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Submissions from entities in the United Nations system and elsewhere on their efforts in 2018 to implement the outcome of the WSIS

Submission by

United Nations Educational, Scientific and Cultural Organization

This submission was prepared as an input to the report of the UN Secretary-General on "Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels" (to the 22nd session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

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**UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION**

Report by UNESCO on its role and activities in implementing the WSIS Outcomes (2018)

Contribution to the Report for the

Commission on Science and Technology for Development (CSTD)

December 2018

Draft

Part One: **Executive Summary**
CSTD 2018 Guidance: "An executive summary (half a page) of activities undertaken by all stakeholders, progress made, and any obstacles encountered".

UNESCO supports Member States to build inclusive Knowledge Societies. The Organization relies upon multi-disciplinary comparative advantages through a range of programme activities in 2018 aligned to the 2030 Agenda for Sustainable Development and the WSIS+10 outcomes.

Information and Knowledge Societies embrace a vision of inclusive, multi-stakeholder, right-based, open, diverse and participatory approaches that are demonstrated to positively impact quality education, economic prosperity and poverty eradication, social inclusion and environmental protection, thus contributing to the three UN pillars of human rights, peace and sustainable development.

UNESCO and stakeholders have achieved significant progress in a wide range of areas related to advancing freedom of expression and access to information. Specifically, UNESCO has explored the impact of emerging issues, such as AI, the Internet of Things, big data and blockchain on freedom of expression and privacy in the digital age. It is urgent to formulate actions for unpacking the political, social, legal

and human rights implications of the development and application of AI and develop the policies, practices, measures and mechanisms needed for harnessing AI to advance knowledge societies and achieve the SDGs.

As host of the thirteenth Internet Governance Forum, UNESCO contributed to shaping a global dialogue in 2018 on AI, which addressed transversely a number of WSIS action lines. UNESCO's Internet Universality concept and associated indicators are also key instruments to counter challenges and maximize opportunities.

Part Two: **Analytical Overview of Trends and Experiences**
CSTD 2018 Guidance: "*A brief (1–2 pages) analytical overview of trends and experiences in implementation at the national, regional and international levels and by all stakeholders, highlighting achievements and obstacles since WSIS and taking into account the follow-up and review of the 2030 Agenda for Sustainable Development. This could include information on the facilitation process of implementation, monitoring and cooperation among stakeholders*".

Initiatives for 2018 cover WSIS Action Lines by bringing to bear the breadth of UNESCO's multi-sectoral mandates. Quality education for all, freedom of expression, universal access to information and knowledge, and respect for cultural and linguistic diversity remain among UNESCO's highest programmatic goals moving forward to support the 2030 Agenda.

In WSIS Action Line C3 (Access to Information and Knowledge), the third annual commemoration of the 28 September International Day for Universal Access to Information (IDUAI), offered excellent opportunities for Member States to draw attention to mainstreaming one of the central pillars supporting overall SDG achievement. Other major UNESCO led events in 2018 included the launch of UNESCO's Global Observatory of Science, Technology and Innovation Policy Instruments (GO-SPIN), and the organization of a session on "Youth, Access to Knowledge, and the SDGs: Strategies for Building Youth Skills in Digital Technologies" at the 2018 WSIS Forum.

In Action Line C7 (ICT Applications: e-Learning and e-Science), and in the framework of the Qingdao Declaration (2015) on leveraging ICT for Achieving Education 2030, UNESCO convened the second International Conference on ICT and Education 2030. UNESCO also launched the Gender Assessment Tools for Teacher Education and developed a framework for an online monitoring resource for the implementation of the Ljubljana Open Educational Resources (OER) Action Plan. UNESCO also published the ICT Competency Framework for Teachers (ICT CFT) Version 3 in 2018.

To support Action Line C8 (Cultural diversity and identity, linguistic diversity and local content), UNESCO has continued to integrate ICTs throughout its programmatic work in the field of culture in 2018. Actions were undertaken to protect and promote tangible and intangible cultural heritage, the diversity of cultural expressions, and the cultural and creative industries, in particular contributing to the protection of culture in emergency situations, including natural disasters, through the use of ICTs. Member States, private sector and civil society partners working with UNESCO in the field of

Culture in standard-setting, capacity-building, and awareness-raising are contributing to the implementation of Action Line C8.

As it concerns the UNESCO convention for the Protection and Promotion of the Diversity of Cultural Expressions (2005), UNESCO elaborated a roadmap to support the implementation of the "Operational Guidelines on the Implementation of the Convention in the Digital Environment", for understanding, interpreting and implementing the Convention in a digital environment where cultural goods and services are created, produced, distributed, disseminated, consumed and/or stored electronically. These goods and services transmit cultural expressions through, for example, a computer program, a network, a text, a video, an image or an audio recording and are distributed through constantly evolving digitally-encoded platforms.

