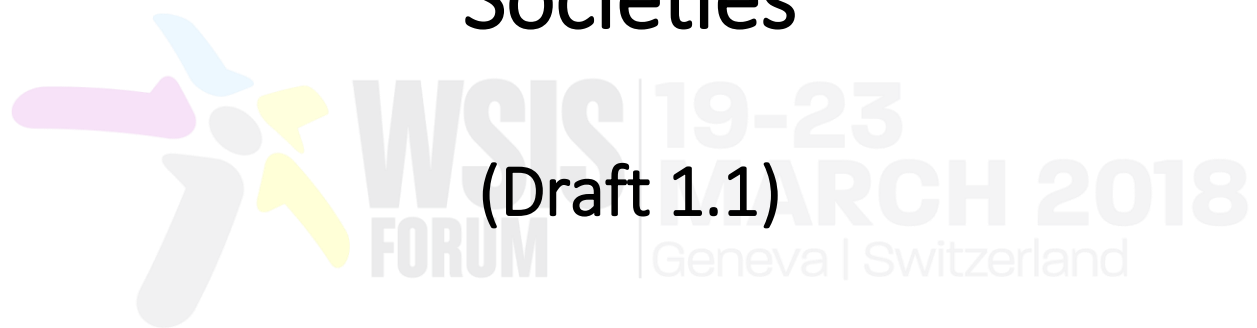


WSIS Action Lines Supporting Transformation towards Sustainable and Resilient Societies



World Summit
on the Information Society
Turning targets into action
Geneva 2003 | Tunis 2005 | New York 2015



WSIS Action Lines supporting transformation towards sustainable and resilient societies

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Chapter 1: Introduction



Since the UNGA Overall Review on the Implementation of the WSIS Outcomes (Resolution A/70/125) and the adoption of the 2030 Agenda for Sustainable Development, which acknowledges the important contribution that ICTs can make to delivering on the aspirational, transformational, and universal targets of the post-2015 framework and achieving the 17 Sustainable Development Goals (SDGs), several efforts have been made to align the two UN processes i.e. WSIS and the 2030 Agenda for Sustainable Development.

In line with the call of UNGA for a close alignment between WSIS and SDG processes the WSIS Action lines facilitators have been working together to further implement the WSIS-SDGs Matrix (www.wsis.org/sdgs). The WSIS SDGs Matrix, developed by the UN Action line Facilitators, clearly shows the linkage between each Action line and the 17 SDGs and provides rationale for each www.wsis.org/sdg. The Matrix serves as an easy reference for stakeholders engaged in shaping the future of both, the SDGs and the WSIS processes beyond 2015 and the 2030 Agenda for Sustainable Development.

Since the WSIS Forum 2016, the agenda ([2016](#), heat map ([2017](#), [2018](#))) and outcomes of each workshop at the WSIS Forum are mapped by WSIS Action Lines and SDGs (WSIS Forum Outcomes Matrix [2016](#), [2017](#) and [2018](#)).

	C1	C2	C3	C4	C5	C6	e-gov	e-bus	e-lea	e-bea	e-emp	e-env	e-agr	e-sci	C8	C9	C10	C11
SDG 1																		
SDG 2																		
SDG 3																		
SDG 4																		
SDG 5																		
SDG 6																		
SDG 7																		
SDG 8																		
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SDG 17																		

WSIS Action Line Facilitators have been working together, with all stakeholders, to further implement the Matrix, in 2016 ITU coordinated a publication with the WSIS Action line Facilitators entitled “[*WSIS Action Lines supporting the implementation of the SDGs*](#)” which was a multi-stakeholder outcome of the WSIS Action line Facilitators meeting.

In 2017 the ITU coordinated and submitted a document entitled “[*Implementation of WSIS Action Lines for Eradicating Poverty and Promoting Prosperity in a Changing World*](#)” to the High level Political Forum (HLPF) 2017 focusing on the contribution of the respective Action Lines on the Theme for 2017 i.e. “Eradicating poverty and promoting prosperity in a changing world”.

Continuing the efforts towards aligning the two processes, this document entitled “WSIS Action Lines supporting transformation towards sustainable and resilient societies” highlights the linkages of the WSIS Action Lines with the theme for HLPF 2018 i.e. Transformation towards sustainable and resilient societies.

It further seeks to encourage and promote effective multi-stakeholder cooperation in implementation of WSIS action lines and the Sustainable Development Goals (SDGs). Each UN agency responsible for facilitating the WSIS Action lines has submitted their input to the report. These documents are very well appreciated by the stakeholders following both, the WSIS and the SDGS process to better understand the role and contribution of ICTs and the work done by the different UN Agencies as WSIS Action Line facilitators in that regard.

Chapter 2: WSIS Action Lines and SDGs Matrix

The WSIS Forum has proven to be an efficient mechanism for multi-stakeholder implementation of WSIS Action Lines and cross-cutting commitments on gender equality, information exchange, knowledge creation, the sharing of best practices and continues to provide assistance in developing multi-stakeholder and public/private partnerships to achieve the sustainable development goals. WSIS Forums are organized each year, hosted by the ITU, co-organized by ITU, UNESCO, UNCTAD and UNDP in close collaboration with all WSIS Action Line Facilitators/Co-Facilitators (UNDESA, FAO, UNEP, WHO, UN Women, WIPO, WFP, ILO, WMO, UN, ITC, UPU, UNODC and UN Regional Commissions).

The WSIS-SDG Matrix developed by UN WSIS Action Line Facilitators serves as the mechanism to map, analyze and coordinate the implementation of WSIS Action Lines, and more specifically, ICTs as enablers and accelerators of the SDGs. This Matrix builds upon the WSIS-SDG Matrix and provides guidance on the outcomes of the workshops and other sessions held during the forum, emphasizing linkages between the WSIS Action Lines and SDGs as well as highlighting rational for each linkage that has been established. WSIS Stakeholders identified a clear relation and connection between the WSIS Action Lines and SDGs in their respective workshops.

This mapping exercise draws direct linkages of the WSIS Action Lines with the proposed SDGs to continue strengthening the impact of Information and Communication Technologies (ICTs) for sustainable development. Each UN Action Line Facilitator has analyzed the connections and relations of their respective Action Line with the proposed SDGs and their targets. The goal is to create a clear and direct link and an explicit connection between the key aim of the WSIS, that of harnessing the potential of ICTs to promote and realize the development goals, and the post 2015 development agenda, so as to contribute to the realization of the latter. Methodology: UN Action Line facilitators have created a direct link and have derived all possible linkages between the

Action Lines and the SDGs. The matrix presented maps the linkages with a rationale for each¹.

	C1	C2	C3	C4	C5	C6	e-gov	e-bus	e-lea	e-hea	e-emp	e-env	e-agr	e-sci	C8	C9	C10	C11
SDG 1																		
SDG 2																		
SDG 3																		
SDG 4																		
SDG 5																		
SDG 6																		
SDG 7																		
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SDG 12																		
SDG 13																		
SDG 14																		
SDG 15																		
SDG 16																		
SDG 17																		

Figure 1: WSIS Action Lines -SDGs Matrix (at a glance)

















Table 1: WSIS Action Lines and SDGs Matrix²

	WSIS Action Lines	SDGs
	C1: The role of governments and all stakeholders in the promotion of ICTs for development	Goal 1, 3.8, 3.d, Goal 5, 10.c, 16.5, 16.6, 16.10, 17.18
	C2: Information and communication infrastructure: an essential foundation for the Information Society	1.4, 8.2, 9.1, 9.a, 9.c, 11.5, 11.b
	C3: Access to information knowledge	Goal 1, Goal 2, Goal 3, Goal 4, Goal 5, Goal 6, Goal 7, Goal 8, Goal 9, Goal 10, Goal 11, Goal 12, Goal 13, Goal 14, Goal 15, Goal 16, Goal 17
	C4: Capacity building	1.b, 2., 3.7, 3.b, 3.d, 4.4, 4.7, 5.5, 5.b, 6.a, 12.7, 12.8, 12.a, 12.b, 13.2, 13.3, 13.b, 14.a, 16.a, 17.9, 17.18

¹ Please read the complete document at www.wsis.org/sdg

² https://www.itu.int/net4/wsis/sdg/Content/Documents/wsis-sdg_matrix_document.pdf

