to strengthen the capacity of ICTs policy and regulatory institutions and enhance regional collaboration and knowledge sharing on use of telecommunications/ICTs in emergency and disaster management. The report is expected to be delivered by end of 2018.
- A multi-stakeholder forum on the *Role of Telecommunication/ICTs for Disaster Management and Risk Reduction for the Caribbean Islands* took place from 4 to 6 December 2018 in Roseau, Dominica. The forum is aimed at paving the way for enhancing the use of ICTs for disaster

management in the region and addressing key questions related to the best use of ICTs for disaster risk reduction and management. It will also serve as a platform to exchange new experiences and best practices in the use of modern technologies for monitoring and early warning.

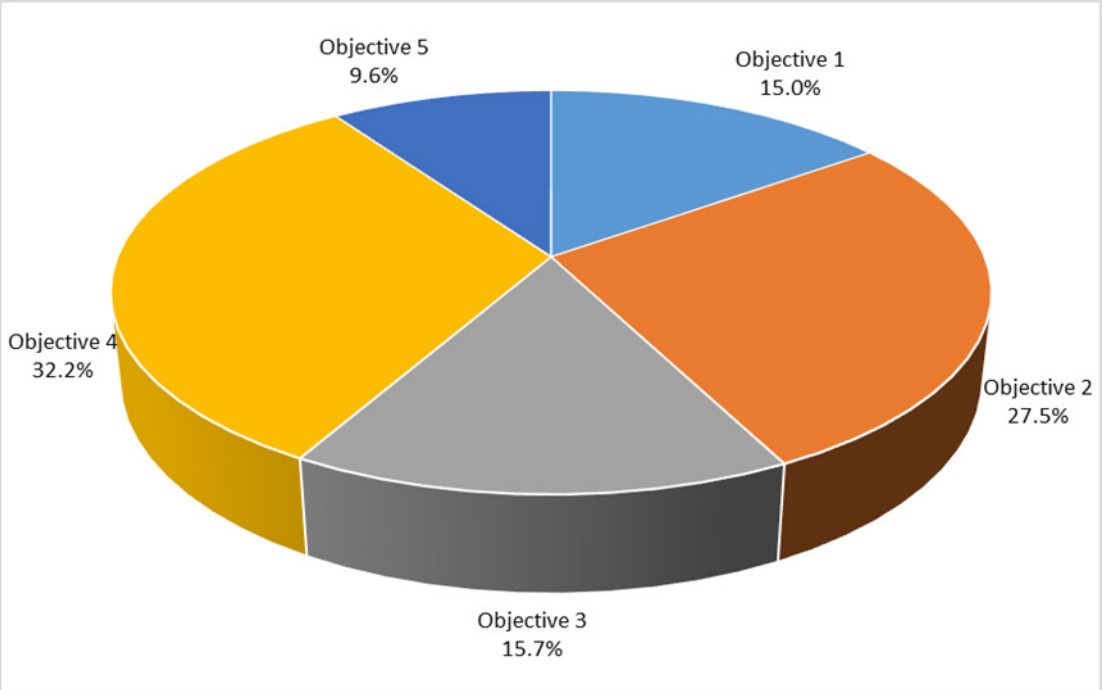
- ITU supported WFP on a workshop on Pacific Regional Emergency Telecommunications Cluster (ETC) in Suva, Fiji from 4 to 7 December 2018.

WTDC	Resolutions 1, 5, 17, 21, 30, 32, 34, 37, 50, 52, 53, 69
PP Resolutions	PP Decisions: 5, 13, PP Resolutions: 25, 37, 71, 98, 136, 140, 182, 202
WRC	Resolution 646, 647
WCIT	Resolution 2
WSIS Action Line	Action Line C7
Contributing to SDG Targets	SDGs: 3 (target 3.9), 5 (target 5b), 9, 11 (targets 11b), 13 (targets 13.1, 13.2 and 13.3), 14, 15

Implementation level by Objective (Result Based Management perspective*)

Chart 1 below provides a distribution of the actual use of the resources among the five objectives of the sector for the period of January to December 2018.

Chart 1. Implementation level by objective



* Based on time allocation of staff members

Highlights of the operational plan implementation

January – December 2018

This report highlights the results achieved as regards the implementation of the Operational Plan for the period 1 January to 31 December 2018 for the Telecommunication Development Sector. It also provides information by objectives and regions.