Since the signature of a Memorandum of Understanding (MoU) in June 2015, UNESCO and the Operational Satellite Applications Programme (UNOSAT) of the UN 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 UNESCO provides advice on the sites that require monitoring, the choice of experts to conduct analyses and comparative data before the damages, while UNOSAT provides imagery and imagery analysis to UNESCO. Two joint publications assessing the cultural heritage sites of Syria and on the Ancient City of Aleppo based on satellite imagery are being published with a view to contributing to larger planning for recovery at the UN and national level. These publications include visuals of and interactive access to digital models in 3D based on photographic material obtained on site, in the framework of the MoU.

As a milestone achievement of WSIS Action Line C9 (media) implementation, on 21 November 2018, the 31st Session of UNESCO's IPDC (International Programme for the Development of Communication) Council decided to welcome the Internet Universality Indicators and endorse the use of this tool on a voluntary basis. UNESCO thus encouraged interested Member States and stakeholders to support and conduct national assessments of Internet development. The final version of the Internet Universality Indicators framework, structured around the four ROAM principles (with the addition of cross-cutting indicators and a number of contextual indicators), includes 303 indicators (including 109 core ones) developed under 6 categories, 25 themes, and 124 questions. These indicators serve as an internationally recognized toolkit to help stakeholders to assess their own national environment and develop Internet policies that will effectively advance human rights and contribute to achieving the 2030 SDGs.

Drawing upon options in the Outcome document of the 2017 multi-stakeholder consultation on strengthening the implementation of the UN Plan of Action (UNPA) on the Safety of Journalists and the Issue of Impunity, UNESCO has continued its lead role in coordinating and promoting activities aimed at creating a safer working environment for journalists and media workers, including in the online environment.

As coordinator of the UNPA, UNESCO organized, jointly with OHCHR, two meetings of the focal points from 14 UN agencies to enhance collaboration in handling issues related to the safety of journalists. These meetings (31/01 and 23/05), followed a call by the UN Secretary-General for the formalization of a network of focal points. Key outputs included the development of (i) a workplan for more consistently planning activities by the network; and (ii) procedures for dealing with urgent cases of violations of the right to freedom of expression.

On 3 May 2018, UNESCO led the celebrations of the 25th anniversary of **World Press Freedom Day**, with 80 national events around the world. The global theme was 'Keeping Power in Check: Media, Justice and The Rule of Law'. The main celebration, organized by UNESCO and the Government of Ghana, took place in the city of Accra (Ghana) on 2 and 3 May 2018.

On 2 November 2018, UNESCO marked **the International Day to End Impunity for Crimes against Journalists (IDEI)**, with different events in over 16 cities around the world. The 2018 IDEI main event, a regional seminar entitled "Strengthening regional cooperation to end impunity for crimes and attacks against journalists in the Arab world", was organized in Beirut (Lebanon) by UNESCO and the Lebanese government. Other three regional events were organized in partnership with regional organizations in Addis Ababa (Ethiopia), Arusha (Tanzania) and San Salvador (El Salvador).

A new volume of the *World Trends in Freedom of Expression and Media Development series* (2017/2018) was launched and presented at several occasions in at least 15 countries. This flagship report covered developments in media freedom, pluralism, independence and journalists' safety over the previous five years, with a unique gender-sensitive lense, and with six regional reports.

UNESCO's **IPDC** continues to support an extensive range of media development activities in developing countries and countries in transition worldwide through 41 projects in 35 countries, including six regional ventures in 2018. The efforts of the IPDC have had an important impact on a broad range of fields covering, among others, protecting safety of journalists, the promotion of media independence and pluralism, development of community media, radio and television organizations, modernization of national and regional news agencies, and training of journalists and media professionals. IPDC has also supported UNESCO's work in monitoring SDG 16.10.2 on access to information, which will assist Member States to cover this issue in their own voluntary national reviews. In addition, the UNESCO Director-General's report on the safety of journalists and the issue of impunity was presented to the intergovernmental council of IPDC in 2018, leading to a decision that calls for strengthening the monitoring of related issues.

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 will continue to benefit 58 local radio stations in 10 countries until 2018. On 13 February 2018, the 7th edition of the **World Radio Day** was commemorated all over the world under the theme "Radio and Sports," with the goal to highlight the critical mission of radio as a medium for

connecting, empowering and informing communities through the lens of sports broadcasting.

UNESCO hosted the <u>2018 edition of the Internet Governance Forum</u> in its Headquarters in Paris, from 12 to 14 November 2018, under the theme "The Internet of Trust." UNESCO organized several major events, on the subjects of "<u>Measuring a free, open, rights-based and inclusive Internet</u>", "<u>Preventing Youth from Online Violent Radicalization</u>" and "<u>Artificial Intelligence for Human Rights and SDGs</u>."

To support Action Line C10 (Ethical dimensions of the Information Society), UNESCO continued to focus its work on the ethical dimensions of disruptive technologies in particular robotics and artificial intelligence. In 2018, the International Bioethics Committee (IBC) completed a <u>report on big data and health</u>, and the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) completed a <u>report on robotics</u>. A report of COMEST on AI is currently being drafted. UNESCO also sought to play in 2018 a leading role in shaping a global debate on artificial intelligence (AI) by organizing Open discussions on AI on November 15th in Paris and a Forum on AI in Africa from 12 to 13 December in Morocco.