 ACTION LINE C5	C5: Building confidence and security in the use of ICTs	1.4, 4.1, 4.3, 4.5, 5.b, 7.1, 7.a, 7.b, 8.1, 9.1, 9.c, 11.3, 11.b, 16.2, 17.8
 ACTION LINE C6	C6: Enabling environment	2.a, 4.4, 5.b, 8.2, 8.3, 9.1, 9.c, 10.3, 11.3, 11.b, 16.3, 16.6, 16.7, 16.10, 16.b, 17.6, 17.14, 17.16
 ACTION LINE C7 E-GOVERNMENT	C7 ICT Applications: i. e-government	9.c, 16.6, 16.7, 16.10, 17.8
 ACTION LINE C7 E-BUSINESS	C7 ICT Applications: ii. e-business	1.4, 2.3, 5.b, 8.3, 8.9, 8.10, 9.3, 17.11
 ACTION LINE C7 E-LEARNING	C7 ICT Applications: iii. e-learning	Goal 4
 ACTION LINE C7 E-HEALTH	C7 ICT Applications: iv. e-health	1.3, 1.4, 1.5, 2.1, 2.2, Goal 3, 3.3, 3.8, 5.6, 5.b, 17.8, 17.19
 ACTION LINE C7 E-EMPLOYMENT	C7 ICT Applications: v. e-employment	4.5, 8.5, 10.2, 12.6, 17.9
 ACTION LINE C7 E-ENVIRONMENT	C7 ICT Applications: vi. e-environment	9.4, 11.6, 11.b, 13.1, 13.3, 13.b, Goal 14, Goal 15
 ACTION LINE C7 E-AGRICULTURE	C7 ICT Applications: vii. e-agriculture	1.5, 2.3, 2.4, 2.a, 3.d, Goal 4, 5.5, 8.2, 9.1, 9.c, 12.8, 13.1, 13.3, 17.16, 17.17
 ACTION LINE C7 E-SCIENCE	C7 ICT Applications: viii. e-science	1.5, 4.7, 6.1, 6.a, 7.a, 13.1, 13.2, 13.3, 14.a, 15.9, 17.6, 17.7
 ACTION LINE C8	C8: Cultural diversity and identity, linguistic diversity and local content	2., 4.7, 6.b, 8.3, 8.9, 11.4, 12.b
 ACTION LINE C9	C9: Media	5.b, 9.c, 12.8, 16.10
 ACTION LINE C10	C10: Ethical dimensions of the Information Society	1.5, 2.3, 3.8, 4.7, 5.1, 8.36, 9.1, 10.2, 10.3, 11.3, 12.8, 13.3, 16.7, 16.10, 17.6, 17.7, 17.8, 17.18, 17.19
 ACTION LINE C11	C11: International and regional cooperation	17.9, 17.16, 17.17



Chapter 3: WSIS Action Lines supporting transformation towards sustainable and resilient societies



C1. The role of public governance authorities and all stakeholders in the promotion of ICTs for development – UNDESA

a) Summary of how the action line supports transformation towards sustainable and resilient societies

Information and Communication Technologies (ICTs) and e-Government Strategies are symbiotic enablers of sustainable development. Together, they have the potential to increase productivity, stimulate economic growth and reduce poverty. The effective use of these enablers can improve government processes, effectiveness of public service delivery and strengthen accountability. ICTs and e-Government strategies also have the potential to ensure that no one is left behind in sustainable development. If combined, they can build resilience amongst those in vulnerable situations and reduce their exposure to economic, social and environmental shocks and disasters.

The 2030 Agenda specifically recognized the vital role of ICTs as a catalyst for realizing its vision and stated that “the spread of information and communications technology and global interconnectedness have great potential to accelerate human progress, bridge the digital divide, develop knowledge societies such as scientific and technological innovation across areas as diverse as medicine and energy”. However, it’s often said, and rightly, that there is very little concerning ICTs in the 2030 Agenda for Sustainable Development – few words in the preamble; only four direct references in 169 targets, only one of those explicitly concerned with access, and no reference on e-Government. It could further be said that the Agenda under-represents the significance with which ICTs will have in the period of SDG implementation. There is further need for significant dialogue in aligning ICT and e-Government Strategies with national development strategies to ensure that countries, especially those that are already behind, can build resilient and sustainable societies.

b) Example/s showcasing this linkage:

Despite the widespread recognition of e-government as both an enabler and multiplier of sustainable development, the least developed countries (LDCs) have not been able reap sufficient sustainable benefits through e-government. In this context, UN DESA is currently implementing a Development Account Project (10th Tranche, 1617B) to help

LDCs in developing evidence-based e-government policies for advancing governmental service delivery and accountability in support of the SDGs. In collaboration with UNDP Bangladesh and a2i, Office of the Prime Minister of Bangladesh, six goals (Goals 1, 4, 8, 14, 16, and 17) and selected targets have been identified. To support the implementation of these targets, specific e-government strategies and applications will be implemented through first identifying data gaps, setting baselines and relevant indicators. Another two LDCs will also participate in the project.

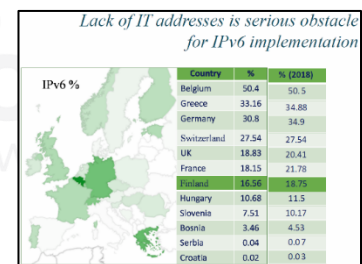


C2. Information and communication infrastructure – ITU

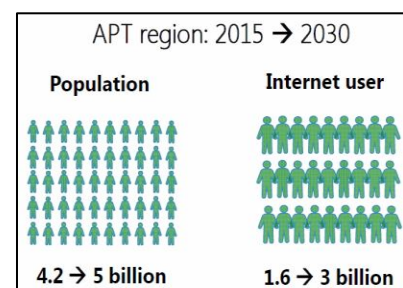
a) Summary of how the action line supports transformation towards sustainable and resilient societies

To connect the next 4 billion people unconnected, identifying existing networks and building the next generation of ICT infrastructure will allow affordable access more widely available to foster jobs, healthcare, and education, in summary, domestic and regional economic growth. The importance of ICT Infrastructure and its link to SDGs was the main topic of the Action Line C2 Facilitators session during the WSIS Forum 2018. The session addressed several aspects in relation to ICT Infrastructure and how those can be used to fulfil the SDGs purpose. ICT/telecommunication infrastructure has been played a key role in social and economic development and indirectly contributed to eradicating poverty and promoting prosperity in a changing world.

Prof. Irini Reljin (Serbia) addressed the aspects of technology which are important to be developed at a regional level to increase development of the SDGs some of which are the Cloud Services, IPv6 addresses, IoT, 5G coverage, as well as Spectrum. The mentioned aspects are a necessity for the implementations of the ICT infrastructure such as broadband connectivity.



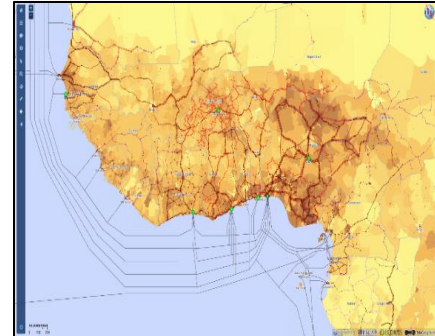
Mr. Masanori Kondo from Asia-Pacific Tele-community mentioned their strategic plan which is reflected in the region and it is the bounding and dependency between connectivity, innovation, trust, capacity building, and partnership. APT current activity consist of focusing on presenting the regional area prospective regarding to ICT and other aspects in relation to SDGs development and needs as well as facilitating the development of ICT infrastructure taking place in the region.



Dr. Robert Pepper from Facebook addressed the company strategy in helping fulfilling the backhaul and how to find solution to its issues one of which is Facebook is committed to give access to internet to all around the globe in a very affordable way, such as using

disruptive technologies to promote access using drones, and investments on fiber placement in a African country.

Mr. Desire Karyabwite and Mr. Vladimir Daigele from BDT presented the Technical Assistance provided by ITU to its membership on telecommunication/ICT infrastructure and services. ITU provides a variety of sources to promote ICT Infrastructure placement ranging from publications, direct assistance, and spectrum management and broadband projects for networks, and establishment of Internet Exchange Points (IXPs), Geographical Information Systems for gap analysis and investment targeting (<https://itu.int/go/Maps>).



b) Key achievements:

- Strategy of New Networks in the Republic of Serbia
- Opportunities for ICT4D in Asia and the Pacific
- Facebook projects for connecting the Unconnected and Under Connected
- ITU assistance based on the Objective 2 of the Buenos Aires Action Plan: Modern and secure telecommunication/ICT Infrastructure: Foster the development of infrastructure and services, including building confidence and security in the use of telecommunications/ICTs

It was agreed on that ICT infrastructure holds a very important role as it is the fundamental tool to maintain a good life and to achieve the SDGs, as it helps to connect people where they can express their needs and concerns regarding to fundamentals life elements such as health, education, peace, and food.



C3. Access to information and knowledge - UNESCO

a) Summary of how the action line supports transformation towards sustainable and resilient societies

Since the UNESCO General Conference adopted resolution 38 C/70 (2015) declaring 28 September as the International Day for Universal Access to Information (IDUAI), UNESCO has commemorated the International Day by organizing events around the world to advocate public access to information, the protection of all fundamental freedoms. IDUAI has particular relevance for the 2030 Agenda, and in particular SDG target 16.10.



From 27 to 30 September 2017, Mauritius hosted IDUAI commemoration on the theme of “Overcoming Divides: Achieving the SDG’s in Africa”. The event brought together high-level participants from all of the 54 African countries and was organized in partnership with the UNESCO Information for All Programme (IFAP) and eLearning Africa.

In commemoration of IDUAI at UNESCO Headquarters on 28 September, the International Programme for the Development of Communication (IPDC) hosted “IPDCTalks: Powering Sustainable Development with Access to Information”. Attended by more than 350 people from all WSIS stakeholder groups and streamed live across the world, the IPDCTalks highlighted the essential role that access to information plays in the SDGs. The event, organized in partnership with UNESCO’s Information for All Programme (IFAP), consisted of a series of dynamic talks from global public leaders, prominent journalists, young intellectuals and community leaders.

Additional 2017 IDUAI-related events were organized in a number of countries, beginning in Tunisia, on 25 September, with an IPDCTalks panel event gathering 250 participants to discuss progress and new initiatives around Tunisia’s Access to Information law. The event also was an opportunity to launch a new Swiss-funded UNESCO project to facilitate coordination among Civil Society Organizations to implement the law in Tunisia, one of eight countries where IPDCTalks were held.

At the WSIS Forum, UNESCO presented “[Access to Scientific Knowledge, Lessons learnt and the way forward](#)”. The panel highlighted how Open Access and Open Data are enablers for Science, Technology and Innovation (STI), which have helped to close the digital divide for information and knowledge among producers and consumers.