Overall implementation level

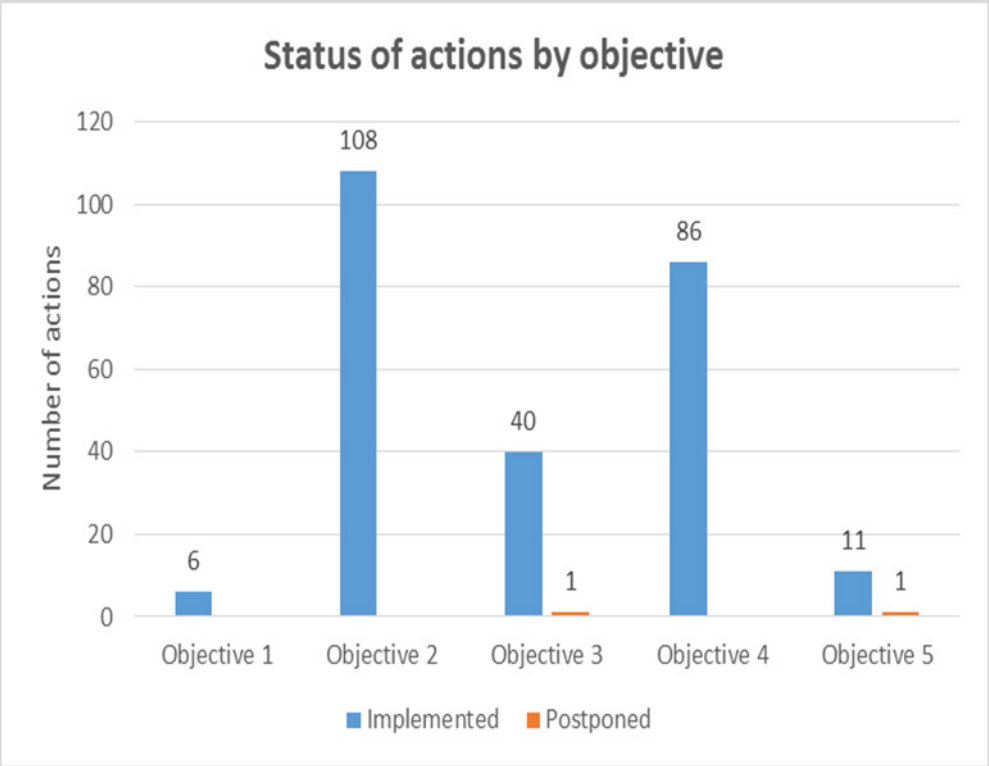
As at 31 December 2018, out of a total of 253 actions planned for 2018:

- 251 actions have been implemented
- 2 actions have been postponed

Implementation level by objective

Chart 1 below highlights, in terms of number, the status of actions (implemented and postponed) by objective for period 1 January to 31 December 2018.