Part Three: A brief description
CSTD 2018 Guidance: "A brief description (1–2 pages) of:
(a) Innovative policies, programmes and projects which have been undertaken by all stakeholders to implement the outcomes. Where specific targets or strategies have been set, progress in achieving those targets and strategies should be reported.
(b) Future actions or initiatives to be taken, regionally and/or internationally, and by all stakeholders, to improve the facilitation and ensure full implementation in each of the action lines and themes, especially with regard to overcoming those obstacles identified in Part Two above. You are encouraged to indicate any new commitments made to further implement the outcomes."

Action line C3 - Access to Information and Knowledge

UNESCO has launched the **UNESCO Global Observatory of Science, Technology and Innovation Policy Instruments (GO-SPIN)** on-line platform, a new on-line, open-access and multilingual initiative with a complete set of information on STI policies and policy instruments for more than 50 countries across Africa, Latin America and Asia. The platform, developed with the financial support by the Swedish government, is a precious resource of information and a tool for monitoring and analysis of STI policies.

UNESCO has initiated work towards a **Recommendation on Open Science**, based on the Recommendation on Science and Scientific Researchers adopted in November 2017 by the UNESCO General Conference, which addresses numerous issues related to WSIS. Notably, the recommendation underlines:
"18. Member States should recognize the international dimensions of research and development and, in this regard, should do everything possible to help scientific researchers, including: (…)

> *(e) taking measures against biopiracy; illicit trafficking of organs, tissues, samples, genetic resources and genetic related materials; as well as ensuring the protection of the human rights, fundamental freedoms and dignity of the human person, and the confidentiality of personal data."*

"21. So as to ensure the human right to share in scientific advancement and its benefits, Member States should establish and facilitate mechanisms for collaborative open science and facilitate sharing of scientific knowledge while ensuring other rights are respected."

"26. Member States should establish as a norm for any scientific publishing, including publishing in open access journals, that peer review based on established quality standards for science is essential.

27. Member States should develop policies with respect to employment that adequately cover the needs of scientific researchers, in particular by: (…)

> *(f) promoting and supporting open scholarship by scientific researchers, as well as promoting open access to literature and research data, as essential parts of research."*

The third annual commemoration of the 28 September **International Day for Universal Access to Information** (IDUAI), offered excellent opportunities for Member States to draw attention to mainstreaming one of the central pillars supporting overall SDG achievement. In 2018, IDUAI critically evaluated the context of access to information and the growing relevance of advanced digital technologies like Artificial Intelligence now shaping how knowledge is accessed, processed and utilized. The event also provided an opportunity to reflect on how the suite of Open Technologies is changing the dynamics of teaching and learning and how it can be utilized to reduce risks arising out of digital influence on humanity.

UNESCO is working with a host of other organization through Open Scholarly Initiative to establish a concrete case for openness and to develop broadly accepted, comprehensive, sustainable solutions to the future of open scholarship that work for everyone everywhere.

With regard to Software Heritage, in November 2018, UNESCO organized in collaboration with the Organization's Memory of the World (MoW) Programme, an expert meeting around the theme of preservation of Software Source Code as Heritage for Sustainable Development. The meeting was an important step forward in the partnership between UNESCO and INRIA (France), established in 2017. The meeting responded to the challenges of preserving documentary heritage in the digital era, and discussed the importance of software source code both as a document in itself and as a tool to favor access to information in today's knowledge societies. The outcome document adopted by the expert group – entitled "The Paris Call for Software Source Code as Heritage for Sustainable Development" – calls for major stakeholders and communities to be mobilized into action to preserve such software source code for the present and future generations and serve different needs of society, including scientific research, innovation, education, digital literacy and pedagogical approaches to computer science. The archive of Softwareheritage.org, a worldwide initiative supported by UNESCO to create a universal library of computer programme source codes, opened its doors at a launch event held at UNESCO's Headquarters on 7 June 2018.

In line with the Action Line C3, the UNESCO **YouthMobile programme** leverages computer literacy among young people for sustainable development. The session organized by UNESCO at the 2018 WSIS Forum on "Youth, Access to Knowledge, and the SDGs: Strategies for Building Youth Skills in Digital Technologies" highlighted policies and programmes that encourage youth involvement in ICTs. As one of the worldwide initiatives presented in the panel, UNESCO's YouthMobile introduces young people to computer science programming (learning-to-code) and problem solving (coding-to-learn). In 2018 the YouthMobile initiative worked with key partners to organize and provide training sessions, workshops, hackathons and competitions in Africa, Asia, Europe and the Middle East. As part of YouthConnekt a workshop hosted by YouthMobile in October supported the efforts of 25 young African app developers from six different African countries. Other events include 'Girls Can Code', 'Africa Code Week', 'UNESCO Hackathon', 'Room 7' and various boot camps, and trainings were also conducted within the YouthMobile initiative. The activities demonstrate the efforts of UNESCO's YouthMobile Programme to reduce digital inequalities, as well as spread the use of Open Source Software and Open Data for civic engagement, education, science, culture, and the development of knowledge societies.

Action Line C7 - ICT Applications: e-Learning and e-Science

In 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 ICTs to help reach the SDG-4 targets. The third International Conference will be held in China in May 2019 with a focus on "Artificial Intelligence and Future Education."