At WSIS 2017, UNESCO elaborated and presented the framework of its [Internet Universality indicators](#) during the High Level Session on “[Defining Internet Universality Indicators and Access Policies to support the implementation of the 2030 Agenda for Sustainable Development](#)”. UNESCO also presented its [Knowledge Societies policy template](#) that offers concrete options for Member States to formulate and adopt appropriate policies at national level.

In 2017, UNESCO also organized the Action Line C3 workshop session on the theme “[Is Software the Key to Access to Knowledge in the Digital Age?](#)” The workshop engaged experts, educators, academics in a broader consultation on software preservation and sharing, following the signing in April 2017 of an [agreement between UNESCO and INRIA](#), editor of the “*Software Heritage Project*”, focused on software preservation and the sharing of its source code. This project has two main objectives: first to favor access to and learning of software code for the purposes of education, digital literacy skills and pedagogical approaches; and second to ensure continuous access to digital resources (which include the source code itself).

At the 2018 WSIS Forum, UNESCO hosted a session on Youth, Access to Knowledge, and the SDGs: Strategies for Building Youth Skills in Digital Technologies. This session evaluated progress across WSIS Action lines C3 (Access to information and knowledge), C4 (Capacity building), and C7 (ICT Applications: E-environment and E-science). Building on the experience of many worldwide initiatives such as UNESCO’s YouthMobile Initiative that introduces young people to computer science programming (learning-to-code) and problem solving (coding-to-learn), the session highlighted policies and programmes that encourage youth involvement in ICTs. The session also reviewed approaches to improve access to multilingual information as well as strategies to develop Youth-sensitive content and youth-focused learning tools.

During the 2018 WSIS Forum, UNESCO also hosted a session on the Ljubljana OER Action Plan. This session examined elements from the Ljubljana OER Action Plan adopted at the 2nd World OER Congress 2017 and its contribution to a UNESCO OER Recommendation that will be developed in the 2018/2019 period. Specifically this session examined the five action areas of the Ljubljana OER Action Plan and their potential contribution to a UNESCO Recommendation in this area, and invited stakeholders, following an online consultation, to provide feedback on the development of this recommendation that will guide OER policy at the global level.



C4. Capacity Building - ITU

a) Summary of how the action line supports transformation towards sustainable and resilient societies

Resilient and sustainable communities are the types of communities that have a high level of social capital, access to information and communication technology (ICT) networks and can call upon a myriad of resources whenever needed. Social capital, which can be understood as the capacity to anticipate change or disaster (anticipatory capacity), adapt to unexpected and immediate change (adaptive capacity), transform systems rapidly (transformative capacity) and create survival alternatives that can minimize impact of the change (absorptive capacity), has been highly associated with level of education in communities. Therefore to mobilize communities towards being sustainable and resilient involves building strong cohesive communities that can adapt to change and are empowered to use local knowledge, experiences and connections to generate social capital. To build these types of communities requires development of specific skills to generate the required capacities. Action line C4 on capacity building focuses on development of skills for the use of ICTs. Since access to ICT infrastructure, devices and applications is growing at a rapid rate, ICTs have become an effective, and affordable mode of knowledge exchange and training. When skills to use ICTs has been acquired, the skills can be used to acquire more skills and knowledge. Due to this capability of ICTs, they are used today by different sectors to empower individuals and improve lives. In this light, strengthening capacities for the use of ICTs becomes an important requirement in generating social capital.

In 2018, Action line C4 session on capacity building focused on ICT skills requirements for social entrepreneurs, opportunities available and challenges for training that they are faced with, as well as the training and awareness raising programs designed to support skills development in this area. These discussions showed the importance of fostering innovation in the entrepreneurial community which is continuously attempting to develop new technological solutions to advance development, as well as the importance of ensuring that these innovations address identified community needs and provide solutions that are customized. The contribution of social entrepreneurs in developing capacities required for building resilient communities can therefore be seen in the impressive innovations they come up with which are used directly to develop social capital and to build the much need skills. Capacity building is needed to develop resilient and sustainable societies.

b) Example of ITU's work in building capacity to develop resilience in communities

i. Restoring connectivity through the use of the Moveable and Deployable ICT Resource Unit (MDRU) (Philippines)

The International Telecommunication Union (ITU), in cooperation with the Ministry of Internal Affairs and Communications (MIC), Japan and the Department of Science and Technology - Information and Communication Technology Office (DOST-ICTO), Philippines, deployed a Movable and Deployable ICT Resource Unit (MDRU) in Cebu, Philippines, which was one of the worst-hit areas by typhoon Haiyan. This project was established to address a need to restore communication networks in the aftermath of a disaster, train local staff, and also study the feasibility of using the MDRU as a technological solution. Meetings were held with the Disaster Risk Reduction (DRR) team of San Remigio, who are the key users of the MDRU. The team had been trained with scenario testing and an emergency drill and found the MDRU system useful for relaying information to the Command Centre, including sending data, pictures of an emergency situation and making calls between themselves, and maintaining communication between the Evacuation Centre and the Command Centre.



Core Group trained at San Remigio

ii. Natural Disaster Early Warning System – Uganda

This project aimed at setting up an early warning system in Eastern Uganda, an area which is vulnerable to floods and mudslides. For many years Butaleja District in Eastern Uganda has been ravaged by flood waters from the River Manafwa. ITU and UCC jointly financed, designed and deployed a public alerting system for authority to citizen information dissemination. The system increased the resilience of the local authorities and communities and equipped individuals with the capacity to prepare adequately when

faced with a disaster such as flooding. Local people were trained to use the public alerting system.



Locally trained staff explaining how the system works





C5. Building confidence and security in the use of ICTs – ITU

a) Summary of how the action line supports transformation towards sustainable and resilient societies

As we move towards the implementation of the Sustainable Development Agenda, it becomes obvious that sustainability cannot be narrowed down to one single goal and target. It is rather about mainstreaming sustainable practices and standards in existing processes, infrastructures and supply chains, with the aim to ensure a country's stable and smooth road to socioeconomic development. Building sustainable and resilient societies is therefore a multifaceted issue, requiring a holistic action that spreads across different areas. ICTs are expected to play a key role in countries' development and modernization process through digital innovation and the deployment of smart infrastructure. Trust is however a decisive factor in the process of ICT deployment and adoption within each country. Experience so far has shown that ICTs can bring tremendous benefits, but they can also entail security risks (i.e. infrastructure disruption, data breaches, increased costs etc.). Considerable as these risks may be, they should not be a deterring factor. Countries, who may be at an earlier stage of digital transition, can avail themselves of the experiences and good practices of more advanced countries to establish a robust and secure digital ecosystem that can underpin their society and economy.

The [WSIS-SDG Matrix](#) elaborates further on areas of the adopted framework, where security in the use of ICTs can play a particularly important role in the overall SDG implementation process. With ICTs being a global phenomenon, ICT trust and security cannot be addressed through individual or sporadic efforts. It instead requires close collaboration among countries, private sector, academia, civil society and other international organizations. ITU as the sole facilitator for Action Line C5 adopted its Global Cybersecurity Agenda (GCA) in 2007 as a framework for global cooperation in this area. The GCA takes a holistic approach building on five strategic pillars: Legal Measures, Technical & Procedural Measures, Organizational Structures, Capacity Building and International Cooperation.

b) Examples of from ITU's work towards facilitating cooperation for a secure cyberspace, as a basis for a prosperous global economy:

i. *Child Online Protection (COP) Initiative*³: ITU launched the **Child Online Protection (COP) Initiative** in November 2008 as a multi-stakeholder effort within the Global Cybersecurity Agenda (GCA) framework. The initiative brings together partners from all sectors of the global community to create a safe and empowering online experience for children around the world. In cooperation with diverse stakeholders, ITU has been providing guidance and building capacity in various countries - involving policy makers, parents, educators and children.

ii. *ITU-D's National Computer Incident Response Team (CIRT) Programme*⁴: ITU's National

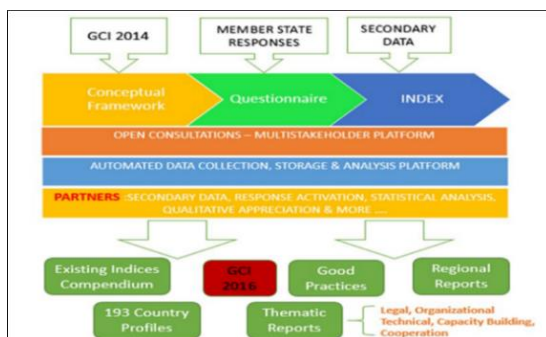


CIRT Programme is helping countries build their national capacity in responding to cyber-attacks and protecting their national critical infrastructure from cyber-threats. ITU provides assistance to its Member States in four stages: **a)** Assessment of cybersecurity readiness, **b)** Design phase (identifying services, resource requirements etc.), **c)** CIRT establishment phase; **d)** CIRT improvement/enhancement phase. Cyber drills are also organized as regular regional exercises to improve coordination among the different National CIRTs within the different regions.

³ For more information, please visit: <http://www.itu.int/en/cop>

⁴ For more information, please visit: <http://www.itu.int/en/ITU-D/Cybersecurity/Pages/Organizational-Structures.aspx>

- iii. Global Cybersecurity Index (GCI)⁵: The Global Cybersecurity Index (GCI) is a multi-stakeholder initiative to measure the commitment of countries to cybersecurity within five categories: Legal Measures, Technical Measures, Organizational Measures, Capacity Building and Cooperation. So far, there have been two GCI iterations, launched in 2014 and 2017. A third iteration is currently under elaboration.



- iv. National Cybersecurity Strategy (NCS) Initiative⁶: The NCS initiative to co-author a functional toolkit to help governments develop and improve their Cybersecurity strategies has seen the consolidation of a partnership of 15 key players. The toolkit is currently under finalisation.