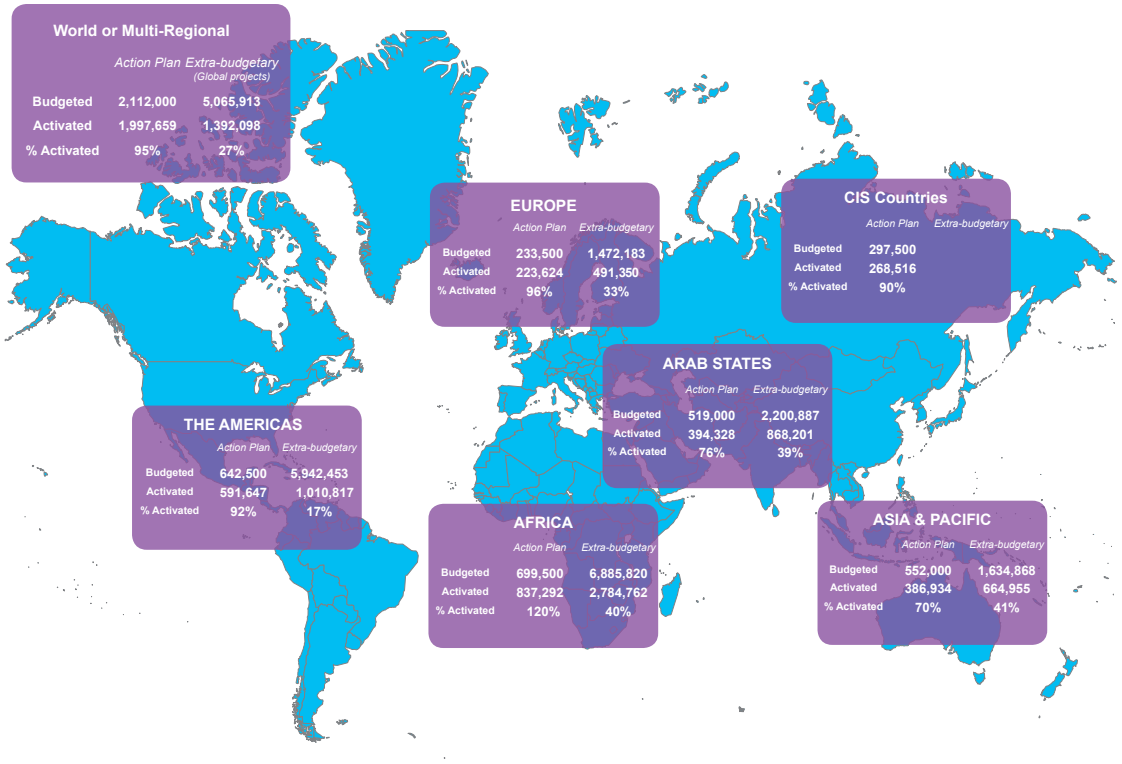
Chart 1



Budget implementation level by regions (in Swiss francs)

Chart 2 below highlights the expenditure level by regions for the period of January to December 2018.

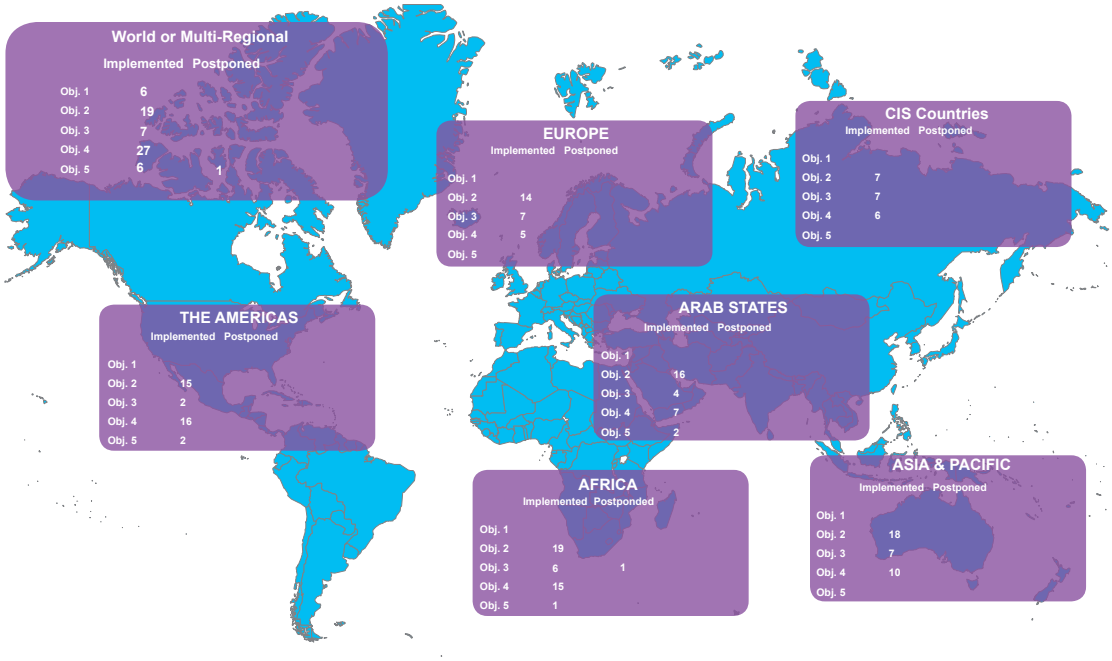
Chart 2



Implementation level by objectives and regions (number of actions)

Chart 3 below shows, in terms of number, the implementation level of actions by objectives and regions for the period of January to December 2018.

