WSIS Forum 2022

Outcome Document

(zero draft)

ICTs for Well-Being, Inclusion and Resilience:
WSIS Cooperation for Accelerating Progress on the SDGs.

(as of 16 August 2022)

Disclaimer

Please note the WSIS Forum 2022 Outcome Document is a compilation of the outcomes of the sessions (Thematic Workshops, Country Workshops, Action Line Facilitation Meetings, High-Level Policy Sessions, and many more) submitted to the WSIS Secretariat by the organizations responsible for their respective sessions. ITU does not hold any responsibility for the outcomes provided by the organizers of the sessions for the WSIS Forum 2022.

Table of Contents

WSIS Forum 2022: Introduction 8
Open Consultation Process 11
Participation at the WSIS Forum 2022 14
Social Media at the WSIS Forum 2022 18
Opening Segment 24
WSIS Forum 2022 Opening Segment 24
High-Level Dialogues 25
High-level Dialogue: ICTs and Digital technologies for healthy ageing 25
High-Level Dialogue on the Transforming Education Summit and the 2023 GEM Report on technology and education 26
From the lab to the real world: Artificial Intelligence and the decade action 27
Interactive High-Level Dialogue with Mayors on Smart Cities, Drivers of Innovative Sustainable Development 28
High-Level Dialogue: ICTs for Developing Countries (and LDCs) 29
High-Level Dialogue: Indigenous Languages 30
High-Level Dialogue: WSIS +20 – WSIS Beyond 2025 31
High-Level Policy Sessions 32
Ministerial Round Table 39
Ministerial Round Table 39
Regional Workshop 40
Leveraging connectivity everywhere to drive sustainable growth in Asia region 40
Leveraging connectivity everywhere to drive sustainable growth in Africa region 44
Leveraging connectivity everywhere to drive sustainable growth in Latin America region 45
Country Workshop 46
Digital Government Transformation of the State of Qatar 47
The Future of the Internet: Towards more inclusive and effective governance 48
The Path Towards Truly Digital Nation 50
Towards a common approach to countering disinformation online 53
Accelerating Progress on Achieving the Sustainable Development Goals 54
UAE Healthcare Digital Transformation 55
Action Line Facilitators Meeting 55
WSIS Action Line C6: Enabling Environment: Economic and fiscal incentives to accelerate digital transformation 56
WSIS Action Line C7: E-Employment 57
WSIS ALFM C7: E-Environment "Digital Public Goods for Climate Change Adaptation" 58

WSIS Action Line Facilitation Meeting C8 "The digitization of culture and the creative economy: benefits, challenges and roadmaps" 61

WSIS Action Line C9: Rethinking UNESCO Policy Guidelines for the Development and Promotion of Governmental Public Domain Information 66

WSIS Action Line C10: High-level interaction on implementing ethical AI globally 67

WSIS ALFM C1, C7: E-Government 70

WSIS ALFM C7: E-business 73

WSIS Action Line C5: Privacy-Preserving Techniques 74

WSIS Action Line Facilitators Meeting 78

WSIS Action Line C4: Meeting the demand for digital capacity development 79

WSIS Action Line C3: Mainstreaming Gender Equality in Digital Transformation Policies through Capacity Building 80

Thematic Workshops 85

Web Dialogue on Focus Area 2 of the Partner2Connect Digital Coalition - ADOPTION: Empowering communities .. 85

Hack the Accessibility Gap 86

Digital Twin and its role in healthcare: personalized care, drug development, and more 87

Tech4Good: AIoT Open-Source Innovations for Carbon Neutrality, Climate Change, Wildlife Conservation, and Sustainable Communities 88

Digital financial services and blockchain technologies 89

Smart Solutions to connect everyone 97

Digital Financial Inclusion 100

Transformative Change 103

IT in Disaster Risk Reduction (ITDRR) 105

Five perspectives for future optical fibre cable and infrastructure technologies 112

Issues for Data Driven Health Technologies: A Way Forward for International Collaboration & Finding Collaboration For Indigenous Communities 113

Joint Action using Big Data and Internet Things Technology on Geographical Indications for Environment & Sustainability 118

Empodera.ORG: Collective intelligence platform to achieve the 2030 Agenda and to enhance citizen participation for the SDGs 119

Digital Entrapment 120

Digital Inclusion for Persons with Disabilities 127

The Digital Technology Sector and Good Trade: A Focus on Decent Work in Africa 128

Urgently penetrating low-cost dependable broadband to isolated communities 129

Tackling disasters and reducing risks through awareness of citizens 132

Cross-cutting session: Digital transformation beyond the COVID-19 pandemic 105

Accelerating digital development through multistakeholder partnerships 106

The Global Call to Action on Emergency Alerting 107
Digital Technologies, Inequality, and Development in the context of South-South Migration 114
Advancing Internet Universality to support sustainable development, digital collaboration and the WSIS+20 review 115
Harmonisation of the Digital Covid Certificate across Africa 119
STI Forum 2022 Side Event: ICTs for Well-Being, Inclusion and Resilience: WSIS Cooperation for Accelerating Progress on the SDGs 122
Diverse Age-friendly Internet Services and Applications for Accelerating Progress on the Inclusive Digital Environments 123
The impact of ICT development in urban or rural areas: smart villages and smart cities 124
Assurance and conformity assessment of digital products and services 181
International Conference on Digital Infrastructural Transformation & Education: Road towards SDG 4 182
WSIS Regional Commission Meeting 183
SDGzine - Collaborative publication and projects on the UN Sustainable Development Goals 184
Race to Net Zero: Combat Climate Change with Technology Innovation 184
Upcoming Micro, Small and Medium-sized Enterprises (MSME) Day celebration 2022 and ITU SME Awards 2021 winner spotlight 186
IPR 4 ICT – Yesterday, Today and Tomorrow A Prospective towards Young Think-Tanks 186
Promoting knowledge creation in the digital era: wisdom for young people 187
WSIS Gender Trendsetters 191
WSIS Forum 2022 Highlights and Key Outcomes 192
Parliamentarians Role in Advancing WSIS Action Lines 192
How to create your crypto-wallet? 194
Breaking barriers to universal meaningful connectivity 195
Special Tracks 202
ICTs and Older Persons Special Track 202
Opening of the ICTs and Older Persons special track 202
Addressing social isolation and loneliness among older persons through digital interventions 203
Technology That Drives Life-long Healthy Ageing - From Mid-Life Onward 204
ICTs and Youth Special Track 205
Opening of the ICTs and Youth Special Track 205
Transformation for Sustainability: Carbon Neutrality in SMEs 206
E-Waste and what solutions can young people generate (Part 1) 207
E-Waste and what solutions can young people generate (Part 2) 208
Intellectual Property and Youth: Innovating for a better future 209

ICTs and Accessibility for Persons with Disabilities and Specific Needs Special Track *210*
Opening of the ICTs and Accessibility for Persons with Disabilities and Specific Needs special track *210*
Relay Services: What they are, who they are for, and how they began *211*
Future Media Accessibility *212*
Green Digital Accessibility *213*
ICTs and meaningful employment for people with disability *214*
Opening of the ICTs for Developing Countries (and Least Developed Countries) special track: Connectivity in LDCs *215*
E-resiliency and digital transformation in developing economies *216*
Role of ICTs in Finance and Digital Inclusion *220*
ICTs opportunities and challenges in developing countries – An Academic perspective *221*
ICTs Access and Affordability in Developing Countries for Digital Inclusion *222*
Opening of the ICTs for Industry 4.0 and Emerging Digital Technologies for Sustainable Development special track *223*
How to combine blockchain technology to revolutionize the supply chain? *224*
Consolidation of programmes *225*
Using emerging technologies to reduce pollution and combat climate change *226*
Multi-stakeholder collaboration for responsible and ethical Artificial Intelligence *227*
Measuring the deployment of Industry 4.0 in developing countries *228*
Opening of the ICTs for Well-Being and Happiness special track *229*
How ICTs Create Happiness *230*
ICTs for Well-being and Social Connectivity *231*
Opening Session of the ICTs and Sports special track: International Day of Sport for Development and Peace. "The power of sport broadcasting and their role in the implementation of the SDGs" *232*
How technologies are improving sports injury prevention *233*
Addressing Visual Impairment of Athletes and Sports Fans through New Technologies *236*
Opening of the ICTs for the Environment week *237*
Towards People-Oriented Cities *240*
ICTs and Climate Change *241*
Code Like a Girl! : Intro to Computer Programming with the TechGirls *242*
Support programmes for women's cooperatives *243*
Women in STEM Speak Up! *244*
Knowledge Café *245*
IEEE Knowledge Cafe *245*
Knowledge Café: WSIS+20 ..... *247*

Knowledge Café: Bridging the digital gender divide *248*

Intergenerational Knowledge Café *249*

Hackathon *250*

ICTs for Preservation, Revitalization and Promotion of Indigenous Languages: Leaving no one behind, no one outside *250*

Exhibition *251*

Exhibition Inauguration *251*

Social Networking Events *253*

Closing Ceremony *255*

Closing Ceremony of the WSIS Forum 2022 ..... *255*

Quick Links *256*

Documentation *257*

Invitation for WSIS Forum 2023 ..... *289*

WSIS Forum 2022: Introduction

The World Summit on the Information Society Forum 2022 represents the world's largest annual gathering of the information and communication technologies (ICTs) for development community. The WSIS Forum 2022 started from 15 March onwards in a virtual format with the final week being held physically with enhanced remote participation from 30 May to 3 June 2022 at the ITU Headquarters in Geneva, Switzerland, under the theme of *ICTs for Well-Being, Inclusion and Resilience: WSIS Cooperation for Accelerating Progress on the SDGs*. The WSIS Forum, co-organized by ITU, UNESCO, UNDP and UNCTAD, and in close collaboration with more than 30 UN agencies, has proven to be an efficient mechanism for coordination of multi-stakeholder implementation activities, information exchange, creation of knowledge, sharing of best practices in the ICTs sector.

This year's Forum created an opportunity for WSIS stakeholders to share their efforts and innovative ideas to leverage the ICTs. Also, it built momentum to advance action-oriented dialogue on efforts in the context of COVID-19 recovery and initiatives to implement the WSIS Action Lines to advance the United Nations' Sustainable Development Goals (SDGs).

Over the course of 12 weeks, the WSIS Forum 2022 hosted more than 250 sessions, including thematic workshops, country workshops, WSIS Action Line Facilitation meetings, high-level dialogues, high-level policy sessions, knowledge cafes and open-space talks enabled on-site as well as virtual participants from over 150 countries to engage with more than 500 high-level representatives of the wider WSIS Stakeholder community, including ministers and deputies, ambassadors; and leaders from the private sector, academia and civil society. Aligned with both WSIS Action Lines and the SDGs, this year's program focused on highlighting the linkages between the two, including SDG priority areas such as indigenous languages, older persons, accessibility, education, youth inclusion, employment, gender empowerment, the environment, infrastructure, and innovation. The Forum provided a platform to celebrate the power of innovation through emerging technologies such as metaverse, AI, IoTs, blockchain, 5G and many others. The WSIS Forum2022 garnered a lot of interest and excitement worldwide – with a cumulative attendance of over 50,000 attendees(*zoom room, zoom recording, Facebook Live videos, YouTube, and other format*) over 185 countries from Government, Civil Society, Academia, Private Sector, the UN to exchange discourse on ICTs emerging issues to strengthen information and knowledge societies.

The final week witnessed the continued importance of the WSIS Process in charting the path for the implementation of the SDGs. There was wide-spread support amongst Ministers, Heads of Regulators, High level Policy Makers, Civil Society, Private Sectors and Academia Representatives on the continued strengthening of the WSIS Process beyond 2025. The importance of designing a 2025 review process that is thorough inclusive and effective and which considers new developments in technology, policy and related processes was also emphasised by the WSIS Stakeholders.

The concrete outcomes of WSIS Forum 2022 will enable stakeholders to strengthen implementation of WSIS Action Lines and the alignment of the WSIS and SDG processes, and include among others:

• The UN Group on the Information Society (UNGIS) reiterated its commitment to the WSIS Process and Action Lines implementation and alignment of the WSIS and SDG processes, and a need to strengthen the visibility of UNGIS at the political level in Geneva and New York. UNGIS members concluded with a decision to prepare an action plan for the implementation of the UNGIS activities at the technical and political level for 2022-2023 and a decision to prepare an activity report for submission to the HLCP and CEB. UNGIS member agencies will also inform

of opportunities to raise the visibility of UNGIS in the context of high-level intergovernmental meetings and discussions, and other UN and global discussions on priorities on digital for development issues and where digitalization is crucial for addressing global challenges. ITU was appointed as the UNGIS chair for the year 2022-2023, with the Vice-Chairs: UNCTAD, UNDP, UNESCO, UN ECA.

• UN Regional Commissions committed to strengthen regional-level WSIS action through multi-stakeholder platforms and a series of regional face-to-face meetings. UN ECA was nominated and appointed as the WSIS Regional Commission Group Chair for the year 2022-2023.

• Ministerial Round Table participants emphasized that the WSIS Action Lines are crucial for advancing the achievement of SDGs, hence, it is important to continue the alignment of the WSIS Process with the 2030 Agenda for Sustainable Development. 40 Ministers and Deputies highlighted the importance to integrate them in the agenda of the annual WSIS Forum, ensuring that the developing countries, including LDCs are not left behind in the fast-paced global landscape in ICTs. WSIS Forum is a good platform to provide recommendations on ICTs for Sustainable Development Issues and concluded that the Ministerial Round Table is a key component of the Forum and should be strengthened by cross-sectoral dialogues next year.

• Ambassadors High Level Briefing concluded that Ambassadors should be briefed regularly on the WSIS Process and its initiatives, including holding regular WSIS TalkX with Ambassadors. They highlighted the importance of the WSIS Process and requested the creation of a Climate Change as a special track in 2023. In addition, the ambassadors suggested that the output should be brought to attention of WTDC-22 by ITU Secretary General.

• ITU and UNESCO organized the Hackathon on Indigenous Languages with 691 participants with more than 75 countries. Three winners were announced during the WSIS Forum 2022 final week.

• The Forum also included the announcement of the WSIS Prizes 2022 winners and champions, which represented all seven continents and all WSIS stakeholder groups. In addition, the winning entries of the WSIS Forum Photo Contest 2022 were unveiled, highlighting how ICTs are playing a vital, enabling role on the road to achieve the SDGs. ITU, in collaboration with GCOA awarded the WSIS Health Ageing Innovation Prize 2022 to HiNouNou - The open APP platform -Ecosystem centric to Older Adults to promote Healthy Longevity, China.

• WSIS Gender Trendsetters 2022 were appointed who submitted their pledges for action towards digital gender inclusion.

WSIS Forum 2022 was also an opportunity for partnerships to be forged and valuable tools and initiatives to be launched. The full list of Official WSIS Forum 2022 Outcomes Documents and Publications are available on the WSIS Forum 2022 website (https://www.itu.int/net4/wsis/forum/2022/):

- WSIS Forum 2022: Outcome Document
- WSIS Forum 2022: High Level Track Outcomes and Executive Brief
- WSIS Action Lines Contributing towards Accelerated action and transformative pathways: realizing the decade of action and delivery for sustainable development
- WSIS Forum 2022 and SDG Matrix
- WSIS Stocktaking Report 2022 (Global)
- 6 Regional WSIS Stocktaking Reports 2021-2022
- WSIS Stocktaking: Success Stories 2022 (WSIS Prizes 2022 Winners)
- WSIS Stocktaking ICT Case Repository: The Coronavirus Response Special Report

Partners

WSIS Forum 2022 was made possible through the generous support of its strategic partners:

- United Arab Emirates - Platinum Partner
- Saudi Arabia (Kingdom of) - Gold Plus Partner
- Qatar - Gold Partner
- MIC Japan - Partner for Specific Activities
- The Institute of Electrical and Electronics Engineers (IEEE) - Partner for Specific Activities
- Huawei Technologies, Ltd. - Partner for Specific Activities
- Rwanda (Republic of) - Contributing Partner
- Switzerland (Confederation of) - Contributing Partner
- Internet Society (ISOC) - Contributing Partner
- Ernst & Young Global Limited (EY) - Contributing Partner
- Department for Digital, Culture, Media & Sport of the United Kingdom - Supporting Partner
- International Federation for Information Processing (IFIP) - Supporting Partner
- Global Coalition on Aging (GCOA) - Supporting Partner

Open Consultation Process

WSIS Forum 2022 began in March and culminated in the final week from 30 May to 3 June. The Agenda and Program of the Forum were built based on the submissions received during the Open Consultation Process (OCP). The Open Consultation process aims at ensuring a participatory and inclusive spirit of the Forum. This processactively engages multi-stakeholders in the preparatory process to ensure broad ownership and further improvementsof the Forum. The Open Consultation Process included a collection of inputs from regional other WSIS related events.

Phase I: Virtual Launch of the Open Consultation

The virtual launch of the open consultations took place on **Thursday 19 August 2021, 14:00–15:00 CEST**. The recording is available at the following link: WSIS Forum 2022 - Virtual Launch of the Open Consultations - Zoom

Phase II: 1st Virtual Meeting

The 1st Virtual Meeting of the open consultations took place on **Wednesday 8 December 2021, 13:50 – 14:50 CET.**

Phase III: 2nd Virtual Meeting

The 2nd Virtual Meeting of the open consultations took place on **Monday 31 January 2022, 14:00 to 15:00 CET.** The recording is available at the following link: WSIS Forum 2022 Open Consultation Process - 2nd Virtual Meeting - Zoom

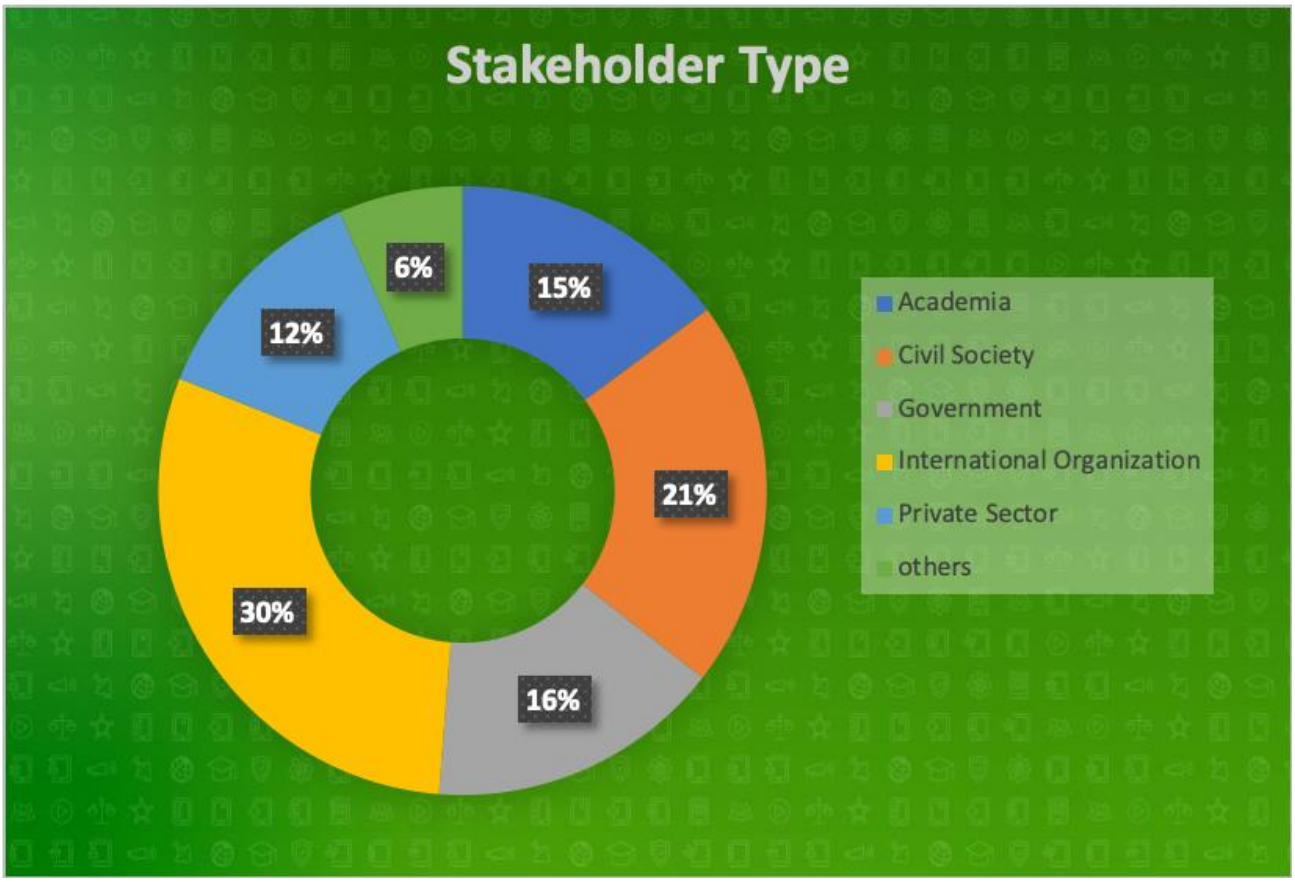
Phase IV: Deadline for Submissions of Official Contributions and Binding Requests for Workshops

The deadline for OCP submissions was 7 March 2022

Phase V: Final Brief

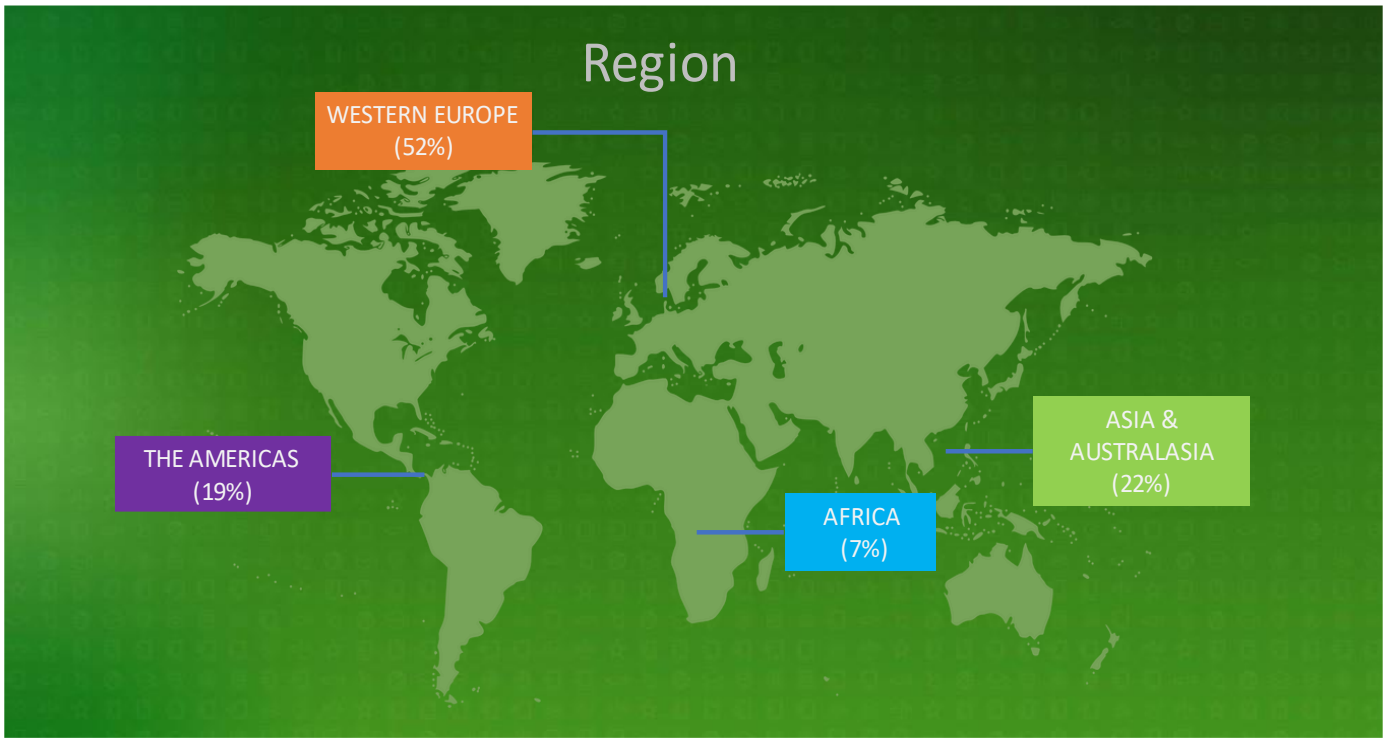
The Final Brief of the open consultations took place on **Monday 2 May 2022, 14:00 to 15:00 CEST.**

OCP Submissions by Stakeholder Type:



Please note that the agenda and workshops of the WSIS Forum includes the engagement of more than 32 United Nations(UN) Agencies, including UN Regional Commissions. The statistics above represent the submissions and suggestions received through the Open Consultation Process of the WSIS Forum 2022.

OCP Submissions by Region:



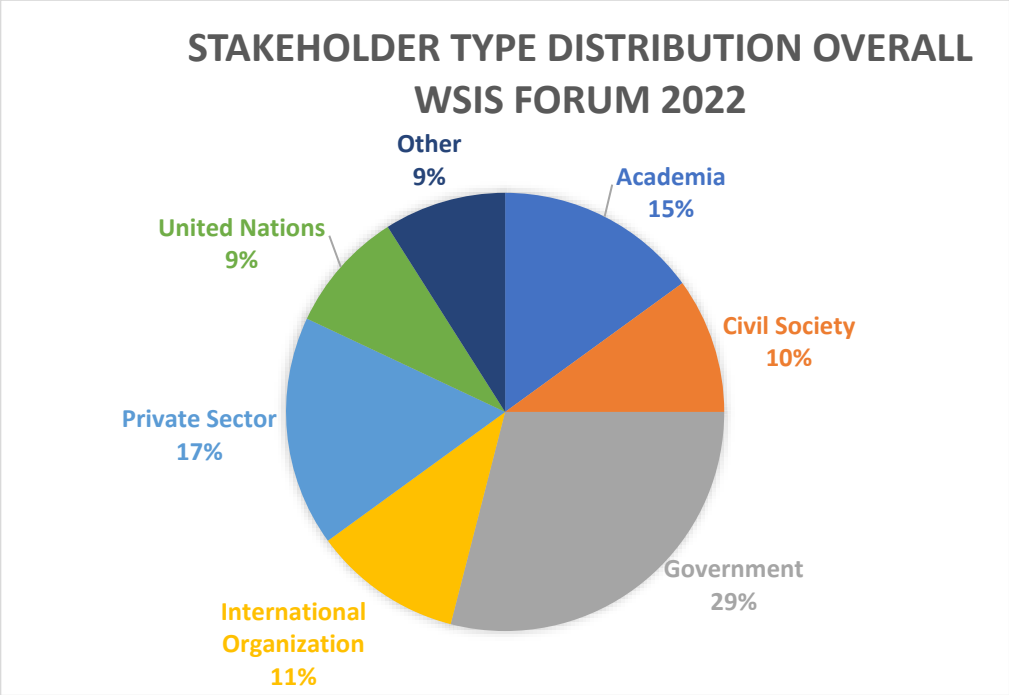
It is important to note that about half of submissions from Western Europe came from the headquarters of Organizations with an international presence.

All related information can be found at: https://www.itu.int/net4/wsis/forum/2022/Home/Consultations

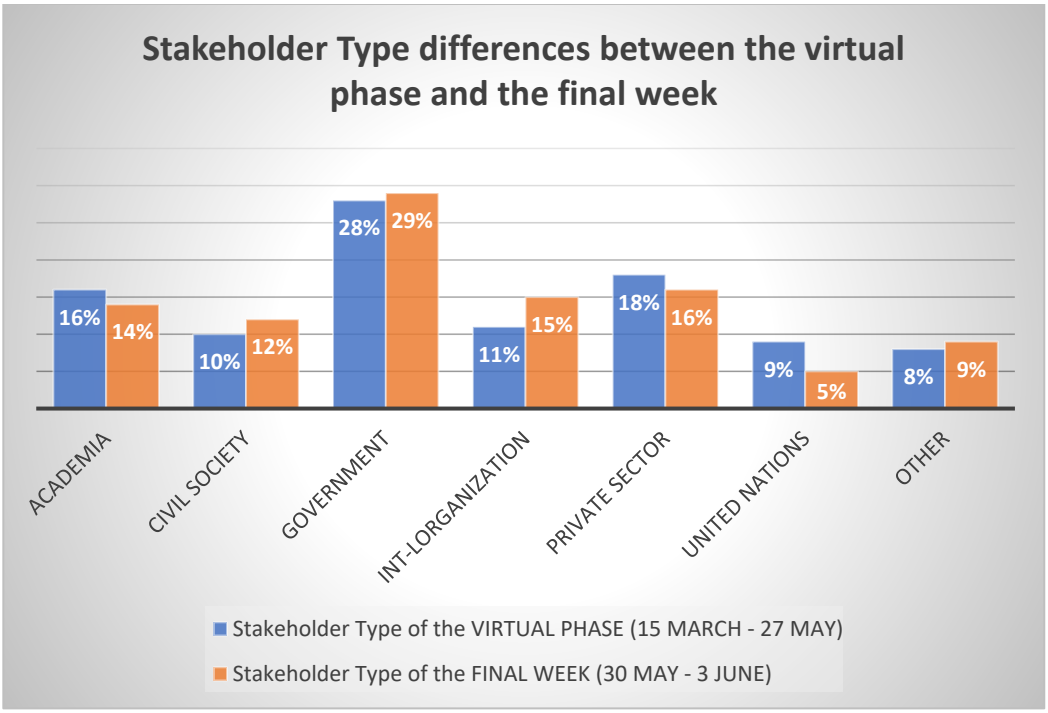
Participation at the WSIS Forum 2022

Key facts and figures:

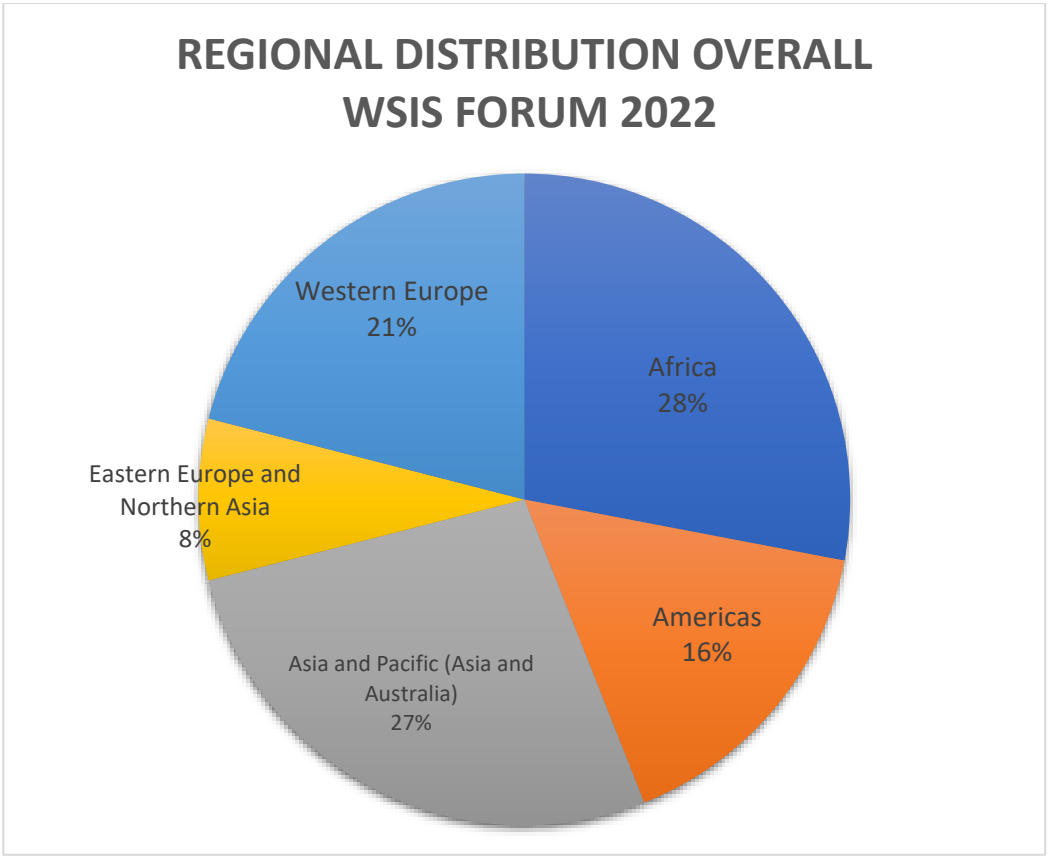
1) Stakeholder type:



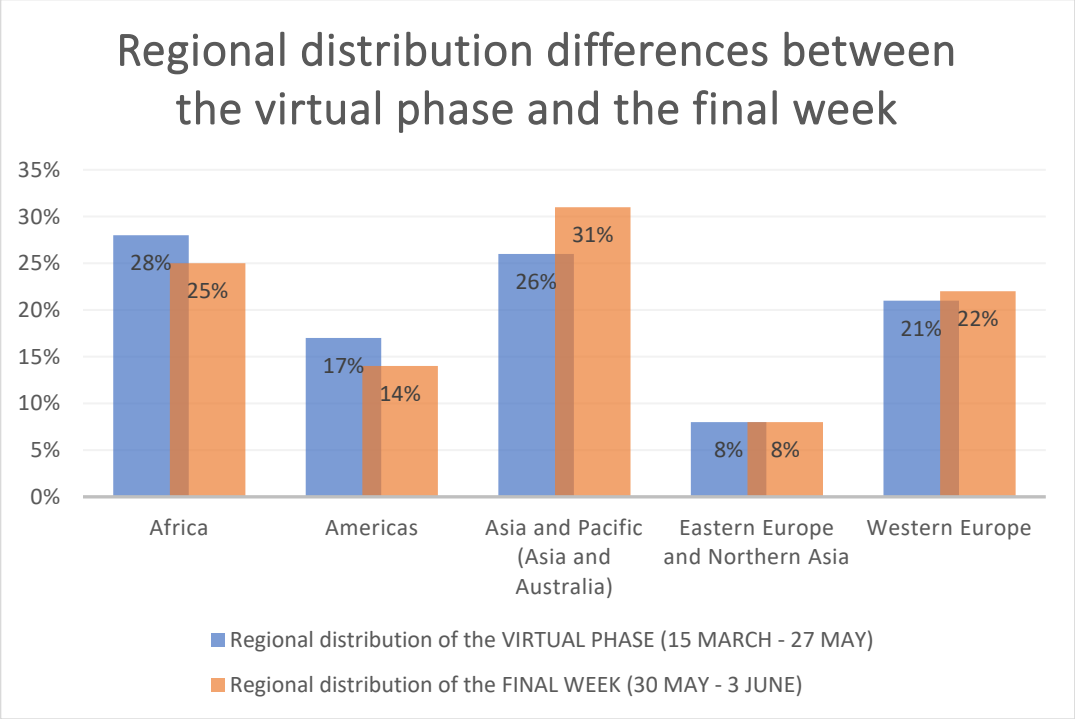
2) Stakeholder Type differences between the virtual phase and the final week



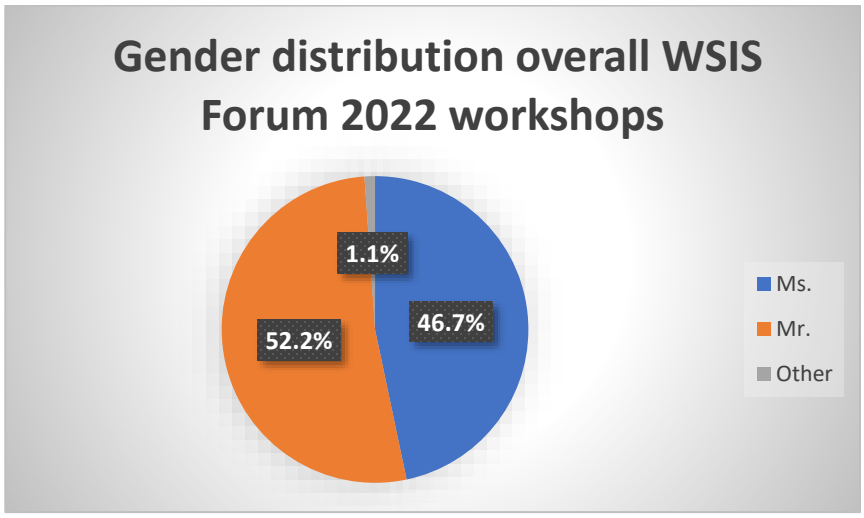
3) Regional distribution:



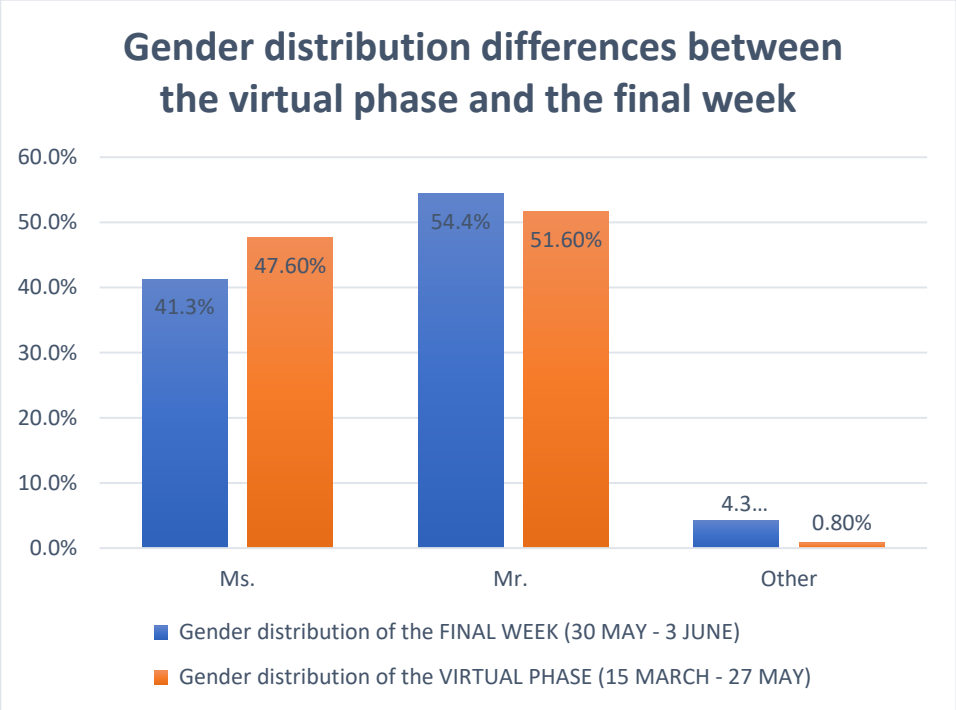
4) Regional distribution differences between the virtual phase and the final week:



5) Gender distribution:

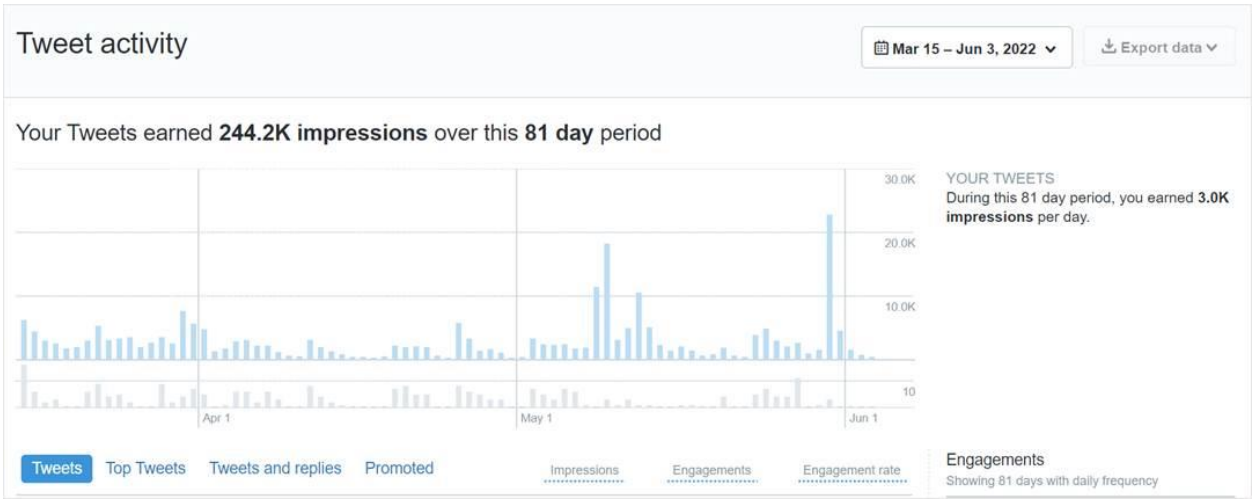


6)Gender distribution differences between the virtual phase and the final week:



Social Media at the WSIS Forum 2022

TWITTER STATS




Engagements
Showing 81 days with daily frequency
Engagement rate
2.5%
Jun 3
2.7% engagement rate
Link clicks
694
Jun 3
1 link click
On average, you earned 9 link clicks per day
Retweets without comments
682
Jun 3
0 Retweets without comments
On average, you earned 8 Retweets without comments per day
Likes
1.3K
Jun 3
4 likes
On average, you earned 16 likes per day
Replies
64
Jun 3
0 replies
On average, you earned 1 replies per day

	4,140	112	2.7%

World Summit on the Information Society (WSIS) @WSISprocess · May 16

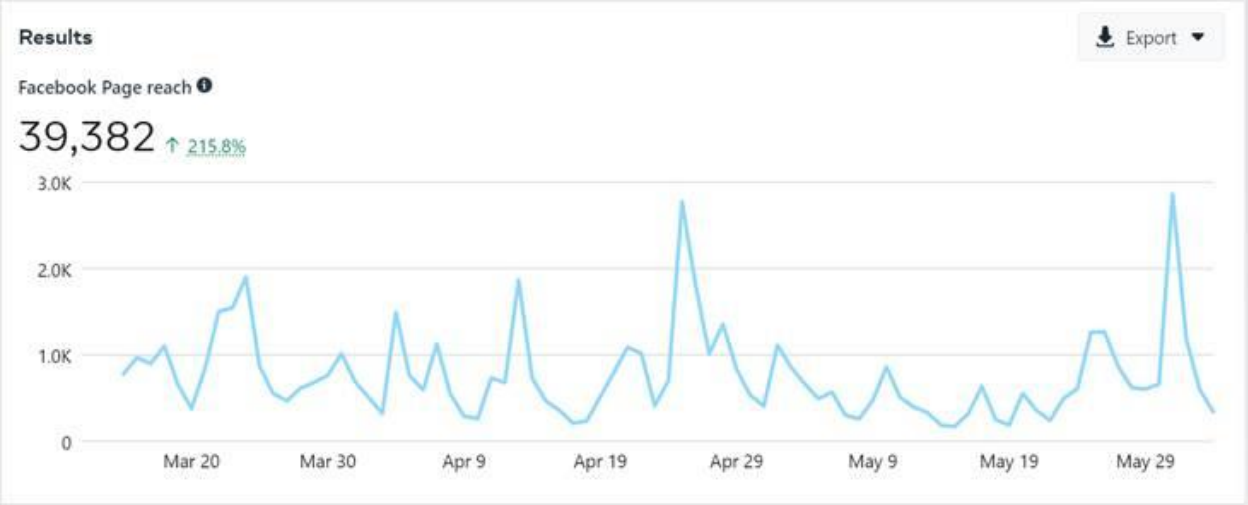
The Opening Segment will inaugurate the Final Week of the WSIS Forum 2022 and will consist of opening statements from the WSIS Forum 2022 co-organizers, UN partners, sponsors, and representatives of stakeholders engaged in the WSIS Process.

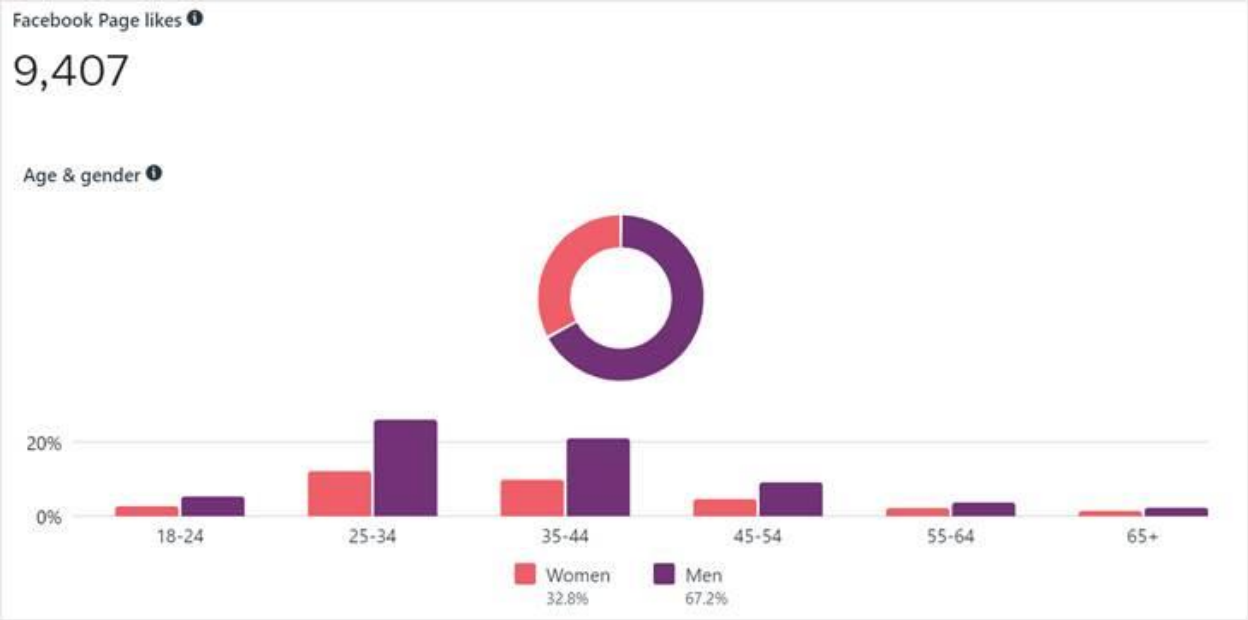
@ITUSecGen @iccwbo pic.twitter.com/indiJzUMYX

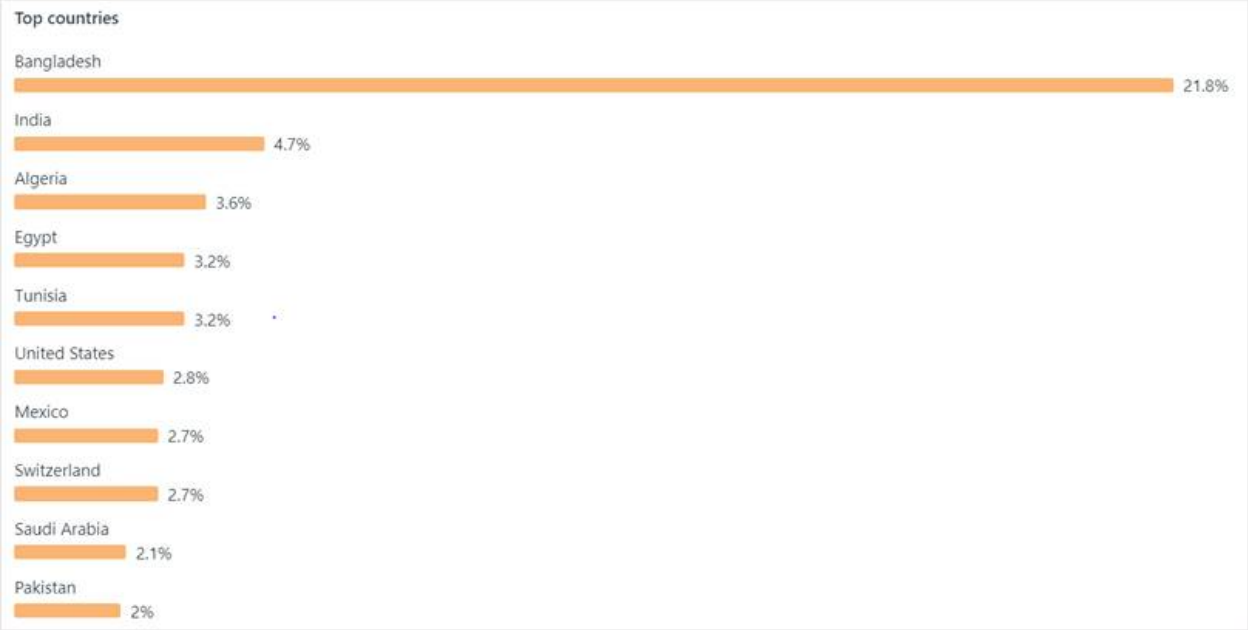
View Tweet activity

Top Tweet :

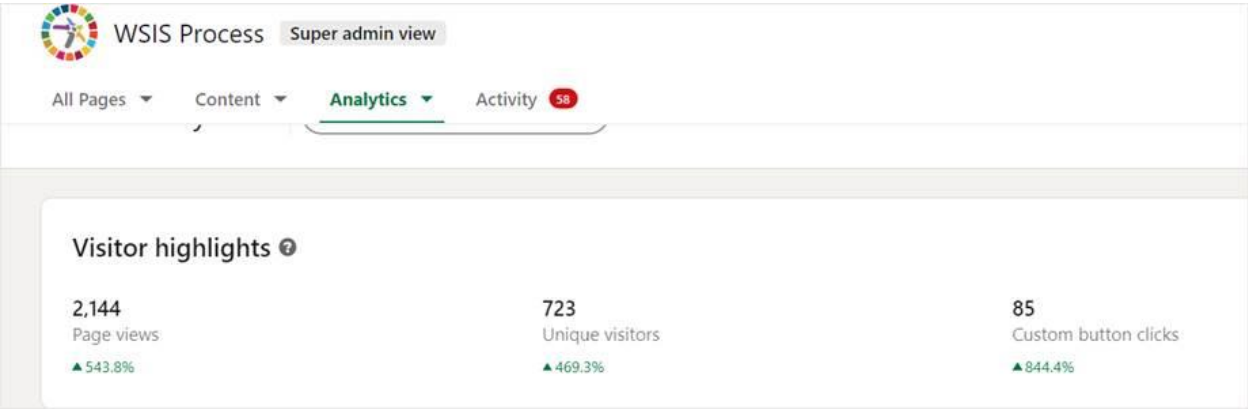
FACEBOOK STATS

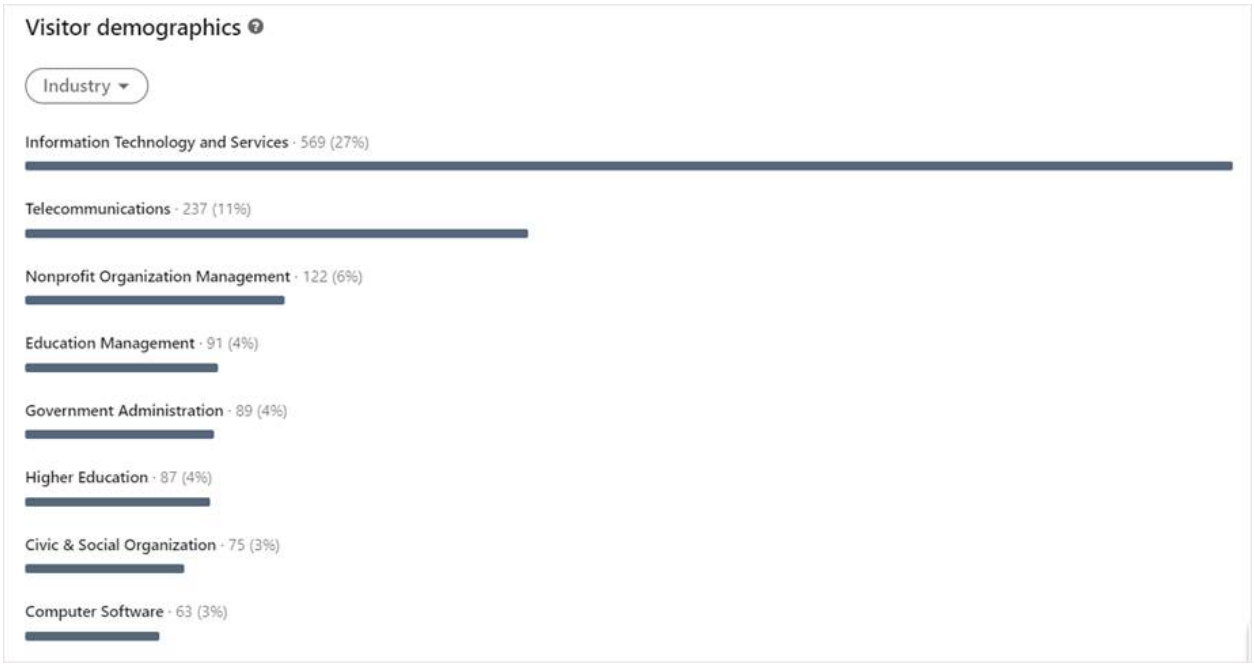






LINKEDIN STATS




Visitor demographics
Industry
Information Technology and Services · 569 (27%)
Telecommunications · 237 (11%)
Nonprofit Organization Management · 122 (6%)
Education Management · 91 (4%)
Government Administration · 89 (4%)
Higher Education · 87 (4%)
Civic & Social Organization · 75 (3%)
Computer Software · 63 (3%)

Follower demographics

Location

Geneva Area, Switzerland · 113 (14%)

Paris Area, France · 13 (2%)

Greater New York City Area · 13 (2%)

Washington D.C. Metro Area · 12 (2%)

Brussels Area, Belgium · 12 (2%)

Algeria area · 10 (1%)

Sydney, Australia · 8 (1%)

San Francisco Bay Area · 8 (1%)

Mexico City Area, Mexico · 7 (1%)

Toronto, Canada Area · 6 (1%)

Opening Segment

WSIS Forum 2022 Opening Segment

Workshop Name: WSIS Forum 2022 Opening Segment

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/491

Organization: WSIS

Date: Tuesday, 31 May 2022

The WSIS Forum is a multistakeholder platform to coordinate implementation activities, exchange information and knowledge, showcase innovation, share best practices, and foster partnerships to ensure ICTs remain a key enabler in achieving the Sustainable Development Goals.

Under this year's theme, 'ICTs for Well-Being, Inclusion and Resilience: WSIS Cooperation for Accelerating Progress on the SDGs', the WSIS Forum continues to highlight the implementation of the WSIS Action Lines in accelerating the achievement of the Sustainable Development Goals.

The WSIS process is aligned with the 2030 Agenda for Sustainable Development, which is highly dependent on ICTs for its implementation.

The Opening Segment inaugurated the Final Week of the WSIS Forum 2022 and consisted of opening statements from the WSIS Forum 2022 co-organizers, UN partners, sponsors, and representatives of stakeholders engaged in the WSIS Process.

The opening segment of the WSIS Forum 2022 was structured as follows:

- 09:30-10:30 Opening Ceremony
- 10:30–10:40 Remarks by the Chairman of the WSIS Forum 2022 and Announcement of the High-level Track Facilitators
- 10:40-11:40 High-level Strategic Dialogue with Partners: ICTs for Well-Being, Inclusion and Resilience: WSIS Cooperation for Accelerating Progress on the SDGs
- 11:40-12:40 High-Level Strategic Dialogue – WSIS+20: Multistakeholder Digital Cooperation for global development (WSIS Action Lines to achieve the SDGs)

High-Level Dialogues

High-level Dialogue: ICTs and Digital technologies for healthy ageing

Workshop Name:High-level Dialogue: ICTs and Digital technologies for healthy ageing

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/220

Organization: Global Coalition on Ageing / International Telecommunication Union / International Labour Organization / NGO Committee on Ageing Geneva / Permanent Mission of Israel UN Geneva / United Nations Department of Economic and Social Affairs / United Nations Economic Commission for Europe / United Nations Institute for Training and Research / World Health Organization

Date: Friday, 6 May 2022

High-Level Dialogue on the Transforming Education Summit and the 2023 GEM Report on technology and education

Workshop Name: High-Level Dialogue on the Transforming Education Summit and the 2023 GEM Report on technology and education

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/298

Organization: UNESCO

Date: Wednesday, 1 June 2022

From the lab to the real world: Artificial Intelligence and the decade action

Workshop Name: From the lab to the real world: Artificial Intelligence and the decade action

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/369

Organization: ITU

Date: Wednesday, 1 June 2022

Interactive High-Level Dialogue with Mayors on Smart Cities, Drivers of Innovative Sustainable Development

Workshop Name: Interactive High-Level Dialogue with Mayors on Smart Cities, Drivers of Innovative Sustainable Development

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/378

Organization: WSIS/Geneva Cities Hub

Date: Monday, 30 May 2022

High-Level Dialogue: ICTs for Developing Countries (and LDCs)

Workshop Name: High-Level Dialogue: ICTs for Developing Countries (and LDCs)

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/436

Organization: ITU/UN Technology Bank for Least Developed Countries

Date: Wednesday, 1 June 2022

High-Level Dialogue: Indigenous Languages

Workshop Name: High-Level Dialogue: Indigenous Languages

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/438

Organization: UNESCO / ITU

Date: Wednesday, 1 June 2022

High-Level Dialogue: WSIS +20 – WSIS Beyond 2025

Workshop Name: High-Level Dialogue: WSIS +20 – WSIS Beyond 2025

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/476

Organization:WSIS

Date: Thursday, 2 June 2022

High-Level Policy Sessions

High-level Policy Sessions (HLPS) took place on the 31st of May. Please see the moderators and speakers of the HLPS below.

<table>
<tr><th colspan="2">HIGH-LEVEL POLICY SESSIONS</th></tr>
<tr><td>Tuesday, 31 May (Popov Room, ITU Tower Building, with remote participation)</td><td>Tuesday, 31 May (Room C2, ITU Tower Building, with remote participation)</td></tr>
<tr><td>Time: 14:00 – 15:00
Session 1:
Bridging Digital Divides
1. Moderated by High-level Track Facilitator: Mei Lin Fung, Chair and Co-Founder People Centered Internet, United States of America
2. WSIS Action Line Facilitator ITU – Mr. Mario Maniewicz, Director, Radiocommunication Bureau, International Telecommunication Union
3. Gabon - H.E. Mr. Jean Pierre Doukaga Kassa, Ministre, Ministère de l'Economie Numérique
4. India - H.E. Mr. Devusinh Chauhan, Minister of State, Ministry of Communications
5. Georgia - H.E. Mr. Guram Guramishvili, Deputy Minister, Ministry of economy and Sustainable Development of Georgia
6. South Africa - H.E. Mr. Phillemon Mapulane, Minister, Ministry of Communications and Digital Technologies
7. Venezuela –H.E. Eng. Gloria Carvalho Kassar , Deputy Minister, Ministry Information and Communication Technology Development
8. Greece - H.E. Dr. Athanasios Staveris-Polykalas, Secretary General of Telecommunications and Post, Ministry of Digital Governance
9. Costa Rica - Eng. Gilbert Camacho Mora , Board Director Chairman,</td><td>Time: 14:00 – 15:00
Session 2
WSIS Action Lines and the 2030 Agenda / Inclusiveness, Access to Information and Knowledge for All / Bridging Digital Divides
1. Moderated by High-level Track Facilitator: Ms. Mikaela Jade, CEO and Founder, In Digital, Australia
2. WSIS Action Line Facilitator UNESCO –Mr. Alexander Ntoko, Chief of the Operations and Planning Department, TSB, International Telecommunication Union
3. Guyana - H.E. Mr. Kwame McCoy, Minister, Within Office of the Prime Minister of Guyana
4. Malawi - H.E. Mr. Gospel Kazako, Minister, Ministry of Information and Digitilisation
5. Dominican Republic - H.E. Mr. José Montilla, Vice Minister of Digital Agenda, Ministry of the Presidency
6. Tanzania - H.E. Mrs. Maimuna Kibenga Tarishi, Ambassador and Permanent Representative
7. Cyprus - H.E. Dr. Stelios Himonas, Permanent Secretary Deputy Ministry of Research, Innovation and Digital Policy
8. Thailand –Ms. Ajarin Pattanapanchai , Permanent Secretary, Ministry of Digital Economy and Society
9. Jamaica - Mr. Ansord Hewitt , Director General, Office of Utilities Regulation</td></tr>
</table>

Superintendency of Telecommunications 10. **Poland** - Dr. Jacek Oko, President, Office of Electronic Communications (UKE) 11. **NTT Corporation** - Mr. Seizo Onoe, Executive Vice President and Chief Standardization Strategy Officer of NTT CORP. and Fellow of NTT DOCOMO, INC 12. **Nigeria** - Prof. Umar Danbatta, Nigerian Communications Commission 13. **Norway** - Prof. Josef Noll, Secretary General, Basic internet Foundation	10. **Timor-Leste** - Mr. Joao Olivio Freitas, Chairman and President of the Board of Directors, National Communications Authority 11. **Qatar Supreme Committee** - Mr. Sami Al-Shammari, Chief Technology Officer 12. **Colombia** - Mr. Farid Lozada , President, Fundacion AbbaCol
Tuesday, 31 May (Popov Room, ITU Tower Building, with remote participation)	***Tuesday, 10 May***
Time: 15:00 – 16:00 **Session 3** **Building Confidence and Security in the use of ICTs** 1. **Moderated by High-level Track Facilitator**: Dr. Ahmad Sharafat, Professor and Senior Consultant, Tarbiat Modares University, Iran 2. **WSIS Action Line Facilitator UNDESA** - Dr. Chaesub Lee, Director, Telecommunication Standardization Bureau, International Telecommunication Union 3. **Cameroon** - Prof. Philémon ZOO ZAME, Directeur Général, Agence de Régulation des Télécommunications 4. **Peru** - Ms. Marushka Chocobar , Secretary of State, Secretariat of Government and Digital Transformation at Presidency of the Council of Ministers 5. **Mexico** - Dr. Felipe Alfonso Hernández Maya, General Coordinator of User Policy, Federal Telecommunications Institute (IFT) 6. **China** - Ms. Afke Schaart, Senior Vice President, Global Glovernment Affairs Department, Huawei Technologies	***Time: 13:00 – 14:30*** **Session 4** Enabling Environment: Economic and fiscal incentives to accelerate digital transformation 1. **Moderated by**: Ms Sofie Maddens, Head, Regulatory Market and Environment Division, ITU 2. **ITU** – Mr Malcolm Jonhson, Deputy Secretary General 3. **ITU** - Dr Raul Katz, Rapporteur 4. **Deloitte France** - Dr Sidy Diop, Partner Economic Advisory 5. **Asian Infrastructure Investment Bank** - Mr Paul Lam, Strategy Officer - Digital & Technology 6. **Cullen International** - Ms Carolina Limbatto, Partner Head of Latin America 7. **Research ICT Africa** - Dr Alison Gillwald, Executive Director 8. **JP Morgan** - Mr Ankur Rudra, Asia Telecom Equity Research 9. **CCS Insight** - Mr Richard Webb, Director Network Infrastructure 10. **International Finance Corporation (IFC)** - Carlo Maria Rossotto, Principal Investment Officer, Global

7. **Russian Federation** - Mr. Rashid Ismailov, President 8. **Tunisia -** Eng. Mohamed Ben Amor, Secretary General, Arab ICT Organization 9. **ISOC Tanzania** – Mr. Nazarius Kirama , President/CEO	Head Upstream Telecom, Media and Technology 11. **ITU** - Ms Carmen Prado-Wagner, Regulatory Market and Environment Division
Tuesday, 31 May (Popov Room, ITU Tower Building, with remote participation)	***Tuesday, 31 May (Room C2, ITU Tower Building, with remote participation)***
Time: 16:00 – 17:00 ***Session 5*** **ICT Applications and Services** **Chairman:** H.E. Mr. Mustafa Jabbar, Minister, Ministry of Posts, Telecommunications and Information Technology, Bangladesh 1. **Moderated by High-level Track Facilitator**: Ms. Moira Patterson, Global Market Affairs & Community Engagement Director, IEEE Standards Association, United States of America 2. **WSIS Action Line Facilitator ITU** – Dr. Chaesub Lee, Director, Telecommunication Standardization Bureau 3. **Iran -** H.E. Mr. Isa Zare Pour, Minister, Ministry of Communication and Information Technology 4. **Argentina** - H.E. Ms. Micaela Sanchez Malcolm, Secretary of State, Technological Innovation of the Public Sector of the Chief of Cabinet of Minister's Office 5. **Greece -** H.E. Dr. Athanasios Staveris-Polykalas, Secretary General of Telecommunications and Post, Ministry of Digital Governance 6. **Algeria -** Dr. Zineddine Belattar, President of AREGNET, Chairman of ARPCE, Council of Post and Electronic Communications Regulatory Authority, Arab Network for Telecommunications Regulatory Authorities	***Time: 16:00 – 17:00*** ***Session 6*** **Climate Change/Bridging Digital Divides** 1. **Moderated by High-level Track Facilitator**: Ms. Melika Righi, Associate, Dama Italy 2. **WSIS Action Line Facilitator ITU** – Mr. Dejan Jakovljevic, Director and Chief Information Officer, Digitalisation and Informatics Division, Food and Agriculture Organization 3. **South Sudan -** H.E. Mr. Jacok Korok Maiju, Deputy Minister, Ministry of Information Communications Technology and Postal Services 4. **Greece -** Prof. Konstantinos Masselos, President, Hellenic Telecommunications and Post Commission 5. **Saint Vincent and the Grenadines** - Mr. Apollo Knights, Director, National Telecommunications Regulatory Commission 6. **Uganda –**Eng. Irene Kaggwa Sewankambo, Ag. Executive Director and Director Engineering and Communications Infrastructure Uganda Communications Commission 7. **Germany** - Mr. Bjorn Richter, Head of Digital Development Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

7. **Turkey** - Mr. Omer Abdullah Karagözoğlu, President, Information and Communication Technologies Authority (ICTA) 8. **United Arab Emirates** - Ms. Mubaraka Ibrahim, Acting Chief Information Officer of Information Sector, Director of Health Information Systems, Emirates Health Services 9. **Bahrain** - Eng. Mariam Jumaan, Chairperson, Telecommunication regulatory authority 10. **Azerbaijan** - Mr. Fariz Jafarov, Director, E-Gov Development Center 11. **China** - Dr. LIU Chuang, Professor, Institute of Geography and Natural Resources, Chinese Academy of Science 12. **Tanzania** - Dr. Alcardo Alex Barakabitze, Lecturer of ICTs, Sokoine University of Agriculture	8. **Colombia** - Ms. Lina María Duque del Vecchio , Communications Commissioner, Comisión de Regulación de Comunicaciones 9. **Canada** - Dr. Maike Luiken, SMIEEE, IEEE-HKN, FEIC, 2022 IEEE Past Vice President - Member & Geographic Activities, IEEE 10. **United Kingdom of Great Britain and Northern Ireland** - Mr. Tomas Lamanauskas, Managing Partner, Envision Associates 11. **UN Office for Disaster Risk Reduction** - Mr. Ricardo Mena, Director 12. **United States of America** - Ms. Sarah Armstrong, Executive Director, Internet Society Foundation 13. **United States of America** - Ms. Sarah Kemp, Vice President and General Manager of International Government Affairs, Intel Corporation
Wednesday, 1 June (Popov Room, ITU Tower Building, with remote participation)	***Wednesday, 1 June (Popov Room, ITU Tower Building, with remote participation)***
Time: 09:00 – 10:00 **Session 7** **Inclusiveness, Access to Information and Knowledge for All / Bridging Digital Divides** 1. **Moderated by High-level Track Facilitator**: Dr. Liberato Bautista, President, Conference of Non-Governmental Organizations in Consultative Relationship with the United Nations (CoNGO), United States of America 2. **WSIS Action Line Facilitator ITU** – Mr. Paul Donohoe, Digital Economy and Trade Coordinator, Universal Postal Union, Switzerland 3. **Bangladesh** - H.E. Mr. Mustafa Jabbar, Minister, Posts and Telecommunications Division, Ministry of Posts, Telecommunications and ICT	***Time: 10:00 – 11:00*** **Session 8** **Enabling Environmen** 1. **Moderated by High-level Track Facilitator**: Mr. Kevin Perkins, Executive Director, Farm Radio International, Canada 2. **ITU** –Ms Sofie Maddens, Head, Regulatory Market and Environment Division, BDT 3. **Namibia** - H.E. Mr. Peya Mushelenga, Minister, Ministry of Information and Communication Technology 4. **Mongolia** - H.E. Ms. Bolor-Erdene Battsengel, State Secretary, Ministry of Digital Development and Communications 5. **Malaysia** –Dr. Fadhlullah Suhaimi Abdul Malek, Executive Chairman,

4. **Samoa** - H.E. Mr. Toelupe Poumulinuku Onesemo, Minister, Ministry of Communications and Information Technology 5. **Romania** - H.E. Mr. Bogdan Dumea, State Secretary, Ministry of Research, Innovation and Digitalization 6. **Niger** - Ms. Aichatou Habibou Oumani, President, Niger Regulatory Authority for Electronic Communication and Postal Service 7. **Sweden** - Mr. Dan Sjoblom, Director General, Swedish Post and Telecom Authority 8. **Azerbaijan** –Mr. Bakhtiyar Mammadov, Deputy Head of Administration, Ministry of Digital Development and Transport 9. **Italy** –Dr. Caterina Berbenni-Rehm, Founder & CEO, PROMIS@Service 10. **United States of America** - Ms. Tatyana Kanzaveli, CEO, Open Health Network 11. **Bangladesh** - Mr. AHM Bazlur Rahman, Chief Executive Officer, Bangladesh NGOs Network for Radio & Communication(BNNRC)	Malaysian Communications and Multimedia Commission 6. **Office of the Regulator** - Ms. Gisa Fuatai Purcell, CEO/Regulator 7. **Georgia** - Ms. Ekaterine Imedadze , Commissioner, Georgian National Communications Commission 8. **Cambodia** - Mr. Kimsann Srun, , Commissioner, Telecommunication Regulator of Cambodia 9. **China** - Dr. LUO Zhong, Vice President, Standards and Industry, Huawei Technologies 10. **France** - Mr. Andrew Wilson, Global Policy Director, Permanent Representative to the UN, International Chamber of Commerce 11. **United States of America** –Mr. Troy Reynolds, Chief Legal & Compliance Officer, Tata Communications
Wednesday, 1 June (Room C2, ITU Tower Building, with remote participation)	***Wednesday, 1 June (Popov Room, ITU Tower Building, with remote participation)***
Time: 09:00 – 10:00 **Session 9** **Inclusiveness, Access to Information and Knowledge for All/WSIS Action Lines and 2030 Agenda/Bridging Digital Divide** 1. **Moderated by High-level Track Facilitator**: Prof. Ke Gong, Immediate past president, World Federation of Engineering Organizations, France 2. **WSIS Action Line Facilitator** –Dr. Marielza Oliveira, Director, Partnerships and Operational Programme Monitoring, Communication and Information Sector, UNESCO	***Time: 11:00 – 12:00*** **Session 10** **Digital Economy and Trade/ Financing for Development and role of ICT** 1. **Moderated by High-level Track Facilitator**: Ms. Emily Middleton, Partner, Public Digital, United Kingdom of Great Britain and Northern Ireland 2. **WSIS Action Line Facilitator** –Mr. Torbjörn Fredriksson, Head of E-Commerce and Digital Economy Branch, UNCTAD 3. **Armenia** - H.E. Mr. Davit Sahakyan, Acting Minister, Ministry of High

3. **Bangladesh** - Mr. Shyam Sunder Sikder, Chairman, Bangladesh Telecommunication Regulatory Commission 4. **India** - Dr. P.D. Vaghela, Chairman, Telecom Regulatory Authority of India 5. **Mauritius** - Mr. Dick Christophe Ng Sui Wa, Chairman, Information and Communication Technologies Authority 6. **China** - Dr. XIE Cun, Director General, Department of ICT Development, Ministry of Industry and Information Technology 7. **Bangladesh** - Eng. Hasanul Haq Inu, Chairman, Parliamentary Standing Committee for Ministry of Information and Broadcasting & Chairperson, Bangladesh Internet Governance Forum, Bangladesh Parliament 8. **Indonesia** –Dr. Ismail Ismail, Director General, Resource Management and Equipment of Post and Informatics, Ministry of Communications and Informatics 9. **India** –Dr. Pavan Duggal, Honorary Chancellor, Cyberlaw University 10. **Zambia** - Mr. Ernest Mafuta, Chair, Affordable Internet AccessSIG	Tech Industry of the Republic of Armenia 4. **Ethiopia**- H.E. Mr. Belete Molla Getahun, Minister, Ministry of Innovation and Technology 5. **Ministère de la Communication, de l'Economie Numérique et de la Modernisation de l'Administration** - H.E. Mr. Maitre Harouna Mamadou Toureh, Ministre 6. **Lithuania** - H.E. Ms. Eglė Markevičiūtė, Vice Minister, Ministry of the Economy and Innovation 7. **Nepal** - H.E. Dr. Baikuntha Aryal, Secretary, Ministry of Communication and Information Technology 8. **Germany** –Dr. Thomas Zielke, Director, Head of Division, Office for National and International Standardization Policy and Patent Policy, Ministry for Economic Affairs and Climate Action 9. **Austri**a–Dr. Bernardo Calzadilla Sarmiento, Managing Director of UNIDO's Directorate of Digitalization, Technology and Agri-Business, United Nations Industrial Development Organization
Wednesday, 1 June (Room C2, ITU Tower Building, with remote participation)	
Time: 09:00 – 10:00 **Session 11** **Cultural diversity and identity, linguistic diversity and local content/Ethical Dimensions of Information and Knowledge Societies/Media/ICTs and Gender Mainstreaming** 1. **Moderated by High-level Track Facilitator**: Mr. Paul Spiesberger, Chair, Austrian Network for Information and Communication Technologies for Development, Austria	

2. **WSIS Action Line Facilitator** –Dr. Tawfik Jelassi, Assistant Director-General for Communication and Information, UNESCO 3. **Suriname** - H.E. Mr. Albert Jubithana, Minister, Ministry of Transport, Communications and Tourism 4. **Russian Federation** - H.E. Ms. Bella Cherkesova, Deputy Minister, Ministry of Digital Development, Communications and Mass Media of the Russian Federation 5. **Switzerland** - Mr. Bernard Maissen , Directeur Général, Office Fédéral de la Communication 6. **Zimbabwe** - Dr. Gift Kallisto Machengete, Director General, Postal and Telecommunications Regulatory Authority of Zimbabwe 7. **Switzerland** - Ms. Adriana Quiñones Giraldo, Director, UN Women´s Liaison Office in Geneva 8. **United States of America** –Ms. Rinalia Abdul Rahim, Senior Vice President, Strategy, Communications and Engagement, Internet Society 9. **Italy** –Dr. Pierpaolo Saporito, Architect, President, OCCAM - Observatory for Cultural Communication and Audiovisual in the Mediterranean and in the World 10. **United States of America** - Ms. Maya Plentz, Founder, Editor in Chief, The UN Brief 11. **Italy** - Prof. Alfredo Ronchi, Secretary General, EC MEDICI Framework of Cooperation 12. **Tanzania** - Ms. Rebecca Ryakitimbo, CEO/ Fellow, Kuza STEM Generation and Mozilla Foundation	

Ministerial Round Table

Ministerial Round Table

Workshop Name: Ministerial Round Table

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/319

Organization: WSIS

Date: Wednesday, 1 June 2022

Regional Workshop

Leveraging connectivity everywhere to drive sustainable growth in Asia region

Workshop Name: Leveraging connectivity everywhere to drive sustainable growth in Asia region

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/294

Organization: Global Satellite Operators Association & Satellite Industry Association of India

Date: Friday, 8 April 2022

1) Title of your session

Leveraging Connectivity Everywhere to Drive Sustainable Growth in Asia Region

2) Name of Organisation(s) organising the session

Global Satellite Operators Association (GSOA) & Satcom Industry Association of India (SIA-India)

3) Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1: The role of governments and all stakeholders in the promotion of ICTs for development
C2: Information and communication infrastructure: an essential foundation for the Information Society
C3: Access to information knowledge
C4: Capacity building
C5: Building confidence and security in the use of ICTs
C6: Enabling environment
C7 ICT Applications: e-business
C7 ICT Applications: e-health

C7 ICT Applications: e-agriculture

4) Did your workshop highlight any issues related to COVID-19? If yes, please explain.