- v. Cybersecurity Technical Standards⁷: The ITU Standardization Sector through its Study Group 17 “Security” produces Recommendations (Standards) in the area of cybersecurity, anti-spam, identity management, X.509 certificates, information security management, ubiquitous sensors networks, tele-biometrics, IPTV security, virtualization security towards cloud computing security, and security architecture and application security, often in cooperation with external SDOs and Consortia.

⁵ For more information, please visit: <http://www.itu.int/en/ITU-D/Cybersecurity/Pages/GCI.aspx>

⁶ For more information, please visit: <http://www.itu.int/en/ITU-D/Cybersecurity/Pages/National-Strategies.aspx>

⁷ For more information, please visit: <http://www.itu.int/en/ITU-T/studygroups/2017-2020/17>



Creating an enabling environment essential for a just and equal information society (WSIS AL C6)

In recent years, it has been recognized that ICTs are key to the advancement of the digital economy and contribute to achieving the Sustainable Development Goals (SDGs). Therefore, all people need affordable access and the digital skills to benefit from ICT services and applications in a trusted, safe and secure digital environment. This is a prerequisite for achieving progress across virtually all sectors of the national and global economies – from education to finance to health, agriculture and transport – to support the digital transformation towards sustainable and resilient societies. All ICT stakeholders, including national regulators, policy makers and the private sector, are mindful that regulation – and more importantly collaborative regulation across different sectors – play an important role in the digital transformation. In order to enable it, it is important to create the appropriate mechanisms for collaboration and create strong incentives for infrastructure development, innovation and entrepreneurship. The major challenge going forward will be balancing futuristic ambitions with the real needs of people – and bringing in digital transformation by embracing new technologies and innovation.⁸

Affordable access to digital services for all is fundamental to achieving the digital transformation. Over the past years, we have witnessed significant, fast technological developments, the move towards Next Generation Networks (NGN) and the proliferation of broadband networks. This new dynamic in infrastructure buildout has changed the ICT sector substantially and has increased its impact on the national economy. Understanding the linkages between telecommunication/ICT networks and their technical capabilities, on one hand, and the determination of the costs of provision and pricing of services, on the other hand, is crucial for creating and maintaining healthy market competition to deliver lower service prices to consumers. Regulators have stepped in to reduce the cost of ICT services and encourage infrastructure deployment and investment using innovative regulatory instruments and enforcement techniques. In doing so, coordination and collaboration between regulators and ICT network operators have become more mainstream and should be further enhanced. This evolution of the regulatory paradigm was a main focus of the discussions at the last ITU Global

⁸ Based from WSIS Forum 2018 OUTCOME DOCUMENT Action Line C6, Enabling Environment organized by ITU.

https://www.itu.int/net4/wsis/forum/2018/Content/Uploads/DOC/4304fdd9992d4c97bccb1ee8828ad90/WSIS_Forum_2018_Outcome_Document_AL_C6.pdf

Symposium of Regulators 2017 (GSR17) where were adopted the best practice guidelines on policy and regulatory incentives for affordable access to digital services⁹ to support regulators in decision-making and policy implementation, considering that ICT services can significantly contribute to economic growth and social development (see Box 1).

Box 1: GSR17 Best Practices Guidelines - Strengthening the regulatory foundation for affordable access to digital services

Recognizing the transformative power of the following regulatory instruments for reducing the cost of ICT infrastructure deployment and the adoption of end-user services, we, the National Regulatory Authorities participating at the GSR17, reiterate their relevance and call for strengthening and further streamlining rules and practices with regards to:

- Adopting and leveraging national digital policies, strategies and plans which seek to ensure that broadband and IP technologies are available to as wide a community of users as possible
- Adopting a flexible, transparent approach to promoting robust competition in the provision of network access and end-user digital services
- Designing flexible, incentive-based and market-oriented policy and regulatory frameworks with regard to allocation and assignment of spectrum, in particular for broadband services
- Promoting cross-border fiber networks as well as the build-out of pervasive national backbone networks complemented by terrestrial wireless and satellite infrastructure where necessary
- Synchronizing domestic network demand with international capacity deployment
- Encouraging the deployment of Internet exchange points as well as content distribution networks at the national, regional and international level
- Removing barriers to market entry at all levels and adopting incentives for open access and infrastructure sharing at the international and regional levels, with a view to reducing the cost of connectivity to submarine cables, regional fiber backbone and satellite infrastructure
- Adopting innovative licensing regimes and incentivizing new business models for covering remote and rural areas that more effectively integrate the use of terrestrial, satellite, and submarine telecommunication infrastructure
- Fostering multi-infrastructure mapping and deployment, including working with local government to lift restrictions on infrastructure deployment
- Monitoring and, if necessary, setting mobile and fixed interconnection rates, including through sound regulatory accounting
- Requiring dominant incumbent providers to provide wholesale, unbiased access to its network for the purposes of interconnection and infrastructure sharing

⁹ https://www.itu.int/en/ITU-D/Conferences/GSR/Documents/GSR2017/GSR17_Best%20Practice%20guidelines_E.pdf

- Enabling number portability over fixed and mobile networks
- Considering the efficiency of licensing and spectrum fees
- Using holistic universal access and service strategies and financing mechanisms for both network expansion, connectivity for public institutions and the community as well as demand stimulation measures, such as end-user subsidies
- Promoting the development of innovative new technologies that enhance rural and remote coverage at lower cost

We recall and reconfirm the importance of such measures and incentives, as iterated in the GSR best practice guidelines from previous years.

Source: www.itu.int/en/ITU-D/Conferences/GSR/Documents/GSR2017/GSR17_Best%20Practice%20guidelines_E.pdf

Furthermore, consumers are increasingly requiring higher broadband traffic and speeds with the use of applications such as video-on-demand streaming, online gaming, cloud computing and big data. The development of faster and more pervasive broadband technologies, such as 5G, has become a priority for governments and businesses alike. To strengthen the momentum towards digital transformation, most countries have set out ambitious national broadband plans aspiring for widespread coverage of high-speed networks. Governments have also forged new incentives to operators for boosting investment and the development of networks. One of the main challenges has been to balance the stimuli for the investment in high-speed and high-capacity broadband networks with guaranteeing affordable, fair prices of digital services. Fiscal incentives have been successfully leveraged to encourage operators to lower tariffs, including through the reduction or elimination of customs duties on telecommunication/ICT equipment for infrastructure providers as well as on end-user terminals and devices. Other possible regulatory remedies are also at hand, such as proportionate and transparent tariff regulation, preferably at the wholesale level, and price monitoring of digital services. The promotion of policies and regulatory measures, as well as the stimulation of market competition among ICT and other sector players, will also likely bring opportunities for innovation and price reduction for digital services.

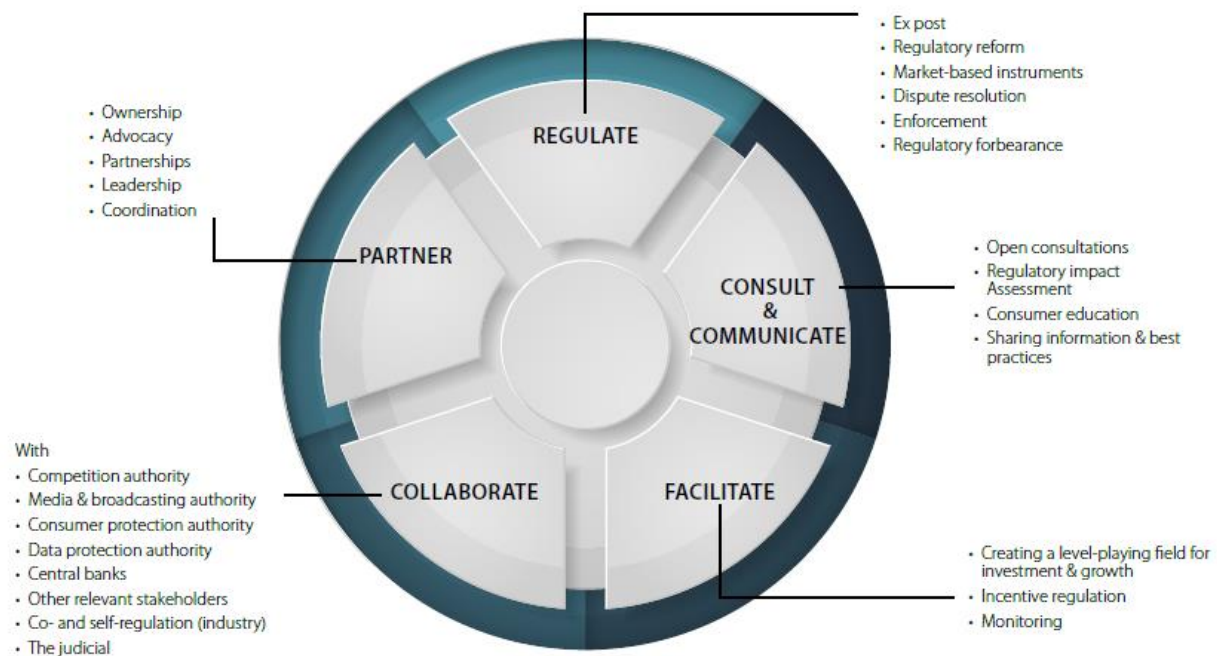
In the realm of digital transformation, collaborative regulation is becoming central, as regulators, competition authorities and other national sectors (e.g. broadcasting, finance, energy, health) should consider the importance of ICT services and content as a driver of national socio-economic growth. In this sense, clearly defined roles and mandates are necessary, as well as the identification of overlaps – and areas for collaboration – among policy makers and national regulators.