UNESCO has launched the Gender Assessment Tools for Teacher Education to identify and address gender gaps and biases in teacher education policies, teaching-learning materials and practices. The results yielded from applying the six gender assessment tools help to reveal areas that need to be addressed to make teacher education more gender-sensitive and gender-responsive.

UNESCO continues to maintain the Global ICT in Education Policy Platform (launched in 2016) 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.

In follow up to the 2nd World OER Congress in Ljubljana, Slovenia, which adopted the 2017 and Ljubljana OER Action Plan and accompanying Ministerial Statement, UNESCO is drafting the OER Recommendation to further the adoption of Resolution 44 'Desirability of a standard-setting instrument on international collaboration in the field of Open Educational Resources (OER)'. UNESCO will also start administrating the OER Indicators that measure the adoption and impact of OER. In 2017-18, UNESCO provided assistance to more than 20 countries in supporting the development of national policies and strategies for adopting OER.

UNESCO is currently finalizing the publication, *Guidelines on the Development of Open Educational Resources (OER) Policies*, a guidebook on how to develop an OER policy from conception to implementation. Each chapter provides in-depth contextual information, real policy examples, and guiding questions to help facilitate the process of adopting an OER policy. The book is also intended to engage stakeholders to review and assess existing OER policies as well as provide direction on the monitoring and evaluation of the implementation of OER activities

A framework for an online monitoring resource for the implementation of the Ljubljana OER Action Plan in five strategic areas was developed with major OER networks during this period. The Ljubljana OER Action Plan five strategic areas are: building the capacity of users to find, re-use, create and share OER; language and cultural issues; ensuring inclusive and equitable access to quality OER; developing sustainability models; and developing supportive policy environments. This resource is foreseen to be operational in early 2019.

UNESCO provided assistance to some 15 countries to support the development of teacher training in ICT and Education using Open Educational Resources (OER). UNESCO published the ICT Competency Framework for Teachers (ICT CFT) Version 3 in 2018 which outlines a set of competencies that teachers need to integrate ICT into their practice and professional development to advance student learning. The Version 3 integrates emerging trends in technology, including artificial intelligence; Social Network; E-safety and E-ethics; Inclusion of issues related to accessibility for Persons with Disabilities and OER. This document was launched at E-Learning Africa 2018 (Kigali, Rwanda) and at the International Day for Access to Information (IDUAI) 2018 celebrations in Colombo, Sri Lanka in September 2018. 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 further developed.

A draft text for the OER Recommendation was developed during this period, further to 39 C/Resolution 44, by which the UNESCO General Conference in November 2017 requested the Director-General to submit to it, at its 40th session, a draft text of a recommendation on OER, in November 2019.

Through its annual Mobile Learning Week, UNESCO has been organizing capacity building workshops, symposiums, policy forums and strategy labs to help governments and other education stakeholders discover ways to harness the power of widely available mobile technology and other technological advances including Artificial Intelligence. The Mobile Learning Week 2018 focused on "Skills for a connected world" while the theme for the 2019 edition of the event is "Augmented intelligence and humanity." UNESCO also supports countries in planning and implementing projects on how to use mobile learning for literacy education and supporting teachers with mobile technology. In 2017, UNESCO reviewed current practices and strategies to harness mobile learning for refugees and displaced populations, through the publication 'A lifeline to learning: Leveraging mobile technology to support education for refugees'.

Through the UNESCO King Hamad Bin Isa Al-Khalifa Prize for the use of ICT in Education, UNESCO has identified and brought attention to innovative approaches around the world in e-learning. The most recent prize-winning laureates (2017), from

Morocco and India, addressed the theme of "ICTs to Increase access to Quality Education." The theme of the 2018 edition of the Prize is 'The use of innovative ICT to ensure education for the most vulnerable groups'. It will reward projects that leverage innovative technologies to deliver quality education for excluded vulnerable groups, including out-of-school children, illiterate or under-skilled youth and adults who suffer from cultural and economic barriers, personal disabilities, gender-based barriers and/or crises.

Recent ICT-led innovations in environmental sensing, data processing, and interactive visualisation show promise for participatory knowledge generation. UNESCO and its partners are implementing **Landslide-Environmental Virtual Observatories** (Landslide EVO) to support this approach to e-science.

In line with Action line C3 and C7, UNESCO partnered with Redalyc and CLACSO to initiate **Amelica**, which is a **dedicated community-driven sustainable framework for Open Knowledge for Latin America and the Global South** (amelica.org). It is a new configuration of strategies, in response to the international, regional, national and institutional context, which seeks a collaborative, sustainable, protected and non-commercial Open Access solution for Latin America and the Global South.

Action Line C8 - Cultural diversity and identity, linguistic diversity and local content

In line with Action line 8, UNESCO has continued to integrate ICTs in its programme of work on Culture in 2018. The protection and promotion of cultural heritage in all its forms, linguistic diversity, the diversity of cultural expressions and the creative economy increasingly rely on ICTs, as do measures to reach wider audiences and share information. Member States, private sector and civil society partners working with UNESCO in the field of Culture in standard-setting, capacity-building, and awareness-raising are contributing to the implementation of Action line 8.