Yes, the workshop focused on how the dependency on digital connectivity to prevent any disruptions to economic, educational, and social activities is much higher with the new norms to which society has adjusted.
The WS discussed how satellite technology will play a supporting role in ICT and how rapid digitalization has accelerated the shift towards digital finance.

Universal financial inclusion has been one of the major developmental priorities for APAC countries. Digital financial Inclusion is imperative for Farmers, MSME[1]s, distance education, online schools, medical access, banking, remote entrepreneurs, rural women empowerment, the disabled, and delivery of essential public services. Satellites will enable financial inclusion to bring millions of unserved and underserved people into the formal financial sector.

Digital Tools (e.g., mobile money and e-wallets, crowdfunding and cross-border remittances) have the potential to support financial inclusion of underserved persons and communities, reduce costs, and provide new livelihood and market opportunities.

5) Key achievements, announcements, launches, agreements, and commitments

In India the JAM trinity being Jan Dhan Bank Accounts, Aadhar Card and Mobile phones, are key financial inclusion tools which have been very successful. JAM has enabled India to leverage its technical capabilities for developing its Fintech sector. More than 50% of account holders in Jan Dhan are Women which is a great step forward towards bridging the gender digital financial divide. It is worth remembering that in Indonesia Bank BRI (Bank Rakyat Indonesia) has its own satellites to enable financial inclusion across the Indonesian archipelago.

The success of the e-Choupal model in agriculture sector was highlighted. It uses satellite imagery for precision farming and allows farmers to benefit from connectivity to know where/to whom to best sell their produce. Satellites has enhanced the competitiveness of Indian agriculture and facilitated higher productivity, higher incomes, enlarged capacity for farmer risk management, larger investments and higher quality and productivity. ITC's Agri Business Division, one of India's largest exporters of agricultural commodities, has conceived e-Choupal as a more efficient supply chain aimed at delivering value to its customers around the world on a sustainable basis. The model has been specifically designed to tackle the challenges posed by the unique features of Indian agriculture, characterised by fragmented farms, weak infrastructure and the involvement of numerous intermediaries, among others.

The role of satellites in digitalizing cinema content distribution in India was also discussed. With diverse geographical conditions and difficult terrain satellite delivery of content takes care of all logistical problems associated with film distribution and exhibition. It ensures that even the remotest corners of the country receive all films - first day, first show.

[1] Micro, Small and Medium Enterprises

6) Main outcomes highlighting the following:

7) **Debated Issues**

- Please capture highlights of the main issues discussed and interactions with audience

  Same as above

- Please highlight key achievements and challenges shared by the audience and/or panelists

8) **Quotes**

- Please provide two important quotes from the session and the names & organisations of the person you are quoting

Anil Prakash, DG SIA-India said "The success of JAM trinity [JanDhan, Aadhaar, Mobile] has been incredible in India however, despite such growth in the fintech sector, India still remains an untapped market due to lower penetration of internet. The role of Satellites to further digital financial inclusion in the financially unserved as well as underserved populations is critical."
"The success of the e-Choupal model in the agriculture sector using satellite is significant. It has enhanced the competitiveness of Indian agriculture and facilitated higher productivity, higher incomes, higher quality and productivity. ITC's Agri Business Division, one of India's largest exporters of agricultural commodities, has conceived e-Choupal as a more efficient supply chain".
Rahul Gouraha, ITC Limited

9) Overall outcomes of the session highlighting

- Main conclusions reached during the discussion

Satellite communications play a crucial role in providing essential services across rural Asia and hence support sustainable development. They can directly benefit specific sectors such as agriculture, finance and media, bridging inequalities as they do so. There is an urgent need to democratize technology in order to put tools such as these in the hands of users such as rural farmers, who without such solutions are significantly disadvantaged with respect to others in society.

- the vision for implementation of WSIS Action Lines beyond 2015

10) Main linkages with the Sustainable Development Goals (please specify the SDGs)

- End poverty in all its forms everywhere

- End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Ensure healthy lives and promote well-being for all at all ages
- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Achieve gender equality and empower all women and girls
- Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Reduce inequality within and among countries
- Make cities and human settlements inclusive, safe, resilient and sustainable

11) Emerging Trends related to WSIS Action Lines identified during the meeting

(The meeting discussed the extensive role of satellites solutions for Ubiquitous Digital Inclusion)

- Satellite Technology is extending financial services to unserved and underserved populations across Asia, India and Indonesia are just 2 such examples.
- This is helping the digitalization of MSMEs which could be a major contributor to post-pandemic economic recovery.
- The importance of digital for farmers is increasing and satellite is an important enabler. With reliable quality internet, farmers' revenue can increase by 50%.
- Satellite broadband is an increasingly effective last mile connectivity solution for millions in remote and rural areas, providing multiple e-services from media to education.

12) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

Progress towards achieving the SDGs across Asia

Leveraging connectivity everywhere to drive sustainable growth in Africa region

Workshop Name: Leveraging connectivity everywhere to drive sustainable growth in Africa region

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/291

Organization: GSOA/Smart Africa

Date: Monday, 11 April 2022

Leveraging connectivity everywhere to drive sustainable growth in Latin America region

Workshop Name: Leveraging connectivity everywhere to drive sustainable growth in Latin America region

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/292

Organization: GSOA/CITEL

Date: Thursday, 14 April 2022

Country Workshop

Digital Government Transformation of the State of Qatar

Workshop Name: Digital Government Transformation of the State of Qatar

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/326

Organization: Qatar

Date: Monday, 30 May 2022

The Future of the Internet: Towards more inclusive and effective governance

Workshop Name: The Future of the Internet: Towards more inclusive and effective governance

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/334

Organization: Department for Digital, Culture, Media, and Sport, United Kingdom

Date: Monday, 30 May 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**
   C1: The role of governments and all stakeholders in the promotion of ICTs for development
   C2: Information and communication infrastructure: an essential foundation for an inclusive information society
   C11: International and regional cooperation

2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**
   Yes. It was noted that COVID-19 showed some ways in which the Internet and its governance were prepared to meet unexpected challenges, but also showed ways in which we need to do more to extend access and infrastructure, and protect users online.

3) **Key achievements, announcements, launches, agreements, and commitments**

4) **Main outcomes highlighting the following:**
   I. **Debated Issues**
      - The increasing complexity and importance of Internet Governance means that interdisciplinary expertise is required, with roles of different types of experts, and different groups of stakeholders. Training and education, including through Universities, can help develop multidisciplinary experts.
      - Stakeholders are in some cases losing the ability to understand and contribute to Internet Governance discussions given how many processes there are. Some stakeholders are retreating to their groups and engaging less with other types of stakeholders in different parts of the system.
      - Public participation in policy making and governance processes can be an enabler of social and economic benefits. Processes should understand barriers

to accessibility, and provide clear guidelines, timelines, and identify champions.

- As part of the ongoing development of the multistakeholder model, different approaches are taken in teaching internet governance, whether in summer schools or through NRI structures.
- Governments have a particular role within the multistakeholder system, and can contribute in different ways to industry or civil society. Governments aren't monolithic and one way to strengthen governments' contributions would be to increase coordination internally given the importance of the internet for all policy areas.
- Going forward, the Internet Governance system can build on existing structures including the IGF and WSIS. Through existing structures stakeholders can refine joint understandings of multistakeholderism, and translate shared principles into action.

II. Quotes

- Chris Buckridge: *"We need to keep being really assertive about why it is we're advocating a multistakeholder model. This is not a utopian hippie ideal that we should all get together, it's actually derived from the way the internet operates. To actually govern this in a global sense, a global cooperative sense, to maintain a single unfragmented internet, we're going to have to do this in a multistakeholder way. We need to keep focus and build focus on what the practical outcomes of a multistakeholder process can be."*
- Grace Githaiga: *"Generally, there has been a lack of holistic multidisciplinary multistakeholder mechanisms for public participation. And what I need to note here is the right to public participation is actually an enabler of political and social, economic development and the realization of different rights."*
- Olga Cavalli: "*I think that the value of improving and using the spaces that we already have, the IGF, the WSIS Forum, meetings at ICANN, the ITU and others, is to enhance them so it makes life easier for those who have not so many resources to participate in all these processes, to perhaps be more focused on some of them."*

III. Overall outcomes of the session highlighting

- Main conclusions reached during the discussion
    i. The session highlighted key challenges, including the complexity and scale of internet governance, which has resulted in stakeholders stepping back or losing trust.

ii. The session also highlighted opportunities, including to build on existing structures and processes, refine shared understandings of the multistakeholder model, and make more active attempts to consult and engage.

- The vision for implementation of WSIS Action Lines beyond 2015
    i. The session concluded that multistakeholder participation and mechanisms for active engagement are vital for delivering on WSIS Agenda, and thus importance of WSIS mandate renewal by UNGA in 2025.

5) Main linkages with the Sustainable Development Goals (please specify the SDGs)

9: Industry, Innovation, and Infrastructure
16: Peace, Justice, and Strong Institutions
17: Partnerships on the goals

6) Emerging Trends related to WSIS Action Lines identified during the meeting

N/A

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

- Refining our understanding of the multistakeholder model
- Building trust and supporting active participation in multistakeholder processes

8) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

The multistakeholder model has been integral for the implementation of the WSIS Action Lines to date. This model mirrors the collaborative, distributed nature of the Internet itself. At its best, this model can enable wide and inclusive participation in the evolution of the Internet, powering economic and social development. Towards the WSIS+20 review, we have an opportunity to review the multistakeholder model and reinforce it, making it more effective and reaffirming our support for inclusive participation in the governance of the Internet.

The Path Towards Truly Digital Nation

Workshop Name: The Path Towards Truly Digital Nation

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/387

Organization: UAE

Date: Monday, 30 May 2022

Towards a common approach to countering disinformation online

Workshop Name: Towards a common approach to countering disinformation online

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/404

Organization: Lithuania, Ukraine, Poland, Latvia, Japan, Delegation of the European Union in Geneva

Date: Thursday, 2 June 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

- 3) Access to information and knowledge
- 4) Capacity building
- 6) Enabling environment
- 8) Cultural diversity and identity, linguistic diversity and local content
- 9) Media
- 10) Ethical dimensions the Information Society
- 11) International and regional cooperation

2) Did your workshop highlight any issues related to COVID-19? If yes, please explain.
The event tackled the damaging effect of disinformation that has become especially visible since the beginning of the COVID-19 pandemic.

3) Key achievements, announcements, launches, agreements, and commitments
This is the first attempt to bring the topic of disinformation to the agenda of WSIS. The topic requires further multi-stakeholder attention and engagement.

4) Main outcomes highlighting the following:
I. Debated Issues
The event focused on the ways to reach common approach to countering disinformation online, stressing the need to ensure respect for human rights, facilitate access to diverse media sources, as well as the importance of sharing good practices and cooperation between different stakeholders.
The participants stressed the complexity of the disinformation phenomena, importance of the access to information and diversity of its sources, dangers of the information manipulation and problematic aspects of content restriction.

II. Quotes
„Disinformation is a symptom, not a root cause. It thrives because of corruption, lack of participation, enabling freedoms, rule of law, among other things.“ – Peggy Hicks, OHCHR.
“Digital and media literacy, inclusion, fact-checking and transparent and accountable technological

solutions empower people and build their resilience against disinformation." - Eglė Markevičiūtė, Vice-Minister of the Economy and Innovation of the Republic of Lithuania

III. Overall outcomes of the session

Increasing resilience of the society so that it is able to identify facts and critically assess the overall information they receive, is one of the most important elements in countering disinformation. Sharing good practices and cooperation between different stakeholders are key when aiming for common approach in countering disinformation online. Human rights-based approached should be at the center of these efforts.

5) Main linkages with the Sustainable Development Goals (please specify the SDGs)

- Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
- Goal 16: Promote just, peaceful and inclusive societies

6) Emerging Trends related to WSIS Action Lines identified during the meeting

Disinformation is a growing threat, which requires attention of the international community. It affects societies and the functioning of democracies all over the world and, with the profusion of communication channels and advances in digital technology, it spreads rapidly and threatens political engagement, deepens distrust towards democratic institutions and processes, risks increased polarization in societies and limits freedom of individuals to seek, receive and impart information, including in times of emergency, crisis and armed conflict, when such information is vital.

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

The discussion revealed that there are diverging views on how to best counter disinformation. Doubts were expressed with regards to the content regulation and ways it should be done, if at all. There is a need for further discussion on how best link the technological/technical aspects of the phenomena and the human-rights based approach, as well as on how to strengthen multi-stakeholder cooperation to find human-rights based solutions.

Accelerating Progress on Achieving the Sustainable Development Goals

Workshop Name: Accelerating Progress on Achieving the Sustainable Development Goals

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/408

Organization: Saudi Arabia

Date: Monday, 30 May 2022

UAE Healthcare Digital Transformation

Workshop Name: UAE Healthcare Digital Transformation

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/494

Organization: UAE

Date: Thursday, 2 June 2022

Action Line Facilitators Meeting

WSIS Action Line C6: Enabling Environment: Economic and fiscal incentives to accelerate digital transformation

Workshop Name: WSIS Action Line C6: Enabling Environment: Economic and fiscal incentives to accelerate digital transformation

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/294

Organization: ITU

Date: Tuesday, 10 May 2022

WSIS Action Line C7: E-Employment

Workshop Name: WSIS Action Line C7: E-Employment

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/181

Organization: International Labour Organisation

Date: Tuesday, 10 May 2022

WSIS ALFM C7: E-Environment "Digital Public Goods for Climate Change Adaptation"

Workshop Name: WSIS ALFM C7: E-Environment "Digital Public Goods for Climate Change Adaptation"

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/411

Organization: International Telecommunication Union (ITU), World Meteorological Organization (WMO)

Date: Monday, 30 May 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11:

This session was based on Action Line C7; E-Environment. The conference drew attention to the belief that without adequate open data to properly inform decisions, efforts to respond to climate change will fall short of their potential. It supported the call for a renewed commitment to free and unrestricted exchange of weather, climate, and hydrological data and specifies that this should include more openly licensed datasets aligned with the Digital Public Goods Standard.

2)Did your workshop highlight any issues related to COVID-19? If yes, please explain.

WMO presented the State of the Climate in 2021 including the weather and extreme climate. The trends in the changing climate engaged with the impact of the COVID-19 pandemic.

3) Main outcomes highlight the following:

Debated Issues

- **Please capture highlights of the key issues discussed and interactions with the audience:**

In 2021, the global mean surface temperature is around 1.11 °C above the pre-industrial average, with four out of seven key climate indicators recorded highest values ever. There is an urgent need to combat and mitigate the devastating impacts of climate change. The limitation in the availability and dissemination of high-quality data is a hindrance for making informed decisions and stifling technical innovation, including the development of digital solutions with the

potential to address critical climate change adaptation needs and respond to disasters. In the session, challenges, recommendations, and best practices were highlighted for the use of digital public goods.

Speaker from WMO presented the result of the state of the climate report, including seven key climate indicators, extreme events & impacts, as well as how WMO is communicating the results to raise awareness. In 2021, four out of seven climate indicators recorded highest values ever, including Ocean heat, atmospheric Co2, Sea level, and Ocean acidification. The risk of climate-related impacts depends on complex interactions between climate-related hazards and the vulnerability, exposure and adaptive capacity of human and natural systems. In 2021 we also witnessed some extreme events and impacts including hurricane, flooding, and extreme drought. Finally, WMO uses "Story Map" to present key messages in an interactive way.

DPGA highlighted the importance of digital public goods, the setbacks caused by a lack of data, and tangible steps that can be taken to help improve access to data. The current challenges in promoting digital public goods include broadening awareness on the importance of data, resources constraints, and overprotection of data. Recommendations such as measurable commitments to open data, stimulate productive competition, sustainable financing were highlighted by the speaker.

ITU presented the critical role of open data in the Disaster Connectivity Maps (DCM), used to identify connectivity gaps to help first responders make informed decisions and communicate in times of disasters. The DCM itself also serves as a digital public goods to inform the first responders and stakeholders about the availability of telecommunication network services.

Speaker from the Norwegian meteorological Institute presented the MET Norway Weather API as a digital public good. The Weather API provides free digital access to high-quality, reliable 10-day weather forecast data for any geolocation in the world. It is also built using open standard under an open policy. The speaker highlighted the dialogue with the re-user community and receive feedback to improve products.

Finally, FAO presented various examples on using open data to provide open-source services. With the information generated from open data sources, FAO is able to push messages to the farmer to provide advisories and recommendation, these messages are also digital public goods. The open data is also used in Climate

Risk toolbox, climate change risk assessment, and prediction and early warning. It is highlighted by the speaker that using standard, having good documentation and metadata are critical. The need to develop a business model to cover cost to provide sustainable flow of data is also underlined.

Please highlight key achievements and challenges shared by the audience and/or panelists

The conference aimed to bring the much-needed attention to digital public goods in hope that it will help open more datasets, assist in the discovery of existing open datasets, and build confidence in utilizing these datasets for climate change adaptation efforts.
The following observations were made via the discussions at the conference:

Challenges:

- Challenge for broadening awareness on importance of data and standardization of data.
- More financial resources to capitalize on data.
- Barriers to access of data: over protected data, facilitated data sharing is not as widely practiced.

Recommendations:

- Measurable commitments to open access. Open data charter documents how data is being managed.
- Stimulate productive competition among competing
- Governance of safeguards that have been put in place to protect against misuse of data. Accountability.
- Civil society needs to make sustainable and long-term financing.
- Data needs to be interoperable; data needs to be shared.

Quotes

- Please provide two important quotes from the session and the names & organizations of the person you are quoting
    - "Data is useless if you don't have good documentation and metadata" –- Karl MORTEO, FAO
    - "Open data can help our open source solutions to be better and more precise in response to the rising challenges." –Jameson Voisin, DPGA

- "54% of all the sustainable development goals indicators don't even have enough data to be reported on." –Jameson Voisin, DPGA

Overall outcomes of the session highlighting

- main conclusions reached during the discussion
- the vision for implementation of WSIS Action Lines beyond 2015

4) Main linkages with the Sustainable Development Goals (please specify the SDGs (Sustainable Development Goals)

This conference addressed SDG 9(industry, innovation, and infrastructure), SDG 13(climate action), SDG 14 (life below water) and SDG 15 (life on land). The limitation in the availability and dissemination of high-quality data is a hindrance for making informed decisions and stifling technical innovation, including the development of digital solutions with the potential to address critical climate change adaptation needs, particularly in least developed countries (LDCs).

WSIS Action Line Facilitation Meeting C8 "The digitization of culture and the creative economy: benefits, challenges and roadmaps"

Workshop Name: WSIS Action Line Facilitation Meeting C8 "The digitization of culture and the creative economy: benefits, challenges and roadmaps"

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/302

Organization: UNESCO

Date: Monday, 9 May 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**

Action line 8 of the World Summit Information Society (WSIS): "Cultural diversity and identity, linguistic diversity and local content."

2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**

The workshop discussed how COVID-19 has accelerated the digitization of culture, bringing about multifaceted challenges and new practices for the culture sector and the creative economy. Panelists underscored the ways in which the pandemic has made visible and solidified emerging trends among producers and consumers of cultural content using ICTs. Panelists discussed the impact COVID-19 has had on traditional business models of cultural and creative industries, the fair remuneration of creative practitioners, the safeguarding of cultural diversity, and equitable access to knowledge and information across the globe. Charles Vallerand, International Consultant in Culture in the Digital Era, highlighted the current paradox: while the importance of culture in people's lives is globally recognised, in times of crisis like during the pandemic, artists and cultural professionals were left largely neglected and needed more support. At the forefront of these post-pandemic issues is the need to ensure that the connection between digital transformation and the creative economy remains in line with sustainable development goals.

3) **Key achievements, announcements, launches, agreements, and commitments.**

On 9 May 2022, UNESCO organized a stimulating panel discussion 'The digitization of culture and the creative economy: benefits, challenges and roadmaps' which was held under Action Line C8 of WSIS: "Cultural diversity and identity, linguistic diversity and local content."

The workshop mobilized Charles Vallerand (Canada) International Consultant in Culture in the Digital Era, as Moderator, and three international experts: Jordi Baltà Portolés (Spain) International Consultant and Researcher in Cultural Policy and International Affairs, and Principal

Editor of UNESCO 2022 Global Report *Re|Shaping Policies for Creativity*; CK Japheth (Uganda) Founder, MoTIV. A youth-led creative studio Laureate of the UNESCO 2021 Bangabandhu Sheikh Mujibur Rahman Prize for the Creative Economy; and Karla Prudencio Ruiz (Mexico) Director for the Law School Bachelors Program, Centro de Investigación y Docencia Económicas A.C. They offered insights on how their work intersects with the digitization of culture and identified challenges and steps that can be taken to address them.
The exchange also served as preparation for the upcoming UNESCO World Conference on the Cultural Policies and Sustainable Development - MONDIACULT 2022, which will take place in Mexico next September 28-30. This comes 40 years after the major 1982 MONDIACULT conference which radically set out future directions, standards, and frameworks for global cultural policies in the face of growing sustainable development challenges. It is expected that the challenges related to digitization and sustainable development will be a central part of discussions at MONDIACULT 2022.

4) Main outcomes highlighting the following:

I. Debated Issues

- Please capture highlights of the main issues discussed and interactions with audience

Discussing the digitization of culture, the panel identified two main issues relating to the use of new technologies in today's culture sector.

1. Digital concentration threatens cultural diversity and equality.

One of the most debated topics was the issue of cultural diversity and equality in the digital environment. While ICTs have generated many advantages, they can also deepen inequalities and limit the diversification of actors and content. Digitization has fundamentally altered the way cultural goods and services are produced, distributed or accessed. Many creators of cultural content face challenges such as discoverability especially in light of major service providers like Netflix and Amazon.

The lack of adequate regulation or legislative frameworks to ensure the protection and promotion of cultural diversity and the inclusion of cultural content of local and indigenous communities was identified as an important challenge and need. Panelists discussed how the rapid digital transformation has generated a concentration of supply of cultural content, data, markets and income in the hands of a few high-income countries. This could have repercussions on the diversity of media and cultural expressions, as well as on participation and equality. To ensure that the digitalization of culture is equally distributed across the globe and beneficial to all, targeted national policies and international frameworks are needed.

2. Digital illiteracy reinforces disparities in the creative economy.

The second issue raised was the current digital skills gap which constitutes an important threat for the sustainability of the creative economy. In an increasingly digital world, digital skills

development should be constantly promoted and upgraded to better adapt to evolving technological change. However, there are still significant disparities in access to digital skills training between developed and developing countries. Panelists stressed the need to develop public policies better suited to developing countries' specific characteristics and support digital skills among cultural professionals. Significant disparities are also frequently found within countries, influenced by gender, socioeconomic inequalities and urban-rural divides, among others. All of this calls for the consideration of diversity of cultural contents and skills of cultural professionals when national digital policies and strategies are drawn.

II. Quotes

- Please provide two important quotes from the session and the names & organizations of the person you are quoting

"Digitization needs to be a means to an end, not an end in itself."

Karla Prudencio Ruiz (Mexico); Director for the Law School Bachelors Program, Centro de Investigación y Docencia Económicas A.C.

"Access to culture and our opportunity to create and disseminate new cultural expressions are today largely mediated by digital technologies. However, these remain unevenly distributed and very large disparities still exist at the global level (…) It is Important that policies help foster more equal and balanced international cultural exchanges and make them more adapted to the digital age."

Jordi Baltà Portolés (Spain); International Consultant and Researcher in Cultural Policy and International Affairs, Transit Projectes

III. Overall outcomes of the session highlighting

- Main conclusions reached during the discussion

1. Improve regulatory frameworks to foster cultural diversity and ensure new technologies will benefit all of humanity.

Strengthening policies and regulatory systems is necessary in order to prioritize the creation, production and distribution of diverse cultural content and promote cultural diversity. Too often, local communities are not adequately included within national or business digital environments or initiatives. Policies therefore need to promote a just and inclusive digital transformation, which ensures a balanced, diverse range of stakeholders.

"Countries in different parts of the world are adopting strategies in the digital environment. There are opportunities for new cultural production to be made visible, as well as for audiences to have access to various forms of cultural content."

Charles Vallerand (Canada) International Consultant in Culture in the Digital Era

"We need policies which can help foster more cultural diversity and stimulate traditional knowledge, intangible heritage, and community ownership."

Karla Prudencio Ruiz (Mexico); Director for the Law School Bachelors Program, Centro de Investigación y Docencia Económicas A.C.

2. Prioritize digital literacy to narrow the digital divide in access to technologies

National policies must support the development of digital skills among cultural professionals, particularly in developing countries. Adapting to today's global digital framework is a necessary investment which will ensure that creative workers are continuously trained by upgrading their digital skills and mastering the use of new, sophisticated technologies.

→ *"Mastering digital skills will inevitably help bridge the gap between local, national and international."*

Jordi Baltà Portolés (Spain); International Consultant and Researcher in Cultural Policy and International Affairs, Transit Projectes

III. Encourage the promotion of creative entrepreneurship

It is important to develop sustainable cultural ecosystems which better meet the needs of cultural entrepreneurs in emerging markets. As CK Japheth explained, there is still a significant adaptation technology gap in emerging markets like those in Uganda, which is preventing young entrepreneurs from accessing digital capital and technology infrastructure. Creating an environment in which entrepreneurship is tightly bound with technology holds the potential to not only better support the next generation of creative practitioners, but also achieve a more innovative and sustainable cultural ecosystem.

→ *"We should ensure that the foundation on which young creative workers are standing is strong enough to enable them to complete locally and globally."*

CK Japheth (Uganda) Founder, MoTIV. A youth-led creative studio Laureate of the UNESCO 2021 Bangabandhu Sheikh Mujibur Rahman Prize for the Creative Economy

5) Main linkages with the Sustainable Development Goals (please specify the SDGs)

The panel's deliberations were predominantly held in relation to two Sustainable Development Goals: SDG 8: 'Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all' and SDG 16: 'Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.'

6) Emerging Trends related to WSIS Action Lines identified during the meeting

The session identified several emerging trends relating to Action line 8 of the World Summit Information Society (WSIS): “Cultural diversity and identity, linguistic diversity and local content.” These relate to the many opportunities there are to produce new, diverse cultural content. Panelists emphasized that countries from around the world are developing strategies in the digital environment, and while challenges still persist, there is great potential for this trend to expand and support the wide dissemination of diverse cultural expressions, particularly through targeted national policies.

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

Drawing from the panel’s deliberations, several thematic aspects were suggested as roadmaps towards achieving the WSIS Implementation goals and which might be included in the WSIS Forum 2023.

- Enhancement of digital access and discoverability
- Addressing global digital divide
- Prioritization of sustainable development goals
- Distribution of diverse cultural content

8) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

Pertaining to the implementation of the WSIS Action line 8, there remain many obstacles relating to digital adaption which prevent cultural diversity and diverse cultural content from being adequately addressed and protected.

WSIS Action Line C9: Rethinking UNESCO Policy Guidelines for the Development and Promotion of Governmental Public Domain Information

Workshop Name: WSIS Action Line C9: Rethinking UNESCO Policy Guidelines for the Development and Promotion of Governmental Public Domain Information

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/279

Organization: UNESCO

Date: Wednesday, 20 April 2022

WSIS Action Line C10: High-level interaction on implementing ethical AI globally

Workshop Name: High-level interaction on implementing ethical AI globally

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/425

Organization: UNESCO

Date: Thursday,6 June 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**
   WSIS Action Line C10: Ethical dimensions of the Information Society
2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**
   Yes, AI generated some of the earliest alerts about the COVID-19 outbreak, even before it was confirmed, by routinely scanning hundreds or thousands of governmental and media data sources in multiple languages. This analytical capacity has also helped accelerate the discovery of the vaccines, and even understanding the protein structures. However, the ethical use of AI in the response to COVID-19 is very important to take into account. Privacy and civil liberties considerations need to be considered as these systems incentivize the collection and processing of large amounts of data that may be personal or private. In addition, there is also the challenge of obtaining sufficient data for accurate AI forecasting and diagnosis for different segments of the population, as well as concerns around the lack of transparency in AI systems used to aid decision-making on AI around COVID-19.
3) **Key achievements, announcements, launches, agreements, and commitments**
   Participants committed to working to promote ethical AI which is promotes human well-being, sustainability of the planet and prosperity with a purpose.
4) **Main outcomes highlighting the following:**

   I. **Debated Issues**
      - Highlights of main issues: Artificial intelligence has profound implications for human beings, cultures, societies and the environment. AI has the potential to be our ally in the struggle for a more equitable, fair, and sustainable future. We must always keep in mind that AI technologies also possess significant risks and challenges, especially in terms of deepening the existing divides,

exacerbating gender disparities, and infringing on human dignity and human rights. Therefore, there are many international initiatives that have emerged to ensure that these technologies help to overcome the current crisis and mitigate future risks, while tackling the downsides. UNESCO is currently developing two specific tools for these purposes: Ethical Impact Assessment and Readiness Assessment Methodology. These mechanisms are envisaged to help countries and companies evaluate the benefits and risks of AI systems, put in place risk prevention, mitigation and monitoring measures, and to deploy various redress mechanisms for those who have been adversely affected by these new technologies.

- Challenges shared by panelists/audience:
  - Current approaches to AI ethics and governance have not effectively taken into account nonwestern visions of ethical and just ways of working, acting andconnecting with people and the planet.
  - Women suffer underrepresentation in the AI field. They also suffer from the effects of bias in AI systems. Women have been systematically excluded from historical records, cultural minorities described by eye of invaders, and diverse opinions suppressed by many political opinions.
  - Need to ensure rebalancing of representation and teaching intelligent systems to provide equitable outcomes for diverse cultures and individuals, independently of social economic status and education level.
  - The technological disruptions that we are confronting today are not only about technology, but about our societies and how they are being shaped by these disruptions.

II. Quotes

- "One of the most important things about a future of human-centered, biosphere-centered AI innovation is prioritizing certain things like: democratic governance of technologies, social license, public consensus, involvement of co-design in these technologies. All of these things are rooted in a basic dynamic of technology which is that technology is produced by people in society, so at the end of the day it is people and societies that should pursue the technologies in accordance with a democratic articulate vision of what is meaningful and valuable in the world." David Leslie, Director of Ethics and Responsible Innovation Research at The Alan Turing Institute.
- "Maldives are sinking, if Geneva was sinking, would we be having the same conversation?" "The systems that we think work, don't". "We need to rethink

our approach to GDP, which is not a relevant means of measuring human well-being or the sustainability of our planet, considering also that this drives our approach to technological development" John C. Havens, Lead of the Sustainability Practice of the IEEE Standards Association.

- "What approaches are we taking to ensure trustwortiness, reliability, and a lack of bias in regards to the data that we are using, how do we ensure that the data projects we take on are focused on good and benefitial outcomes for society" "We need our regulatory, governmental, and guidance bodies to be very clear about what we as their constituents believe to be ethically acceptable and safe ground zeros, but you are right that those positions would be radically different in different geographaphies" "We are running very hard to catch up with a future that is already happening"Caroline Gorski, Group Director R^2 Data Labs at Rolls-Royce

III. Overall outcomes of the session highlighting

- Need to build readiness assessment and ethical impact assessment tools.
- RR developed the Aletheia Framework, a toolkit for ethics and trustworthiness in artificial intelligence that can help reassure organisations, people and communities that the ethical implications of an AI have been fully considered; it is as fair as possible; and makes trustworthy decisions. This same framework is being adapted and applied in different areas, such as for the assessment of AI in the UK's education system.
- We're using it in our business and believe it can help any organisation navigate the day-to-day intricacies of applying AI in a way that can build public trust in the technology.
- Education and connectivity are key for technological development. Developing countries are at very different starting points in terms of AI readiness, which needs to be considered.
- AI literacy: There are clear issues in terms of infrastructure, connectivity, and lack of understanding about data, especially in rural areas. Important to go into these communities and prepare/educate people to understand what data is and what governance issues around data are.
- We need to have open debate that does not shy away from recognizing that there are cultural differences.
- Computer scientists and engineers need ethical training to challenge thinking, belief systems, and push it forward in an environment where it is accepted to

be challenged. and raise concerns which is the most important thing to move possibilities into realities.