Increasing numbers of ICT regulators are now teaming with regulators from other sectors to address multi-sector issues. Such collaborative regulation brings all parties to the table to share their sector-specific expertise, but also responsibility for decision-making. Transparent and practical cooperation, coupled with communication across sectors and key players – regulators and policy-makers and other stakeholders – are essential to regulation that responds to market realities, players' needs and consumer demand. Equipped with this collaborative, problem-solving attitude, regulators can better harness and maintain the buoyant growth of ICT markets. Potential counterparts for ICT regulators can vary from policy-makers to separate government agencies such as other sectors' industry regulators. Interlocutors in collaborative regulation from adjacent sectors include (when they exist at the national level) the competition authority, the media and broadcasting authority, the consumer protection authority, the data protection authority and financial regulators including central banks.

Collaborative regulation is built on hard work, an open attitude and team play. At its core are principles of strengthening institutional capacity and the legal mandate of the regulator, sound regulatory regimes and enhanced competition frameworks. This new generation of regulation does not involve greater volumes of regulation, but rather more hands-on, inclusive regulation and decision-making (see Figure 1 outlining its main pillars).¹⁰

Figure 1: Collaborative regulation

¹⁰ For an in-depth discussion on collaborative regulation, see the 2017 Global ICT Regulatory Outlook, <https://www.itu.int/en/ITU-D/Regulatory-Market/Pages/Outlook/2017.aspx>



There is much work to be done and regulators across all sectors must rise to the challenge: 3.9 billion remain unconnected to the Internet, 2 billion are unbanked, 400 million are unable to access essential health services and 775 million adults lack basic literacy. To help meet such challenges, collaborative regulation is indisputably the way forward. Collaborative regulation harnesses regulatory coherence and power to improve markets. Functioning as a single machine does not go without institutional challenges and governance issues. But there is much to recommend it. Collaborative regulation extends beyond differences and enables regulators to determine the greatest – not the least – common denominator. Collaborative regulation offers a path crossing from words to action, coming together to speak with one voice to support transformation towards sustainable and resilient societies.



C7. ICT Applications: E-government - UNDESA

- a) Summary of how the action line supports transformation towards sustainable and resilient societies

Information and Communication Technologies (ICTs) and e-Government Strategies are symbiotic enablers of sustainable development. Together, they have the potential to increase productivity, stimulate economic growth and reduce poverty. The effective use of these enablers can improve government processes, effectiveness of public service delivery and strengthen accountability. ICTs and e-Government strategies also have the potential to ensure that no one is left behind in sustainable development. If combined, they can build resilience amongst those in vulnerable situations and reduce their exposure to economic, social and environmental shocks and disasters.

Governments have the critical responsibility to pursue policies and measures to build resilience and assist those most affected by shocks in achieving SDGs. They must find ways to anticipate disasters and shocks and lower their impact. They need to manage emergency responses, seamlessly perform essential functions and deliver services, and recover rapidly from crisis situations and feedback lessons learned into their institutions and public administrations.

Digital technologies are increasingly being used by governments to improve the response to disasters and other shocks to improve the resilience of communities. Whether Geographic Information Systems (GIS), open data, e-government services, or cutting-edge and emerging technologies such as artificial intelligence or block chain, they can serve as a means for improving both resilience and emergency response.

- b) Provide an Example (or examples)

UNDESA conducts the United Nations E-Government Survey every two years. The Survey itself is a systematic assessment of 193 Member States of the UN from various perspectives. It provides a policy- relevant analysis on how government utilize technologies and ICTs in their management to achieve sustainable growth. As a powerful tool for Member States to achieve SDGs, the Survey can potentially transform the public sector by increasing effectiveness and transparency. It also serves as a tool for the decision makers in the public sector to identify what can be improved in the future.

The 2018 UN E-Government Survey will be published as the implementation of the 2030 Agenda

for Sustainable Development Goals (SDGs) advances to its third year. Governments have the critical responsibility to pursue policies and measures to build resilience and assist those most affected by shocks in achieving SDGs. They must find ways to anticipate disasters and shocks and lower their impact. Digital technologies are increasingly being used by governments to improve the response to disasters and other shocks to improve the resilience of communities. At the same time, the development of ICTs has added a new dimension of vulnerability. This requires bolstering resilience in other areas where governments are not always well equipped to venture. Governments are also called upon to find ways to ensure good standards and safeguards in online public services such as digital health while working closely with the private sector. Overall, in the information society, it is important to move onwards to an approach where the concerns of building resilience, sustainable development and leaving no one behind are embedded in e-government development. The survey will explore how to move in this direction. This overarching theme will be explored against the backdrop of an analysis of the trends in e-government development worldwide based on the EGDI.





C7. ICT Applications: E-business – UNCTAD

a) Summary of how the action line supports transformation towards sustainable and resilient societies

The C7 e-business action line is co-facilitated by the International Trade Centre (ITC), the Universal Postal Union (UPU), and the United Nations Conference on Trade and Development (UNCTAD). Although the WSIS-SDG matrix links the e-business action lines to Sustainable Development Goals 1, 2, 5, 8, 9, which are not the focus of the HLPF 2018, the transformational aspects of e-business, or certain aspects of digitalization, certainly have a role in achieving sustainable and resilient societies and contribute in particular to Goals 7, 11, 12 and 17.

The e-business action line activities aimed at strengthening the enabling environment for e-business can contribute to Goal 7 to ensure access to affordable, reliable, sustainable and modern energy for all. The postal network can be a deployment tool for renewable energy, promoting investment in energy infrastructure and technology, and the postal system has been leveraged to increase the share of renewable energy in the global energy mix. Through the development of quality connectivity infrastructure, the e-business action line also contributes to Goal 11 to make cities and human settlements inclusive, safe, resilient and sustainable. The Post is key connectivity infrastructure for urban development and risk management. In many developing countries, a lack of addressing infrastructure can be a factor that worsens inequalities and undermines economic growth. Measures (including digital) to ensure last mile delivery of post in developing countries could also improve the delivery of other information and services, such as critical emergency notifications (for disaster risk management). UNCTAD works on improving transport and logistics infrastructure and operations, which are key to e-business and e-commerce connectivity as well as to resilience, particularly in countries with special geographical and resource constraints (small island developing states, land-locked developing countries, and least developed countries).

In addition, in the context of its work as the secretariat of the Commission on Science and Technology for Development, UNCTAD has produced research on smart cities and how science, technology and innovation can help overcome critical challenges related to sustainability, inclusiveness, and resilience associated to current urbanization trends. In this context, urban planners can use information and communication technologies to solve various cross-sectoral urban problems such as geospatial tools for spatial planning, simulation and visualization modelling, mobility tools, solutions for optimizing energy and water management, disaster

monitoring and response, and social inclusion. For instance, smart cities can develop the capacity to use technology such as big data to develop predictions or identify hotspots of population health (such as epidemics or health impacts during extreme weather events). From the perspective of human settlements in Goal 11, e-commerce and e-business open opportunities to inclusive and sustainable trade for marginalized groups of people. E-learning for trade programs are also contributing to Goal 11 to make human settlements inclusive, resilient and sustainable, especially training aimed at MSMEs in fragile states, hard to reach, or former conflict zones. An ITC survey on global competitiveness shows that MSMEs in developing countries face barriers at earlier stages in the process of establishing an online business and twice as high logistics costs, which in turn have a significant impact on their ability to compete, their resiliency and sustainability. These “early stage” barriers are particularly impactful in least developed countries, and among rural, micro and women-owned enterprises.

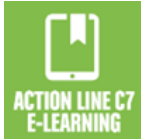
E-business actions by ITC and UNCTAD to build local capacity to participate in domestic, regional, and international value chains also have an impact on Goal 12 to ensure sustainable consumption and production patterns. An emerging discussion is that of the possibility to use blockchain (distributed ledger) technologies to contribute to Goal 12 for sustainable consumption and production patterns. Blockchain technologies can be applied to ensure the integrity and transparency of supply chains across borders, by allowing traceability of inputs and monitoring that raw materials come from sustainable sources. Similarly, big data on postal and trade flows can help inform trade policy for sustainable development. Further research will be required, but e-business action line facilitators are already looking at these issues and sharing knowledge. In terms of Goal 17 for a revitalized global partnership, actions by UNCTAD to promote the integrated treatment of trade include harmonizing legal frameworks for digital trade in developing regions to ensure trust in online transactions, facilitate domestic and international trade online, and offer legal protection for users and providers of e-business services. The UPU enables trade facilitation through partnerships with governments and exporters, while ITC partners with the private sector to provide many of the supporting services that SMEs in poor countries require to trade internationally in a sustainable manner.

b) Provide an Example (or examples)

Contributing to Goal 7, UPU collaborated with the African Union and Pan-African Postal Union to launch an Electrification Project in 13 pilot countries to reach 65 rural post offices. In another example of e-business infrastructure being used to improve access to sustainable energy, 130,000 post offices in India are equipped with solar panels to enable computerization and deliver postal and financial services to rural areas.

An example of digital capacity building on trade contributing to Goal 11, is ITC's online courses on entrepreneurship and trade for potential migrants and returnees from sub-Saharan Africa, and through the SheTrades app, women entrepreneurs around the world can share information about their companies, increase visibility, expand networks, and connect to international markets. In Syria, ITC and a Swiss Association trained internally displaced women to sell their crafts online to Europe and Japan, linking them with international markets through digital channels (including a cloud-based set of digital tools to improve stock management and handling of orders and promotions). Regarding Goal 12, an ITC project in the West African Economic and Monetary Union created a locally-managed B2B online marketplace, and supported firms from across the region to list their products on it. In another example, small firms in South East Asian LDCs were trained and accompanied in accessing online marketplaces in China and exporting materials to a Chinese e-fulfilment centre.