UNESCO Convention for the Protection and Promotion of the Diversity of Cultural Expressions (2005). In line with its roll-out strategy, the <u>Global Report: Reshaping Cultural Policies, Advancing Creativity for Development</u> was launched in new language versions in regions across the globe. The full Global Report exists in English, French, Korean, Portuguese, and Spanish, and its Executive Summary in Arabic, Bahasa (Indonesia), Chinese, English, French, German, Khmer (Cambodia), Mongolian, Portuguese, Russian, Spanish and Vietnamese. Such launch events provide opportunities to examine developments and good 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. A new partnership established with Ms Sabrina Ho, a young entrepreneur, and an initiative "You Are Next: Empowering Creative Women" was launched. This initiative has so far granted funding to four projects from Mexico, Palestine, Senegal and Tajikistan that support women under 40 to access funding, infrastructure, equipment and co-production opportunities in the digital creative industries.

Projects supported by the International Fund for Cultural Diversity include "Retina Latina", which aims to further develop the Latin American film industry in the digital era through supporting the distribution and access to Latin American cinema by improving

the digital platform, reinforcing distribution strategies, creating partnerships and regional integration. UNESCO elaborated a roadmap to support the implementation of the "Operational Guidelines on the Implementation of the Convention in the Digital Environment", for understanding, interpreting and implementing the Convention in a digital environment where cultural goods and services are created, produced, distributed, disseminated, consumed and/or stored electronically. These goods and services transmit cultural expressions through, for example, a computer program, a network, a text, a video, an image or an audio recording and are distributed through constantly evolving digitally-encoded platforms.

UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003). In November 2018 UNESCO launched an innovative web-based platform 'Dive into Intangible Cultural Heritage'. Using cutting-edge technology such as web-semantics and graphic visualization, the platform provides the users possibilities to navigate through a dynamic and interactive space of vibrant intangible cultural heritage practices and expressions. Over 500 elements inscribed on UNESCO's Lists of the Convention for the Safeguarding of the Intangible Cultural Heritage can be explored across various domains, themes, geography and ecosystems, making it possible to visualize a remarkable cultural diversity and inter-connections among the cultural elements.

Within its global capacity-building strategy, UNESCO 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. Experts, universities, NGOs and researchers are among the main users of these materials. A webinar coordinated between UNESCO's Education and Culture Sectors introduced intangible cultural heritage and its relationship with education for sustainable development (ESD), to key partners working on this subject. A virtual conference with the International Centre for Technical and Vocational Education and Training (UNEVOC) on safeguarding intangible cultural heritage through technical and vocational education and training (TVET) was also co-organized. A set of guidance materials on integrating intangible cultural heritage in education, is under development within the European Year of Heritage 2018 in close cooperation with the UNESCO Associated Schools Project Network. ICTs are used to exchange experiences between implementing schools and to share the results.

UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage (1972). The World Heritage State of Conservation Information System, launched in 2012, offers a trove of reliable data 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. It makes publicly available over **3.627 reports** on 566 World Heritage properties located in 144 countries. The UNESCO World Heritage and Sustainable Tourism Programme has developed, in the framework a high-profile project supported by the European Union and in partnership with National Geographic, an interactive web platform that features four trans-European itineraries linking iconic and lesser-known World Heritage sites under the themes: 'Romantic Europe', 'Ancient Europe', 'Royal Europe' and 'Underground Europe'. 34 World Heritage sites from 19 European Union countries are participating in the project. The project aims to increase sustainable tourism at World Heritage sites, while encouraging

visitors to stay longer and support local culture and the creative economy. www.visitworldheritage.com

The World Heritage Centre actively carried out, through its web platform, a number of global outreach initiatives including:
- the publication on line, in English and French, of the work *World Heritage for Sustainable Development in Africa*.
- the publication on line, in English and French, of the UNESCO-UNITAR joint publication *Five Years of Conflict : The State of Cultural Heritage in the Ancient City of Aleppo.*
- a crowdfunding campaign called #HelpVirunga, to contribute to the Fallen Rangers Fund, for the widows and children of Virunga rangers killed in the line of duty.
- the digital photo contest #MyAfricanHeritage, recording the submission of some 1,700 photographs expressing the richness and diversity of the African cultural and natural heritage.
- an online consultation of the World Heritage Convention on its Reactive Monitoring mechanism that allows stakeholders to access information.
- the publication the World Heritage Review, the quarterly magazine available in a flip-page version on the World Heritage Centre website in English, French and Spanish versions.