- Youth, women, and underrepresented people need to be at the table.
- There is a sense of urgency and purpose to fix what we feel is not working.

5) Main linkages with the Sustainable Development Goals (please specify the SDGs)

5. Gender Equality
10. Reduced Inequalities
16. Peace, Justice, and Strong Institutions

6) Emerging Trends related to WSIS Action Lines identified during the meeting

Some of the emerging trends related to the WSIS Action line 10 on ethics include how we can promote "ethics by design" to ensure that ethics are part of the process of developing AI applications and not as an afterthought. In addition, the need to ensure the behavior and safety of AI systems was also highlighted as well as the specific tools that can support ethics and risk assessments and different measures needed to build trust in AI.

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

For the WISIS Forum 2023, one suggestion is to focus on the metaverse, and its positive and negative effects on society and the planet, and the ethical challenges it risks incurring, such as infringements on mental and biological privacy, harassment, etc. and creating greater inequalities between individuals and countries.

8) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

The WSIS Action Lines are crucial for advancing the achievement of SDGs, hence, it is important to continue the alignment of the WSIS Process with the SG's Common Agenda and the 2030 Agenda for Sustainable Development.

WSIS ALFM C7: E-Agriculture

Workshop Name: WSIS ALFM C7: E-Agriculture

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/329

Organization: FAO, ITU

Date: Thursday, 2 June 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C4. Capacity building
C7. ICT applications: benefits in all aspects of life — E-agriculture
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 16: Promote just, peaceful and inclusive societies
Goal 17: Revitalize the global partnership for sustainable development

3) Key achievements, announcements, launches, agreements, and commitments

Key achievements:

1. Experts from five agencies shared their views and experience in promoting digital skills for youth and women in agriculture
2. Audience (with max. 60) had chances to know the latest publications and reports that are helpful for their work
3. Interests were shown by various participants and institutions who participated in this session, which laid the foundation for future collaboration on this topic

4) Main outcomes highlighting the following:

Debated Issues

This session has two separate parts: I. Presentations on digital skills for women and youth; and II. Panel discussion on challenges and solutions. During the session, different agencies presented the challenges faced by women and youth in the adoption of digital technologies and how low digital literacy and skills affect its uptake. The key challenges are summarized as follows:

Youth are the forefront of digitalization and they have a higher potential to drive digitalization. They also have higher interest and familiarity with digital technology and more likely to be early adopters. However, there is still usage gap even for people who are living in areas that are covered by mobile network. Meanwhile, there is some gender difference in terms of smartphone ownership, and only one in four had received training on digital skills with women have less access. Also women in particular face certain social norms which make the time and location for skill training should be socially acceptable. Furthermore, the audience cares more about the real implementation such as how to reach rural youth and women, how to solve language issues, and what technologies can actually benefit rural farmers.

Quotes

- Please provide two important quotes from the session and the names & organisations of the person you are quoting

Huda Alsahi (FAO): It is of crucial importance to adopt an intersectional approach to analyze the nexus between gender and technology when we are designing, planning, and delivering relevant interventions that focus on building digital skills for women and youth. Moreover, adopting an intersectional approach to digital inclusion demands that we question the structural determinants that ground and feed the gender digital divide.

Pippa McDougall(GSMA): At a time when the world is experiencing a global food crisis, bolstering the digital inclusion of women in agriculture could help to improve crop yields and increase incomes. To get more women in agriculture online across low-and middle-income countries, we need to tackle the five barriers to women's digital inclusion which are related to: 1. Access to networks and enablers; 2. Affordability of handsets and data; 3. Lack of digital skills; 4. Lack of relevant content and services; and 5. Safety and security concerns.

2

- main conclusions reached during the discussion
- the vision for implementation of WSIS Action Lines beyond 2015

Overall outcomes:

This session contributed to:

- raising awareness of challenges faced by youth and women in agriculture, particularly in the update of digital solutions
- demonstrating the efforts that international organizations and the private sector have made to improve the internet accessibility, mobile usage and all types of digital solutions that are helpful for youth and women engagement
- calling for actions and partnerships and work hand in hand through multi-stakeholder approach

5) Emerging Trends related to WSIS Action Lines identified during the meeting

Awareness was raised on how digital skills affect women and youth in agriculture and digital inclusion.

6) **Suggestions for thematic aspects that might be included in the WSIS Forum 2023**

Digital agriculture case studies

7) **Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.**

Regarding WSIS Action Line C7 E-Agriculture, we have witnessed digital transformation in the agriculture sector in most of the countries. Digital solutions have demonstrated their advantages in improving production and efficiency, and also in generation new job opportunities. However, digital technologies are tools that should be adopted based on the real demands, level of development and their affordability. Meanwhile, global public goods are also essential to tackle the issues emerging in the agri-food sector.

WSIS ALFM C1, C7: E-Government

Workshop Name: WSIS ALFM C1, C7: E-Government

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/330

Organization: United Nations Department of Economic and Social Affairs (UNDESA)

Date: Monday, 30 May 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**

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

The scale, spread, and speed of change brought about by digital technology are unprecedented, especially in a time of the global pandemic. As stated in the GA resolution 75/4, economic and social inequalities, in addition to digital divides, have been exacerbated by COVID-19 and the progress made towards achieving the 2030 Agenda for Sustainable Development and all its goals and targets along with hard-won development gains have been considerably undermined. The resolution, likewise, recognizes the role and leverage that Member States possess in reducing the impact of the COVID-19 through digital technologies and urges them to use those to advance digital governance through concerted actions all while also ensuring a path towards the achievement of the Sustainable Development Goals.

C7 - ICT Applications: E-government

Since 2001, DPIDG has published the United Nations E-Government Survey on a biennial basis. The Survey is the only global report that assesses the e-government development status of all Member States of the United Nations. The assessment rates the e-government performance of both countries and cities and for each level, relative to one another, as opposed to being an absolute measurement. It recognizes that each country should decide upon the level and extent of its e-government initiatives in keeping with its own national development priorities and with a view to achieving the Sustainable Development Goals.

As we could observe from the COVID-19 pandemic, digital transformation can be driven at a remarkable pace and ensure unprecedented development and adoption of ICTs in governments at all levels. This pivotal change brought by the pandemic should also incite

governments and academics to further research into the future of digital government and the key trends in technology and e-government. This endeavor, which the UN E-Government Survey 2022 will also include in its research, allows for two main outcomes; the first one will be an overall better preparedness of governments in harnessing these new technologies and secondly ensure digital inclusion and strengthen engagement and partnership to guarantee that no one is left behind (LNOB) and not in spite of these new ICT applications but because of them.

C11 - International and regional cooperation

The COVID-19 pandemic has prompted many dialogues and initiatives in the area of international and regional cooperation to promote universal access and bridge the digital divide since the last annual meeting of the WSIS. While it is not possible to list all initiatives here, there is one that deserves highlighting: The Secretary-General in September 2021 released the report *Our Common Agenda*. The Common Agenda proposes a Global Digital Compact which is committed to bringing multistakeholders including governments, the private sector and civil society together to agree on common principles that should underpin our digital future.

2) Did your workshop highlight any issues related to COVID-19? If yes, please explain.

Yes. Many panelists recognized the fact that COVID-19 has exacerbated the digital divide, adding obstacles to national/local digital transformation. Thus, infrastructure and collaboration of all kinds (between cities, regional cooperation, and collaborations led by international organizations) should be strengthened to ensure e-services are accessible for all.

3) Key achievements, announcements, launches, agreements, and commitments

International organizations present highlighted their initiatives as capacity building tools for cities. These included United for Smart Sustainable Cities (U4SSC) initiative which is a UN initiative coordinated by ITU, UNECE and UN-Habitat and supported by other 14 UN bodies, that help support the development of institutional policies and strategies which encourage the use of digital technologies to facilitate digital transformation and ease the transition to smart sustainable cities. Asia-Pacific Information Superhighway initiative (AP-IS) is also presented as a tool that can support cities, with a region-wide intergovernmental platform, that aims to bridge the digital divide and accelerate digital transformation by promoting digital connectivity, digital technology and data use in the Asia Pacific region. UN DESA's Local Online Service Index (LOSI) and its application in various countries in several cities was also presented as an awareness raising and capacity building tool for cities. To be more specific, the session agreed upon the impact of the

Local Online Service Index (LOSI) on closing digital divides, promoting cities' best practices, and enhancing local e-government capabilities. The outcomes of this meeting will feed into the final outcome document of the WSIS Forum 2022, as well as to the other venues such as the Multi-stakeholder forum on science, technology and innovation (STI) for the Sustainable Development Goals, United Nations High Level Political Forum, preparations of the upcoming United Nations E-Government Surveys, UN General Assembly Resolutions on WSIS and its follow-up, Internet Governance Forum, Reports of the UN Secretary-General on WSIS follow-up, and ECOSOC resolutions related to the WSIS follow-up among others.

4) Main outcomes highlighting the following:

I. Debated Issues

- Please capture highlights of the main issues discussed and interactions with the audience

  The main objective of the session was to find avenues to help cities in their digital transformation process. It is noted that the cities are behind national governments when it comes to e-government development. In this regard, the session focused on the role of government and other stakeholders in promoting the use of ICTs for development as well as international and regional cooperation. In particular, the session highlighted e-government initiatives at national and local levels and how to create synergies and partnerships between the two. After an overview of the global e-government situation by the Digital Government Branch including the situation in cities, national governments, city officials, and UN agencies shared their experiences in aligning national and local e-government initiatives.

- Please highlight key achievements and challenges shared by the audience and/or panelists

  There was consensus that cities are closer to citizens/residents and more investment should be undertaken by citizens to invest in online public services. There was emphasis by all speakers about the important role of smart city projects. It is noted that everyone has a different understanding of the term "smart city" and means different things to different people. Smart city governance and digital twins for cities were other terms that were frequently used by panelists.

National government participants noted that it is important to have dialogue and listen to city officials and consider their inputs when developing national digital transformation strategies. It is agreed by all that constant communication should take place between cities and national governments while it is also acknowledged that this is not the case in many countries. City governments highlighted their challenges in e-participation and noted that it is very difficult for them to attract citizen views in their initiatives.

Interoperability issue was raised by a few and it is noted that there are multiple levels of interoperability such as between city portals i.e. what happens when a resident moves from one city to another, between city portals and national portals and between underlying databases. To overcome interoperability challenges, the importance of data interchange hubs are raised by the panelists.

Both city officials and national officials highlighted talent availability as a challenge when it comes to development of e-government initiatives. It is noted that this is a bigger challenge in cities with smaller populations. This observation is also in line with the findings of the upcoming research of the Division. In that point, there was a suggestion to create a working group to further study the impact of population on e-government performance. Usage and impact of e-government projects were also highlighted as some other common challenges. The usage rate of some smart city initiatives were questioned by some panelists especially considering the ROIs on these investments. Building on that point, it is noted that some very simple but more urgent initiatives could have a bigger impact than complicated and resource heavy smart city initiatives. In that regard, it is noted that initiatives should be designed based on actual user needs living in the city.

II. Quotes

- Please provide two important quotes from the session and the names & organisations of the person you are quoting:

"National, regional, and local project-driven collaborations with private sector, academia, civil society and other stakeholders are pivotal and strategic for all the countries, as well as the creation of synergies and partnerships on e-government between national and local levels. At the

same time countries need to strengthen the collaboration with international and regional organizations to bridge the digital divide and to overcome disparities and inequalities for leaving no-one behind". (Mr. Vincenzo Aquaro, Chief of the Digital Government Branch, UN DESA)

"With the smart and sustainable city and community strategy, we are linking specific strategic objectives to various national strategies and their objectives, not least Vision 2030 but also the National Digital Government Strategy." (Eng. Abdulrahman Al Mutairi, Digital Government Authority in Saudi Arabia)

III. Overall outcomes of the session highlighting

- National and local governments need to strengthen their collaboration and interoperability to transform challenges highlighted today with opportunities.
- International cooperation, regional collaboration, public-private partnership, etc. are key to ensuring smooth digital transformation.
- By joining the LOSI network, cities could learn and adapt from other cities' best practices, exchange opinions on how to deal with common challenges, and benefit from international organizations' expertise and support.

5) Main linkages with the Sustainable Development Goals (please specify the SDGs)

SDG 8 – decent work and economic growth

As cultivating next generation's digital capability is a top priority in building e-government, the process of digital transformation will create decent jobs especially for the younger generation.

SDG 9 - Industry, innovation and infrastructure

Concrete infrastructure enhancement lays a solid foundation for extensive e-government

SDG 10 – reduced inequalities and SDG 5 – Gender Equality

As pointed out by many panelists, the acceleration of e-government will improve citizens' engagement. National and municipal government around the world are endeavoring to involve more people especially women in rural regions.

SDG 11 – sustainable cities and communities

The efforts covered in the session for improving e-government are aligned with the SDG

target 11.3.2 objective of enhancing inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management.

SDG 17 – partnership for the goals

The whole session pays attention to cooperation of all kinds, which is in line with SDG 17 and WSIS action line C11.

6) Emerging Trends related to WSIS Action Lines identified during the meeting

International organizations and regional cooperation could inspire collaboration between cities to create network to share best practices in e-government

Effective leadership, multisectoral partnership, stakeholder engagement, and resource efficiency are essential for creating synergies in realizing digital transformation

Cultivating next generation's digital capability is a top priority in building e-government

National initiatives have led to opportunities and growth of smart cities, while cities are closer to the citizens. The synergy between national and local administration will accelerate digital transformation, and make sure that the result will benefit the largest population

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

This can be in line with HLPF Theme 2023.

8) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

It is a concern that many agencies have shared goals and a variety of toolkits for supporting the acceleration of digital transformation. However, there remain obstacles for the agencies to collaborate. While more partnerships among UN Agencies are highly needed to promote ICTs in the least developed countries and regions.

WSIS ALFM C7: E-business

Workshop Name: WSIS ALFM C7: E-business

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/336

Organization: UNCTAD/ International Trade Centre/ Universal Postal Union

Date: Monday, 30 May 2022

WSIS Action Line C5: Privacy-Preserving Techniques

Workshop Name: WSIS Action Line C5: Privacy-Preserving Techniques

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/339

Organization: ITU

Date: Monday, 30 May 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**
   C5
2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**
   No
3) **Key achievements, announcements, launches, agreements, and commitments**
   N/A
4) **Main outcomes highlighting the following:**

I. Debated Issues

Recent years have brought digital technologies to the forefront, and with sensitive data such as medical data often being crucially important. Yet at the same time, the shift online also causes potential greater risks of data exposure, there is a greater need than ever for privacy-preserving analytics techniques.

Various technologies exist, such as homomorphic encryption, secure multi-party computation, federated learning, etc. However, crucially for these systems to function across borders, different frameworks need to be explored to allow for the appropriate use of these technologies across nations, highlighting the need for greater international cooperation. In turn, these frameworks will need to rely upon trustworthy standards that combine government requirements, with industry wishes.

This year's Action Line C5 session focused on privacy-preserving techniques. This session explored the various opportunities and challenges that these emerging privacy-preserving technologies offer, which include the many and large risks of data exposures as well as an increasing need for privacy-preserving techniques, and policies and normative frameworks applicable in cyberspace.

The panel consisted of 6 speakers from the public and private sectors. The session featured speakers from United Nations Institute for Disarmament Research (UNIDIR), Tune Insight SA, Ant

Group (China) Co. Ltd, Kyos SA, University of Oxford, National Security Council Secretariat, Government of India, and World Economic Forum. Ms. Xiaoya Yang, Counsellor of ITU-T Study Group 17 'Security', moderated the session by asking three rounds of questions. Due to the limited time, the session could not have an audience Q&A.

- The Founder and Managing Director of Kyos SA, Mr. Fabien Jacquier brought in the testimony of the technical solutions of privacy protection from local research and private sector in Switzerland.
- As the CEO and Cofounder of Tune Insight SA, Mr. Juan R. Troncoso-Pastoriza provided market insight and security trends in digital transformation of different industry sectors.
- Representing the World Economic Forum, Ms. Gretchen Bueermann discussed the global cyber outlook report, which includes a holistic understanding of a cyber resilience culture and the need for human capacity building toward cyber resilience.
- The Deputy Director of UNIDIR, Dr. Cecile Aptel, provided insight on the legal and regulatory frameworks applicable in cyberspace from public international law and international human rights law perspectives.
- From a governmental perspective, Mr. Narendra Nath Gangavarapu, who is the Joint Secretary of the National Security Council Secretariat, highlighted key activities and good practices in India as a country case.
- Ms. Xiaoyuan Bai, the Senior Standardization Expert of Ant Group (China) Co. Ltd., touched upon how standards efforts on privacy-preserving techniques are progressing and the role it and the trends observed.

II. Quotes

Dr. Cecile Aptel, Deputy Director, United Nations Institute for Disarmament Research (UNIDIR)

- "It is important to note that States have already agreed that all human rights, apply to cyberspace and that the right to privacy is among these rights."
- "It has really become clear that where we stand today in relation to the need for policies and normative framework concerning privacy in ICT, is that states have already agreed that public international law, including international human rights laws apply to cyberspace."

Mr. Juan R. Troncoso-Pastoriza, CEO and Cofounder, Tune Insight SA

- "I think that in the terms of digitalization, it varies from sector to sector and across regions. There are some sectors that have been traditionally more data-centric who have already started this digitation transformation, and some other sectors where this transformation has been conceivably boost during the pandemic. But in any case, it is an irreversible process that brings many benefits in terms of the ability to better understand and use not only the time and resources but also making it possible to have a panel like

today's in real-time with people from all around, the world connecting online and that would not be possible."

- "The data sharing and data collaborations are increasingly important for the progress of research and also for the improvement of relevant industries such as health and financial services, but also cyber defense, and with a significant rise with machine learning artificial intelligence and other advanced data processing technologies."
- "We want to see the evolution of the regulatory frameworks, especially the European GDPR is a good example that what it is providing increased guarantees with individuals in terms of data protection."

Ms. Gretchen Bueermann, Research and Analysis Specialist, Centre for Cybersecurity, World Economic Forum

- "One thing that I think has happened in the last two years I think arguably in a longer time frame, we've had the sort of rapid technological ubiquity of technology that I think has gotten away from us a little bit and in the last two years, I think we've proved that you know you can go from working in an office to at home overnight, and there are a lot of really great parts of that. But the ability of our security professionals of data professionals to move beyond this sort of ad hoc response to data protection and to privacy concerns and to think a bit more forward-looking about how we plan for the future of attacks, this widening attack surface that my colleagues mentioned, I think this now is the time to do that. That is why panels like this are so useful."
- What about quotes from the other the other three speakers?

III. Overall outcomes of the session highlighting

- Main techniques of privacy preservation such as encryption data.
- How upcoming quantum computing, even with encryption, can decrypt data.
- Need for understanding that resources mitigate the degrees to which organizations and counties can implement good privacy-enhancing techniques.
- States continue with dedicated regular institutional dialogue.
- ICT components of sophisticated conventional weapons also deserve severe deliberations by the international community and the continuous exploration of normative and policy solutions to existing and potential threats to international peace and security.

5) **Main linkages with the Sustainable Development Goals (please specify the SDGs)**
   All SDGs
6) **Emerging Trends related to WSIS Action Lines identified during the meeting**
   Privacy (Homomorphic Encryption, Federated Learning, Government angle, Post-quantum).

WSIS Action Line Facilitators Meeting

Workshop Name: WSIS Action Line Facilitators Meeting

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/354

Organization:WSIS

Date: Friday, 3 June 2022

WSIS Action Line C4: Meeting the demand for digital capacity development

Workshop Name: WSIS Action Line C4: Meeting the demand for digital capacity development

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/365

Organization: ITU, UNDP, UN OSET

Date: 11 May 2022

WSIS Action Line C3: Mainstreaming Gender Equality in Digital Transformation Policies through Capacity Building

Workshop Name: Mainstreaming Gender Equality in Digital Transformation Policies through Capacity Building

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/383

Organization: UNESCO

Date: Monday, 30 May 2022

Thematic Workshops

Web Dialogue on Focus Area 2 of the Partner2Connect Digital Coalition - ADOPTION: Empowering communities

Workshop Name: Web Dialogue on Focus Area 2 of the Partner2Connect Digital Coalition - ADOPTION: Empowering communities

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/135

Organization: ITU

Date: Wednesday, 16 March 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**

All of the WSIS Action Lines – one of the focus of this session was the launch of the P2C Framework which is aligned with all WSIS action lines.

2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**

No, it did not.

3) **Key achievements, announcements, launches, agreements, and commitments**

This P2C Web Dialogue saw the launch of the P2C Focus Areas Action Framework, the Partner2Connect Online Pledging Platform. The Web Dialogue also featured high-profile statements of support and an initial set of P2C pledges from the German development agency GIZ, the Government of Ghana, and global technology and communications firms Microsoft and Vodafone.

4) **Main outcomes highlighting the following:**

I. Debated Issues

- Please capture highlights of the main issues discussed and interactions with audience

The Web Dialogue exposed the key issues that currently hinder minorities and disadvantaged communities to fully profit from the power of digital connectivity once access to the Internet is granted: Skills, Digital inclusion and Relevant/local content & services; and discussed global efforts that are being designed to address them.

- Please highlight key achievements and challenges shared by the audience and/or panelists

  Key Achievements: announcement of four P2C Pledges that will advance progress to achieving digital development for all.

  Key challenges: How can we increase demand and motivate people to adopt digital skills? How can we ensure that those who connect (and are connected to the Internet) will have a safe and positive experience online? What is the best way to foster the creation of local content?

II. Quotes

- Please provide two important quotes from the session and the names & organisations of the person you are quoting

1. "For GIZ, a human-centric, inclusive approach to digital transformation was always at the heart of what we were and are doing. That is the reason we are honoured to join the Parter2Connect Digital Coalition to convene stakeholders with a shared vision to mobilize and unlock impactful actions and resources," said Björn Richter, Head of Digital Transformation Cluster of Global and Sector Programmes at GIZ.
2. "Through partnerships, we can connect the unconnected and advance digital development." H.E. Ursula Owusu-Ekuful, Minister for Communications and Digitalisation, Government of Ghana.

III. Overall outcomes of the session highlighting

- main conclusions reached during the discussion

The importance of meaningful connectivity. Connecting everyone is absolutely critical, especially for the future of vulnerable groups and for marginalized communities.

The importance of taking a human-centered approach and be community focused.

Skilling, reskilling, create resiliency while keeping in mind security and content creation.

- the vision for implementation of WSIS Action Lines beyond 2015

Hack the Accessibility Gap

Workshop Name: Hack the Accessibility Gap

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/144

Organization: World Summit Awards

Date: 17 March 2022

Digital Twin and its role in healthcare: personalized care, drug development, and more

Workshop Name: Digital Twin and its role in healthcare: personalized care, drug development, and more

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/146

Organization: Open Health Network

Date: 17 March 2022

Tech4Good: AIoT Open-Source Innovations for Carbon Neutrality, Climate Change, Wildlife Conservation, and Sustainable Communities

Workshop Name: Tech4Good: AIoT Open-Source Innovations for Carbon Neutrality,

Climate Change, Wildlife Conservation, and Sustainable Communities

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/148

Organization: Seeed Studio

Date: Friday, 18 March 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C2. Information and communication infrastructure
C3. Access to information and knowledge
C4. Capacity building
C6. Enabling environment
C7. ICT applications: benefits in all aspects of life — E-business
C7. ICT applications: benefits in all aspects of life — E-learning
C7. ICT applications: benefits in all aspects of life — E-environment
C7. ICT applications: benefits in all aspects of life — E-agriculture
C7. ICT applications: benefits in all aspects of life — E-science
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 11: Make cities inclusive, safe, resilient and sustainable
Goal 12: Ensure sustainable consumption and production patterns
Goal 13: Take urgent action to combat climate change and its impacts
Goal 14: Conserve and sustainably use the oceans, seas and marine resources
Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
Goal 17: Revitalize the global partnership for sustainable development

3) Key Achievements, Announcements, Launches, Agreements, and Commitments

1. Making easy-to-use technological solutions for non-technical end users is very difficult and hard, but not impossible.
2. Mapping out the financial aspect of a project is crucial to holistically implement and scale-up the project, as well as to pre-evaluate all the possible costs in advance.
3. Investors are unwilling to invest in the massive scale-up of open source projects, because it's expensive

to design, test, and industrialize.
4. There needs to be a paradigm shift in how we think about an innovation ecosystem in which we allow experimentation to happen, including the restrictive regulations. There is a need for multi-stakeholder partnership's different approach in deploying such technologies to become holistic, bottom-up, and inclusive, that can be tackled by design principles.
5. As time goes by, more multi-stakeholders are paying attention to more overlapping issues of concerns – be it engineering or sustainability aspects, which is why we should keep spreading the potential of open source innovations. This is just the beginning for #OpenTech4SDGs.

4) Main outcomes highlighting the following:

I. Debated Issues

● Read Seeed Studio's event follow-up blog on its website:
https://www.seeedstudio.com/blog/2022/03/24/follow-up-recap-of-seeeds-t
ech4good-webinar-for-the-un-itus-wsis-forum-2022/

II. Quotes

1. Eric Pan (Founder & CEO of Seeed Studio and Chaihuo x.factory; Producer of Maker Faire Shenzhen)
● "Makers acquired the 'how', and sustainability is attracting the 'why'."
● "... we found that the prototype is just only - the first step, and it's so far from the reality [applications]."
● "You don't know that people don't know, so we have to make things as easy as possible … that's a very interesting part of the design: to make things simple [for all types of multi-stakeholders to readily deploy the scalable AIoT solutions]."
● "We should rely more on local people. They resolve their problems much better in the long run, so we hope to bring more bottom-up and open innovations."

2. Cesar Jung-Harada (Founder, Director, and Executive Director of MakerBay and Scoutbots LTD; Senior Lecturer of The University of Hong Kong)
● "We are all very enthusiastic about technology, but we also have to really understand how we use technology."
● "We need to work together to use technology, so that we unite to enrich in a way that technology does not belong to only a few people, and also that heals nature. … That are, in my opinion, the embodiment of next industrial revolution that is needed [i.e., Open Biomanufacturing], which is not just about AI and IoT, but [about] using those new technologies with the environment on the foreground, while intellectual property is being shared."
● "My main interest is the ocean. If you look from the space, we live in the blue planet. 70% of its surface area is ocean. 75% of the oxygen producers are coming from the ocean. 90% of the world trade by shipping is from the ocean. The sun's heat is mostly captured by the ocean, … that controls the climate and 100% of life. As we know, the entire universe comes from the ocean. If you kill the ocean, there's no future at all."
● "Coral reef covers less than 1% of the ocean floor, but it hosts 25% of its marine life. We are [projecting] at the current rate, that 90% of it will be dead by 2050, and 99% by the end of the century. We cannot afford that to happen."

3. Adam Benzion (CXO at Edge Impulse; Co-Founder of Hackster.io)
● "… And we didn't just launch it, not only are we going to build this tracker, but we also want to tap the

[open tech] community … to ask them what can you guys build to help us get this further. And they came up with all sorts of very amazing ideas around poaching risk monitoring, human conflict monitoring, elephant communication monitoring, … GPS solutions, as well as machine learning models. They can do all sorts of things that these kinds of trackers could never have done before."
● "... the idea was to make sure all of this is open source. Let's open this. Anybody can actually replicate this idea, and copy it, and do it themselves as well."

4. Tomas Diez Ladera (Founding Partner & Executive Director of Fab City Foundation; Co-Director & Board Member at Institute for Advanced Architecture of Catalonia)
● "Right now, the aggregation of the problems is creating aggregated complexity. And it's more and more difficult to say 'ok, this is the product, there is the solution', right? [Because] each solution can create other multiple problems, and when you're thinking that you're actually making some goals, you are affecting systems and other scales."
● "... We need to start to think about what kind of roles we want technology to play in our near future. … This is not a new question. The one that we're living today is very similar to other moments of history, in which you know, there were moments of convergence - convergence of crisis and convergence of technological advancement, … as it happened with the birth of industrial revolution. "
● "Fab labs and maker spaces have been growing exponentially in the last decade. … I've seen how important is the access to these tools. … Fab lab uses different tools: these are fabrication tools that can help people to make almost anything. Basically, people can exchange designs, files, and open source repository. … They have the means to turn this information into actual physical objects [with which] they can address very complex local needs. And basically, bring in anyone into the design of technology, not only reproducing the world as it is, but actually creating the world that we want through the new access of new knowledge and new technologies."
● "Master in Design for Distributed Innovation" MA degree program launch: "In order to promote this idea of the student learning. We're launching a new master's [program], trying to challenge the way we design and the way we innovate."
● Event launch: invitation to "Fab Island: The 17th International Fab Lab Conference and Fab City Summit" in Bali, Indonesia, 21-22 of October. This will gather all the 2000+ fab lab and fab city networks to create meaningful design experience in which we can connect with the local knowledge with the local know-hows, and local actions.

5. Tristan Copley Smith (Co-Founder of Carbon Catchers; Co-Founder of OSBeehives)
● "So, open like a mushroom. Mushrooms are becoming a very topical subject recently. Mycelium - this organism that lives in the earth beneath us, and absorbs minerals from the soil, and using those minerals, it fruits into mushrooms, and in this way, knowledge is like the mycelium. It is the base layer upon which many things have grown in the world, both as companies and open source projects. Mushrooms, in this case, are open source projects in my philosophical metaphor."
● "The mycelium knowledge that we have been generating together can mushroom into the diverse range of climate solutions that are really necessary to meet the crisis we face."
● OpenAir: Open source direct carbon capture devices called 'Violet' which is still in the early stages of developing. "This isn't maybe as advanced as Climeworks' direct carbon capture system [which is not open source], but it's getting there. It's got to start somewhere. This is one of the major points of open source development: Once this is publicly available, and once the documentation is very thorough and accessible to people, you start opening up the innovations to everybody, who wants to be interested, not just a few well-funded companies."

6. Sam Kelly (Project Lead at Conservation X Labs; Co-Founder at FaunaLabs)
● “A little bit of some initial considerations … working in a space of wildlife conservation as an engineer. Often, what happens in the space is that the technology doesn't fit these needs. … and I think the first and most important thing is around ‘user accessibility’ … try to make sure our projects are accessible in the sense that we recognize that the end users aren't necessarily technologists, and so that takes a little bit of extra consideration.”

7. Ye Seong SHIN (Sustainability and CSR Manager at Seeed Studio)
● “Only by coming together, working together, and taking concerted actions together, can we be able to address the collectively recognized challenges of our time.”

5) Emerging Trends Related to WSIS Action Lines Identified During the Meeting

The lesson learned from all the speakers today is that all the open source innovations can really unleash a lot of possibilities and potentials for normal people, like me, who are coming from non-technical backgrounds to get into the real-world challenges to solve them, and try to affect and contribute to the UN's Sustainable Development Goals. The following transcription of the workshop sheds light on the emerging trends related to using open tech and AIoT solutions for the SDGs:

Cesar: “You know that a lot of the time, it's a very small volume [innovation/technology]. It's hard, I guess, for customized electronics to be well documented, so that it becomes easy to use by the people who aren’t engineers. I think that's one of the hardest things - how do you make your technology easy-to-use for everybody?”

Adam: “I learned that one of the hardest things is, to finance these things, because like Cesar said, these are low-volume projects, and they still require the R&D over large-scale projects, but with low-scale manufacturing. So, that increases the price, and become really boutique, expensive projects. … Then, these things have to get employed, shop somewhere, and do something and that's really expensive. We try to protect things that are underwater in remote locations, [which means] they require a lot of infrastructure, even with the LoRaWAN. … Often, we get excited by the tech, but it's really not just the tech, it’s the financing and end-to-end solutions that might live off for many. How much does it cost to actually do all these things, and if you can come up with that answer, probably solving a lot more than you think.”

Eric: “I feel that after 10 years, people will be more ready on this track. 10 years ago, the engineers didn't talk to each other. Now, we're gathering together, and everybody has some overlapping issues of importance in both engineering and sustainability aspects. So, I think the next day, it’s about how do we have more convergence, and really to break through something, and share it out like open source.”

Tomas: “I think they [multi-stakeholders] need to have a different approach to deploying these kinds of technologies, like how you think about an innovation ecosystem in which we allow experimentation to happen. To become a bigger-scale project, it cannot be only driven by the individuals [who started the project] - They put in their efforts, their money, their time, almost their lives. But, these can become a joint effort that can serve communities that go beyond just a couple of people. We're talking about deployments in neighborhood scales, the entire neighborhoods, or entire parks, in which experimentation is financed.” “... the regulations are protected, because sometimes regulation is a limitation as well. I think that's where design can play a lot of an important role.”

Tristan: “If we look at the tech industry as this sort of a modern phenomenon that has so many unicorns now, it's hard to keep track. Open source projects face a dilemma in the sense that they don't follow the typical lines of an investment criteria - They don't have a great deal of intellectual property, which is normally the kind of bargaining chips by which you exchange your efforts for vast sums of money, and that'sable to scale things up. This is a constant issue that I've seen with lots of open source projects, and what they usually do - they do one of two things: 1. sort of stick around operating on a lower community-supported level, and they have founders or enough people involved - the amount of work isn't focused upon one individual too much, and they can sustain that way, 2. they sell out like, … various open source projects where they close down the openness of their projects, and this is something that haunts open source projects still, especially the ones that need to scale up massively like, for example, carbon capture. I would love it, if, to say, there's a situation where you can imagine, you know, that an open source carbon capture machine is really taking off and getting distributed around the world. Well, but the problem is someone has to design it, and somebody has to lead that, and not many investors are going to be super willing to fund that, because of the nature of open source, and this is a problem that I think we're still figuring out as an open source entrepreneurial-community oriented people.”

Ye Seong: “That's why the SDG 17 - which is the Partnerships for the Goals - we need a lot of partners from different sectors of society, starting from the government that is in charge of the legislation; big corporations and SMEs who can become accelerators of open source societies; CSOs and local communities - people who are going to be the service users. So, I believe that we have one voice here. It's that we are going to make the SDGs work by collaborating with each other. Open tech communities cannot achieve these goals alone, but with other partners, we will be stronger, more robust, and quicker. Only by coming together, working together, and taking concerted actions together, can we be able to address the collectively recognized challenges of our time to transform into a sustainable world. Well, it's better to do something than nothing, right? So, remember, this is just the beginning for open tech for SDGs. The best is yet to come.”

Digital financial services and blockchain technologies

Workshop Name: Digital financial services and blockchain technologies

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/150

Organization: Independent ICT Consultant

Date: Friday, 18 March 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C2. Information and communication infrastructure
C3. Access to information and knowledge
C4. Capacity building
C5. Building confidence and security in use of ICTs
C7. ICT applications: benefits in all aspects of life — E-business
C7. ICT applications: benefits in all aspects of life — E-learning
C7. ICT applications: benefits in all aspects of life — E-agriculture
C7. ICT applications: benefits in all aspects of life — E-science
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 1: End poverty in all its forms everywhere
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 12: Ensure sustainable consumption and production patterns
Goal 13: Take urgent action to combat climate change and its impacts
Goal 14: Conserve and sustainably use the oceans, seas and marine resources

3)Did your workshop highlight any issues related to COVID-19? If yes, please explain.

The COVID - 19 solutions based on the subject areas and the conceptual frameworks of the blockchain technologies and the financial inclusion is highlighted in the thematic workshop session.

4)Key achievements, announcements, launches, agreements, and commitments

Nobel peace prize 2020 for contributing to the objective of the blockchain technologies and the digital financial services in partnership with the United Nations world food programme, as described in the additional documentation material which is a recognition achievement attached along with this email communication. Thus leading to the role of myself, Ashwini Sathnur, becoming the Zero Hunger

Champion.