In an example of e-business contributing to both sustainable production patterns (Goal 12) and partnerships (Goal 17), ICT and eBay collaborated to help coffee growers from Rwanda sell online and export their produce directly to consumers across Europe. Another example of e-business contributing to Goal 17 is UPU's Easy Export Program to simplify and harmonize export services for MSMEs by using the postal infrastructure; in Brazil, the program enabled thousands of small businesses, which had never previously exported, to access international markets, and entailed partnerships with international trade agencies, customs authorities, financial regulators, ministries, and the enterprises themselves.



C7. ICT Applications: E-learning – UNESCO

- a) Summary of how the action line supports transformation towards sustainable and resilient societies

As a follow-up to the Qingdao Declaration (2015) on leveraging ICT for Achieving Education 2030, UNESCO convened the second International Conference on ICT and Education 2030, which adopted the Qingdao Statement (2017) designed to guide implementation strategies for unleashing the potential of ICT to help reach the SDG-4 targets.

UNESCO and Intel partnered to launch in 2016 the Global ICT in Education Policy Platform to facilitate the on-going policy debates on leveraging e-learning to promote quality education and to advance inclusion, equity and gender equality. More than 50 countries have developed or updated their national ICT in education policies and master plans with a view to promote e-learning for all with the direct support of UNESCO.

Through the Broadband Commission for Sustainable Development, UNESCO established a Working Group on Education in 2016, which published its report on “Digital Skills for Life and Work” (September 2017) designed to guide Member States in defining digital skills and mainstreaming strategies to support sustainable and equitable development.

In follow up to the 2012 Paris Declaration on OER, UNESCO organized the 2nd World OER Congress in Ljubljana, Slovenia, which adopted the 2017 and Ljubljana OER Action Plan accompanying Ministerial Statement. The Ljubljana OER Action Plan, adopted by acclamation by delegates and experts from 111 countries, presents 41 recommended actions to mainstream open-licensed resources to help all Member States to build Knowledge Societies and achieve the 2030 SDG 4 on “quality and lifelong education.” In 2016-17, UNESCO provided assistance to more than 20 countries in supporting the development of national policies and strategies for adopting OER, and published case studies on OER projects of 15 countries.

UNESCO is finalizing the ICT Competency Framework for Teachers (ICT CFT) Version 3. ICT CFT outlines a set of competencies that teachers need to integrate ICT into their practice and professional development to advance student learning. Version 3 will integrate emerging trends in technology, including Social Network, E-safety and E-ethics. Inclusion of issues related to accessibility for Persons with Disabilities and OER is foreseen as well. The ICT CFT implementation

supported through the development of openly licensed materials adapted to national contexts has been developed by over 10 countries, with the support of UNESCO. A dedicated hub for OER linked to the ICT CFT has been developed and is available at <https://www.oercommons.org/hubs/UNESCO>.

Through its annual Mobile Learning Week, UNESCO has been organizing capacity building workshops, symposiums, policy forums and strategy labs to help governments and other stakeholders discover ways to harness the power of widely-available mobile technology and other technological advances including Artificial Intelligence. UNESCO also supports countries in planning and implementing projects on how to use mobile learning for literacy education and supporting teachers with mobile technology.

Through the UNESCO King Hamad Bin Isa Al-Khalifa Prize for ICT in Education, UNESCO has identified and brought attention to innovative approaches around the world in e-learning. The most recent prize-winning laureates (2016), from Bangladesh and Germany, addressed the theme of "ICTs in Education for Disadvantaged Groups".

The UNESCO Sandwatch project is implemented in coastal regions in Africa, Latin America, the Caribbean and the Asia-Pacific regions, in the framework of the citizen science global observatory. Sandwatch enrolls young people, their parents and communities in the protection and preservation of their coastal areas, including their related waterways and wetlands, applying an approach called MAST ("Measure, Analyze, Share, Take action").

Recent ICT-led innovations in environmental sensing, data processing, interactive visualisation show promise for participatory knowledge generation. UNESCO and its partners are implementing Mountain-Environmental Virtual Observatories (Mountain EVO) in Peru, Kazakhstan, Nepal and Ethiopia.

UNESCO supports and was involved in creating and advancing the Smart Campus Cloud Network (SCCN) for Sustainable Development. The SCCN integrates ICTs, IOT and AI to create a global network, committed to make a tangible contribution to SDGS 'learning by doing' approach to empower youth to carry out activities using modern technologies.

In the framework of Libyan self-benefitting Funds-in-Trust, high-ranking representatives of 18 Libyan universities throughout the country have developed nine OERs on academic subject areas such as medical clinical skills, renewable energy, civic culture and environmental pollution. UNESCO also is implementing a self-benefitting Funds-in-Trust project in Libya on Open Access to Scientific Research and Development. The large-scale Project launched in 2016 is developing an Open Access policy framework to help bridge scientific knowledge divides and build capacities at multiple levels.



C7. ICT Applications: E-health – WHO

- a) Summary of how the action line supports transformation towards sustainable and resilient societies

In the past decade, the public health sector has seen a tremendous increase in the use of digital health, the application of ICT to public health and care service delivery through data, images, and other forms of digital information.

Digital health systems can help manage and improve the quality of care in a broad range of settings, from community clinics to long-term care facilities. These systems support essential public health functions, such as gathering surveillance data during disease outbreaks, serving as repositories for vital statistics and population health data, and tracking service-delivery data to aid resource and health-commodity planning. Digital health also helps health workers follow the best-practice guidelines and algorithms established for delivering high-quality care. The adoption of digital health systems is accompanied by a tremendous volume of digitized information. In principle, such data can be made available, searched, and analysed to support informed decision-making at all levels. Unfortunately, easy access to the data is hampered by the design of many existing systems, which results in islands of isolated information which have yet to generate efficiency and improve health outcomes as hoped.

- b) Current challenges in implementing digital health

Siloed digital health systems have emerged because most digital health implementation projects occurred independently. Different information systems have been deployed within the same country or even within hospitals under the same umbrella organization. In many low-resource settings, philanthropic organizations funded vertical programmes that implemented one-off information systems to solve a single problem or to support a specific health area such as HIV. Many of these systems were not designed based on an underlying architecture that would tie different components together into a streamlined and cohesive whole.

This missing architecture resulted in the lack of interoperability amongst information systems, as well as devices. Interoperability is the ability of systems, applications, and devices to communicate 'in an unambiguous and predictable manner to exchange data accurately,

effectively, and consistently; and to understand and use the information that is exchanged’.

The trend is slowly now moving towards integrated healthcare delivery where one digital health application has to work with other applications. The objective is to help these applications share health information and data about patients, health workers, health systems, and even commodities and equipment, such as medical devices and pharmaceuticals.

Another emerging trend that holds great promise for transforming health care is the Internet of Things [IoT], which refers to the networking of physical devices and other objects in our everyday environment through embedded technology, allowing these devices to collect and exchange data. IoT devices can range from wearable health monitors or fitness trackers to embedded sensors in furniture, buildings, and household objects, such as scales, appliances, and medication dispensers. This innovation trend can transform the way Primary Healthcare is provided.

Artificial Intelligence applications can be also a game changer to achieve Universal Health Coverage goals by empowering frontline health workers to enable early stages of diagnostic like Malaria or Cervical Cancer detection or to identify population at risk of developing non-communicable diseases like detecting diabetes/cardiac-risk from the iris, etc. Currently much of this work is done manually, limiting the frequency and scale of coverage. AI can be used also during health and natural disaster emergencies that can significantly increase the efficiency of disaster response and save more lives.



C7. ICT Applications: E-employment - ILO





C7. ICT Applications: E-environment – WMO/ ITU





C7. ICT Applications: E-agriculture - FAO

a) Summary of how the action line supports transformation towards sustainable and resilient societies

Today, we are living in a highly digitalized era. In 2017, 47% of the world's populations were using the Internet and 54% of households in the world had Internet access. Mobile-broadband subscriptions have grown more than 20 annually in the last five years and are expected to have reached 4.3 billion globally by end 2017. By 2020, the world is expected to have over 50 billion Internet of Things devices and equipment. At the same time, the food and agricultural sector, which also includes livestock, fishery, forestry, nutrition and climate topics, is going to face enormous challenges to feed the 9.6 billion people who will inhabit the planet by 2050, and food production must increase by 70% by 2050.

FAO is committed to reducing poverty, ending hunger and fighting malnutrition. FAO promotes the application of Information and Communication Technologies (ICTs) and digital innovation solutions in the rural domain with a primary focus on agriculture to boost rural development, increasing resilience and livelihoods of smallholder and family farmers.

Digital Innovation is key for transforming rural communities and building resilience to address global challenges and ultimately achieving the SDGs, in line with the WSIS Action Lines. Therefore, it is necessary to develop a strategic framework for sustainable digital innovation to increase multi-stakeholder partnerships bringing together UN agencies, private sector partners, national governments, and NGOs implement and scale up the use of ICTs in rural areas, digital innovation programmes and initiatives, and national e-agriculture strategies to collectively break down the triple divide: digital, rural, and gender.