The World Heritage Education Programme, in its diverse activities and projects, systematically uses ICT, social media and communication tools in order to raise awareness and get young people involved in World Heritage protection and preservation.
- The World Heritage Volunteers Initiative (WHV) mobilizes organizations, institutions as well as national and international volunteers in concrete actions for the protection and preservation of our World Heritage, through annual campaigns. WHV campaigns are launched on the World Heritage Centre Website and spread online on the official social media platforms and Webpages to reach youth and give them the opportunity to participate.
- Patrimonito's World Heritage Adventure is a cartoon series produced through a "By young people, For young people" approach. Young people are invited to convey the message of World Heritage Preservation by participating to national and international storyboard competitions that are launched on the World Heritage Centre Website and spread online on the official social media platforms and Webpages. So far, 14 episodes have been produced and are available online, on YouTube and in digital formats free of charge.
- The World Heritage in Young Hands Kit is a pedagogic material based on an interdisciplinary approach, aimed at involving teachers in raising awareness of the importance of World Heritage and at incorporating World Heritage into the curriculum. The Kit presently exists in 38 national language versions and it is available online free of charge on the World Heritage Centre Website.

UNESCO Convention on the Means of Prohibiting and Preventing Illicit Import, Export and Transfer of Ownership of Cultural Property (1970). UNESCO launched a new electronic tool through which States Parties can submit their national report on the implementation of the Convention. This new tool aims at developing a comprehensive, searchable database encompassing policies, legislative systems, and implementation and operative frameworks of States Parties. In addition, it will present

facts regarding good practices and international cooperation, as well as up to date statistics concerning thefts, illegal excavations, seizures and restitutions.

UNESCO has continuously worked on raising awareness on illicit trafficking through online campaigns. These included 13 audiovisual clips that target the public, tourists and youth. The online Database of National Cultural Heritage Laws provides thousands of cultural laws from 188 countries. The information is regularly updated and open to the public.

With regard to Museums, UNESCO partnered with the Institut du Monde Arabe and ICONEM on the digital exhibition, "Cités millénaires. Voyage virtuel de Palmyre à Mossoul" ("Age Old Cities: A Virtual Journey from Palmyra to Mosul"), which showed at the Institut du Monde Arabe (IMA) in Paris, taking visitors on a virtual journey to four of the most culturally important sites of the Arab world: Mosul (Iraq); Aleppo (Syrian Arab Republic); Palmyra (Syrian Arab Republic) and Leptis Magna (Libya). It offered visitors the opportunity to explore buildings, dwellings and archaeological remains of the sites through 3D virtual reconstructions on giant projections, virtual reality experiences, archival documents and images, as well as videos and testimonies of local populations. As a partner of the exhibition, UNESCO made available to the public its exclusive data and the results of its field surveys, via satellite imagery, in Mosul, Iraq.

The 2015 UNESCO Recommendation concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society specifically 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; while also stressing the need to ensure museums have effective access to these technologies in order to improve their primary functions (preservation, research, communication and education). Capacity building workshops organized for museum professionals in China, Kuwait and Lebanon included the use of ICTs to digitize documents and inventories.

Culture in Emergencies. ICTs are contributing to heritage protection, particularly in view of increasing attacks on cultural heritage and the vulnerability of such heritage in emergency situations, including natural disasters. A drone survey of Mosul, Iraq, produced by ICONEM for UNESCO is helping experts plan the **reconstruction of some of the hardest hits sections of this historic city through UNESCO's initiative** Revive the Spirit of Mosul**, and is an important visual** communication tool that provides the general public, through images and videos, a heightened awareness of the extent of devastation that befell Mosul.

Launched during the International Conference on the Reconstruction of Iraq, held in Kuwait in February 2018, *Revive the Spirit of Mosul* is one of UNESCO's most significant undertakings, involving the complete restoration and rehabilitation of the city's cultural heritage and the revival of its education and cultural institutions. A significant focus has been placing the human dimension at the heart of recovery efforts, addressing multiple areas critical to promoting sustainable Knowledge and Information Societies, including through planned work with museums, libraries, cultural heritage sites, schools and Universities. In September 2018, a landmark conference

was held at UNESCO Headquarters in Paris to mobilise the international community for the city's reconstruction and recovery.

Since the signature of a Memorandum of Understanding (MoU) in June 2015, UNESCO and the Operational Satellite Applications Programme (UNOSAT) of the UN 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 UNESCO provides advice on the sites that require monitoring, the choice of experts to conduct analyses and comparative data before the damages, while UNOSAT provides imagery and imagery analysis to UNESCO. Two joint publications assessing the cultural heritage sites of Syria and on the Ancient City of Aleppo based on satellite imagery are being published with a view to contributing to larger planning for recovery at the UN and national level. These publications include visuals of and interactive access to digital models in 3D based on photographic material obtained on site, in the framework of the MoU.

Action Line C9 - Media

Given increasing social, economic and political challenges related to freedom of expression and media development, UNESCO and media stakeholders have developed a number of new initiatives and activities, through building numerous and successful partnerships so as to advance the media agenda significantly in a concerted way.

In 2018, UNESCO has actively advocated for and ensured multi-stakeholder consultation on the Internet Universality Indicators framework through global consultations online and offline in an innovative, open, and inclusive manner. 46 events were organized and 2000 experts engaged to promote the Internet Universality Indicators as a comprehensive tool for achieving the SDGs. This was done through creating synergies at the WSIS Forum, the RightsCon, the Global Media Forum, the Annual Conference of IAMCR(the International Association for Media and Communication Research), the EuroDig , the FIFAfrica, the ICDPPC (the International Conference of Data Protection and Privacy Commissioners) and the IGF (Internet Governance Forum). These indicators were developed in a collaborative manner with all stakeholders and thus serve as a unique, highly relevant and comprehensive tool for all stakeholders to develop and implement at national levels media and Internet policies that are in line with international human rights standards.