5)Main outcomes highlighting the following:

I. Debated Issues

- Please capture highlights of the main issues discussed and interactions with audience

Foundations and ideologies of the blockchain technologies and the conceptual frameworks of the use cases scenarios and Innovations based on the subject areas of the digital financial services and the financial inclusion.

II. Quotes

- Please provide two important quotes from the session and the names & organisations of the person you are quoting

The book titled "Foundations and ideologies of the blockchain technologies"
which has been displayed in the Nobel peace center's Ignitor platform channel.

III. Overall outcomes of the session highlighting

- main conclusions reached during the discussion

Knowledge building and knowledge enabling mechanisms based on the subject areas and the conceptual frameworks of the blockchain technologies.

- the vision for implementation of WSIS Action Lines beyond 2015

The mechanisms of creating new innovative ideologies product solutions based on the subject areas and the conceptual frameworks of the blockchain technologies.

6)Suggestions for thematic aspects that might be included in the WSIS Forum 2023

Enhanced version of the awareness generation mechanisms on the conceptual frameworks of the blockchain technologies among the communities and the society.

7)Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

Achievement of the launch of the telecommunications 5G technologies which has led to the generation of employment opportunities in the subject areas and the conceptual frameworks of the blockchain technologies.

Smart Solutions to connect everyone

Workshop Name: Smart Solutions to connect everyone

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/153

Organization: Basic internet Foundation/ African Child Projects

Date: Thursday, 24 March 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C2. Information and communication infrastructure
C3. Access to information and knowledge
C4. Capacity building
C5. Building confidence and security in use of ICTs
C6. Enabling environment
C7. ICT applications: benefits in all aspects of life — E-government
C7. ICT applications: benefits in all aspects of life — E-business
C7. ICT applications: benefits in all aspects of life — E-learning
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 1: End poverty in all its forms everywhere
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all
Goal 10: Reduce inequality within and among countries
Goal 11: Make cities inclusive, safe, resilient and sustainable
Goal 17: Revitalize the global partnership for sustainable development

3)Did your workshop highlight any issues related to COVID-19? If yes, please explain.

Yes, the need for Digital Connectivity is understood in every country. However, there are competing goals between profitability and ensuring inclusivity. While COVID-19 created an opportunity for digital transformation, existing inequalities remained an obstacle and reproduced themselves along the same faulty lines.

4) Key achievements, announcements, launches, agreements, and commitments

● Commitment from Vodacom for smart partnerships and experimentation with new business for digital connectivity, supporting the ITU initiative Partners2Connect. Examples are supporting the connectivity of schools in Tanzania, and the new SIM supplying
● Next phase of the Digital Transformation Centres (DTCs) launched. The goal is to reach the unconnected people, funding is the challenge (ITU)

5) Main outcomes highlighting the following:

I. Debated Issues

● Centralized cloud based systems versus localized distributed systems (e.g. Gov stack architecture) are at the core of the debate to connect the unconnected
● Cost of internet and sustainability of digital efforts
Key achievements
● Rolling out of digital transformation centers
● Smart partnership- government, private sector, civil society and communities
● Experimentation with new internet connectivity/digital models
Challenges
● Cost of internet remains prohibitive
● Digital inequalities persist, and pervasively reproduce themselves
● Dominant connectivity model by Telcos remains centralized and less distributed

II. Quotes

Sandra Oswald
Manager Vodacom Tanzania Foundation, Vodacom Tanzania
"We believe in the application of mobile technology to address the most pressing issue our community faces, from health service information to education."
Prof Dr Josef Noll
Secretary General, Basic Internet Foundation
"Today's Internet is not answering the needs of the people at the bottom of the pyramid. We need a paradigm shift for a decentralised Internet contributing to a sustainable future, with (i) one Information Spot in each village, and (ii) the model of the road applied to the Internet. Free access to lightweight information (Internet Lite), and premium access to broadband services."

III. Overall outcomes of the session highlighting

● Lack of meaningful connectivity suggests the need to rethink the current approach, which is necessary but not sufficient to ensure no one is left behind
● New low cost business models and distributed connectivity could be a game changer in addressing the digital divide and helping achieve SDGs
● The WSIS Action Lines beyond 2015, must continue to edge stakeholders towards action.

6) Emerging Trends related to WSIS Action Lines identified during the meeting

● Infrastructure investments are skewed towards targeting large centralized CAPEX and OPEX projects instead of low localized cost solutions.
● Efforts to reduce the digital divide seems to be reproducing existing inequalities along

dimensions of income, gender and disability.
● Consensus and concerted efforts that connectivity is a driver for SDG goals.

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

● Affordable and meaningful connectivity
● Internet access based on gender equality
● Exploring innovative and cooperative business models for internet and digital connectivity in developing countries

8) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

There is still a challenge on clear vision in Action Plans and how each would be implemented, thus hindering many stakeholders from knowing where their solutions could clearly fit within WSIS action Lines. More clarification should be provided on these, thus enabling workable and sustainable solutions for success.

On action line 1 and 2, There is still a challenge on clear actions relating to connectivity of rural areas and facilities such as schools and communities. Most of these are only stated in point form and thus can only be understood by individuals with intensive knowledge in the field. Also as strategic assurance on these implementations isn't provided and so many initiations taken by local grassroot stakeholders fail as most challenges that hinder implementation lack platforms or provisions that provide solutions or roadmaps.

Action Line 4 advocates for capacity building in areas of basic literacy, education learning e.t.c. Many initiatives have been made towards achieving this from various stakeholders. However, with the arrival of COVID-19, less initiatives have been made towards implementation of these action lines in developing countries like Tanzania. With focus on public schools that carry the majority of students, schools were forced to re-open without implementation of many precautions as there were no digital education platforms that could suffice for distance learning or self-learning. The case is even severe as there are no implementation strategies in rural areas where there are no supportive digital infrastructures, poor or no connectivity and lack of digital literacy, considering the fact that more than half of the population in developing countries reside in rural areas.

Digital Financial Inclusion

Workshop Name: Digital Financial Inclusion

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/155

Organization: ITU

Date: Tuesday, 29 March 2022

Transformative Change

Workshop Name: Transformative Change

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/156

Organization: People Centered Internet

Date: Tuesday, 29 March 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C2. Information and communication infrastructure
C3. Access to information and knowledge
C4. Capacity building
C6. Enabling environment
C8. Cultural diversity and identity, linguistic diversity and local content
C10. Ethical dimensions of the Information Society
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 1: End poverty in all its forms everywhere
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3: Ensure healthy lives and promote well-being for all
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 6: Ensure access to water and sanitation for all
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 10: Reduce inequality within and among countries
Goal 11: Make cities inclusive, safe, resilient and sustainable
Goal 12: Ensure sustainable consumption and production patterns
Goal 13: Take urgent action to combat climate change and its impacts
Goal 14: Conserve and sustainably use the oceans, seas and marine resources
Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
Goal 16: Promote just, peaceful and inclusive societies
Goal 17: Revitalize the global partnership for sustainable development

3) Key achievements, announcements, launches, agreements, and commitments

Michael Palwyn:
Architects Declare a Climate & Biodiversity Emergency. This movement has inspired over 7,000

companies in 28 countries to sign a declaration of action.
Recently published “Flourish - Design Paradigms for Our Planetary Emergency”, co-authored with Sarah Ichioka.

Katarina Uherova Hasbani:
Started an innovation platform specialized in clean energy that currently runs programs for decarbonization.

4) Main outcomes highlighting the following:

Outcomes of the workshop include an understanding of models that have been successful and what limits their scale, as well as an initial framework for development of policy proposals to support the development of regenerative economies.

I. Debated Issues

- Role of policy: Policy itself does not carry out change. The private sector is needed to support execution, consistent with their raison d'etre. At a policy level, there can be a misalignment between policy intentions and implementation effects, particularly if there are multiple agencies influencing change, for example in how utilities have their profits regulated and how they are expected to transition to clean energy. Greater consideration should be paid to supporting just transitions. For example, in the UK, some organisations with a legacy of coal powered energy are transitioning towards a biomass supply chain, which has the potential to take them from one of the biggest carbon emitters to being net positive. To support this involves taking a customer-based focus, since organisations finance this transition via utility rates charged to the customer, which may be regulated. Another example is if a farmer wants to transition to organic. The transition will likely be a hybrid process where the farmer does not win any funding for three years until their products are fully organic. That is a barrier to transition.
In regenerative agriculture, which affects at least 10 of the sustainable development goals, actions tend to be ground up, taken by local, regional and smaller farmers. The policy level assumption of promoting biotech and agrochemistry can be inconsistent with regenerative practices, misallocating resources and driving global inefficiencies and waste.
Ultimately, drivers of change are how an entity measures success and how intentions are practiced in daily operations.

- Data: Many data providers are black boxes, and users may not properly understand what outcomes their associated decisions drive as a result. It is important to take the time to understand and explain data, its quality attributes and weaknesses.

- Projects & Scale: Across Southeast Asia and Sub-Saharan Africa, projects use renewable power generation typically from hydro or solar PV in the villages that are not connected. To support developing economies, a model is needed that considers renewable energy at the local level, generating power capacity at a very small size eg small fuel houses for 100 houses, designed with the users in mind. This people centered perspective allows a utility to develop capacity beyond the immediate goal. For example, a water pumping system designed around end-users can result in income generation for local communities. To allow scale, governments may have to step out and allow the private sector or foundations to innovate.

- Misconceptions: (1) Individualism. There is a tendency today for stakeholders to behave individualistically, reinventing the wheel to suit their journeys. What is really needed to drive change is to get the whole [financial] system to move in the same direction. We need standardization when it

comes to the fundamental analysis of metrics, rather than to use different data, different methodologies, and different tools, which adds complexity and cost to stakeholders, while undermining trust.
(2) Scale. There is an assumption that growth and scale naturally serve the greater good. For example, large scale agriculture is thought to feed the world, but often the developed world exports to other developed countries, and the neediest are not served.

(3) Net Zero. We need to get into the realms of positive for all the big challenges that humanity is facing, some of which hardly get considered because of the focus on carbon. Examples of other major conditions for sustainability include nitrogen and biodiversity. We lack interconnectedness and focus on what controls resources and power. Another challenge for humanity lies in the toxicity of our production methods. The average European male sperm count has declined over the last 40 years and if this continues in the linear trend it has displayed then, on average, we will be sterile as a species, long before we reach zero carbon. We need to completely rethink the way we make things and the kind of toxins that are perfectly possible to design out.

- Paradigm shifts: (1) Systems/Community Thinking. Beyond the components in our products, we need to challenge some of our starting points significantly. For example, the suburban sprawl that's partly the result of economic and planning policy is also partly the results of a certain view of humanity - seeing ourselves as individuals in a competitive game of survival of the fittest. Recent social sciences show that humans have an amazing capacity for altruism, empathy and cooperation. If we started with a more generous view of human nature, this would lead us towards the idea that we could create or retrofit cities so that people can access everything they need within walking distance, shifting from the current approach of private luxury and public squalor, towards private sufficiency and public luxury.
(2) Resource Optimisation. In regenerative agriculture, unlike with large scale farming, the less used, the more efficient the system becomes – a significant shift away from over consumption. Today's fields waste a third of what they produce.
(3) People Centeredness. For hundreds of years we thought of energy as disconnected from everything else and tried to design an energy producing system that would take some resources, produce electricity and give it to customers in a clean, cheap affordable manner. We are for the first time on track to think about energy systems to be designed with the customers. The path forward is to think of energy systems that are codesigned jointly with the end users in mind.

- Calls to Action: Stop reinventing the wheel - what is really missing is an objective entity that provides data for a global audience from which consistent decisions may be taken.
Support hybrid transitions by developing not just policies, but the regulation. Infrastructure, and incentives to go with it.
To behave less competitively as a race and move towards collaborating. It's time to accept the growth is not a good purpose for an economy. In the book, Flourish, Michael and Sarah Ichioka put forward an alternative purpose for an economy: to maximise planetary health. Our health as humans is inseparable from the health of the life support systems, the ecosystems are which all life depends. We have to start developing a planetary perspective on human health and the health of all other living beings.
Echoing the IPCC, everyone - a small company, a policymaker, a CEO of a major conglomerate, has a role to play. Do you know where your energy comes from, do you know how much of it you use, where it comes from, in terms of different sources? Do you know where it comes from geographically? Do have a system to manage it? Take the steps you can and use your agency.

II. Quotes

- "Get everyone involved. Myth busting was very valuable. We are not going to invest all our money into renewable energy, and no, we don't have to exclude all companies with emissions." Lars Erik Mangset, Greig Investor (Norway) speaking about his time at KLP
- "What has worked is starting with a more generous assumption about human nature… shifting from the current approach which tends to be about private luxury and public squalor and moving to an idea of private sufficiency and public luxury" Michael Palwyn, Exploration Architecture Ltd (UK)
- "The planetary tipping must points must be addressed, to avoid carbon tunnel vision and an over reliance on net zero, we must engage and embrace our top 3 major issues 1: biodiversity loss 2: nitrogen 3: carbon. The interconnectedness to our value systems and solutions must be addressed and regenerative economies embrace." Rhona Morrell Founder IReGen Limited

III. Overall outcomes of the session highlighting

- Importance of education into the ways all 17 SDGs might be supported, going beyond carbon
- Value of a transdisciplinary perspective was displayed. Subject Matter Experts from agriculture, finance, design and energy all found something to learn. WSIS can fuel these holistic, transdisciplinary environments
- A simple view of whether a decision enhances planetary health or not can help with the very complicated questions of environmental, social sustainability and energy needs. We don't need to be adding complexity or reinventing the wheel to begin to make progress.

5)Suggestions for thematic aspects that might be included in the WSIS Forum 2023

Transdisciplinarianism | Systems thinking | Beyond carbon | Policy alignment, tools that deliver policy to the users | Action-orientation | Paradigm shifts | People-Centered

IT in Disaster Risk Reduction (ITDRR)

Workshop Name: IT in Disaster Risk Reduction (ITDRR)

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/157

Organization: International Federation for Information Processing (IFIP)

Date: Friday, 1 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C2. Information and communication infrastructure
C3. Access to information and knowledge
C4. Capacity building
C5. Building confidence and security in use of ICTs
C6. Enabling environment
C7. ICT applications: benefits in all aspects of life — E-government
C7. ICT applications: benefits in all aspects of life — E-business
C7. ICT applications: benefits in all aspects of life — E-learning
C7. ICT applications: benefits in all aspects of life — E-health
C7. ICT applications: benefits in all aspects of life — E-employment
C7. ICT applications: benefits in all aspects of life — E-environment
C7. ICT applications: benefits in all aspects of life — E-agriculture
C7. ICT applications: benefits in all aspects of life — E-science
C8. Cultural diversity and identity, linguistic diversity and local content
C9. Media
C10. Ethical dimensions of the Information Society
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 1: End poverty in all its forms everywhere
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3: Ensure healthy lives and promote well-being for all
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 6: Ensure access to water and sanitation for all
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 10: Reduce inequality within and among countries
Goal 11: Make cities inclusive, safe, resilient and sustainable
Goal 12: Ensure sustainable consumption and production patterns
Goal 13: Take urgent action to combat climate change and its impacts

Goal 14: Conserve and sustainably use the oceans, seas and marine resources
Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
Goal 16: Promote just, peaceful and inclusive societies
Goal 17: Revitalize the global partnership for sustainable development

3)Did your workshop highlight any issues related to COVID-19? If yes, please explain.

- In the introduction, we presumed pandemic is one of the disaster issues.
- According to one of the panelists, Hans Jochen Scholl, pandemic is one of the issues.

4)Key achievements, announcements, launches, agreements, and commitments

- Hans Jochen Scholl presented how domain-specific curated reference libraries could help make a research domain more transparent regarding topical trend, collaborative networks, topical gaps, network gaps, etc. Such libraries are indeed useful for situation awareness in research.
  According to him, the current version of the Disaster Information Reference Library (DIRL) now contains 3,933 references of predominantly English-language, peer-reviewed work in the study domains of disaster information and information technologies and their uses in the context of disasters. Conclusions of the presentation include the followings:
  - Domain-specific Curated Reference Libraries help make a research domain more transparent with regard to topical trends, collaborative networks, topical gaps, network gaps, etc.
  - Some prominent topical gaps include “situational awareness,” “common operating picture”, “Distributed Ledger Technology (DLT)/Blockchain” and “Internet of Things (IoT)”, among others
  - Overemphasis on social media, easy-access datasets, and the Covid pandemic
  - So far, the ITDRR and ISCRAM communities have only a few networking links
  - Like curated reference libraries in other academic fields the DIRL can play a formative role for the relatively young ITDRR domain

- Jaziar Radianti presented how Common Operation Picture (COP) could be implemented for situation awareness, introducing the Digital Exercise in the project, Sharing Incident and Threat Information for Common Situational Understanding (INSITU) in Norway. In the exercise, COP is presented as visual information available for multiple actors using a map and COP map sharing. The exercise was a joint effort between practitioners and researchers and was involving 70 participants from 20 emergency management organisations. As conclusions, she raised the following issues:
  - Maps should be adopted for different needs.
  - The importance of harmonized symbols represents the user needs is a key for map-based COP sharing.

- Lacking right tool to share map information rapidly (at least for inter-organisational collaboration, exercise and crisis response).

- Frederik Benaben introduced how one can make use of Virtual Reality (VR) for crisis training and decision making. He introduced the work from a project at the Training in Crisis Management in Environment Representative of Sensitive Industrial Sites (EGCERSIS). He presented the role of VR as follows: 1) VR for crisis management training, 2) VR for crisis cell for future and 3) VR for decision support in uncertain context. Demonstration videos showed how these roles are implemented. For example, with the 3D-model VR, one can see the situations, as well as set a scenario of crisis such as setting up a fire. Decision makers in different locations could get together to respond and get suggestions from AI. The analytics of the exercise performance is also possible. Another video showed the decision support indicating supply chain with the different partners and the flows of materials. The supply chain according to the timeline would be presented so that one can see performance and potential risks/problems. He concluded as:
  - Current VR devices are heavy, expensive, and not convenient to use, but in future we shall soon have the ones which are lighter, inexpensive, and convenient to use so as how computer systems have evolved.

5)Main outcomes highlighting the following:

- **Debated Issues**
  - Please capture highlights of the main issues discussed and interactions with audience
  - Please highlight key achievements and challenges shared by the audience and/or panelists
  - A question on Frederick's VR system: the use of AI that makes suggestions on tasks to be performed:
    - The AI system can perform four tasks:
      1. To collect data from intelligent sources such as sensors, Twitters and open data. Based on that it creates a model of the situation. This model is used to locate data on the map that the people are seeing.
      2. Using this model with optimization, clarification and rules, the system suggests tasks that are supposed to solve the issue if that the system found on the model, using the resources that are actually available.
      3. to certain things that it can orchestrate the process that has been deduced. Based on identification and

optimization algorithm trying to map the needs and the available resources.

4. The fourth is that you can monitor and detect in divergence between the expected situations by keeping on monitoring the situation and comprehend the current model and expecting model to change to data to data infrastructure.

- Maps to be used for training and exercises:
    - Issues with the INSITU project:
        1. The project uses Norwegian maps based on Google map may not be acceptable for crisis management context, although it may be convenient for sharing real time operation.
        2. Not all could be located on the same map. There is also reluctance to put together critical information in the same map as combined information can be suddenly a sensitive information. There could be sensitive information so that the map sharing would need access control.
    - Issues with EGCERSIS project (use of VR)
        1. The project uses open street map with 3D enhancement to share information which the first responders are really concerned with.
        2. Current VR devices are heavy, expensive, and not convenient to use, but in future we shall soon have the ones which are lighter, inexpensive, and convenient to use so as how computer systems have evolved.
- DIRL by Scholl:
    - He identified gaps in terms of opportunities that we may have as well as some topical gaps from the practitioner perspective.
        1. Situational awareness and the common operating picture (COP) are the core topic which the first responders are really concerned with and everything we do shall help in that regard.
        2. Distributed Ledger Technology and blockchain will help us solve two problems: i) resource management for disaster response, and ii) in connection with the Internet of Things.

- **Quotes**

  We have three quotes in our session as follows:

- Hans Jochen Scholl: “One can say domain specific curator reference libraries help really make a research domain, more transparent, and that is in regard to topical trends, the networks, the collaborative networks, but also one can identify topic or gaps network gaps.”
- Jaziar Radianti: “not all can see what is happening there, for example, and there is map that only showing different information, for example, where vulnerable objects, where is the critical infrastructure located. It is not all in the same map and perhaps there is also a reluctance to put together those objects in one map.”
- Frederick Benaben: “just like computers in the 70s, we will have smaller devices less expensive, and we need to be ready on the way we can use it for crisis management,”

- **Overall outcomes of the session highlighting**
  - main conclusions reached during the discussion
    - More research contributions are needed for the topics of situation awareness, its related concept of common operational picture (COP), together with DLT/blockchain and IoT are important topics for crisis management so that we may well need more research contributions.
    - Map-based COP for crisis management is important but not all could be on one map to share as there are sensitive information.
    - VR is useful tool for situation awareness, in future it shall be used more for crisis management when devices are smaller and less expensive.
  - the vision for implementation of WSIS Action Lines.beyond 2015
    1. C1. The role of governments and all stakeholders in the promotion of ICTs for development
       - Disaster management is one of the important risk management issues at governments as well as all stakeholders in the promotion of ICTs for development
    2. C2. Information and communication infrastructure: an essential foundation for an inclusive information society
       - The availability of information and communication infrastructure is important for disaster response.
    3. C3. Access to information and knowledge
       - Access to information and knowledge is important for situation awareness at disaster, such as COP (common operational picture). Map-based COP is useful; however, one has to be sure that not all could be located on the same map. There is also reluctance to put together critical information in the same map as combined information can be suddenly a sensitive information. There could

be sensitive information so that the map sharing would need access control.

4. C4. Capacity building
   - Capacity building is needed for training ICT professional as well as crisis responders.
5. C5. Building confidence and security in the use of ICTs
   - Building confidence and security in use of ICTs for disaster communications including privacy issues.
   - We also be sure of confidentiality or privacy aspect for sensitive information when we share map-based common operation picture for situation awareness for crisis management.
6. C6. Enabling environment
   - Enabling environment is related closely to natural disaster.
7. C7. ICT applications: benefits in all aspects of life
   - Disaster management required all the relevant ICT applications: benefits in all aspects of life — E-government, E-business, E-learning, E-health, E-employment, E-environment, E-agriculture, and E-science.
   - In terms of E-government, E-learning, E-health, E-environment, and E-science, such as research and practice of crisis management, curated reference library such as the Disaster Information Reference Library (DIRL) could help make the disaster research and practice domain more transparent regarding topical trend, collaborative networks, topical gaps, network gaps, etc.
8. C8. Cultural diversity and identity, linguistic diversity and local content:
   - Disaster information should be shared by every citizen in the world for future preparedness and mutual support.
9. C9. Media
   - Media is important once disaster happens to inform people of the current situations.
10. C10. Ethical dimensions of the Information Society:
    - Ethical issues are important at disaster not to spread biased misinformation.
11. C11. International and regional cooperation
    - International and regional cooperation is essential once a catastrophe occurs. For instance, the current global catastrophe from COVID-19 has shown such a situation. Also, in our workshop, Frederick Benaben presented how international teams could get together for crisis management by sharing VR-based crisis management system for response.

.

6)Emerging Trends related to WSIS Action Lines identified during the meeting

From the issues from the outcomes of our workshop, we identified the need for a change in the current WSIS Action Lines as follows:

- While the issues on building confidence and security in the use of ICTs are categorized in C5, it is missing how safety issues such as disaster are to be dealt with in the current action lines.
- C4. Capacity building is needed for training ICT professional as well as crisis responders. Moreover, ICT trainings for citizens would be required.
- Trust within the people is important and the issue would be categorized either C5 or C10. C5 is more technology-oriented so that C10 could include the trust issues.
- While access to information and knowledge is presented in C3, in terms of disaster response, what is needed is how to produce knowledge as well as to update or even change the previous knowledge. Also, confidentiality and privacy issues need to be addressed. For instance, a map-based common operational picture (COP) could be shared for crisis management. However, not all the information would be shared. We need to implement access control when sharing information.
- The challenge now is to have socio-technical issues with information management in crisis management, which is missing in the current action lines.
- To integrate IT scientists, engineers and practitioners in crisis management, social scientists would play a major role to connect people in those two different domains. From this viewpoint, the action lines could include social science aspects as well as safety, confidentiality/privacy and crisis management issues.

7)Suggestions for thematic aspects that might be included in the WSIS Forum 2023

The following could be considered in the WSIS Forum 2023:

- The use of ICT to support people in disasters and catastrophes

8)Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

- Education and research of ICT in future:
  - Security is taught at university on how one can protect from threats by various attacks. However, recent wars and conflicts revealed that the people with such knowledge are encouraged to participate in cyberattacks. The issue therefore is how ICT education, including ethics, should be planned.

Five perspectives for future optical fibre cable and infrastructure technologies

Workshop Name: Five perspectives for future optical fibre cable and infrastructure technologies

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/170

Organization: ITU-T Study Group 15

Date: Monday, 25 April 2022

Issues for Data Driven Health Technologies: A Way Forward for International Collaboration & Finding Collaboration For Indigenous Communities

Workshop Name: Issues for Data Driven Health Technologies: A Way Forward for International Collaboration & Finding Collaboration For Indigenous Communities

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/192

Organization: UN IGF Dynamic Coalition on Data Driven Health Technologies

Date: Tuesday, 5 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C2. Information and communication infrastructure
C3. Access to information and knowledge
C4. Capacity building
C5. Building confidence and security in use of ICTs
C6. Enabling environment
C7. ICT applications: benefits in all aspects of life — E-government
C7. ICT applications: benefits in all aspects of life — E-business
C7. ICT applications: benefits in all aspects of life — E-learning
C7. ICT applications: benefits in all aspects of life — E-health
C7. ICT applications: benefits in all aspects of life — E-employment
C7. ICT applications: benefits in all aspects of life — E-environment
C7. ICT applications: benefits in all aspects of life — E-agriculture
C7. ICT applications: benefits in all aspects of life — E-science
C8. Cultural diversity and identity, linguistic diversity and local content
C9. Media
C10. Ethical dimensions of the Information Society
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 1: End poverty in all its forms everywhere
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3: Ensure healthy lives and promote well-being for all
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 6: Ensure access to water and sanitation for all
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 10: Reduce inequality within and among countries
Goal 11: Make cities inclusive, safe, resilient and sustainable
Goal 12: Ensure sustainable consumption and production patterns
Goal 13: Take urgent action to combat climate change and its impacts
Goal 14: Conserve and sustainably use the oceans, seas and marine resources
Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
Goal 16: Promote just, peaceful and inclusive societies
Goal 17: Revitalize the global partnership for sustainable development

3)Highlights of Covid 19:

The session show-cased how through the use of ICTs, rural or remote populations could connect for telemedicine and other health and wellness services. This was especially significant during the Covid-19 pandemic, when person to person contact was limited.

4)Key achievements, announcements, launches, agreements and commitments

The UN IGF Dynamic Coalition on Data Driven Health Technologies published an online book Health Matters, Technologies Driving Change in Healthcare, A Community of Thought in 2021. The online book is found at: Dynamic Coalition on Data Driven Health Technologies (DC-DDHT) | Internet Governance Forum (intgovforum.org). The authors are: Alex Buckham; Frédéric Cohen; Amali De Silva – Mitchell; Jörn Erbguth; Galia Kondova; Amala Arockia; Herman Ramos; Ashwini Sathnur; Emma Slade; Dr. Christine P. Tan; Dr John Lee Allen; Shabir Chowdhary; Vivien de Tusch-Lec; Eric Kostegan; Dr Laila Samady-Mustad; Dr David Holbrook; Ferus Hay; Dr Annalisa Jenkins and Dr Carina Tyrrell.

Part two of this book will be published in 2022 and is open for contributions at the time of writing of this report. UN IGF DC DDHT also invites interested organizations and persons to join the coalition.
UN IGF DC DDHT is also a member of the ITU Partner2Connect Community and has pledged to be an enabler of the work at the heart of that community. This is pledge is demonstrated through this session, and through the current work of the DC DDHT, in the development of a tool-kit to assist citizens to onboard to the internet. The toolkit will be presented at the UN IGF meetings in Ethiopia in December 2022.

5)Main outcomes

The session encouraged the audience to think out of the box when applying principles for diversity and inclusiveness to enable quality ICTs to the health and wellness sector. Indigenous, rural, marginalized groups are some of those unaccounted segments of the population who fall through the gaps in generalized policy making or product and service development in healthcare. Diverse types of health systems such as indigenous, ancient, non-traditional medicines may also encounter ICT non-inclusiveness, as they may service populations that are marginalized. This inclusivity of diverse users and practitioners is critical for robust public health intelligence systems.

The rights of users to their data and the use of data for the purpose it was intended for are important so as to maintain quality data, for especially new technology such as Artificial Intelligence. It is also noted

that the ICT and supply chains must be fit for purpose, be suitable for relevant access, provide suitable control for the users to have input in to their own data such that it is relevant, safe to use, non-biased, up to date and stored and disposed of in an acceptable manner. Collaboration between regions on ICTs and robotics technology have allowed for increase in agricultural productivity, supporting nutrition and hence, wellbeing. It is always important to keep in mind the sources of energy used to power ICTs and work towards ensuring that it is green and efficient.

Debated issues:

The session was focused on showcasing the current uses, opportunities and issues for ICTs on the internet and the Medical Internet of Things. Diversity and inclusion were discussed through the importance for limiting bias for new technologies such as artificial intelligence, by inclusion of all data populations for health data intelligence including up to date (not stale data) from indigenous, rural and remote communities. Seven steps for managing the success of data passing through successive data systems called the 7 Rights of Passage for Data were presented.

The session highlighted the diversity and inclusiveness frameworks found in Canada with Gender Based Analysis (GBA) plus, and in the work by the National Health Service of the United Kingdom to overcome health inequalities. The British medical journal Lancet has researched on indigenous populations, and their work in Latin America was also noted. These works have been inspired by the acceptance of the United Nations Declaration of the Rights of Indigenous Peoples and the ensuing annual reports on the Status of Indigenous Peoples. These reports have highlighted the need for public health information systems to include the data of rural, tribal and indigenous populations so as to ensure complete national data sets.

An example of the use of the internet and social media for delivery of clinical homeopathic medicine was showcased. This particular international practice was developed fully, on ICTs and allowed access to homeopathy, to a geographically diverse global population. This access would not have been envisaged a few decades ago. The practitioner spoke of the freedom that ICTs provided her practice, while the patients were able to access service from a location at a great distance to themselves in the world. This access was particularly important during the world-wide lock downs due to Covid-19 which restricted travel.

It was noted that homeopathy is the second largest medical system in the world and also the fastest growing in some parts of the world, such as Asia, Europe and South America. There are 200 million users of homeopathy globally. India has 100 million users and 200,000 homeopathic doctors, with 12,000 new doctors added per year.

Clean and affordable energy to power ICTs and other technologies was highlighted, not only for cities but also for rural areas. The need for an efficient and comprehensive transportation mechanisms for energy was noted.

Medicinal drugs from traditional medical practice, are available for use legally in Asia, Africa, Latin America and are gaining legal acceptance in the west. There is recognition of the use of social media by patients, global citizens and supply chains to access these medications. Some information and access systems, have history and are still in existence from ancient times, such as the old Silk Road. Safety and security of ICT systems in this use can be stressed by mis-management with fracture.

In rural areas, farming supported by robotics and automation helped productivity increase by five percent, in an example provided of the technology transfer and support provided by China to African countries for the development of coffee and soya products. These beneficial partnerships and exchanges with ICTs for development work, are important to meet the United Nations Sustainable Development Goals (SDGs), as well as for WSIS Action line #7 on health, which include nutrition and well-being for livestock as well. Collaborating for disease safety, ehealth intelligence, product and service design solutions, using robotics and automation to increase production and quality to industrial levels for all, is an opportunity to bridge the gaps required, to create resilient economies.

However, the significant increase in global data collection means that data inequalities have increased as well. It is noted that the lack of strict adherence to privacy principles, during for instance the Covid-19 tracking, meant that the civil liberties for the population, may have been impacted. Care must be taken to ensure the quality of data collected. Also, data collected for one purpose may not be suitable for another purpose, especially when there is no consent from the data giver. For instance, when data is used by an unknow third party or fed into an Artificial Intelligence or Machine Learning system, unknow bias and error could result for the outcomes.

For quality ehealth, a quality internet that is fair and equitable is a must. Ehealth products and services. through the use of ICTs, is a catalyst for achieving the goal of the UN SDG #3 and for WSIS Action Line #7 by 2030.

Quotes from speakers:

Anke Zimmermann:
Technology has made it possible to reach across the globe
Amali De Silva-Mitchell:
Excellence in data management, values the quality of the data exchanges between connected data systems (7 Rites / Rights of Passage For Data)
Frederic Cohen:
Energy and the manner of powering of ICTs, must be part of the design
Alex Buckham:
Milton Freidman was quoted: “only a crisis, actual or perceived produces real change”. It was also noted that actions that take place, at such a time, are dependent on the ideas lying around at that time.

6)Overall outcomes of the session and conclusions and visions for implementation of the action lines

The session encouraged the practice of diversity and inclusion with a “thinking out of the box and open minded” approach, while noting the need for keeping an eye on the past for bettering for the future. The global population is inherently diverse, and diverse medical practices are the history of the global civilization, just as language is. Both are critical aspects for establishing a diverse and inclusive health intelligence system for global society. Ehealth solutions must be inclusive, safe, trusted, un-biased, representative, complete, relevant, up to date, energy efficient, fit the purpose. The user in their location must have access to a quality internet. People and practice must keep an open mind to change and the rights of the user and environmental concerns. The full aura of the WSIS Action Lines and UN SDG mandates can be supported by these approaches.

Interesting insights can be delivered through the integration of the work of this session. The concept of treating “like with like” was introduced from homeopathy, which could be a beneficial technical model for data, system or service building or service bundling. Another concept presented was that of “dilution of homeopathic remedies”, which noted that dilution did not necessary reduce potency of a medication and that mixing and refining could increase the potency of the medication. These concepts could be applied to machine learning, artificial intelligence and data management as well.

A call was made for systems and policy design bottom up, that include diversity, inclusiveness, environmental and social governance policies with effective waste management. The call for open, out of the box thinking was made when developing connectivity to all corners of the globe.

7)Suggestions for thematic aspects that might be included in WSIS Forum 2023

- Thinking out of the box, educating and collaborating on cultural norms for language, meta-data and so forth.
- Searching for similarities or patterns (reference methodologies found in Homeopathy) for ICT service delivery (bundling solutions for efficiency).
- Integrating human rights for diversity and inclusion in to the design process for ICTs
- Understanding the nature and extent of human data collected and used through ICTS
- Managing the environmentally sustainable power supply for ICTs
- Human Computer Interaction as part of the design process for ICTs
- Eliminating duplication and enhancing efficiency
- Waste management as part of the design process for ICTs
- Leave no one out, to the quality-connected last mile of the internet
- Collaborating with non-traditional medical practice for AI for Health
- Security and safety issues for the internet
- What are the issues for mass data gathering and sharing by unknown third parties?
- Alternative or non-traditional energy source powering of ICTs for rural or remote areas e.g., thermal energy, solar energy, small scale nuclear energy plants etc.

8)Towards WSIS+20 and WSIS beyond 2025 please share views and challenges, achievement and opportunities and implementation of WSIS Action Lines to date.

The Corvid19 pandemic made the use of ICTs for everyone’s everyday life a reality. The technology development cycle was boosted up by several years. The development of technical and ICT user skills became a necessity. The identification of the issues of the digital gap became critical for betterment, so as to achieve economic resilience. However, there is still a need for all sectors to finance the ICTs that enables the quality internet. Too much is taken for granted. Solutions to safe guard the internet from fracture with backups, alternate routing and technologies, is a must, which must also include resolving issues of connectivity for remote and hard to reach areas.