In 2017-2018, FAO has amplified efforts to implement the WSIS Action Lines towards the SDGs, partnering with the International Telecommunications Union (ITU) promote the development and use of ICT innovation in agriculture. Key initiatives include developing national e-agriculture policies and regulations and co-organizing #HackAgainstHunger events seeking to engage young aspiring entrepreneurs to develop new digital products and services that can transform the lives of farmers, pastoralists, and fishers. Bringing together diverse stakeholders, including governments, UN agencies, civil society and private sector, FAO is harnessing digital innovation

to improve access and availability of global and local information on agriculture, food security, nutrition, climate, existing policies and funding initiatives to develop and deliver local digital services directly to rural farmers in the field, based on sustainable and scalable business models.

b) E-agriculture in Action

I. **#HackAgainstHunger**

#HackAgainstHunger is a global effort by the International Telecommunication Union (ITU) and the Food and Agriculture Organization of the United Nations (FAO) to identify and support innovative solutions to address challenges around food and agriculture. In a 2-days sprint-like event, it convenes hackers, ages 18 - 35 years old, to develop innovative digital services, mobile & web applications, mainly for middle and lower-income countries, using artificial intelligence, as well as algorithms based on various datasets. *#HackAgainstHunger* 2018 includes 2 regional hackathons in Rwanda, and in Caribbean (one event in Jamaica and another one in Trinidad & Tobago), as well as a Special Track Hackathon in Geneva during the WSIS Forum 2018, the world's largest annual gathering of the 'ICT for development' community. The winning teams of the regional hackathons were sponsored to participate in the *#HackAgainstHunger/Geneva*.

The hackathon was announced in the end of December 2017 and more than 240 applications were submitted, among which 80 best profiles were selected. The participants came from 33 different countries and from very diverse academic and professional backgrounds, from computer scientists, to sustainability experts, passing by Agricultural Economist, Management, Humanitarian Action and many others.

During the *#HackAgainstHunger/Geneva* in March 18-19, all 14 teams were able to (1) connect with the UN ecosystem and telecoms influencers, (2) receive operational and startup support from social entrepreneurs and business coaches for further developing their projects and (3) benefit from specific know-how and skill sets of experts from ITU and FAO to give them feedback.

All participants were invited to the High Level Segment of the WSIS Forum, on Tuesday 20 March. The winners were able to pitch in front of a high level and multi-stakeholder audience.

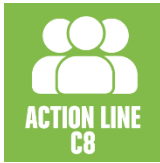


II. WSIS Forum 2018-E-Agriculture Session

FAO participated in the WSIS Forum 2018 in Geneva in March, having more than 2800 attendees focused on Information and Knowledge Societies for SDGs, where FAO and ITU organized a joint session.

Guiding the WSIS Action Line 7 – e-Agriculture. The session “Building a Framework for Digital Innovation in Agriculture” consisted of a mix of experts from UN agencies, Private sector and the Non-Governmental Organizations community involved in agriculture. The panelists shared their insights and experiences in designing and implementing different projects, programs and initiatives dealing with e-Agriculture applications. Each speaker made a presentation of approximately 15 minutes. The key agreements are to enhance digital innovation for the poorest of the poor by understanding and acting on both front end and back end, to build a framework for digital innovation in agriculture and to develop National E-Agriculture Strategy.





C8. Cultural diversity and identity, linguistic diversity and local content- UNESCO

a) Summary of how the action line supports transformation towards sustainable and resilient societies

UNESCO's "[Global Report: Reshaping Cultural Policies, Advancing Creativity for Development](#)" was launched in December 2017 in the framework of the [2005 Convention for the Protection and Promotion of the Diversity of Cultural Expressions](#). The report examines developments and best practices on the use of digital and interactive content and technology in the cultural and creative industries, as well as the elaboration of policies thereon.

In June 2017 the Conference of Parties to the 2005 Convention adopted new operational guidelines for implementation in the digital environment. The guidelines provide a strategic framework for understanding, interpreting and implementing the 2005 Convention in a digital environment, where cultural goods and services are created, produced, distributed, disseminated, consumed and/or stored electronically.

Within its [global capacity-building strategy](#), the Secretariat of the [2003 Convention for the Safeguarding of the Intangible Cultural Heritage](#) developed a large set of pedagogic materials on different aspects of the intangible heritage safeguarding, which are available in several languages free of charge on the [Convention's webpage](#).

The use of ICT for the museum sector includes initiatives focused, in particular, on the digitization and organization of online collections and inventories. The [2015 UNESCO Recommendation concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society](#) addresses the issue of ICTs and acknowledges the key role they play in providing opportunities to museums in terms of preservation, study, creation and transmission of heritage and related knowledge.

UNESCO and the Victoria and Albert Museum London organized a roundtable held at the Organization Headquarters in May 2017 to address the use of ICTs from the perspective of reproduction of art and cultural heritage. This marked the launch of a new initiative "*Reproduction of Works of Art and Cultural Heritage*" ([ReACH](#)), which aims to re-contextualize

the reproduction of cultural heritage in response to the global advent of ICTs.

UNESCO was a partner to [MuseumWeek 2017](#), organized in cooperation with the NGO Culture for Cause. A successful international social media event, it mobilized more than 4,000 museums worldwide from 95 countries.

The [#Unite4heritage](#) campaign, a global movement powered by UNESCO and entirely run online, targets youth through news and social media. Videos, photos and anecdotal content is shared to celebrate and safeguard cultural heritage and diversity around the world.

Since the signature of a Memorandum of Understanding in June 2015, UNESCO and the Operational Satellite Applications Programme (UNOSAT) of the United Nations Institute for Training and Research (UNITAR) are cooperating on a regular basis for the monitoring, via satellite imagery, of heritage destruction and damage in Iraq, Syria, Libya and Yemen. Under this partnership UNOSAT provides imagery and imagery analysis to UNESCO, while UNESCO provides advice on the sites that require monitoring, the selection of experts to conduct analyses, and comparative data prior to damages.

The [World Heritage State of Conservation Information System, launched in 2012](#), provides reliable information on the state of conservation of natural and cultural World Heritage properties since 1979 and the threats they have faced in the past, or are currently facing. The system makes available more than 3,400 reports on 547 World Heritage properties. This comprehensive online information system is a vital tool for World Heritage stakeholders and a major source of information for all interested in heritage conservation.

The [1970 Convention on the Means of Prohibiting and Preventing Illicit Import, Export and Transfer of Ownership of Cultural Property](#) continuously works on raising awareness on illicit trafficking through online campaigns. These included 13 audiovisual clips that target the public, tourists and youth. Additionally, within the context of the [#Unite4heritage](#) campaign, and following the success of the mobile application game developed by UNESCO Baghdad Office entitled “[Sarmad the Adventurer](#)” to raise awareness among Iraqi youth on Iraq’s cultural heritage and the importance of protecting it against illicit trafficking, “[Sarmad the Adventurer 2](#)” has been launched.

The 1970 Convention Secretariat also maintains an online [Database of National Cultural Heritage Laws](#) providing thousands of cultural laws from 188 countries. This information is regularly updated and open to the public.

The “Canoe Is the People” project uses ICTs to promote indigenous knowledge of the Pacific

Ocean environment including traditional open ocean wayfaring. Through audiovisual documentation with Master navigators and canoe builders, as well as animations, images and texts, the “Canoe is the People” website (www.canoeisthepeople.org), available in both English and Maori, offers a vehicle for elders and experts from several Pacific countries to pass on their specialized knowledge, skills and worldviews to Pacific youth.





C9. Media – UNESCO

- a) Summary of how the action line supports transformation towards sustainable and resilient societies

UNESCO and C9 stakeholders have advocated a wide range of cutting-edge issues related to Action Line C9 Media including freedom of expression and privacy online and offline, press freedom, safety of journalists and media actors, gender equality in media, media and information literacy, online hate speech, radicalization, encryption, etc.

In March 2017, UNESCO launched the project “[Defining Internet Universality Indicators](#)”. As part of the methodology for developing the indicators, UNESCO has initiated a global consultation process both online, through a consultation platform available in the six UN languages, and in-person through 26 consultation activities being held in 23 countries. These consultations have helped UNESCO facilitate and expand its partnerships with multiple stakeholders in implementing Internet Universality principles in different countries.

In terms of policy research, UNESCO has released three publications: [Youth and Violent Extremism on Social Media: Mapping the Research](#); [What if we all governed the Internet? Advancing multi-stakeholder participation in Internet governance](#); and [Survey on Privacy in Media and Information Literacy with Youth Perspectives](#).

One of UNESCO’s flagship events, [World Press Freedom Day](#) (WPFD), was celebrated on 3 May 2017 with 139 national events around the world. The main event was held in Jakarta, Indonesia (1 to 4 May) under the global theme of [Critical Minds for Critical Times: Media’s role in advancing peaceful, just and inclusive societies](#). The event gathered 1,500 participants from over 90 countries, making it the most attended WPFD to date. At the close of the conference, participants adopted the [Jakarta Declaration](#), which addresses three major challenges to press freedom, namely false news, safety of journalists, and freedom of speech on the Internet.

The [International Programme for the Development of Communication \(IPDC\)](#) supports an extensive range of projects in developing countries worldwide. 2017 saw 57 media development projects from around the world, supported by the IPDC through financial allocations during its Bureau meeting held in March 2017. Bureau members were able to assess progress on projects recently launched through IPDC, such as the [Post COP 21: Strengthening media capacity to](#)

[monitor and report on climate change in Asia Pacific](#) (supported by Malaysia); [Defining Internet Universality Indicators](#) (supported by Sweden); [Journalists and Media – Governance in the Gambia](#) (supported by the European Union), and [Training judicial authorities in Africa on freedom of expression and the safety of journalists through a Massive Open Online Course \(MOOC\)](#) (supported by Denmark).