On the **International Day to End Impunity for Crimes against Journalists (IDEI**), UNESCO launched a global campaign, **#TruthNeverDies**, in association with media partners from all over the world. UNESCO also launched the Observatory of Killed Journalists, an online database providing information on the status of judicial enquiries into each killing of a journalist or media worker recorded by UNESCO since 1993, based on information provided by the country in which the killing took place. This innovative database also provides information about the status of judicial enquiries and, in many cases, makes available documents from national authorities on judicial proceedings. Country profiles allow insights into levels of impunity per country.

The 2018 edition of Global Media and Information Literacy Week took place from 24 to 31 October 2018 in Kaunas (Lithuania) and Riga (Latvia), under the theme "Media and Information Literate Cities: Voices, Powers, and Change Makers." The feature conference was followed by the Global MIL Week 2018 Youth Agenda Forum, organized by and for youth around the theme of "Media and Information Literate Cities in the Era of Algorithms: Youth Voices." This best practice of MIL advocacy will be expanded in the future to serve the increasing need of empowering users in the digital age.

To mark **the International Day for Universal Access to Information (IDUAI)**, on 27 September 2018, the third annual IPDCtalks were successfully held in Tunis (Tunisia), with eight satellite IPDCtalks in other countries to highlight and elaborate on the importance of access to information for all sustainable efforts around the world. On 28-29 September 2018, UNESCO and the Sri Lankan authorities co-organized a flagship international event in Colombo (Sri Lanka), entitled "The Asian Digital Revolution: Transforming the Digital Divide into a Dividend through Universal Access," as part of IDUAI commemorations held around the world.

In its bid to continue promoting specialized literacies, the IPDC set aside a special allocation to support the production of a syllabus on "fake news," which has analyzed the changing news ecosystem and the rise of fake news, while providing a basis for professional journalism and news literacy. In September 2018, UNESCO published a new Handbook for Journalism Education and Training, entitled **"Journalism, ~~Fake News~~ & Disinformation**." Developed as part of the IPDC Series on Journalism Education, the Handbook is aimed mainly at journalism educator and trainers, but also at practicing journalists, editors and others who are interested in the quality of the information in circulation.

Regarding the monitoring and reporting of SDG 16, two global reports on indicators 16.10.1 and 16.10.2 have been submitted to the UN Statistics Division in February 2018. These reports have been included in the UN Secretary-General's Progress Report on Sustainable Development Goals. The IPDC Secretariat is developing two instruments for SDG 16.10.2 monitoring, which can also be used by Member States in their national evaluation processes.

In line with action lines C3 and C9, UNESCO has been actively involved in the thirteenth Annual Meeting of the Internet Governance Forum (IGF) hosted at UNESCO HQ from 12 to 14 November 2018. Attended by more than 3000 representatives in Paris from all stakeholder groups, government, civil society, the technical community, private sector, and academia, the forum was held under the theme "Internet of Trust." The IGF actively promoted an open and multi-stakeholder dialogue and encouraged an exchange of ideas to improve the way the internet is governed. The event was web streamed and drew active remote participation. The IGF highlighted the **essential role of the Internet as a tool for inclusion and for accessing and sharing information and knowledge**, impacting cultures, economies and everyday life. The forum underlined the need of a community-built set of values and standards to ensure that the internet stays free, inclusive, open and safe for everyone. UNESCO and partners organized an open forum on Measuring a free, open,

rights-based and inclusive Internet," and several workshops on the subjects of "Preventing Youth from Online Violent Radicalization", "Preventing Youth Violence Through ICTs" and "Artificial Intelligence for Human Right and SDGs."

UNESCO also supported a side-event hackathon on information disorders in the digital era organized in the framework of the IGF by Agence France Presse (AFP), Internet Society France (ISOC France), Renaissance Numérique, and Savoir*Devenir. The initiative brought together over 60 experts, academics, associations, developers, journalists, and students over 3-days in order to propose cross-curricular and practical solutions to information disorders: fighting against online hate speech and fake videos, promoting media and digital literacies solutions.

On the margins of the IGF, UNESCO organized an Open Discussion on "Harnessing Artificial Intelligence to advance Knowledge Societies and achieve Good Governance," organized in partnership with the Internet Society and the Mozilla Foundation. These discussions included and triggered discussion on how these technologies impact on human rights, journalism and the media. UNESCO engaged with a group of media organizations and hosted a side event of IGF on Symposium on Media Development and Internet Governance which aimed to develop media development strategies to shape global Internet governance.

In order to promote democracy and freedom of expression, a number of media-related laws in Morocco, Myanmar, & Somalia were amended or adopted by the parliaments in early 2018. In addition, policy and legal frameworks were introduced in Tunisia and Myanmar. Many judges in Latin America and Africa are now incorporating international standards in their court proceedings, while qualified legal assistance to media professionals in Jordan is contributing to the decrease in media self-censorship.