Joint Action using Big Data and Internet Things Technology on Geographical Indications for Environment & Sustainability

Workshop Name: Joint Action using Big Data and Internet Things Technology on Geographical Indications for Environment & Sustainability

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/193

Organization: Consultative Committee on Information Technology of China Association for Science and Technology

Date: MoMonday, 4 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11
C1. The role of governments and all stakeholders in the promotion of ICTs for development
C3. Access to information and knowledge
C7. ICT applications: benefits in all aspects of life — E-environment
C7. ICT applications: benefits in all aspects of life — E-agriculture
C7. ICT applications: benefits in all aspects of life — E-science

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)
Goal 1: End poverty in all its forms everywhere
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
Goal 17: Revitalize the global partnership for sustainable development

Empodera.ORG: Collective intelligence platform to achieve the 2030 Agenda and to enhance citizen participation for the SDGs

Workshop Name: Empodera.ORG: Collective intelligence platform to achieve the 2030

Agenda and to enhance citizen participation for the SDGs **Workshop Link:**

https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/196

Organization: Fundación Cibervoluntarios

Date: Tuesday, 19 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11
C1. The role of governments and all stakeholders in the promotion of ICTs for development
C3. Access to information and knowledge
C4. Capacity building
C6. Enabling environment
C10. Ethical dimensions of the Information Society

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)
Goal 1: End poverty in all its forms everywhere
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3: Ensure healthy lives and promote well-being for all
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 6: Ensure access to water and sanitation for all
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 10: Reduce inequality within and among countries
Goal 11: Make cities inclusive, safe, resilient and sustainable
Goal 12: Ensure sustainable consumption and production patterns
Goal 13: Take urgent action to combat climate change and its impacts
Goal 14: Conserve and sustainably use the oceans, seas and marine resources
Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
Goal 16: Promote just, peaceful and inclusive societies
Goal 17: Revitalize the global partnership for sustainable development

Digital Entrapment

Workshop Name: Digital Entrapment

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/199

Organization: EC MEDICI Framework

Date: Friday, 25 March 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C3. Access to information and knowledge
C4. Capacity building
C5. Building confidence and security in use of ICTs
C6. Enabling environment
C8. Cultural diversity and identity, linguistic diversity and local content
C9. Media
C10. Ethical dimensions of the Information Society

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 3: Ensure healthy lives and promote well-being for all
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 16: Promote just, peaceful and inclusive societies

There can be no sustainability with individual liberty and privacy being at stake, and the value of preserving and sustaining Nature needs to be honoured.

Sustainability refers to the ability to upkeep and evolve anew the concept/ idea/ product/ notion etc. to whom it refers. Therefore, for sustainability to be feasible the design and actualization of a proper, safe, and trustworthy digital era is a prerequisite.

3) Did your workshop highlight any issues related to COVID-19? If yes, please explain.

Implicit in the forum's topic of human entrapment, is also the idea of Nature's entrapment, that partially result from the ignorance of Techno-Human and the forces of globalization. Rapid urbanization has taken over a great part of SE Asia, as developing nations embrace new digital tools and economies, and in this hurry for economic growth, sprawling cities are over taking villages and Nature, without the corresponding pay back to Nature, for example, making up the loss by proportionate tree re-planting, or soil nourishment, or strategies for the de-pollution of air and water resources. Hence one theory of the genesis of COVID-19 could lie in the displacement of fauna from their Natural habitat resulting from

rapid urbanization and the transfer of virus across species.

4) Key achievements, announcements, launches, agreements, and commitments

Digital technology and commerce, if it remains un-checked, will result in rapid exponential changes affecting Man, and the current state of human biology is not ready to accept and deal with such a rate of change, and in turn the techno induced stress; and hence this could result into a broad decay of health and wellbeing.
Talking about a digital, post-digital world, the main concern is the habeas corpus petition; to restore the constitutional guarantee of freedom which can be violated. In a post-modern era and a post-digital reality where privacy, confidentiality and digital freedom are in danger, people are commodifying themselves to achieve the great digital technological venture; only this venture remains under no control and restrictions. Therefore, the risk of digital entrapment is exactly the reason why the habeas corpus petition would be invoked. Specific legislation policy in cyberspace is needed to reform the digital entrapment risks.

5) Main outcomes highlighting the following:

I.Debated Issues

Information is built on top of single or aggregation of data, for quite a long-time people use to think that cyberspace is a “black hole” without memory where you pour data without any side effect. Young generations shared online sensitive information to access a videogame or chat with friends or more recently posted images and clips about their private life.

In the “Appification” era there are almost no limits to data collection and reuse, “someone” knows exactly where you are now and where you have been, APPs may collect your medical data, fitness program, your expenses or collect and analyse your contacts, your photos or video clips. In recent times crowd data collection, open and big data, more or less anonymised, provided the big framework.
Privacy has many dimensions, from concerns about intrusive information collection, through to risks of exposure, increased insecurity, or interference in their decisions that individuals or communities are subjected to when their ‘private’ information is widely known. Privacy is generally linked to individuals, families, or community groups, and is a concept that is often used to demarcate a line between a ‘private’ and ‘public’ sphere.

We live in a world in which there are already countless sensors and smart objects around us, all the time. The car we drive, the phone in our pocket, our wristwatch, the clothes we wear, are smart and connected, then the concept of “private” becomes far more ephemeral. This is not enough, what it is not collected by APPs it will be collected in a seamless mode by IoT; of course, IoT will add a lot to our life, but this will cost us a significant part of our privacy.

Home assistant appliances like Alexa, wearable devices like smart watches, bracelets are becoming pervasive as well. Cyber technology is increasingly merging any sector of our daily life, we are witnessing relevant changes due to both technological enhancements and modification of user requirements/expectations. Freedom of expression is endangered due both to governments and social media and news platforms.

However, Google, Facebook, Twitter, Apple, Microsoft, Amazon, and any of the other hundreds of

companies that can and do collect data about you can use “your” data for all kinds of amazing things. In the “datafication” era there are almost no limits to data collection and reuse; “someone” knows exactly where you are now and where you have been, APPs may collect your medical data, fitness program, your expenses or collect and analyse your contacts, your photos or video clips, access your smartphone camera and microphone. What about the push message asking to provide details about your activities yesterday evening, something that your digital “buddy” was unable to trace? Your bank will suggest, accordingly with some intelligent algorithms the average monthly expenses due to profiles matching with yours and send an alert if you are exceeding the limit. Computer vision will enable your smartphone to identify every single person in a group you photographed and video analysis plus 3D real-time modelling enable intelligent optimisation algorithms to improve human performances, wearable sensors and IoT complete the schema.

Don’t you feel framed by such an “intelligent” environment? Social and communication media complete the panorama adding a “private depth” to the general fresco, ad-hoc defined tweets or posts may collect and analyse users’ feedbacks to guide or anticipate citizens ’actions and feelings. Online malls and delivery platforms offer, in addition, to analysing your browsing, the opportunity to save a “wish list” to better focus on the market trends. So, again don’t you feel framed?

- Please capture highlights of the main issues discussed and interactions with audience

Privacy, security, ‘cyber-commercialization’, surveillance; there is a need to re-design of technology to reflect the natural world and not only cyber commercialization; data collection and (mis-) use for economic and political gains that do not include those originally posting the data. We need cyber-legal frameworks for legal recognition of digital presence as a legal entity.

While majority of the panellists focused on the need to tame unchecked technology, and privacy issues and a vital connection that has been lost:

- a connection between nature and humans
- digitalization and human conscience
- cyberspace and its criminal activity that stays uncontrolled

A fellow presenter though highlighted the positive effect of cyber world and its empowering tools with which we can access the users’ demands and integrate them to the cyber world.

Entrapment is certainly an important topic. Digital will most probably and desirably not replace the real world; and the real touch between human beings will remain most important.

- Please highlight key achievements and challenges shared by the audience and/or panellists

Health and wellbeing must be at the forefront of new design of technology, and technologies need to be redesigned with tight cooperation and inputs of health care and artistic practitioners. A new collaboration between globalization, IT designers are needed to ensure Nature is seen as a well spring of abundance, and not as a depleting resource to be further exploited.
Law and regulations are not forerunners, will always lack at the appearance of new technologies, and in many cases, they will not solve the problems deriving from over extended digital use or from misuse like hacking and fraud (fake news, alternative facts etc.) but they will always represent the proper approach.

II. Quotes

- Please provide two important quotes from the session and the names & organisations of the person you are quoting

"We need to restore a proper balance between humans, related rights and cyber technologies" – Alfredo M. Ronchi, MEDICI Framework

"A tight interaction between digital media and machine learning can deeply influence our perception of reality, massive consume of information can expose to "nudging" and misinterpretation of reality." - Alfredo M. Ronchi, MEDICI Framework

"Cross analysis of data we generate everyday may led to unpredictable outcomes." - Alfredo M. Ronchi, MEDICI Framework

"Cut the sugar out of the cookies (internet) or cancel the cookies (in order to redesign a better browser experience". Ranjit Makkuni, www.ranjitmakkuni.world, New Delhi, India

"Reparations by IT companies for stealing people's attention". - Ranjit Makkuni, www.ranjitmakkuni.world, New Delhi, India

"When the history of computing will be written, it will state that "the 2020s was an era when Computing got sick!" - Ranjit Makkuni, www.ranjitmakkuni.world, New Delhi, India

"Digital Content Storage [is increasingly subject to] inexplicit mining and exchange… and the objectives of the data collectors… [show that] online data is an economically [and politically] valuable resource to be taken and [re-] used" - Lynn Thiesmeyer, Keio University, Japan

"Who has the power to decide and to enforce permissions and restrictions on predatory data collectors, now that [misuse of personal and corporate data] is threatening national and regional economies… and sustainability?" - Lynn Thiesmeyer, Keio University, Japan

"The 'privacy' concerns here illustrate the reverse of the saying that "the personal is the political": Digital privacy issues reveal that the political is also the personal." Lynn Thiesmeyer, Keio University, Japan

"When one uses the habeas corpus petition, what they want is to restore the constitutional guarantee of freedom, which could be violated." - Maria Ioli Amanatidi, Net Technologies, Finland

"Digital entrapment is also why the actual habeas corpus meaning should be identified in the cyber law, as the legitimization of one's own digital body with no ability to be violated." - Maria Ioli Amanatidi Net Technologies, Finland

"My key claim was that we spend a lot of public money on Cyber defence, whereas the Cyber risk are relatively small. I was showing latest low figures of a few hundred cybercrimes reported but on the other hand 8.1 mio. Users use the technologies in a positive way." – Christoph Glauser, IFAAR, Switzerland

"I was pointing to the fact, that thanks to computer science, Switzerland managed to handle the pandemic in a quite reasonable way, including with a functioning COVID App."– Christoph Glauser, IFAAR, Switzerland

III. Overall outcomes of the session highlighting

- main conclusions reached during the discussion

The majority position is that technology' de-merits, if not carefully monitored, could outweigh the merits.

1- Digital Content Storage and "Inexplicit Mining and Exchange" = Extraction.
At global level in terms of ordinary users, individual and groups, businesses, and public institutions such as hospitals, their data and their accessed sites and contacts are available both to seen and unseen collectors, vendors, buyers, and re-users, including those who keep them under surveillance.
In Asia, these include government agencies and other authorities. This can be termed 'digital capture' and 'capture of digital resources. Ordinary persons, groups, and businesses may avoid "veiled" or extra-step internet usage practices that make it cumbersome or discommoding to check one's viewers. Well-known examples are the promotion and sale of online accounts with providers and platforms which ask for increasing amounts and types of personal data to 'secure the account'; and cookies, which are sponsored by or shared with Website sponsors, but whose ultimate destination may be unknown to the site's users.

2 - The Economy of Data Collection - External collection, use and sale of data, incl. personal and financial, is good for businesses, both legitimate and illegitimate

- Who are the external collectors and what are their objectives or intentions?
- Some systems allow the collection of large volumes of data from many sources, including geographically remote collectors from nations and groups that have already been cited for hacking and financially profiting from abuses of user data
- These have advanced along with the advances in Cybertechnology but are based in the objectives and intentions of the data providers and collectors.
- The linear economy of "make - take – use," of which Cyberspace is an important part, has made online data a resource to be taken and used, a valuable asset.
- What data you seek, and take is determined by your objectives: assets you can obtain and can then use to obtain further assets. These may be direct financial assets, or assets that indirectly lead to financial profit such as the use of collected data for the removal of competitors and opponents.

3 - Digital Economies and Power - The next 2 sections focus exclusively on Internet surveillance and control of access by some governments and other authorities in the Asian region.
In some of the countries referenced here, there is 50% or less Internet penetration rate, but this leaves a large population of nearly 2 billion who use Internet / broadband through WIFI that is partially or wholly owned by the State. Those who post or contribute data to websites, access WIFI for mobile devices, or share contents personal media are more vulnerable to governing authorities' and other predatory data collectors.

4 - Consequences of Digital Entrapment - Where governments are unable or unwilling to formulate and implement laws regulating the collection and use of online sources, who has the power to decide what data are collected, recorded, misused, or sold? And who can decide what may not be collected, and can enforce such decisions?

The collection of large volumes of data from innumerable sources, including country-external sources, may be external to the platform or Website and their providers and external to their intentional agreement. Or it may be 'by agreement' with the end user:

1. Data collection tools like Webcrawlers, Webscrapers, and analytical data mining software may perform intentional and active data collection external to the communication platform, its subscribers, and their intentions / objectives, or to their agreement to the site's privacy policies. The power to decide is not with the end user.
2. Media and communications platforms based on open systems make it clear that posted data is collected. From the point of view of users / subscribers, this data collection may not agree with their own intentions, but by using the site they are agreeing to its posted policies. The power to decide is believed to be with the user. It is difficult or cumbersome for the user to remain constantly aware of frequently changing agreements and to implement the necessary checks and declines.

There are regional economic consequences to digital capture and internet shutdowns, which have quantifiably impacted business activities and public or public – private institutions including banks, financial markets, and cross-border production and procurement in the regions mentioned above.
"Privacy" and security may have become more elusive through Cybertechnology, but CyberTech needs WSIS' diverse capacities and input to work on these issues in all parts of the world:

・more precise definitions of privacy and security,

・more targeted legal recognition of these issues and relevant regulations, and

・more open Cyber-development, for more open objectives.

The need to address the question of artificial intelligence, machine learning, avatars, and others cyber objects as legal digital entities with definable responsibilities. That means to provide a digital identity to each of such objects as we do in case of citizens.
We need to better address, at global level, the issue of data harvesters using one's consent for purposes that exceed that consent and how this needs to be structured and limited more efficiently.
We need to better consider the economic relations between end-users, technologies and the businesses that post advertisements and harvest the viewing data to propose something like reverse cookies, which has also not been well considered in the use of digital media.
Safety regulations and legislation policies need to be developed for the new digitalized era to be and feel safer. Also, the citizens can be asked to have a holistic overview of what is missing/ needed.
Panellists agreed on the fact, that education is one of the most important possible problem-solving factors for the future use of digital technologies.
Digital entrapment can be problematic and contains risks, but also chances, education is key for the resilient use of digital technologies

・the vision for implementation of WSIS Action Lines beyond 2015
Redesign browsing tools with the goal of individual as customer of the technology, i.e., for self-learning and freedom, and not for the Advertiser as the main beneficiary of the technology; and to start educating people at classroom levels about the demerits of technology.

The education of people and especially the youth who is born within the pool of technology is a priority. There must be a concrete and comprehensive way for the people to not lose their freedom inside cyber-world yet be safe and secured from digital risks and entrapments.

6) Emerging Trends related to WSIS Action Lines identified during the meeting

C4: Capacity Building, especially for the legal frameworks. C5: Security in using ICTs, especially for political, economic, or other potential misuse of online data. C10: Ethical dimension, including issues of privacy, rights, and trust or lack of them.

The habeas corpus legal term for the legitimization of technology and digital ways through digital legislation to bring an outcome of fortification.

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

We suggest to setup a panel of interdisciplinary experts (philosophers, humanists, economist, technologists, sociologists, politicians, etc.) to discuss about the future trends of society and where the digital transition will take us considering the impact on society, cyber ethics working positions, education, human relations, distribution of wealth, health, and wellness, etc. In addition, some more aspects must be considered both at local and global level: the spread of metaverse, human isolation, and the splinternet trend associated to cyber- sovereignty and homeland concept.

We suggest redesigning a smart city finding a new paradigm in digital surveillance.

We suggest redesigning education.

- Education of Digital Era modes
- Specific tools to obtain safety
- Transparency yet Privacy

It would be interesting to focus on technological “chances” instead of just the “risks”, to develop a digital resilient future democratic society

10) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

We suggest improving the alignment of Action Line 7 e-environment with SDGs 11, 12, 13, 14, 15. Speakers (Pavan, Maria and Lynn) spoke about the need for the law field to catch up with the current state of digital surveillance, identity related abuses, and issues of free speech.

First, one growing opportunity is the appropriate use of ICTs for development and for inclusivity of nations and regions. WSIS has promoted actions and policies for the inclusion of Least Developed Countries and developing countries generally, as is seen in this year’s (2022) Forum. But as the Internet and its providers are transboundary entities, national access, or denial of access – inclusion or exclusion -- within any country also affects an entire region and beyond. The impacts of digital exclusion are now seen upon individual citizens, but also upon international markets, financial institutions, and regional economic development. WSIS as a truly “World” summit should develop and strengthen international protocols on issues of digital exclusion and their extremely varied causes.

Second, work on hybridity – the potential of ICTs and of tech in general – to work non-hegemonically with populations that have and wish to maintain their traditional technologies, shows great potential. Further discussions of “low-tech no-tech” and “low-code no-code” showcase opportunities to benefit all societies, not only the least-developed. In addition, hybridity between ICTs and traditional tech can assist in sustaining the impetus for democratization and de-colonization of technology.

The challenges for the upcoming years are the ways to sustain the humanitarian part and the inviolable right to freedom and personal privacy in an era of unlimited supply of information and technological ventures. The need to find a proper balance is omnipresent. Social sciences and humanities must establish a tight cooperation in designing or co-creation of cyber technologies always keeping humans in the loop.

Digital Inclusion for Persons with Disabilities

Workshop Name: Digital Inclusion for Persons with Disabilities

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/208

Organization: ITU Regional Office (CIS Region)

Date: Wednesday, 6 April 2022

The Digital Technology Sector and Good Trade: A Focus on Decent Work in Africa

Workshop Name: The Digital Technology Sector and Good Trade: A Focus on Decent Work in Africa

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/218

Organization: UN International Trade Centre

Date: Tuesday, 12 April 2022

Urgently penetrating low-cost dependable broadband to isolated communities

Workshop Name: Urgently penetrating low-cost dependable broadband to isolated communities

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/222

Organization: Global Plan Inc.

Date: Wednesday, 20 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C2. Information and communication infrastructure
C3. Access to information and knowledge
C6. Enabling environment
C7. ICT applications: benefits in all aspects of life — E-learning
C7. ICT applications: benefits in all aspects of life — E-health
C7. ICT applications: benefits in all aspects of life — E-environment
C8. Cultural diversity and identity, linguistic diversity and local content
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 1: End poverty in all its forms everywhere
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3: Ensure healthy lives and promote well-being for all
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 10: Reduce inequality within and among countries
Goal 11: Make cities inclusive, safe, resilient and sustainable
Goal 13: Take urgent action to combat climate change and its impacts
Goal 16: Promote just, peaceful and inclusive societies
Goal 17: Revitalize the global partnership for sustainable development

3)Did your workshop highlight any issues related to COVID-19? If yes, please explain.

Connecting the remaining 2.9 billion people of the globe to the Internet is urgently required to counter the threat of COVID-19 Pandemics.

For rapidly and globally deploying broadband infrastructure in remote areas in developing countries, it is important to know the strengths and weaknesses of Optical Fibre, Low-Earth Orbit(LEO) Satellite, and Fixed Wireless(FW) technologies for best selecting them for the difficult social and natural environment. Session 222 tried to understand the technologies, needs of developing countries, standards, and strategic approaches for the mass deployment of the connectivity.

4)Key achievements, announcements, launches, agreements, and commitments

Connecting all the world's population to the Internet reduces the social loss from pandemics, disasters, inequality, and attempts to change the status quo by force through global cooperation and opinion formation. An unprecedentedly wide range of stakeholders has been invited to session 222, a fiber expert, a satellite expert, a fixed radio expert, a standard expert, developing country users, and an influencer/the advocator of public interest capitalism.

A fibre optic solution meeting new ITU-T Recommendations L.1700*, L.110, and L.163 was presented as the unprecedentedly cost-effective key solution to connect all, that could be complemented by LEO satellite and FW technologies case by case.

*L.1700: Requirements and framework for low-cost sustainable telecommunications infrastructure for rural communications in developing countries

New economic principles, such as public interest capitalism, may help connect all, in addition to shareholder capitalism and the use of constrained funds/grants.

Local stakeholders need to proactively select the suitable technology in a needs-sensitive holistic manner: it affects the community's future.

5)Main outcomes highlighting the following:

I. Debated Issues

- Please capture highlights of the main issues discussed and interactions with audience
- Please highlight key achievements and challenges shared by the audience and/or panelists

Sustainable operation of fibre connectivity is not always easy in economically difficut areas. Nepal ICT4D is interested in online businesses such as online tourism (see QR slide 21), online disaster prevention, and online emergency aids including the use of drones. The revenue can be used for maintenance, and public purposes such as e-Leaning, e-Health, and e- prevention/relief of disaster in isolated villages scattered along with the fiber lines.

II. Quotes

- Please provide two important quotes from the session and the names & organisations of the person you are quoting

- ITU-Standardized Affordable All-Terrain Optical Fibre Connectivity

Haruo Okamura, Global Plan Inc. Japan

- Enriching lives of People in Developing Countries through Public Interest Capitalism

George Hara, Chairman of the Alliance Forum Foundation(AFF), USA and Japan

III. Overall outcomes of the session highlighting

- main conclusions reached during the discussion
- the vision for implementation of WSIS Action Lines beyond 2015

Toward realizing the truly global Information Society, the following points were recognized as useful during/after the session.

(1) The low-cost optical fibre solution meeting new ITU-T standards L.1700, L.110, and L163 was installed by non-skilled local people: CAPEX was reduced by 88% from a conventional cable solution. The ITU-D Rural Connectivity Group reported that the above ITU Standards are the most popular and useful in addressing rural connectivity.

(2) The LEO satellite solutions are characterized by e.g, the data rate per user, beam coverage, availability, sustainability, life, and user fee. The LEO projects with, e.g., 12,000 satellites/10 BUS$ (Starlink), and 298 satellites/5 BUS$(Telesat) still have unknowns: global consensus/alliance/competition. Starlink launched 49 satellites in 2022 but 40 were doomed.

(3) The challenges of the FW solution identified are the rapid deployment of high-speed, flexible, scalable, and reliable backhaul networks with optimized CAPEX and OPEX. It covers 60 % of the global connectivity in length today: the ratio might be maintained for a while if the budget allows. An example transmits 1 Gbps X 2-4 channels over tens of kilometers.

(4) Head, Africa Alliance for Affordable Internet stated that Only 1 out of 50 people in LDCs are connected to meaningful connectivity.

(5) The chair of ITU-D Rural connectivity stated the reduced CAPEX of fibre rural connectivity of 10.000 to 5,000 US$/km is still expensive but encouraging. Not only infrastructure but also local content on e-health, e-Education, etc. is important.

(6) Nepal stated the fiber solution was installed in the west part (10 km) and, the east part (42 km, ongoing) of the Himalayas; local communities well accepted. Microwave solutions are hoped to be affordable/scalable with ease of maintenance; the battery at low temperature is an issue. The synergy of fibre, LEO, and FW solutions is anticipated.

(7) As an example of the public interest capitalism presented by Ambassador Hara, 40% of the business profit from for-profit companies was distributed by NGOs for public services. In 2005, the World Bank introduced this business model for its potential to improve the standard of living in Bangladesh.

6)Suggestions for thematic aspects that might be included in the WSIS Forum 2023

A thematic aspect could be the complimentary use of low-cost, dependable, and sustainable broadband solutions for urgently connecting all that conquer difficult natural and societal environments including changeable terrain.

7)Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

COVID-19 and War in Ukraine drastically increased the need for building an inclusive information society, where global cooperation and public opinion formation should be possible with the participation by all: implementation of WSIS Action Lines 2 is critically important.

Tackling disasters and reducing risks through awareness of citizens

Workshop Name: Tackling disasters and reducing risks through awareness of citizens

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/224

Organization: Asia Pacific Broadcasting Union for WBU

Date: Tuesday, 5 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C2. Information and communication infrastructure
C3. Access to information and knowledge
C7. ICT applications: benefits in all aspects of life — E-environment
C7. ICT applications: benefits in all aspects of life — E-science
C9. Media
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 3: Ensure healthy lives and promote well-being for all
Goal 11: Make cities inclusive, safe, resilient and sustainable

3)Key achievements, announcements, launches, agreements, and commitments

The best form of prevention for Disaster risks reduction is to create awareness among the citizens of a given community and the most efficient way to reach these citizens is through education -for those still going at school- or through media : mass media and personalized media."
So during the session partners have presented some best practices example of how to make this possible.

UNDRR and ABU/WBU presented the project MEDIA SAVING LIVES, now in its second phase, that is aimed to train TV and radio professional from 100 media organizations across 4 continents (Asia, Africa, Australia, Americas) to understand how to deal with situation of emergency and natural hazards.
ITU has presented the Disaster connectivity maps, that are a tool that allow to retrace situation of telecom and internet connectivity in most of the regions of the world, so that –in case of emergency- immediately can be identified where most of the damages are and will help to plan where and how to re-establish the lost connections.

EBU announced that they are working on a future resilient information system that will use more systems in parallel (TLC, broadcast radio and tv, mobile, fixed lines,) in order to guarantee that coverage

could be guaranteed even in extreme situation h24 and 7on7.

WMO presented its strategic plan to improve relationship between National Meteorological and Hydrological services and media at national level, because this is the weakest link in the communication chain.

Ron Salaj from Turin University and Impact skills presented a bottom-up experience of citizen science, where the habitants of Pristina in Kosovo have been involved in a research experience, where themselves were collecting and providing data, to supply the absence of initiative from the local authorities. A model that could be replicated in other DRR experiences.

4)Main outcomes highlighting the following:

I. Debated Issues

- Please capture highlights of the main issues discussed and interactions with audience
- Please highlight key achievements and challenges shared by the audience and/or panellists

II. Quotes

- Jeanette Elsworth (UNDRR) remember the quote of UN SH Guterres that at the last IPCCC report presentation few weeks ago told that in only few years –if humanity will not react- there will be" 1 million of animal species extinct and some of the major coastal cities of the world underwater". In order to prevent that risk we need to act now at all level.

- Natalia Ilieva (ABU/WBU) stressed that we need to use the "quiet time" between a disaster and another , to educate and prepare citizens to be ready in case of emergency.

- Samuel Muchemi (WMO) mentioned that his organization was working in 70 countries of the world across 4 continents, to reinforce the relationship between National Met offices and local media, in order to be able to reach each single citizen.

- Antonio Arcidiacono (EBU) remembered that during the last summer flash floods in Central Europe there was not mobile communication in function during the emergency and the only way to reach population in danger was radio signal. A lesson to be learn from that is that future spectrum allocation needs to keep this reality in account.

- Vanessa Gray (ITU) announced that ITU will double its effort in convincing countries that have not yet signed the Tampere convention (on emergency telecommunication -1998) to do it as soon as possible, because the multiplication of natural hazards shows how important such move is.

- Ron Salaj (Univ. of Turin and Impact skills) suggested that bottom-up experiences like the one he animated in Kosovo for UNICEF could be more and more in future a model, a way to involve citizens in the shaping of policies that concern their future and their life environment.

- Eliot Christian (expert) remembered that last year at WSIS was launched an appeal for a global adoption of CAP (Common Alert Protocol) to be used during crisis and stressed the importance to arrive soon to this result.

III. Overall outcomes of the session highlighting

- main conclusions reached during the discussion

all these best practices experiences need to be reiterated and reinforced in future and spread around.
GP 2022 DRR in Bali in may needs be a turning point to relaunch DRR action plan and needs to integrate media in its scope and objectives
Tools like the Disaster connectivity maps need to be implemented and extended to all regions of the world.
Next ITU World Radio Conference 2023 will have to carefully consider the future allocation of spectrum resources, taking in account the growing needs of communication during natural hazards.

5)Emerging Trends related to WSIS Action Lines identified during the meeting

The progressive integration of DRR action lines, ITU emergency communications and IPCCC climate change commitments is one trend that needs to be considered and integrated in future strategies of these 3 areas.

6)Suggestions for thematic aspects that might be included in the WSIS Forum 2023

For sure, in WSIS 2023 the same topics will have to be discussed again to make the point on improvement that have eventually been registered in the DRR strategies and action plans.

7)Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

Based on the discussion within this workshop, DRR and Climate change issues need to have a permanent and larger dedicated space where ICT based, and innovative solutions could be presented and proposed to the attention of WSIS audience.

Cross-cutting session: Digital transformation beyond the COVID-19 pandemic

Workshop Name: Cross-cutting session: Digital transformation beyond the COVID-19 pandemic

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/227

Organization: ITU Regional Office (Europe) - UNECE

Date: Friday, 1 April 2022

Accelerating digital development through multistakeholder partnerships

Workshop Name: Accelerating digital development through multistakeholder partnerships

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/229

Organization: ITU Regional Office (Europe), UNECE

Date: Wednesday, 6 April 2022

The Global Call to Action on Emergency Alerting

Workshop Name: The Global Call to Action on Emergency Alerting

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/238

Organization: Alert-Hub.Org CIC (Community Interest Company)

Date: Tuesday, 19 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C2. Information and communication infrastructure
C3. Access to information and knowledge
C4. Capacity building
C6. Enabling environment
C7. ICT applications: benefits in all aspects of life — E-government
C8. Cultural diversity and identity, linguistic diversity and local content
C9. Media
C10. Ethical dimensions of the Information Society
C11. International and regional cooperation

Despite today's amazing telecommunications services, too many people in harm's way still do not get timely and effective emergency alerts so they can protect lives and livelihoods. This is largely because traditional emergency alerts are bulletins or press releases, composed of unstructured text and not well suited to automated processing. Timely and effective emergency alerting across all media only became feasible in 2001, when the international standard Common Alerting Protocol (CAP) was agreed.

Today, 74% of the world's population lives in a country with at least one national CAP news feed operating (see report and map). Yet, a large percentage of countries without CAP are "developing countries". Sadly, those countries are especially vulnerable to disasters. Recognizing this CAP implementation gap, international organizations, international NGOs, and international companies involved in emergency alerting are urged to endorse the Call to Action on Emergency Alerting:

> To scale up efforts to ensure that by 2025 all countries have the capability for effective, authoritative emergency alerting that leverages CAP.

The Global Call to Action on Emergency Alerting is primarily focused on transforming traditional emergency alerting practices to leverage modern ICTs, especially digital techniques and electronic networks, including internet, radio, television, mobile phones, and satellites, et al.

Given the primary role of governments in official public alerting and the gap in uptake by developing countries, this session links to WSIS Action Lines: C1, The role of governments and all stakeholders in the promotion of ICTs for development; and C7, ICT applications: benefits in all aspects of life—E-government. This linkage is especially in terms of WSIS Action Lines: C2, Information and communication infrastructure; C3, Access to information and knowledge; and C4, Capacity building. Because public alerting of emergencies deals with life-critical information and is a potential target for malicious disruption and disinformation, the session links to WSIS Action Line C5, Building confidence and security in use of ICTs.

The CAP-enabled emergency alerting infrastructure is already being exploited as an Enabling environment, so the session links as well to WSIS Action Line C6.

Among the ongoing challenges in public alerting of emergencies are assuring that the message is understandable and actionable, and focusing on how to improve service to underserved segments of society. These challenges link this session to WSIS Action Line C8, Cultural diversity and identity, linguistic diversity and local content, and to WSIS Action Line C10, Ethical dimensions of the Information Society.

Throughout the alert origination and dissemination activities, emergency alerting of the public should be seen as a partnership between many actors, including government, NGOs, civil society, and many commercial organizations as well. This is especially the case for the news media, including "new media" as well as traditional broadcast radio and television. Accordingly, this session links strongly to WSIS Action Line C9, Media.

The Global Call to Action on Emergency Alerting is scoped to cover all societies worldwide. In that regard, this session is inherently linked to WSIS Action Line C11, International and regional cooperation.

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 11: Make cities inclusive, safe, resilient and sustainable
Goal 13: Take urgent action to combat climate change and its impacts
Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

Among the Sustainable Development Goals (SDGs), this session is primarily linked to Goal 11: Make cities inclusive, safe, resilient and sustainable. That is because the vast majority of emergency situations requiring public alerts occur at the scale of local communities and cities.

Experts studying Climate Change caution that weather-related hazard threats are becoming even more severe and more frequent over the coming decades. That reality makes it all the more important to enhance emergency alerting in societies worldwide, and links this session to Goal 13: Take urgent action to combat climate change and its impacts.

An enhanced emergency alerting infrastructure can help with Goal 14: Conserve and sustainably use the oceans, seas and marine resources and with Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss. A specific example is the use of CAP in the

European SAFERS project, which is focused on emergency alerts for forest fires.

3)Did your workshop highlight any issues related to COVID-19? If yes, please explain.

As the COVID-19 pandemic unfolded across societies everywhere, it became apparent that public alerting with regard to matters of public health lags behind alerting for hazards such as severe weather. This is especially the case at international levels.

4)Key achievements, announcements, launches, agreements, and commitments

World Meteorological Organization (WMO) addressed its expected proposal of a severe weather warning enhancement project at the upcoming Climate Change "Conference of the Parties" (COP 27). This project was requested of WMO by the UN Secretary General, Antonio António Guterres: "to ensure every person on Earth is protected by early warning systems within five years". BBC reports this will be a 1.5 billion USD project. This project should build on the worldwide CAP infrastructure long advocated by WMO and reinforced by the Global Call to Action on Emergency Alerting.

World Broadcasting Union (WBU) asserted that national broadcast media, especially the public service broadcasters, are seen by the population as a reliable and trusted source of information. WBU reported that CAP is often an entirely new concept for media organizations, but they are embracing it with great enthusiasm. Media can play a crucial role by introducing CAP to the general public, promoting its benefits and helping spark public demand for CAP implementation.

United Nations Office for Disaster Risk Reduction (UNDRR) noted that the fundamental objective of any early warning system is timely and actionable messaging, with the ultimate goal to save lives. Target G of the Sendai Framework calls for nations to substantially increase the availability of and access to multi-hazard early warning systems. Obviously, people need to receive and understand alert messaging, but they need to be ready to deal with it as well. People also need to get coherent messages from trusted authorities, right down to local community leaders that might have been trusted for decades. CAP is very helpful in these aspects of emergency alerting.

International Telecommunication Union (ITU) promotes CAP as one of the key recommendations in its Guidelines for countries developing their National Emergency Telecommunication Plans. ITU also promotes CAP through regional and national trainings, on demand from countries and in cooperation with other organizations or preparedness activities. ITU also includes key recommendations on CAP implementation in the Roadmap for Digital Cooperation initiative. Launched in 2020, this UN initiative seeks to bring together stakeholders for a safer, more equitable digital world, and it includes emergency telecommunications as one of its action areas.

International Federation of Red Cross and Red Crescent Societies (IFRC) reported that the global Red Cross Red Crescent network continues to strengthen and expand the use of CAP globally. The IFRC Alert Hub is an important initiative in that regard. IFRC also notes that inadequate communication infrastructure

remains a challenge in many parts of the world. In addition, emergency alerting in many communities is not met with a willingness to take action. This dire situation underscores the necessity for IFRC to increase its awareness raising and advocacy.

The session chair relayed the statement by Traveller Information Services Association that a mature and ISO-standards-based technology, embedded in millions of devices, enables CAP alerts to be sent directly to in-vehicle navigation systems, such as Garmin, Tom-Tom, and the navigation systems specific to different car manufacturers worldwide. These alerts inform drivers so they can reroute to avoid danger areas.

5)Main outcomes highlighting the following:

13) Debated Issues

All five panellists, the session chair, and multiple participants expressed great enthusiasm for CAP implementation as an essential step toward effective and efficient emergency alerting in societies worldwide. In addition to specifics cited by panellists as noted elsewhere in this report, the chair summarized activities and suggestions expressed by the other fourteen signatories to the Call to Action on Emergency Alerting.