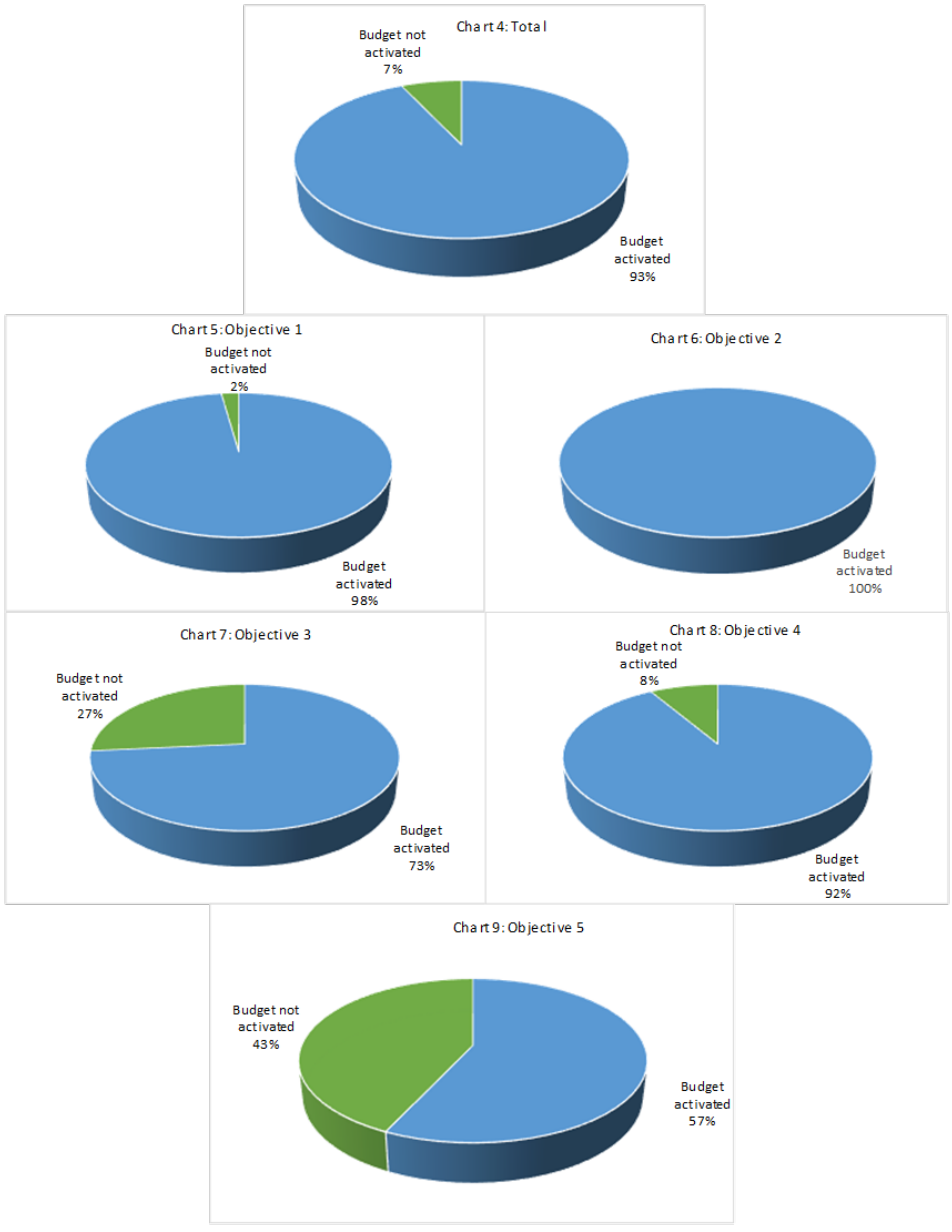
Chart 3



Budget implementation level by objectives

Chart 4 shows the global budget implementation level and charts 5 to 9 highlight the budget activated[1] for each objective to the end of December 2018.