Member States, UN, intergovernmental organizations, non-governmental organizations, media and professional associations and members of academia gathered for the 2017 edition of the [Multi-Stakeholder Consultation on Strengthening the Implementation of the UN Plan of Action on the Safety of Journalists and the Issue of Impunity](#) (Geneva, 29 June). They assessed their achievements, considered the future and shared best practices. The Consultation was organized by UNESCO and the United Nations Office of the High Commissioner for Human Rights (OHCHR) and it gathered more than 90 participants.

On 2 November, UNESCO marked the International Day to End Impunity for Crimes against Journalists (IDEI). Thirty (30) events were organized in 27 countries, including a regional conference in Nairobi, Kenya, and an event at United Nations Headquarters in New York. UNESCO also launched a global media and social media campaign on the subject resulting in 246 articles on the issue of impunity for crimes against journalists all around the world. The 2017 IDEI main event was organized in Colombo, Sri Lanka (4 December) by UNESCO and the Sri Lankan authorities, with the participation of key national and regional stakeholders including the representatives of Asian National Human Rights Commissions.

UNESCO continued its work on the flagship series [World Trends in Freedom of Expression and Media Development and issued a new edition in 2017](#), to monitor global and regional developments related to media freedom, pluralism, independence and safety of journalists. With a special focus on gender equality in the media, the 2017 report provides a global perspective that serves as an essential resource for UNESCO Member States, international organizations, civil society groups, academia and individuals seeking to understand the changing global media landscape.

Good community media practices and policies continue to be fostered. The project “[Empowering Local Radio Stations with ICTs](#)” has continued to consolidate the capacities of local radio stations to provide low-income populations, especially women and girls, access to information and foster their active participation in the public debate on development issues of local concern. The project is now benefiting 59 stations in 10 countries. The 2017 edition of World Radio Day (celebrated on 13 February) achieved very strong results, actively catalyzing global attention through a strong social media campaign. The [World Radio Day](#) theme, *Radio is You*, resonated with radio stations, civil society and audiences alike, as more than 550 events took place in 110 countries that day.

The [Global Media and Information Literacy Week 2017](#) (25 October to 5 November) reverberated around the world with over 97 events in 40 countries, heightening public awareness. The feature conference in Jamaica gathered around 250 participants from over 40 countries. A key outcome of the Global MIL Week Youth Agenda Forum was the *MIL CLICKS Pact*, a self-commitment to engage in critical thinking and influencing peers in this regard online and offline.



For the Commission on the Status of Women (CSW) 2017, UNESCO supported The Global Alliance for Media and Gender (GAMAG) to organize a meeting through which action for gender equality in and through the media became more widely known amongst CSW participants. In 2017, 15 journalism schools have applied UNESCO's Gender-Sensitive Indicators for Media (GSIM).

UNESCO organized [three events](#) during the 2017 WSIS Forum in Geneva covering issues on privacy, encryption and source protection, Internet Universality, violent extremism, fake news and hate speech.

UNESCO organized four events at the 2017 Internet Governance Forum in Geneva, covering issues on Internet universality, Internet governance, big data and artificial intelligence and freedom of expression and media development.

During the WSIS Forum 2018, UNESCO held a high level session on Promoting Internet Universality Indicators as a comprehensive tool for achieving the SDGs. Building on the vibrant consultation that UNESCO conducted on defining the Internet Universality Indicators at the WSIS Forum in 2017, this high-level session presented the first draft Internet universality indicators. These indicators are a comprehensive tool to help states and stakeholders to measure Internet policies in support of achieving the SDGs at the national level, and can serve as a recognized and authoritative global research tool for stakeholders to voluntarily use in assessing Internet development in their own country. A panel of high-level speakers were invited to share their views on the project and on how the indicators could play a valuable role for national stakeholders to map their Internet and contribute to evidence-based policy improvements.

The work on the project to define Internet Universality Indicators is being led for UNESCO by the Association for Progressive Communications (APC), and the draft Internet Universality indicators will be finalized by the end of April 2018. The final indicators will be promoted through WSIS and IGF process, and serve an internationally recognized toolkit to help governments and other

stakeholders to assess their own national Internet environments and to promote the values associated with Internet Universality and contribute to achieving SDGs by 2030.

At the WSIS Forum 2018, UNESCO also hosted a session on strengthening the role of media and social media in relation to the SDGs. This session provided a platform for discussion on these issues, building on the findings of the 2017/2018 report of UNESCO's flagship series on World Trends in Freedom of Expression and Media Development as well as several new UNESCO commissioned studies. The session also shed light on the issue of freedom of artistic expression in relation to the media and SDGs, as a crosscutting aspect related to WSIS Action Line 8 “Cultural diversity and identity, linguistic diversity and local content.”





C10. Ethical dimensions of the Information Society - UNESCO

a) Summary of how the action line supports transformation towards sustainable and resilient societies

Through UNESCO's work in the framework of the Information for All Programme (IFAP) and information ethics specifically, UNESCO has continued to work to support dialogue and policy development and programmes that support the ethical dimensions of the information society.



Since its creation, IFAP has been playing a leading role in the international policy landscape, and the 2030 Sustainable Development Agenda offers new possibilities for more holistic and contextualized approaches to development. In response to the new development framework, IFAP in partnership with the United Nations University's Special Operating Unit for Policy-Driven Electronic Governance (UNU-EGOV) developed the Knowledge Societies Policy Handbook and the Knowledge Societies Policy Library.

In the framework of the IFAP, UNESCO and the Government of Québec organized an international conference in Québec City the 30 October and 1 November 2016, with the support of the Government of Canada, entitled "Internet and the Radicalization of Youth: Preventing, Acting and Living Together". About 500 participants from over 70 countries gathered to discuss the role of the Internet as a recruitment tool for youth radicalization and extremism. The conference endorsed the "Call of Quebec" and encouraged countering the narratives and ideas propagated online by various extremist groups. It also identified innovative and collaborative projects both at the national and international level to prevent radicalization leading to violence namely through the improvement of media and information literacy skills schemes directed to youth.

UNESCO and IFAP also organized the international conference "Youth and ICT: Towards Countering Violent Extremism in Cyberspace" from 17 May 2017 to 19 May 2017 in Beirut, Lebanon in collaboration with the Lebanese National Commission for UNESCO. The conference gathered about 200 participants including scholars, policy-makers and researchers from over 20 countries who explored ways to counter the line propagation of violence. Participants stressed the urgency of tackling the issue of violent extremism in cyberspace, which is affecting lives of

many young people including children. The conference ultimately adopted the Final Statement, which calls for using the Internet to promote a culture of peace.

During the high-level session in the World Summit on Information Society (WSIS) Forum 2017 on “Countering Radicalization and Violent Extremism Online, UNESCO shared the major outcomes from the first international conference on “Youth and the Internet: Fighting radicalization and extremism (2015, Paris) and the second International conference on the “Internet and radicalization of Youth: Prevent, Act and Live Together” (2016, Quebec). A broad panel of experts presented their diverse viewpoints and researches on the relationships and possible causality of online socialization and radicalization of youth leading to violent extremism.

The use of the Internet for radicalization of youth leading to violent extremism was further discussed in a more in-depth session during the Action line C-10: Ethical and Legal Dimensions of DarkNet. This session explored the ways and means of this deeper layer of the internet that has been used by extremist groups and for illicit international activities. The session also addressed the challenges in sensitizing about the need to regulate the DarkNet.

A special IFAP session entitled “The cultural dimensions of countering extremism in cyberspace: The radicalization of youth leading to violence” was organized on 5 May 2017 at the fourth World Forum on Intercultural Dialogue which took place from 4 to 6 May 2017 in Baku, Azerbaijan. The panelists expressed the view that the violent extremists groups have considerably extended the outreach and recruitment by using a large number of websites, social media devices and interactive forums as easily accessible platforms for the dissemination of messages that incite hatred and prejudice, especially amongst young people.



C11. International and regional cooperation

a) Summary of how the action line supports transformation towards sustainable and resilient societies

International cooperation among all stakeholders is vital in implementation of WSIS action lines and the Sustainable Development Goals (SDGs). As stated by the General Assembly in the WSIS+10 outcome document, the value and principles of multi-stakeholder cooperation and engagement that have characterized the WSIS processes since its inception have been and are vital in developing the information society.

Cooperation is particularly needed in promoting universal access and bridging the digital divide as stated in the Geneva Plan of Action. There is also need for strengthened cooperation international and regional cooperation against threats that may hinder the further development of information society. More efforts are needed to build robust domestic security in ICTs consistent with countries' international obligations and domestic law. Further cooperation is also needed on transnational issues regarding ICTs, including capacity-building and cooperation in preventing and combating the misuse of the technologies for criminal or terrorist purposes.

b) Example (or examples)

Partnership on Measuring ICT for Development is an international, multi-stakeholder initiative that was launched in 2004 to improve the availability and quality of ICT data and indicators, particularly in developing countries. Together with ITU, UNDESA co-leads a Task Group on ICT for SDGs as part of the Partnership. The main objective of the task group on ICT for the SDGs is to propose a thematic list of ICT indicators that could be used to measure ICT availability and use in sectors relevant to the SDGs that are not covered in the global SDG indicators framework. The task group further aims at improving availability of disaggregated data, for the indicators that will be defined in the thematic list, in addition to the ICT indicators included in the SDG measurement framework. The task group is open to all members of the Partnership and other interested agencies and stakeholders. The current list of members is the following: ITU and UN-DESA (co-leads), Bangladesh, Brazil, UIS, UNCTAD, UNEP-SBC, UNU-EGOV, UNU-Sustainability, Uruguay. New members can be included in the future depending on their

interest and match in the work of the Task Group. Interested parties should reach out to: [indicators \(at\) itu.int](mailto:indicators@itu.int).