One participant noted that systems exist for disseminating loss estimates after each significant earthquake worldwide and asked if these loss estimates should be disseminated as CAP alerts. The session chair advised against that idea, because loss information is not well aligned with CAP alert components. However, the chair encouraged loss estimation practices to leverage CAP alerts as input to their analysis of emergencies, especially in the context of compound emergencies. In such cases, multiple separate consequences can be seen as linked to each other by analysing sets of published CAP alerts that are nearby in place and time. Associating events through this kind of pattern recognition is typically based on Geographic Information Systems (GIS) and might include artificial intelligence techniques as well.

14) Quotes

"ensure every person on Earth is protected by early warning systems within five years."
(António Guterres, UN Secretary-General 23 March 2022)

"Let's build out a future where CAP-enabled alerting becomes a humanitarian feature of all major cloud services and computer operating systems worldwide." (Vint Cerf, ICT visionary 23 August 2021)

"We need a culture of bringing communities together so that they are actively engaged in creating a solution and not feeling like there's something being delivered from somewhere else."
(Janet Elsworth, UNDRR 19 April 2022)

15) Overall outcomes of the session

The session raised awareness of the benefits of CAP-enabled emergency alerting, and highlighted some challenges yet to be overcome in assuring those benefits are realized in all societies worldwide. The WMO

panellist noted the UN Secretary-General, António Guterres, recently tasked WMO to lead an effort in collaboration with other UN agencies to address the gap in early warning access and present an action plan to achieve the goal that Early Warning Systems protecting everyone within five years in Egypt this November. The session will hopefully further invigorate the spirit of cross-sector collaboration that has been a key success factor in CAP uptake over the past twenty years. It remains to be seen if the session engenders additional endorsements of the Call to Action on Emergency Alerting by other international organizations, international NGOs, and international companies involved in emergency alerting.

6)Emerging Trends related to WSIS Action Lines

The topic of this session was timely, authoritative, effective, and standards-based emergency alerting across all media and available to all societies. That broad topic touches on a few of the emerging trends related to WSIS Action Lines that were identified during the 2021 WSIS meetings, and surfaces three additional emerging trends.

The previously identified emerging trend of Artificial Intelligence can be leveraged to improve early warning of many types of hazards and to reveal geospatial and temporal associations among emergencies. The emerging trend of Internet of Things (IoT) is very applicable as CAP-enabled systems leverage IoT for controlling sirens, traffic control devices, bed shakers and many other automated devices that save lives in major emergencies. Another previously identified emerging trend concerns the ever-increasing use of ICTs in government services, and this is certainly the case for emergency alerting, given the primary role of governments in this realm. In particular, an acceleration of this emerging trend is needed in least developed and developing countries. This is paired with the more general emerging trend of capacity building and the strengthening of information and communication infrastructures. Here, too, acceleration of this previously identified emerging trend is crucial for least developed and developing countries.

One additional emerging trend is the increasing challenge to build confidence and security in use of ICTs, especially with regard to the content carried by ICTs. There is a growing realization that such content implies ethical, and in some cases legal, responsibilities for the operators of ICT infrastructure and platforms such as social media. This has become readily apparent in cases of malicious disinformation, hate speech, and of course cyber warfare. It is easy to foresee that public emergency alerting is a potential target for malicious disruption and disinformation, with resultant loss of life.

A second additional emerging trend is the increasing use of digital data and techniques by the Media, especially traditional, over-the-air broadcasting such as radio and television. Emergency alerting of the public has leveraged such "mass media" for decades. In many societies it is supported by a vast public-private partnership that continues to consume huge investments in specialized networks and technologies. Yet, many people are missing public alerts carried by mass media because they are increasingly using online media such as streaming services, apps, and the like. Broadcast media, and especially broadcast news organizations, are making ever more use of CAP alerts and Internet technologies to reach online users.

The third additional emerging trend surfaced in this session is the increasing use of the Mobile Network technology as a very effective "last mile" dissemination method for public alerts of emergencies. Here we

can note that EU Member States are now required to ensure that public warnings are transmitted by Mobile Network Operators. Although the location-based Short Message Service of mobile networks is commonly used to send public alerts, the alternative Cell Broadcast capability of mobile networks is growing rapidly. The Cell Broadcast technology provides dissemination within seconds, and has much more extensive reach because it reaches every cellular phone regardless of its subscriber status.

7)Suggestions for thematic aspects that might be included in the WSIS Forum 2023

One thematic aspect in the WSIS Forum 2023 should be enthusiastic support of the call by the UN Secretary General: "to ensure every person on Earth is protected by early warning systems within five years". This is an expansive vision and is set to be a huge undertaking with implications on many aspects of ICTs worldwide. It is also very clearly a crucial aspect of the world's Information Society. Part of the WSIS role would be to assure that initiatives to achieve the objective align with core WSIS principles, including the leveraging of de jure international standards such as CAP. This theme would highlight the role of ICTs in providing the infrastructure for public alerting of emergencies. In many countries, broadcast radio and television have specific responsibilities for public alerting as a condition of their licensing, and the standard specifications for mobile network devices include provision of an emergency channel. Yet, users of online media have been missing emergency alerts because the particular technologies in use do not specify such a public alerting feature.

8)Towards WSIS+20 and WSIS beyond 2025, views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date

The following comments relate only to the WSIS Action Lines relevant to the topic of this session: all-hazards emergency alerting across all media and available to all societies worldwide.

It appears that much more needs to be done in developing countries with regard to: Promotion of ICTs for development (Action Line C1); Information and communication infrastructure (Action Line C2); Access to information and knowledge (Action Line C3); Capacity building (Action Line C4); and, Realizing the benefits of e-government (Action Line C7).

As noted elsewhere, all societies need to ramp up efforts for Building confidence and security in use of ICTs (Action Line C5). This is especially worrisome for public alerting of emergencies because of their high profile and their potential vulnerability to malicious disruption and disinformation.

Progress has been quite good with regard to the CAP-based emergency alerting infrastructure leveraging ICTs as an Enabling environment (Action Line C6). However, there is a certain tension between the centralized, proprietary approaches common among social media platforms and the inherently decentralized, protocols-based approach used in the CAP architecture. This tension should be cautionary for governments in satisfying their legal and policy requirements with regard to public alerting records.

It is heartening to see that many international institutions are aware of aspects of emergency alerting that focus on assuring that messages are understandable and actionable, and that focus on how to improve service to underserved segments of society. These aspects touch on WSIS Action Line C8, Cultural diversity and identity, linguistic diversity and local content, and WSIS Action Line C10, Ethical dimensions of the

Information Society.

It is also heartening to see the growing awareness of CAP-enabled public alerting among news media, including "new media" as well as traditional broadcast radio and television. However, much remains to be done in this area, so we should say that WSIS Action Line C9, Media, is a work in progress.

Cooperation at the international and regional levels (Action Line C11) has been good with regard to emergency alerting for particular hazard types such as severe weather. However, such cooperation is notably lacking for many other hazard types. This is very evident in the international Register of Alerting Authorities which lists nearly all of the world's national meteorological and hydrological services, but very few of the world's national emergency management services.

Digital Technologies, Inequality, and Development in the context of South-South Migration

Workshop Name: Digital Technologies, Inequality, and Development in the context of South-South Migration

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/240

Organization: Royal Holloway, University of London

Date: Friday, 29 April 2022

Advancing Internet Universality to support sustainable development, digital collaboration and the WSIS+20 review

Workshop Name: Advancing Internet Universality to support sustainable development, digital collaboration and the WSIS+20 review

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/208

Organization: ITU Regional Office (CIS Region)

Date: Wednesday, 6 April 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**

During the session, speakers have expressed the relevance of the ROAM principles for the implementation of a human rights-based approach and humanistic framework to guide the ICTs development and digital transformation. The ROAM principles and indicators encompass all WSIS Action lines and particularly contributes to the Line 3 Access, Line 9 media, Line 10 Ethics and Line 11 on international cooperation since it is a comprehensive framework to assess and improve digital transformation in adhering to international standards of human rights, openness, accessible by all and multi-stakeholder participation.

2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**

COVID-19 has become a challenge for the implementation of more human-rights based and inclusive Internet policies in areas such as meaningful access, equity, digital transformation in the field of statistics and the integration of new data sources etc. While highlighting the impact of the pandemic in deepening the digital divide, experts also reinforced the need to further protect vulnerable groups (children, women, people with disabilities as well people in remote areas) online.

3) **Key achievements, announcements, launches, agreements, and commitments**

- UNESCO took this session to share good practice and engage with the WSIS community and stakeholders who are interested in implementing the project in their national environments.
- UNESCO invited the WSIS community to further advance humanistic digital spaces and mainstream the ROAM principles and indicators by joining the IGF Dynamic Coalition of Internet Universality Indicators.

- It was announced that the IUIs assessment in Pakistan has been completed and will be launched in the upcoming months

- Jamaica expressed their interest in formalizing the process to take on the assessment of the IUIs at national level.

4) **Main outcomes highlighting the following:**

IV. Debated Issues

- In terms of access, the debate focused on the importance and true definition of meaningful access and its relevance for sustainable development.
- Panelists noted that there are more than 7061 active languages offline but only 300 available online meaning some communities are kept outside of the global digital conversation because their languages are not available online.
- The importance of representation and intersectionality in the development of Internet is essential for a more inclusive Internet for all.
- To foster sustainable development, the government of Cambodia has adopted a digital economy framework providing a foundation to improve trust online and promote social welfare, e-economy to secure better quality of life for the people.

V. Quotes

"Being meaningfully connected goes well beyond accessing infrastructures, users need to be part of the global dialogue to overcome the many digital challenges faced by communities and societies. – Marielza Oliveira, Director for Partnerships and Operational Programme Monitoring

"The ROAM indicators are about enlightening access through content, information and literacy." - Mr. Cordel Green, IFAP Vice-President and Chair of the Working Group on Information Access – Jamaica

VI. Overall outcomes of the session highlighting

- Speakers agreed that meaningful access went beyond the access to infrastructures and telecommunications: it is the access to knowledge that will turn into skills which can positively impact the quality of life of users.

- There is an urgent need for more languages to be featured online, especially in social media platforms, to embrace more diversity and tackle the many challenges countries are facing in their digital transformation process.

- Panelists called for the promotion of digital inclusion to enable all users to access knowledge. Digital spaces must be designed through regulatory deliberations specifically for vulnerable groups to express their digital needs and for stakeholders' further actions for sustainable development.

- The ROAM indicators assessment continues to serve as an evidence-based policy making process for the promotion of data innovation through the use of big data to impact digital economy and provide suitable recommendations towards various stakeholders for the implementation of the WSIS +20 review and WSIS Action Lines.

- Therefore, UNESCO vows to continue advocating for the IUIs assessment to be conducted in more countries to contribute to formulating responses for the WSIS Actions Line 3 on Access, Line 9 on media, Line 10 on Ethics and Line 11 on international cooperation.

5) Main linkages with the Sustainable Development Goals (please specify the SDGs)

The indicators provide stakeholders of ICTs for sustainable development with tools to strengthen their alignment with the UN SG's roadmap of digital cooperation and Global Digital Compact for the completion of the SDGs. By aiming to give concrete responses for the completion of the Goals 4,5, 10, 16 and 17 of the 2030 Agenda for Sustainable Development Goals, UNESCO's Internet Universality Indicators framework fills a standard-setting void at the global and national levels and proves a holistic research tool to foster Internet policies for sustainable development in all countries.

6) Emerging Trends related to WSIS Action Lines identified during the meeting

- Access to knowledge to foster sustainable development
- The accurate definition of Meaningful access
- The importance of multilinguism and local content online to foster inclusion and access
- The development of AI, the Internet of things through the ROAM perspective
- The promotion of humanistic based digital transformation and Internet
- The role of stakeholders in building trust online
- Internet and culture: the Internet is often influenced by regional and national cultural practices, it should be reflected in the way we are using it.

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

- Internet under the context of COVID-19: findings, challenges and recommendations.

- Internet for All: Accessibility to Internet as a mean to empower disavantaged communities (remote area inhabitants and senior citizens, youth)

- Multilinguism and local content: Building a global community for the preservation, revitalization and support of underrepresented languages online

ROAM-X indicators should be included in the core list of key indicators of measuring ICTs.
https://www.itu.int/en/ITU-D/Statistics/Documents/coreindicators/Core-List-of-

Indicators_March2022.pdf

-

8) **Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.**

The WSIS+20 review can serve as a framework to close digital divides caused by the pandemic and further harness ICTs for the implementation of the 2030 Agenda for Sustainable Development Goals. By gathering the global community to tackle challenges of digital transformation in line with the UN General Assembly's Overall Review and 2030 Agenda for Sustainable Development, the WSIS +20 review is an opportunity for experts of ICTs for sustainable development to access tools to strengthen their alignment with the UN SG's roadmap of digital cooperation and Global Digital Compact for the completion of the SDGs. Thus, UNESCO aims to continue building synergies with the WSIS community to deepen digital collaboration and sustainable development through the ROAM principles and WSIS+20 review.

Harmonisation of the Digital Covid Certificate across Africa

Workshop Name: Harmonisation of the Digital Covid Certificate across Africa

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/248

Organization: European Union

Date: Friday, 22 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1) The role of governments and all stakeholders in the promotion of ICTs for development

The event highlighted the importance of cooperation amongst and dialogue across organisations, incl. East Africa Community and Africa CDC.

C2+C3+C5) Information and communication infrastructure: an essential foundation for an inclusive information society/ Access to information and knowledge/Building confidence and security in the use of ICTs

The key principles underlying the development of the EU Covid passport include ensuring verifiability, making it equitable (i.e. non-discriminatory, available in paper and digital form, and free of charge), improving data protection, ensuring privacy, making it secure (via unique QR codes), making it open for all countries to benefit, creating flexibility, and making it actionable. These principles all contribute to security and confidence-building in and around the use of ICTs.

C7) ICT applications: benefits in all aspects of life

EU DCC system launched e-application for Covid-related use, enhancing not only information-sharing and transparency, but also making contribution to e-health.

2) Did your workshop highlight any issues related to COVID-19? If yes, please explain.

The event itself was focused on the EU's open-source standard for the digital COVID-19 certificate (DCC). It provided presentations on how cooperation could lead to implementation across the African continent and furthermore provided examples from different countries, including a case study from Togo, where their experience with the process was shared.

3) Key achievements, announcements, launches, agreements, and commitments

The programme is committed to restore global connectivity, facilitate safe travel and re-launch economies. Objective is moreover to support the external dimension of certificate, ensuring that no one is left behind and that the digital divide is not exacerbated.

4) Main outcomes highlighting the following:

9) **Debated Issues**

- How to support and accelerate African countries' access to EU Gateway.
- How to create a trust framework, facilitate dialogue and enhance cooperation not just across African region, but globally.

10) **Quotes**

- *"[The EU Digital Covid Certificate] is built on openness and enshrines our EU values, which we are glad to share with all countries. Any future international system of health certificate and credentials should incorporate at a minimum those values and standards that the EU have developed."* (Ambassador Thomas Wagner, the EU Delegation to the UN)
- Referring to key drivers of Togo Digital Certificate System, *"these are about inclusiveness, that no one is left behind, that the system is able to cope with the digital divide, and that we have security and adaptability"* (Romaric Agbagla, Togo)

11) **Overall outcomes of the session highlighting**

- Overview of EU Gateway + EU DCC
- Insights into and lessons learned from projects
- Opportunities for further harmonisation

5) Main linkages with the Sustainable Development Goals (please specify the SDGs)

- SDG 3 (Health) – EU DCC springs from and addresses global health crisis
- SDG 9 (Industry, innovation and infrastructure) – EU DCC example of innovative and technological progress in health domain.
- SDG 17 (Partnerships for the goals) – strives to provide open-source standard for global implementation

6) Emerging Trends related to WSIS Action Lines identified during the meeting

Same as point 3; focus was on cooperation and dialogue across organisations and governments, on ensuring verifiability, making it equitable, improving data protection, ensuring privacy, making it secure, making it open for all countries to benefit, creating flexibility, making it actionable and ensuring that it is transparent and leads to confidence-building around use of ICT.

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

- Role of technical expertise
- Critical infrastructure protection and resilience (in light of emerging cyber threats)
- People-centred ICT development and application; how can people partake in and understand rapid technological advancements from home?

8) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

- Stronger focus should be on establishing supranational/international normative frameworks to ensure unified vision around ICT. This could support development of international mechanisms. (C11)
- Mainstream ICT into all sectors; environment, industry, transport etc. to facilitate all-of-society approach and implementation and thereby avoid fragmented "splinternet" (C1, C7)
- More cooperation with private sector to develop technologies that ensures privacy. (C1, C5, C6)

STI Forum 2022 Side Event: ICTs for Well-Being, Inclusion and Resilience: WSIS Cooperation for Accelerating Progress on the SDGs

Workshop Name: STI Forum 2022 Side Event: ICTs for Well-Being, Inclusion and Resilience: WSIS Cooperation for Accelerating Progress on the SDGs

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/249

Organization: WSIS / UNGIS

Date: Thursday, 5 May 2022

Diverse Age-friendly Internet Services and Applications for Accelerating Progress on the Inclusive Digital Environments

Workshop Name: Diverse Age-friendly Internet Services and Applications for Accelerating Progress on the Inclusive Digital Environments

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/260

Organization: Internet Society of China

Date: Tuesday, 12 April 2022

The impact of ICT development in urban or rural areas: smart villages and smart cities

Workshop Name: The impact of ICT development in urban or rural areas: smart villages and smart cities

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/271

Organization: ICT Research Institute

Date: Wednesday, 27 April 2022

A holistic framework for understanding digital-environmental interaction

Workshop Name: A holistic framework for understanding digital-environmental interaction

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/281

Organization: Digital-Environment System Coalition, with the support of the Inter Islamic Network on Information Technology and the Wireless World Research Forum

Date: Wednesday, 27 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C2. Information and communication infrastructure
C4. Capacity building
C7. ICT applications: benefits in all aspects of life — E-environment
C7. ICT applications: benefits in all aspects of life — E-science
C8. Cultural diversity and identity, linguistic diversity and local content
C10. Ethical dimensions of the Information Society
C11. International and regional cooperation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation
Goal 10: Reduce inequality within and among countries
Goal 11: Make cities inclusive, safe, resilient and sustainable
Goal 12: Ensure sustainable consumption and production patterns
Goal 13: Take urgent action to combat climate change and its impacts
Goal 14: Conserve and sustainably use the oceans, seas and marine resources
Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
Goal 17: Revitalize the global partnership for sustainable development

3)Key achievements, announcements, launches, agreements, and commitments

This session was designed in part to share news about DESC in the year since its foundation, and to make people aware of some of the activities of its Working Groups. It also provided an opportunity to announce the partnership between DESC and the China Biodiversity Conservation and Green Development Foundation (CBCGDF). The session therefore used sub-titles in Chinese, and it is estimated that in addition to the 65 people

registered for the session (about half of whom participated), some 6000 people in China were able to watch the session through the CBCGDF's media services (including Baidu and MicroBlog).

4)Main outcomes highlighting the following:

12) **Debated Issues**

- Please capture highlights of the main issues discussed and interactions with audience
- Please highlight key achievements and challenges shared by the audience and/or panellists

This session introduced participants to the work of the Digital-Environment System Coalition (DESC) since its foundation in 2021, and raised fundamental questions about the impact of digital tech on the physical environment. The global emphasis on lowering carbon emissions to reduce the impact of "climate" change has tended to obscure the very wide-ranging negative and positive impacts that the use of digital tech has on the environment when considered holistically. DESC emphasizes the importance of evaluating comprehensively the impacts of digital tech on the lithosphere, hydrosphere, biosphere and atmosphere, in the context of human political, social, economic and cultural factors, and considered both geographically and historically.

Following an introduction by Tim Unwin (Chairholder of the UNESCO Chair in ICT4D at Royal Holloway, University of London), six speakers from very diverse backgrounds presented fascinating insights on the following themes:

- James Crabbe (Supernumerary Fellow at Wolfson College, Oxford, Wolfson College Oxford, UK) **Deep Sea Mining: minerals for renewable technologies**
- Poline Bala (Director, Institute of Borneo Studies Faculty of Social Sciences, Universiti Malaysia Sarawak, Malaysia) **Indigenous perspectives on the digital-environment system**
- Mireia Roura (Doctoral Researcher, Department of Computer Architecture, Universitat Politècnica de Catalunya, Spain) **A common property rights system: eReuse**
- Knud Erik Skouby (Professor, Communication, Media and Information Technologies/Electronic Systems, Aalborg University-Copenhagen, Denmark) **Spectrum Environmental Efficiency**
- Luc St-Pierre (Chief of the Space Applications Section, United Nations Office for Outer Space Affairs, Austria) **UNOOSA's role: the Office for Outer Space Affairs**
- Carlos Álvarez Pereira (Vice President, The Club of Rome) **Digital for Life**

Following these presentations, there was a brief but wide-ranging discussion that emphasised the need to adopt a holistic and balanced approach to understanding the balance between the positive and negative impacts of digital tech on the environment.

13) **Quotations**

- Please provide two important quotes from the session and the names & organisations of the person you are quoting

- Poline Bala: "*The indigenous people are often the last to be connected to digital technology … If you listen to many of the indigenous people in Sarawak, they are not necessarily against development, but they do wish to avoid the dark side of digital technologies*.

- Carlos Álvarez Pereira: "*We don't know yet if digitalization can contribute to Life with a capital L and to the perpetuation, in particular, of the human species on earth…. As you know well, we have created a number of existential challenges*"

14) **Overall outcomes of the session highlighting**

- main conclusions reached during the discussion
- the vision for implementation of WSIS Action Lines beyond 2015

The session concluded with a commitment to develop a report summarising the work of DESC by 2025 outlining a holistic framework for appropriately evaluating the positive and negative impacts of digital tech on the environment and illustrating this with case-studies on specific themes. Progress towards this vision will be presented at future WSIS Annual Forums, to help change global opinion away from the current focus on the use of digital tech to reduce carbon emissions and thus the impact of "climate" change towards a much more nuanced and sophisticated understanding of the environmental harms and benefits of such use.

5)Emerging Trends related to WSIS Action Lines identified during the meeting

There is indeed growing awareness of the negative impacts of digital tech on the environment alongside their potential positive effects on reducing carbon emissions. However, much work still remains to be done in supporting the necessary comprehensive shift in emphasis so that the net benefit of digital tech for Human Life is indeed positive.

6)Suggestions for thematic aspects that might be included in the WSIS Forum 2023

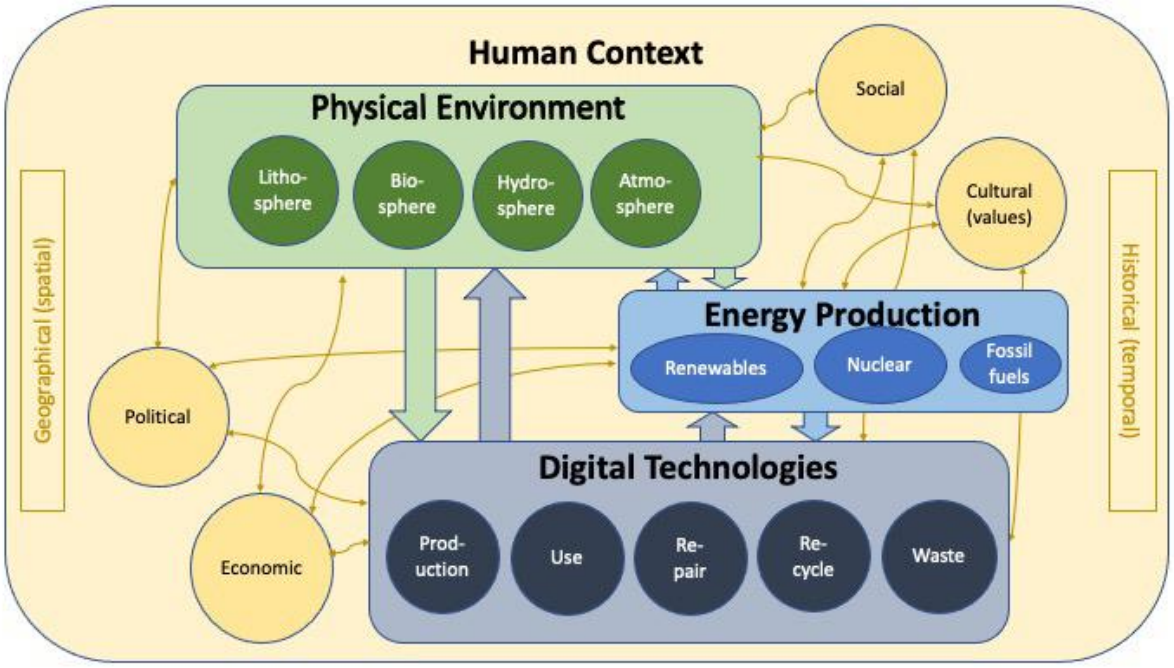
There is a growing interest among many different groups and individuals in the wider environmental implications of digital tech, beyond just climate change (see also for example Session 434 on *Race to Net Zero*). This could be a wider theme running through the WSIS Annual Forum in 2023, and DESC would be happy to help convene this.

7)Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges,

achievements, and opportunities in the implementation of the WSIS Action Lines to date.

2023 and 2025 are the 20th anniversary years of the original WSIS in Geneva (2003) and Tunisia (2005). These are important milestones for evaluating the impact of UN agencies on the beneficial use of digital technologies in their areas of responsibility. The two biggest challenges have been (i) the substantial overlap and duplication of effort between agencies, which has not been helped by the additional engagement of the Office of the UN SG's Envoy on Technology; and (ii) the relationships/partnership between UN agencies and private sector companies, most of which have failed truly to serve the interests of the world's poorest and most marginalised people. Resolving these challenges would have significant impact.

With reference to Session 281, the discussion emphasised the need for a fundamental rethink around the ways in which UN agencies consider the environmental impact of digital technologies. We hope that the work of DESC will help bring together all those parties interested in developing such an understanding and thereby contribute to ensuring a more sustainable future use of digital tech.



Crafting a new more holistic systemic framework – exploring the positives and negatives within this system

Innovation in Shared and Public Access for Digital Inclusion

Workshop Name: Innovation in Shared and Public Access for Digital Inclusion

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/296

Organization: International Federation of Library Associations and Institutions

Date: Thursday, 28 April 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**

C2 (Information and communication infrastructure)
C3 (Access to information and knowledge)
C4 (Capacity building)
C8 (Cultural diversity and identity, linguistic diversity and local content)

2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**

The COVID-19 pandemic has created an additional incentive for public access providers such as libraries to continue innovating their digital inclusion services and outreach models. This has been reflected in the examples of digital inclusion initiatives outlined by the panellists - for example, in the digital skills-building initiatives they have worked with. During the pandemic, these initiatives have introduced remote digital literacy programming (which has helped reach and engage new audiences), new local peer-to-peer training models, etc.

3) **Key achievements, announcements, launches, agreements, and commitments**

-

4) **Main outcomes highlighting the following:**

5) **Debated Issues**

- Please capture highlights of the main issues discussed and interactions with audience

The session explored innovation in public access as a tool for boosting meaningful and user-centric digital inclusion. This includes:

- Service delivery models beyond traditional public access setups (such as public ICT workstations, public Wi-Fi…): e.g. outreach with mobile public ICT facilities, or collaboration with a local community/mesh network.
- Public access interventions targeting underserved user groups: e.g. women and girls, residents of remote and rural areas.
- Innovative services enabled by public access: e.g. new approaches to digital literacy capacity-building, tailored packages of locally relevant digital resources offered via public access workstations.

The session also zeroed in on some of the ways to maximise the capacity of public access providers to creatively use these facilities for digital inclusion services – including multistakeholder partnerships, training-of-trainer models, and enabling policy environments.

- Please highlight key achievements and challenges shared by the audience and/or panellists

The panellists discussed some of the recorded impacts of their digital inclusion services and initiatives, enabled by shared access in public and community libraries:

- Since the start of the COVID-19 pandemic, Toronto Public Library has rolled out an extensive range of virtual programming around digital skills, digital rights, privacy and online safety – frequently reaching several hundred learners per session.
- The Rural Library and Resource Development Project in Zimbabwe leverages mobile library facilities, equipped with a computer and solar panels, to service schools in remote areas. The project has also advocated for computer donations to rural schools and community libraries, and worked with a number of libraries to designate them as local public access centers.
- In Nepal, the Tech Age Girls programme implemented in 10 community libraries has helped reach 1800 young community members through its orientation and different forms of training; including 500 young women and girls who have been trained directly. In addition, 500 parents have been engaged with Gender Equality and Social Inclusion Strategy awareness training.
- To launch a new training-of-trainers model two years ago, Electronic Information for Libraries (EIFL) has worked with more than 60 local library experts across 4 countries in Sub-Saharan Africa. These facilitators then moved on to train hundreds of their colleagues, sharing strategies and know-how on implementing effective public access and digital inclusion services.

6) **Quotes**

- “Teaching this program to an engaged audience, that was returning week after week, made it clear that the data privacy debate is addressing a genuine need in a diverse cohort of professionals and privacy enthusiasts within our Community, many of which expressed earnest interest in pursuing future careers in data governance.” - Migan Megardichian (quoted in the presentation of Ab. Velasco; Toronto Public Library)

- “This is now a mobile library which we innovated together for the rural areas. In terms of access to ICTs, this is projected to alleviate disparities between rural and urban areas, women and men, younger and older individuals.” - Shadreck Ndinde (Zimbabwe Library Association)

7) Overall outcomes of the session highlighting

- main conclusions reached during the discussion

There are many possible pathways to innovating public access solutions to power meaningful digital inclusion. These include:

- Combining digital literacy training with other learning opportunities useful for the local community. These include, for instance, digital rights awareness, data skills, soft skills (e.g. leadership, communication).
- Public access offers a great launchpad for cascade and peer-to-peer ICT skills training models. This helps reach many more community members who are not directly trained by the staff of the host organisation. To enable such cascade models, suitable teaching competencies need to be effectively included in the curriculum of the first training-of-trainers, alongside ICT skills.
- Services enabled by public access (e.g. educational activities, access to high-quality health or market information, etc.) can be collaboratively co-designed with representatives of the communities they serve, to best meet local information and learning needs.
- The reach and impacts of public access solutions in libraries and similar anchor institutions is often further expanded with the help of cross-sector partnerships. Examples discussed during the session include partnerships between libraries and schools, universities, community networks, local governments, digital rights advocates.

- the vision for implementation of WSIS Action Lines beyond 2015

Public access remains a viable and comparatively quick-to-implement pathway to bringing more people online. Going forward, it is worth taking full stock of the way these solutions

help meet the need for meaningful and user-centric connectivity, as it is conceptualised today – which focuses on such factors as affordability, speed and reliability of the available connection, access to relevant local content and services, protecting fundamental rights online, etc.

8) **Main linkages with the Sustainable Development Goals (please specify the SDGs)**
SDGs 4, 9, 17

9) **Emerging Trends related to WSIS Action Lines identified during the meeting**
-

10) **Suggestions for thematic aspects that might be included in the WSIS Forum 2023**
Innovative and bottom-up approaches to digital skills capacity-building
Connecting anchor institutions

11) **Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.**

Public access has been included in some of the earliest WSIS policy documents (e.g. the initial WSIS Action Lines and Targets – collecting public libraries and other anchor institutions, creating multi-purpose community public access points). As this session illustrated, public access solutions continue to evolve - both in their delivery models and the services they enable.

Valuable progress has been made in collecting information on library connectivity, innovative public access services, and their reach and impacts. Continuing these data collection efforts is crucial. Another lesson learned is the importance of approaching the connectivity of libraries and similar anchor institutions not only as a matter of infrastructure, but also of staff capacity-building and long-term sustainability of their ICT services.

Showcasing Local Libraries' Input to SDG's Achievement

Workshop Name: Showcasing Local Libraries' Input to SDG's Achievement

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/297

Organization: Electronic Information for Libraries

Date: Friday, 22 April 2022

Meet the WSIS Gender Trendsetters

Workshop Name: Meet the WSIS Gender Trendsetters

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/303

Organization: WSIS

Date: Wednesday, 4 May 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**

AL C1: The role of governments and all stakeholders in the promotion of ICTs for development – the session explored the need for stronger legislation within institutions to create the financial and social conditions for women to succeed professionally

AL C3: Access to information and knowledge - discussion centered around the ways in which women can become an equal part of the emerging digital society

AL C4: Capacity building – concrete proposals were offered on ways to undermine systemic sexism, including requiring families to send both sons and daughters to school

AL C10: Ethical dimensions of Information Society - the session explored the ethical aspects of gender mainstreaming, including approaches to combatting gender-based harassment and unconscious bias

2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**

N/A

3) **Key achievements, announcements, launches, agreements, and commitments**

The event was led by a number of WSIS Gender Trendsetters, who will take forward the session outcomes as part of their ongoing work.

Particular recommendations centered around the following issues:

- The need for stronger legislation within institutions to create the financial and social conditions for women to succeed professionally
- The ways in which technology can be applied to combat sexual harassment
- The need for systemic cultural change to motivate women to participate in the emerging digital society
- The development of a multistakeholder index to monitor different countries' performance across key gender mainstreaming indicators

4) **Main outcomes highlighted the following:**

I. **Debated Issues**

- Discussion acknowledged the difficulties faced by women to date in making progress and inroads towards gender equality
- Panellists recognized the requisite of digital gender inclusion in creating true gender equality. It was noted that a holistic approach is necessary to adequately empower women, encompassing the objectives of SDG 3, 4, 5, 7 and 17.
- Panellists agreed that in overcoming the digital gender divide, it is vital to consider the respective situations of women across different demographics, including those living in developing countries and those in rural areas. In developing countries, poverty and high illiteracy rates were noted as key contributors in maintaining the digital gender divide.

II. **Quotes**

"The World Economic Forum tells us that, if we simply wait for changes to follow the speed they have shown so far, we will have to wait 135 years to close global gender gaps" (Ms. Elena Estavillo Flores, CEO, Centro-I para la sociedad del futuro Think Thank)
"Let's not try to find excuses why we cannot do things, let's just do them" (Tatyana Kanzaveli, CEO, Open Health Network)

III. **Overall outcomes of the session highlighting main conclusions reached during the discussion**

- One recommendation centered around the need for systemic cultural change across all sectors and regions. It was noted that whilst the pace of change is likely to be slow, there is much which can be done by individuals to eliminate their own unconscious bias. Part of this lies in creating the conditions for women to feel a sense of belonging in leadership spaces, which can be achieved through educating them in key digital and leadership skills from an early age. Another key condition is the existence of inspiring role models across all regions of the world to encourage women and girls professionally.
- At an institutional level, it was recommended that stronger legislation is needed to confront sexism. This includes stronger impetus to address the gender pay gap, as well as the implementation of anti-discrimination training to combat micro-aggressions, which generate hostile environments for women. Panellists argued that it is not enough to simply have women in the room, but that it is necessary to create the conditions which permit women to make key decisions and lead processes of transformation. Part of this lies in creating the financial means to facilitate their success, for example by offering more funding for women-founded startups.

Similarly, it is paramount to create environments in which women are allowed to fail to the same degree as men.

- It was also recommended that consideration be given to the ways in which technology can be applied to combat sexual harassment, which remains pervasive. It was acknowledged that online sexual harassment hampers the public participation and professional development of women.
- An actionable commitment made by the group was the development of a multistakeholder index to monitor different countries' performance across key gender mainstreaming indicators. An understanding of the gender mainstreaming status in different regions would assist the Gender Trendsetters in aligning and targeting their ongoing work.