Chart 4



[1] *Budget activated: Amount of the budget of the action which has been spent.*

Highlights of the financial plan implementation

January – December 2018

This report highlights the expenditure level as at 31 December 2018 (before closure of accounts) for the Telecommunication Development Sector, including the Bureau (BDT). It also provides information by objectives and outputs.

Result-based budget statement by objectives

Table 1 below provides the expenditure level by objectives in a Result Based Budget perspective as at 31 December 2018.

Table 1

(in thousands of Swiss francs)

Strategic objectives	Budget	Actual	Balance	Level of implementation 12/2018
Objectives of ITU-D				
D-1 Foster international cooperation on telecommunication/ICT development issues	4,175	3,736	440	89.5%
D-2 Foster an enabling environment for ICT development and foster the development of	7,655	8,080	-425	105.6%
D-3 Enhance confidence and security in the use of telecommunications/ICTs, and roll-out of relevant applications and services	4,370	4,022	348	92.0%
D-4 Build human and institutional capacity, provide data and statistics, promote digital inclusion and provide concentrated assistance to countries in special need	8,963	8,483	480	94.6%
D-5 Enhance environmental protection, climate-change mitigation and adaptation, and disaster-management efforts	2,672	2,310	362	86.5%
Costs of ITU-D Strategic Goal	**27,835**	**26,631**	**1,204**	**95.7%**

Financial statement for the Telecommunication Development Sector

Table 2 below shows by section the ITU-D expenditures as at 31 December 2018. As at 31 December 2018, expenditures amounted to CHF 26.6 million or 95.7 % of the ITU-D budget for 2018.

Table 2

(in thousands of Swiss francs)

		Approved Budget	Expenditures as at 31/12/2018	Balance	Level of implementation
Section 5	Telecommunication Development Advisory Group	107	99	8	92.5%
Section 6	Study Group	349	347	2	99.4%
Section 7	Activities and programmes	4,600	4,254	346	92.5%
Section 9	Bureau	22,779	21,931	848	96.3%
TOTAL		**27,835**	**26,631**	**1,204**	**95.7%**

Financial statement by objectives and outputs

Table 3 below shows the expenditures by ITU-D objectives and outputs as at 31 December 2018.

Table 3

(in thousands of Swiss francs)

		Approved Budget	Expenditures	Balance	Level of implementation 12/2018	Level of implementation 12/2017
Objective 1	Foster Int. cooperation on Tel./ICT Dev. Issues					
	WTDC				*n/a*	*95.5%*
	RPM				*n/a*	*99.7%*
	TDAG	**107**	99	8	92.5%	*86.4%*
	STG	**349**	347	2	99.4%	*97.1%*
	Subtotal Objective 1	**456**	**446**	**10**	**97.8%**	***95.9%***
Objective 2	Foster an enabling env. for ICT dev.	**1,899**	2,049	-150	107.9%	*82.3%*
Objective 3	Enhance confidence and security	**788**	579	209	73.5%	*90.6%*
Objective 4	Build human and institutional capacity	**1,553**	1,421	132	91.5%	*92.5%*
Objective 5	protection, climate-change	**360**	205	155	56.9%	*74.6%*
Activities and prog.	**Subtotal Objective 2 to 5**	**4,600**	**4,254**	**346**	**92.5%**	***86.2%***
				0		
Total ITU-D activities	**Objective 1 to 5**	**5,056**	**4,700**	**356**	**93.0%**	***89.0%***

Financial statement for the Telecommunication Development Bureau

Table 4 below highlights by category of expenditure the expenditures for the Telecommunications Development Bureau as at 31 December 2018. As at 31 December 2018, expenditures amounted to CHF 21.9 million or 96.3% of the Bureau budget.