The year 2018 also saw an increased commitment of Member States and the international media community to achieve Goal 16 of the Agenda 2030 on SDGs. The UN Plan of Action on Safety of Journalists and the Issue of Impunity has been strengthened through the re-launching of the UN focal points network, capacity building and the creation of national mechanisms of monitoring, prevention, protection and prosecution. Furthermore, the Internet Universality R.O.A.M principles and indicators have been finalized and UNESCO Member States have agreed for them to be applied at national level to improve media and internet policies in line with international human rights standards.

In Latin America, over 8,000 judges who completed a UNESCO online training course have been empowered to integrate international standards in their decision-making on cases related to access to information or fighting impunity in crimes against journalists, with impact on jurisprudence evident in a number of cases. Schools for judges now incorporate tools developed under a UNESCO project in their curricula for training judges, prosecutors and other judicial operators. The success in Latin America has inspired a similar action in Africa with support from other donors.

The NET-MED Youth project's media component promoted young people's freedom of expression, access to information and representation in media through: i) Youth-

focused media research: more than 60 youth from 8 countries acquired media monitoring skills. 5 national surveys, 4 national and a sub-regional media monitoring reports produced; ii) Increased awareness of freedom of expression, access to information and journalists' safety, reinforced media and information literacy, strategic communications and media production capacities by and for youth; through workshops, trainings and events reaching over 1000 beneficiaries including local celebrations of WPFD, IDUAI and IDEI); iii) Production of pedagogical resources, for example to equip youth to counter hate speech and misinformation via enhanced MIL.

As for Media Development Indicators (MDIs), 5 assessments are being conducted in Haiti, Morocco, Jamaica, Guyana, Malawi. In addition, 4 assessments are being finalized in Brazil, Bosnia & Herzegovina, Uganda, Ghana. With regard to Journalists' Safety Indicators (JSIs), one assessment is in progress in South Sudan, and another one is being finalized in Afghanistan. All in all, 11 Member States have been applying the media-related indicators, 4 of them are African countries.

Action Line C10 - Ethical dimensions of the Information Society

UNESCO work on Action Line C10 has focused on the ethical dimensions of disruptive technologies, with particular emphasis on big data, robotics and artificial intelligence. The International Bioethics Committee (IBC) and World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) have devoted meetings to all of these topics and consulted broadly with relevant stakeholders to clarify both the nature of the ethical challenges and possible principles that could permit responses to them.

The IBC has completed a report on big data and health, which concludes that, in order to make Big Data a global success for health, to harvest the opportunities of Big Data in health care and research while at the same time avoiding violation of fundamental human rights enshrined in the Universal Declaration of Human Rights and in the Universal Declaration on Bioethics and Human Rights, efforts are required to ensure trust and control. Facing the complex nature, the global scope, and the wide variety of stakeholders involved in Big Data related to health, international cooperation as well as a multi-tiered governance approach are crucial. In this regard, the IBC considers four measures to be central for protecting individual rights and fostering public good while recognizing the unavoidable loss of control by individuals about the use of their data in times of Big Data: governance, education, capacity building, and benefit sharing.

COMEST has completed a report on robotics, which calls for a technology-based ethical framework based on the distinction between fundamentally different categories of robots. Deterministic robots are controlled by a set of algorithms whose actions can be predicted. In considering recommendations regarding robotics ethics, this distinction between deterministic and cognitive robots is important.

The report of COMEST on artificial intelligence is currently in the drafting process, in connection with the UNESCO-wide effort to consider how the enormous potential of artificial intelligence for social good and promoting the achievement of the SDGs can

be developed in a way that benefits humanity, respects global norms and standards, and is anchored in peace and sustainable development.

In line with action line C7 and C10, UNESCO sought to play in 2018 a leading role in shaping a global debate on artificial intelligence (AI). In the framework of the IGF, **UNESCO organized an Open Discussion on "Harnessing Artificial Intelligence to advance Knowledge Societies and achieve Good Governance**", in partnership with the Internet Society (ISOC) and the Mozilla Foundation, on November 15th, 2018 in Paris bringing together high-level participants from all geographical areas and stakeholder groups. The event enabled extensive discussions on the impact of emerging technologies and artificial intelligence on media, human rights and access to information and knowledge and highlighted the importance to implement a bottom-up inclusive multi-stakeholder approach and in particular to translate ROAM principles linked to UNESCO's Internet Universality framework to the development of ethical principles linked to artificial intelligence. The open discussion also underlined the key role played by access to information in achieving the SDGs.

In the effort to shape a global debate in all regions of the world on the ethical and societal impacts of artificial intelligence, UNESCO also organized, in partnership with Mohamed VI Polytechnic University, a Forum on artificial intelligence in Africa from 12 to 13 December 2018 in Benguérir (Morocco). The aim of the Forum was to explore the opportunities and challenges of innovation in emerging technologies and artificial intelligence in Africa, and to enrich the global debate by assessing specific issues arising in the local context. The Forum brought together representatives from Member States and high-level participants from the different stakeholders' groups in an effort to contribute to UNESCO's Priority Africa and implement the SDGs.