Table 4

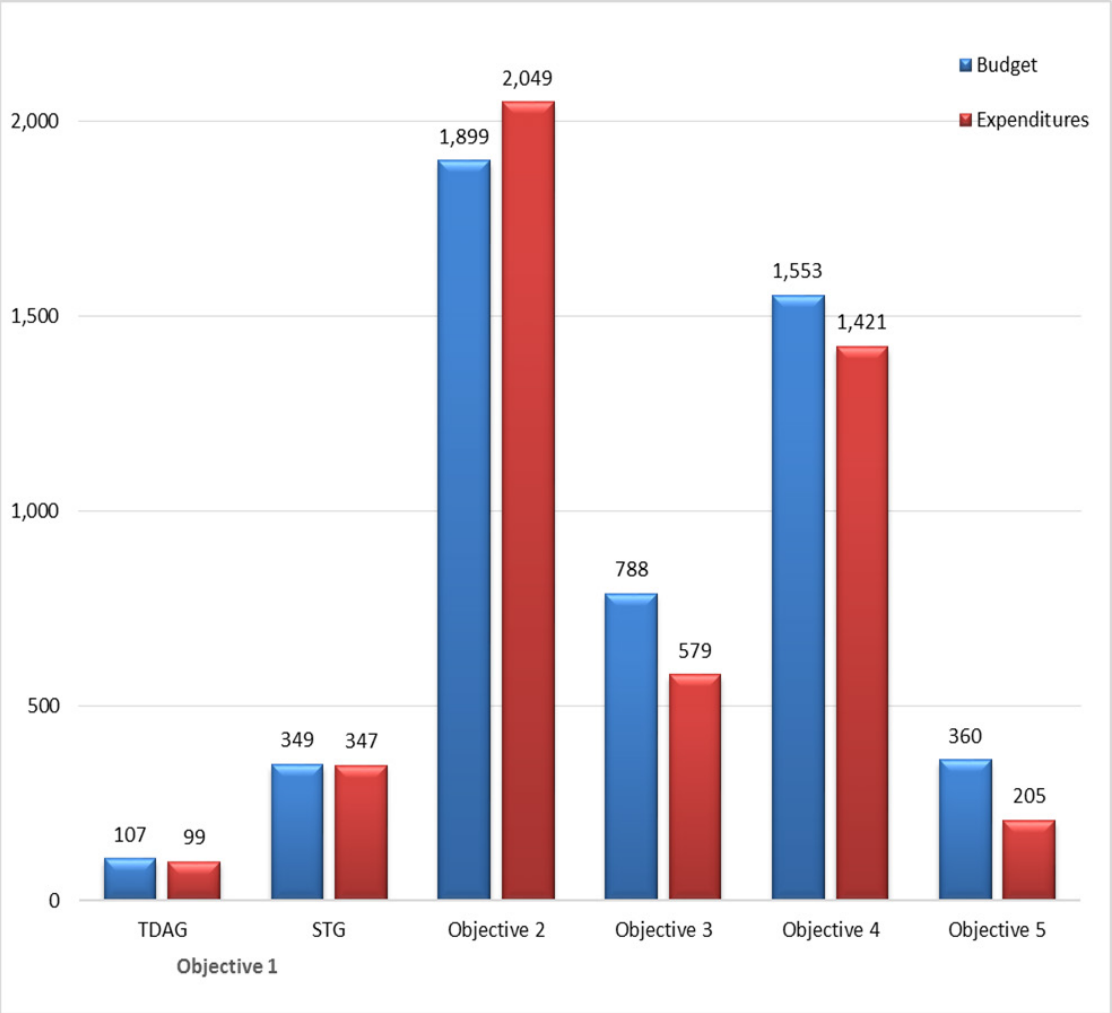
(in thousands of Swiss francs)

	Approved Budget	Expenditures	Balance	Level of implementation 12/2018	Level of implementation 12/2017
Categories					
Staff costs	16,300	15,906	394	**97.6%**	93.7%
Other-staff costs	5,366	4,924	442	**91.8%**	117.2%
Mission expenses	450	502	-52	**111.6%**	66.6%
Contractual serv.	119	137	-18	**115.1%**	-38.2%
Rental & mainten.	69	42	27	**60.9%**	53.7%
Purchase of equipmnt	78	65	13	**83.3%**	153.7%
Acquisition, furnit.	144	107	37	**74.3%**	43.7%
Utilities & services	144	134	10	**93.1%**	112.3%
Auditing, inter-agenc.	109	114	-5	**104.6%**	101.1%
TOTAL	**22,779**	**21,931**	**848**	**96.3%**	96.7%

Level of implementation by objectives

The chart below shows the budget and expenditures for ITU-D activities by objectives as at the end of December 2018.

(In thousands of Swiss francs)



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Published in Switzerland
Geneva, 2019