5) **Main linkages with the Sustainable Development Goals (please specify the SDGs)**

SDG2: Zero Hunger
SDG4: Quality Education
SDG5: Gender Equality
SDG10: Reduced Inequalities

6) **Emerging Trends related to WSIS Action Lines identified during the meeting**

N/A

7) **Suggestions for thematic aspects that might be included in the WSIS Forum 2023**

- The session recommended the development of a multistakeholder index to monitor different countries' performance across key gender mainstreaming indicators to enable the Gender Trendsetters to target and align their ongoing work

Digital Transformation & Innovations in Cyber Security, ICT based on 5G,IOT, Blockchain, AI, VR, Big Data & other new technologies and Linking Education with ICTs Capacity Building & Employability

Workshop Name: Digital Transformation & Innovations in Cyber Security, ICT based on 5G, IOT, Blockchain, AI, VR, Big Data & other new technologies and Linking Education with ICTs Capacity Building & Employability

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/305

Organization: CMAI Association of India

Date: Tuesday, 3 May 2022

Older Women and Digital financial Services for Healthy and Active Ageing

Workshop Name: Older Women and Digital financial Services for Healthy and Active Ageing

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/307

Organization: ADA Lovelace Software Private Limited, India

Date: Friday, 29 April 2022

1)Title of your session

Older Women and Digital financial Services for Healthy and Active Ageing.
- ICTs and older women: Digital Financial Inclusion

2) Name of Organization(s) organizing the session

Ada Lovelace Software Private Limited, Bangalore, INDIA
(Proven and Prospective Company of Software Technological Park of India)
Panelists:
o Dr. Rakesh L, Vice Chairman, Education and Capacity Building- Multistakeholder Alliance, ITU, United Nations, Specialized Agency, Geneva, Switzerland. Also, Director, Ada Lovelace Software Pvt. Limited, Software Technological Park of India, Bangalore, INDIA
o Mr. Chandrashekaraiah H G Senior Assistant Commissioner, Harpanhalli SubDivision Vijayanagar District, Government of Karnataka, INDIA
o Dr. Nirmala C R, Professor & Head, Department of Computer Science & Engineering also Head of Centre of Excellence for Women Empowerment.
o Dr Padmashree T Asst. Professor RV college of Engineering, Bangalore, India and Alumina of Pace University, New York City. USA
o Dr. Tabassum Ara, Principal HKBK, College of Engineering, Bangalore, INDIA

3) Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

Information and communication infrastructure: An essential foundation for an inclusive information society. Older citizen should not be left behind from the mainstream society.
Capacity building: Basic literacy, digital skills, self-paced learning and guided learning through caregivers and professional for older people is needed in digital age.

4) Did your workshop highlight any issues related to COVID-19? If yes, please explain.

Technology Usage among Elderly Citizens during COVID-19 and aftermath has drastically Increased. Post Pandemic Era -Segment of senior citizens - approximately 138 million in 2021 - important to financial institutions for digital services. Number is expected to

increase to 192 million by 2031 – Need for Specialized Approach- As of now, no such approach. Wrong Notion - Seniors are not tech savvy and therefore they will not access digital offerings.

5) Key achievements, announcements, launches, agreements, and commitments

Cognitive Simulation: ICT Solutions Older People with Dementia for Healthy Ageing
o We can innovate on Health and Cognitive Decline capabilities for older people. Individuals with mild to severe mental, intellectual, and physical disabilities experience motor coordination problems that prevent them from using computers in digital age which is almost like civil death. Aging is a Universal global phenomenon.
o ICT product and Services plays a critical role. Monitoring through Cognitive Stimulation can assist in the habitation and rehabilitation of older people with early Dementia or Alzheimer. Alzheimer's is a degenerative disease that affects a person's neurological system and cognitive abilities. In this practice, the focus is to develop cognitive aspects and prevent the advancement of characteristics that are harmful to the person's health.

6) Main outcomes highlighting the following:

I. Debated Issues

o Three-Tier model, Basic Communication Skills, Digital Financial Services, ICT products and Services.
o Digital Financial Inclusion for Senior Citizens
o Ensure healthy lives and promote well-being for older women through digital financial Services.
o Government Schemes: India Use case.

II. Overall outcomes of the session highlighting

Digital payments, including incentive payments for medical workers, can deliver larger and more reliable incomes, encouraging caregivers to live and work in rural and remote areas.
Healthcare providers can extend their services into low-density rural areas through digital payments and financing. Our aim should be better Digital finance Services to older women to handle with health emergencies without being forced into poverty.

7) Main linkages with the Sustainable Development Goals (please specify the SDGs)

Educational Model to health care model. The goal of SDG 4 is the quality education and will be doing so with the Modern Senior Citizens-Digital Skills includes cross cutting Skills- Cognitive, Socio Emotional, Technical.

8) Emerging Trends related to WSIS Action Lines identified during the meeting

Ensure the Initiative is aligned with policy goals in the UN Decade of Healthy Ageing and work of UN Organizations. Our Strategic Goal is to contribute to the UN Sustainable Development Goals for improving health and wellbeing, and to implementation of UN policies for a Decade of Healthy Ageing.

9) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

Ageing and Transportation, Mobility, Immunizations. There is an unprecedented

increase in the ageing of populations globally, with 1.4 billion people expected to be over 60 by 2030. Older people's needs are not well understood nor being met. The United Nations have framed the challenge as improving older people's functional capability so that they can do the things which give life meaning.

10) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

• To connect all local, regional and central government departments and establish websites and portals for better international cooperation.
• To connect public libraries, cultural centers, museums, post offices and archives with ICTs.
• To ensure that all of the world's population have access to television and radio services

The Digital Access Technology for Poverty Alleviation and Recovery in Post Covid-19 Era

Workshop Name: The Digital Access Technology for Poverty Alleviation and Recovery in Post Covid-19 Era

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/309

Organization: The Consultative Committee on Information Technology of China Association for Science and Technology / Beijing University of Posts and Telecommunications

Date: Thursday, 28 April 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**

C2. Information and Communication Infrastructure
C3. Access to Information and Knowledge
C5. Building Confidence and Security in Use of ICTs
C7. ICT Applications: Benefits in All Aspects of Life-E-Business
C7. ICT Applications: Benefits in All Aspects of Life-E-Learning
C7. ICT Applications: Benefits in All Aspects of Life-E-Health
C7. ICT Applications: Benefits in All Aspects of Life-E-Agriculture
C7. ICT Applications: Benefits in All Aspects of Life-E-Science

2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**

Yes. The issues highlighted in this workshop were directly related to COVID-19.

15) Prof. Ricardo Israel Robles Pelayo from Universidad Anahuac online/UNIR/EBC, Mexico, made presentation on *Pros & Cons: The Law Education Post-Covid-19*.
16) Prof. Yang YANG from Shanghai Tech University, China, made presentation on *User Requirements on Everyone-centric Customized Services in Post Covid-19 Era*.

3) **Key achievements, announcements, launches, agreements, and commitments**

Session 309 are of two key achievements. First, the diverse participation of Session 309 is in accord with the orientation of Multi-stakeholder provided by WSIS Outcomes. 16 Panelists with 7 females given speech are from 10 countries (China and International) and various domains (Academic, Civil Society, ICT technical community, Private Sector).

Second, the wide representations of panelists achieve the comprehensive understanding on the multi-variant roles of digital access technology played in the poverty alleviation

and global recovery in post Covid-19 Era. It is believed that the development of digital technology has facilitated people's lives. At the same time, there are some urgent problems to be solved, such as the safe use of data, the inconsistency between the level of information infrastructure in some countries and people's dependence on digital technology, the impact of the development of AI technology on the labor market, and the obstacles for elderly and disabled to use digital technology. Therefore, the use of digital technology in poverty alleviation should adopt the correct models to bridge these digital barriers and gaps.

4) Main outcomes highlighting the following:

17) **Debated Issues**

- The main issue debated in this workshop is the social effects followed with the promotion of advanced digital technology like IOT and AI.

18) **Quotes**

- Please provide two important quotes from the session and the names & organisations of the person you are quoting
- No poverty is the overarching goal of the United Nations Sustainable Development Goals. To achieve this goal, ICT or digital technologies could give lots of help, if people could be connected by the Internet. *(Prof. Gong Ke, Chair of CCIT/CAST, Past President of WFEO)*
- After this workshop, with these ideas and concepts, the implementation of digital technologies will play an even more important role in poverty alleviation in the post-COVID-19 era. The world is still in the grip of the epidemic, but I believe the brilliant shared future is just ahead! *(Prof. Tao Xiaofeng, Vice Chair of CCIT/CAST)*

19) **Overall outcomes of the session highlighting**

- main conclusions reached during the discussion
- The digital access technology shall plays a key role in the poverty alleviation as well as the recovery of society and economy in the pro covid-19 era.
- The bridging of digital divide is the synchronization of digital infrastructure building’s growth and digital inclusiveness expansion, which requires the public investment and everyone-centric customized services for diversified demands of multi-group population.
- The necessity to promote the customized ICT aging innovations which are compatible with aging population’s mental and physical requirements for ICT using is unanimously construed as primary mission of digital inclusion between

panelists upon the review of senior citizens' challenges in using of digital devices and application services.

5) **Main linkages with the Sustainable Development Goals (please specify the SDGs)**

Goal 1. End Poverty in All Its Forms Everywhere

Goal 2. End Hunger, Achieve Food Security

Goal 3. Ensure Healthy Lives and Promoting Well-being for All

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 12. Ensure sustainable consumption and production patterns

6) **Emerging Trends related to WSIS Action Lines identified during the meeting**

- The verifiable poverty alleviation achievements oriented from the exploration of 5G and IOT on E-Education, E-Agriculture, E-Business, E-Health, E-Science indicate 5G and IOT are emerging technologies for implementation of *WSIS Action Lines* and UN *Sustainable Development Goals (esp.G1, G2)* after 2015.

7) **Suggestions for thematic aspects that might be included in the WSIS Forum 2023**

- Emerging technologies for bridging digital divide which benefit the global recovery from Covid-19 Pandemic.
- ICT4D innovations which benefit the poverty alleviation and the restitution for vulnerabilities and minorities.
- The aging population's welfare in digital transformation.

8) **Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.**

In recent years, the growth of global connectivity seems to be slowdown due to Covid-19 pandemic. We shall enhance the solidarity and confidence of interconnection and the use of digital technology to better serve development.

Time-Sensitive Networking

Workshop Name: Time-Sensitive Networking

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/311

Organization: IEEE

Date: Friday, 22 April 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C2. Information and communication infrastructure

The links between Time-Sensitive Networking and the WSIS Action Line C2 is based on TSN being a foundational communications infrastructure technology. The links include:

- guaranteed packet data transport infrastructure with bounded low latency, low delay variation, and extremely low data loss
- zero congestion loss in packet transport infrastructure for critical data traffic
- enabling multiple industries with time-critical applications to economically share packet data transport facilitating the digital transformation

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation

3)Key achievements, announcements, launches, agreements, and commitments

Time-Sensitive Networking (TSN) standards are available today from IEEE (see https://1.ieee802.org/tsn/). Work is underway to consolidate some new TSN components into the base standard for VLAN Bridging; IEEE Std 802.1Q-2022 will be available later this year. New profiles of TSN for important application areas and are expected to be completed as early as next year, for more details see the project pages:

- IEC/IEEE 60802 TSN Profile for Industrial Automation
- P802.1DG – TSN Profile for Automotive In-Vehicle Ethernet Communications
- P802.1DP – TSN for Aerospace Onboard Ethernet Communications

In the meantime, the IEEE Time-Sensitive Networking Webinar Series is a useful tutorial that provides more background and details on TSN. Next year we will be launching a course to provide implementor and deployment training on TSN.

4)Main outcomes highlighting the following:

I. Debated Issues

- Please capture highlights of the main issues discussed and interactions with audience
- Please highlight key achievements and challenges shared by the audience and/or panelists

A key discussion was whether Time-Sensitive Networking had policy implications, for example when reserving resources across networks. It depends on application area / vertical. Though it is similar to what we have today when it comes to QoS requirements -- one way to look at TSN is QoS on steroids. Are there policy implications of transporting synchronization, across and between national provider networks or between jurisdictions? It is expected that Service Level Agreements (SLAs) would have to be set between operators to guarantee the synchronization performance.
The concept of policy on safety, particularly as it applies to industrial automation, is a higher level concept but TSN provides the base level mechanisms that are needed to support that.
For private passenger vehicles, there is little regulation or policy expected. However, for autonomous vehicles (like robo-taxis) it is likely that there will be policy or certification on the time-sensitive networking within the car, for example to support safety features.
The aerospace industry is well regulated and it is expected that TSN would be part of that regulatory ecosystem. Individual components like TSN bridges and end station must be certified both on the software and hardware level. There are levels of design assurances where specific requirements must be met. The industry is used to this regulation with existing networking technology. Adopting TSN will require a deep understanding of the underlying technology by industry as well as regulatory and certification bodies across different nations. For example, methods and tools to prove and qualify a TSN shaper in terms of its ability to send the traffic at the right time.

II. Quotes

- Please provide two important quotes from the session and the names & organisations of the person you are quoting

"TSN is built on the foundation of bridging to provide a foundational infrastructure technology that facilitates industry innovation." Glenn Parsons - Ericsson
"TSN is a great technology to facilitate digital transformation in various vertical application areas, some of which is already being addressed by TSN profile specifications." János Farkas – Ericsson Research
"Synchronization is one of the key components of the TSN toolset". Silvana Rodrigues - Huawei
" TSN is about high availability, in particular, for safety critical systems, you can't drop packets, such that you lose functionality and potentially endanger somebody." Jordon Woods – Analog Devices
"The passenger vehicle is a small networks that is very resource limited. Nobody will replace a 100 megabit link with a gigabit link." Max Turner - Ethernovia
"Aerospace is a heavily regulated industry where protocol complexity leads to certification burden and cost. The industry is excited about the potential of TSN as a converged on-board network standard." Abdul Jabbar – GE Research

III. Overall outcomes of the session highlighting

- main conclusions reached during the discussion
- the vision for implementation of WSIS Action Lines beyond 2015

Imagine the opportunities possible if networking was instant and reliable, between people and things that matter, when and where it matters most. Time-Sensitive Networking and its application to vertical like industrial automation, automotive and aerospace can make this a reality.

5)Main linkages with the Sustainable Development Goals (please specify the SDGs)
The links between Time-Sensitive Networking (TSN) and Goal 9 of the Sustainable Development Goals is

based on TSN being a foundational infrastructure technology that facilitates industry innovation. The links include:

- guaranteed packet data transport infrastructure with bounded low latency, low delay variation, and extremely low data loss
- zero congestion loss in packet transport infrastructure for critical data traffic
- enabling multiple industries with time-critical applications to economically share packet data transport facilitating the digital transformation

6)Emerging Trends related to WSIS Action Lines identified during the meeting

Continued innovation by industry on the foundational infrastructure is critical to meeting the WSIS Action Lines.

7)Suggestions for thematic aspects that might be included in the WSIS Forum 2023

Deployment and policy challenges with Time-Sensitive Networking and other foundational infrastructure innovations

8)Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

Building consensus towards a single market solution for innovative infrastructure to benefit from the economies of scale remains a challenge. However, market-driven standards activities (like TSN) are promising.

Civil Servant 2.0

Workshop Name: Civil Servant 2.0

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/313

Organization: Polylat/UNESCO

Date: Monday, 25 April 2022

Digitalisation and the future of work through inter-generational collaboration

Workshop Name: Digitalisation and the future of work through inter-generational collaboration

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/314

Organization: Centre for Socio-Eco-Nomic Development (CSEND)

Date: Thursday, 28 April 2022

1) Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C7.ICT; Applications: benefits in all aspects of life- E-Business
C7.ICT; as above, for Health
C11. International and Regional Cooperation

2) Key achievements, announcements, launches, agreements, and commitments

First inter-disciplinary meeting on inter-generational collaboration with academics and practitioners from Spain, Germany, Switzerland, Hong Kong, China
6) Main outcomes highlighting the following:

I. Debated Issues

There are labour market difficulties on both sides of the generational polarity.
Young people have difficulties finding regular paying jobs and often cannot start a professional career and instead drift from one short term job to another one missing the opportunity to learn how work places function. On the other hand, older workers-employees often have difficulties with ICT, they are not very digitally literate and hence miss the opportunities to stay relevant and to perform adequately on the job site which today is full of ICT innovation.
The solution would be for both sides of the generational poles to cooperate. The younger to learn from the older worker how work life is organized and functions and for the older workers to get support from the young to master ICTs.
And for both sides, collaboration needs to be facilitated and learned How both younger and older workers/employees can collaborate at the job site in ways that are mutually beneficial.

II. Quotes

Thank you very much Raymond and all of the experts for this very interesting exchange of information. This is a theme that concerns us tremendously. We look forward to hearing more and working it into our thinking on multi-generational housing. Bill Bouldin, Mechkat Bouldin architects Geneva.

Conclusion was that more research should be done to better understand the difficulties of inter-generational collaboration and how to assist collaboration through advise, training and putting into place structural improvements for instance through ISO 25550- Ageing societies — General requirements and guidelines for an age-inclusive workforce the vision for implementation of WSIS Action Lines beyond 2015 invite for case examples on intergenerational collaboration at work through

the use of ICTs from different parts of the world

3) Main linkages with the Sustainable Development Goals (please specify the SDGs)
SDG 3 (healthy lives); SDG 16 (Promote just, peaceful and inclusive societies) and SDG 17 Global partnerships for sustainable development)

4)Suggestions for thematic aspects that might be included in the WSIS Forum 2023

Intergenerational collaboration at work site using digital technology

5) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

It would be very useful to have regular sessions focusing on implementation of ISO 25550- Ageing societies — General requirements and guidelines for an age-inclusive workforce and how this standard can best be implemented through the use of IC

A Round Table on Cyberlaw, Cybercrime & Cybersecurity

Workshop Name: Round Table on Cyberlaw, Cybercrime & Cybersecurity

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/315

Organization: International Conference on Cyberlaw, Cybercrime & Cybersecurity

Date: Tuesday, 26 April 2022

Is it technically possible to make the digital world age appropriate?

Workshop Name: Is it technically possible to make the digital world age appropriate?

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/316

Organization: IEEE

Date: Wednesday, 11 May 2022

The Digitized and Datafied Classroom

Workshop Name: The Digitized and Datafied Classroom

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/324

Organization: UNESCO and the Broadband Commission Secretariat

Date: Tuesday, 24 May 2022

The "Monster" that is threatening global destruction can transform into the world's saviour.

Workshop Name: The "Monster" that is threatening global destruction can transform into the world's saviour.

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/337

Organization: IFIP IP3

Date: Monday, 30 May 2022

Partnership on Measuring ICT for Development

Workshop Name: Partnership on Measuring ICT for Development

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/340

Organization: Partnership on Measuring ICT for Development

Date: Thursday, 2 June 2022

Launch of the GovStack CIO Digital Leaders Forum

Workshop Name: Launch of the GovStack CIO Digital Leaders Forum

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/342

Organization: Germany, Estonia, International Telecommunications Union and the Digital Impact Alliance

Date: Thursday, 2 June 2022

1st Episode of the GovStack CIO Leaders Forum

Workshop Name: 1st Episode of the GovStack CIO Leaders Forum

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/349

Organization: Germany, Estonia, International Telecommunications Union and the Digital Impact Alliance

Date: Friday, 3 June 2022

Internet Governance Forum 2022 Outreach Session

Workshop Name: Internet Governance Forum 2022 Outreach Session

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/352

Organization: United Nations Internet Governance Forum Secretariat

Date: Friday, 3 June 2022

Cyber Security Salon: Building Cyber Resilience through Cyber Security and Collaboration

Workshop Name: Cyber Security Salon: Building Cyber Resilience through Cyber Security and Collaboration

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/370

Organization: Huawei

Date: Wednesday, 25 May 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**

C1.The role of governments and all stakeholders in the promotion of ICTs for development
C3. Access to information and knowledge
C4. Capacity building
C5. Building confidence and security in use of ICTs
C11. International and regional cooperation

2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**

During the pandemic, from managing remote workforces to catering for changing customer expectations, the paradigm shift (particularly the 2C scenarios) towards digital has brought a host of security challenges. Covid-19 accelerated significantly both digitalization but as well the attack landscape. The workshop discussed the main bottlenecks, collaboration expectations, and best industry practices of manageable and controllable 5G security for stakeholders such as telecom operators, vendors, service providers, governments and its users.

3) **Key achievements, announcements, launches, agreements, and commitments**

This workshop initiated the discussion on how current collaboration is manifesting itself and how this can inform international approaches to cyber resilience and cybersecurity by sharing knowledge and information.

In the current environment of COVID-19 epidemic and security challenges, the implementation of cyber security requires the collaboration and efforts of industry stakeholders and relevant organizations around the world to remain open and transparent, and share knowledge. With all the stakeholders' efforts, GSMA 5G Security Knowledge Base and NESAS are of good reference value, which provide baseline security controls best practice guidance and global unified cybersecurity standards for regulators,

carriers, vendors, service providers, and users. Based on the consensus baseline and de facto standards, they facilitate sharing and co-construction of cyber security. Ensuring the stability of the supply chain should be based on facts, and security by design should be considered from the product design stage.

4) Main outcomes highlighting the following:

12) **Debated Issues**

Q1: As an accelerator for industrial transformation and upgrade, and a new cornerstone for building a digital society, 5G continues to accelerate its development. In the process of large-scale application of 5G, cyber security will ensure the digital transformation of society. During the pandemic, from managing remote workforces to catering for changing customer expectations, the paradigm shift (particularly the 2C scenarios) towards digital has brought a host of security challenges. What are the main bottlenecks for stakeholders such as telecom operators, governments and its users?

- **Mohamed Anwer Mohamed Yusoff, CyberSecurity Malaysia:** During the pandemic, we have encountered an increase in the number of cyber incidents reported to us. According to the Malaysian Communication Multimedia Commission, almost 1 billion US dollars was spent by the service providers to upgrade services. Another issue is the accessibility of the network. It is of utmost importance that accessibility is for everyone, not just urban areas, but everybody in the villages in the rural areas. This is definitely going to be a bottleneck considering that deployment and infrastructure is expensive, and providers have to look into the return of investment. How governments will be able to assist on this aspect is going to be a key issue.

- **Luc Hindryckx, ECTA:** 5G will bring lots of benefits to various sectors of economy and also increasing efficiency. It's the fact that the demand for 5G skills have exploded, so answering this demand of skills remains a critical part. The other thing is that we should absolutely consider to have sufficient competition in the deployment of 5G. The more the market gets competitive, the more investment we have, the more 5G coverage we get, and the more global welfare will become. It's the same in the supply chain. Assuring competitiveness on all the right level of competition in different elements of the value chain is mandatory to deliver all the potential of 5G and cybersecurity as we explained.

- **Ian Smith, GSMA:** Perhaps the most obvious bottleneck is “fear of the unknown/change”, governments and citizens alike need to have trust in the services they are using, informing and educating governments and users is key. Regulation is another potential bottleneck. Governments & regulators all over the world are trying to determine how best to secure critical national infrastructure, if they get it right everybody wins, if they don’t then it could be a significant burden; that’s why GSMA works with cybersecurity agencies to help ensure the standards and schemes they develop are aligned with industry needs. 5G opens up a wealth of new use cases and sectors (Industry 4.0) and there is a shift to network virtualisation. These factors increase the attack surface, but mitigations do exist and these factors are not blocking 5G deployment or adoption from a technology perspective at least. The mobile industry has a long history of deploying new technologies in a secure way and 5G is no exception.

- **Afke Schaart, Huawei:** Firstly I would like to mention the importance of women in cybersecurity. Last week, UNESCO published a report that 75% of all the jobs will be related to tech or stem in 2050, so it's really important that we get women on board in cybersecurity as well. Also, it's very important that we keep young people, and people at later stages in their career on board. 5G but also other technologies will affect every aspect of everyday life and that's why it's so important to have people with the right skill set and to make sure that everybody's on board.

Q2: In the new digital era, cyber security resilience based on anti-attack capabilities and quick recovery capabilities will play a role in infrastructure construction, to ensure cyber security and provide more secure and reliable information services for society. What roles and responsibilities should different stakeholders play in building cyber security resilience?

- **Sadhvi Saran, ITU:** Building cyber resilience is a shared responsibility, which requires coordinated action. Driving multi-stakeholder collaboration is imperative to this effort towards moving to a secure digital future by prioritizing action on extending operating infrastructure, mobilizing investment in public private partnerships, making inclusiveness, transparency and accountability a priority, and finding innovative ways to do business. Governments in particular can play an active role in building a safe, trusted and inclusive digital space by fostering an enabling environment that can evolve to keep pace with the rapid

rate of technological change, while also allowing innovation to thrive. Key stakeholders including the private sector, technical communities, and academia need to develop more agile and innovative models of partnership and knowledge sharing. In the increasingly interconnected digital economy of today, the role of multilateral and multi-stakeholder consensus based organizations continue to remain critical to strengthen action and cooperation towards building trust and confidence in digital technologies.

- **Ian Smith, GSMA:** From the Standards Bodies, we need secure globally-agreed standards. This is largely what we get from 3GPP, ITU, ETSI etc. From Governments and Regulators, we need clear guidance on what security and resilience they expect from mobile networks, and for this guidance to be as globally harmonised as much as possible. We also need regulators to understand how the 'end to end' security and resilience of 5G services cannot be the sole responsibility of just the underlying networks. Services providers, cloud providers and enterprise customers must play their part. Focusing just on mobile network operators and network vendors, they have a huge role to play to build cyber security resilience: Mobile network operators are ultimately responsible for the security of their networks. They need to ensure: 1) they have a secure network equipment supply chains (i.e. using SAS, NESAS, eSA security certification and assurance schemes); 2) they configure, operate and update their networks in a secure and resilient manner, using mature processes (i.e. implement the guidance in GSMA 5G Cybersecurity Knowledge Base); and 3) they actively monitor for threats and, where appropriate, actively share threat intelligence within their communities (i.e. using T-ISAC, CVD and FASG). Network equipment vendors can assist by ensuring a 'secure by design' methodology is used within their development, design and in-life product management processes. (i.e. implement the guidance in the GSMA 5G Cybersecurity Knowledge Base and use schemes such as NESAS)

- **Luc Hindryckx, ECTA:** There is a big shortage on the overall demand of ICT specialists in the industry. Women also need to join and to embrace technical studies. The complexity of supply chain is increasing, and it remains important to have all the elements that would take cyber security risk at the right level, so we are talking about security by design, standardization, and harmonization of testing labs. The verticals would be much better if everybody could trust and would be convinced of the security of the equipment that we use as long as it is

certified. We would all gain in having supply chain returning to more factual-based elements, where we could rely on certification.

- **Mohamed Anwer Mohamed Yusoff, CyberSecurity Malaysia:** In terms of standards and harmonization, it is extremely important. We have taken this role of setting up our first 5G cybersecurity certification Center, and we continue to invest in certification such as NESAS/SCAS. Also, building up manpower and resources is definitely one of our key thing. Asia Pacific is the world's largest 5G and 6G market with more than 3 billion people here. For Malaysia and cybersecurity Malaysia, we have our common criteria test lab which has been involved in a lot of standards development. When it comes to standards, some countries would like to take their own standards development. Countries like Malaysia have to follow standards set up by ISO. When a product has been certified to pass the ISO standard, then it should be accepted.

- **Afke Schaart, Huawei:** As we are discussing 5G and other technologies, countries like Malaysia or in Asia Pacific are quite quick and Europe is a little bit lagging behind, so that's why it's so important to come to a unified standard as an industry, but also as governments to make sure that everybody can enjoy the same standard worldwide. 5G connections will surpass 1 billion in 2022 and 2 billion by 2025. It's going to influence all industries and also all aspects of life, so that's why it's so important for us all to come to an agreement on how we make it as secure and resilient as possible.

Q3: In the telecommunication field, what roles should stakeholders play to enhance knowledge and information sharing of 5G cyber security management across regions, countries, and sectors, to move to a cyber resilient and cyber secure world? What measures, baselines, and practices are we sharing in terms of governance, regulation, technology, and standards?

- **Mohamed Anwer Mohamed Yusoff, CyberSecurity Malaysia:** When it comes to cybersecurity, people are the most fundamental to process. When we talk about process, we are talking about standards and guidelines. The challenge is what standards in the industry are going to be adopting and how to build a knowledge base around it. For countries like Malaysia, we adopt global standards, so that could be the way for us to move forward faster with that, rather than trying to build our own local standards.

- **Olivier Vivolo, Orange Group:** It's really important to get a good practice in the standard and for products or services. For the role of each stakeholder in the 5G ecosystem, each stakeholder must be involved in the security building and must commit on the liability on the security of services. The configuration of 5G products must consider “secure by design”. When we get products from vendors, the “security by design” must be integrated, and standards must be configured or defined, or security function in the standard must be integrated. We need to change our mindset, and get security commitment for the configuration.

- **Ian Smith, GSMA:** The mobile industry needs clear, globally harmonised, standardised security guidelines from governments and regulators. Global security standards significantly ‘raise the bar’ on security whilst minimising timescales and cost. The mobile industry has been highly proactive for many years and develops global industry-led security standards which governments and regulators can leverage. For example: The GSMA’s collaborative efforts, through our Fraud and Security Group which has over 1000 contributors, has led to the creation of the 5G Cybersecurity Knowledge Base for network operators and network vendors which includes 5G threat models, fraud controls and security controls. We operate the Telecommunication Information Sharing and Analysis Center (T-ISAC) and Coordinated Vulnerability Disclosure (CVD) Programme to capture, analyse and share the latest threat and vulnerability information. Where a threat is detected, we will always act. The GSMA has created several security assurance schemes, including the Network Equipment Security Assurance Scheme (NESAS). NESAS provides a security assurance framework to facilitate independent audits of key network elements and improvements in security levels across the mobile industry. These internationally recognised schemes are used extensively by GSMA members. Using data from these activities, the GSMA with its members, publishes an annual security landscape report to highlight and help mitigate risks. We believe this transparency is absolutely critical to protecting networks and the people using them. We’re more secure when we work together.

Q4: How to transform the practices of different countries, carriers, and governance organizations into a knowledge base shared by the industry?

- **Sadhvi Saran, ITU:** The range of technical and policy communities and stakeholders should have trusted platforms to come together to advance efforts

towards a more cyber resilient and a secure world. As an international standards making body for ICT's interoperability, accessibility, security requirements from the design stage, usually every year we have over 300 standards that are released. And it's a result of the collaboration of thousands of experts that work around to develop the technical standards necessary to the cohesion of the global ICT ecosystem. The study groups which produce these standards do aim to provide a neutral global platform for their membership to come together and work on the standardization efforts. The efforts to develop standards have the consensus derived support of the diverse set of stakeholders and members who were involved.

- **Olivier Vivolo, Orange Group:** In terms of security objective, we need to understand how to mitigate risk with suitable security control and meet regulatory requirements. There's a lack of industry standard to help mobile operators implement configuration. I think the creation of such a knowledge base may be a good idea with the incredible complexity on 5G platform. We need to innovate and propose new things in order to remove problems. The initiative of sharing the information of security is to be explored, but I'm strongly interested in changing the mindset. We need to try new things, even if it fails.

- **Mohamed Anwer Mohamed Yusoff, CyberSecurity Malaysia:** One of the biggest vulnerability is having a closed system. We need to collaborate and work together, so this is where the idea of collaboration and standards comes into play. It's about having a sound ecosystem and that is what resilience is all about.

13) Quotes

- **Sadhvi Saran, ITU: No single entity or organization can address the whole range of current and emerging challenges. This is a shared responsibility of multi stakeholders.**

  In this digital age, trust is everything, the issue of cyber resilience and cyber security is rapidly becoming one of the most urgent challenges of today globally. Addressing these challenges will require unified multilateral and multi-stakeholder efforts that foster international collaboration and build trust and confidence in digital technologies.

- **Olivier Vivolo, Orange Group: There's a lack of industry standard to help mobile operators implement configuration that will secure network and customers.**
  We need to change our mindset and maybe the creation of such 5G knowledge base and the certification of NESAS certificates could be a good way to enforce security of 5G.

- **Mohamed Anwer Mohamed Yusoff, CyberSecurity Malaysia: Let's give an equal opportunity to everybody and trust the judgment of testing.**
  We have set up our first 5G certification center, and is able to certificate NESAS and SCAS standards for all stakeholders in the Asia-Pacific, which is the world's largest 5G market. Instead of taking geopolitics into the picture, When concerns over certain products rise, we have the resources to do the testing and do the testing to make sure we are confident and comfortable of using certain products.

- **Luc Hindryckx, ECTA: We would all gain if the supply chain return to more factual based elements, where we could rely on certification schemes. Once you are certified you could then make sure of its security.**
  Harmonization of testing labs and standards would make the audits easier and increase security.
  Unfortunately we are in a geopolitical context today which make these much difficult.

- **Ian Smith, GSMA: GSMA's collaborative efforts lead to many industry-led security standards, such as the creation of the '5G Cybersecurity Knowledge Base' for network operators and network vendors, and security assurance schemes, including the Network Equipment Security Assurance Scheme (NESAS) could be leveraged by governments and regulators.**
  The GSMA has created several security assurance schemes, including the Network Equipment Security Assurance Scheme (NESAS). NESAS provides a security assurance framework to facilitate independent audits of key network elements and improvements in security levels across the mobile industry. These internationally recognised schemes are used extensively by GSMA members to audit key network and security assets. Use of the Network Equipment Security Assurance Scheme (NESAS) is already being piloted as a national certification scheme in Germany. The GSMA is seeking to further introduce it as part of the European Union 5G cybersecurity certification

scheme that's been developed by ENISA on behalf of the European commission's by the Cyber Security Act.

The GSMA's collaborative efforts through our Fraud and Security Group has led to the creation of the 5G Cybersecurity Knowledge Base for network operators and network vendors which includes 5G threat models, fraud controls and security controls. 5G cybersecurity knowledge base is a huge and comprehensive security resource that explains how to secure 5G networks and services.

We also need regulators to understand how the 'end to end' security and resilience of 5G services cannot be the sole responsibility of just the underlying networks. Services providers, cloud providers and enterprise customers must play their part.

Network equipment vendors can assist by ensuring a 'secure by design' methodology is used within their development, design and in-life product management processes. (i.e. implement the guidance in the GSMA 5G Cybersecurity Knowledge Base and use schemes such as NESAS)

- **Afke Schaart, Huawei: We should leverage the expertise of industry associations and standards organizations, and encourage multi-stakeholder communication and collaboration.**

  Fact-based threat analysis is better at solving the real challenges we are currently facing.

  We should developing resilience solutions based on standards and rules.

  Leveraging the expertise of industry organizations should be considered.

  Security and trust from technical perspective will require multi-stakeholder collaboration and joint efforts.

14) Overall outcomes of the session highlighting

The workshop reached main conclusions as below:

- The Covid-19 outbreak has made people more dependent on the Internet, while the frequency of cyberattacks has increased significantly. So building a strong cyber resilience is vital for society.
- The implementation of cyber security requires the collaboration of industry stakeholders and relevant organizations around the world to remain open and transparent, and share knowledge. We should leverage the expertise of industry organizations such as GSMA and 3GPP to build resilient solutions and help carriers perform best practice of trustworthy network.

- Government regulation should be based on industry standards, such as the 5G Security Knowledge Base and NESAS developed by the GSMA, which provide baseline security controls best practice guidance and global unified cybersecurity standards for regulators, operators, vendors, service providers and users. Based on the consensus baseline and de facto standards, they facilitate sharing and co-construction of cyber security.
- Similar to a playbook, GSMA 5G Security Knowledge Base is instructive, including the baseline security controls to help industry to understand and develop their security posture to a foundation level, to ensure that 5G network security is manageable and verifiable and continuously enhances cyber resilience.
- More women are expected to join the ICT industry. Their participation will enhance the building of cyber security resilience.
- Ensuring the stability of the supply chain should be based on facts through product certification and security certification of network devices. Security by design should be considered from the product design stage.

5) Main linkages with the Sustainable Development Goals (please specify the SDGs)

SDG 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation

SDG 11: Make cities inclusive, safe, resilient and sustainable

SDG 17: Revitalize the global partnership for sustainable development

6) Emerging Trends related to WSIS Action Lines identified during the meeting

N/A

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

To build and evaluate cyber security based on the consensus baseline and unified technical and de facto standards.

WSIS and NGOs--Indispensable Cooperation (in implementing the WSIS Action Lines)

Workshop Name: WSIS and NGOs--Indispensable Cooperation (in implementing the WSIS Action Lines)

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/375

Organization: Conference of Non-Governmental Organizations in Consultative Relationship with the United Nations (CoNGO)

Date: Monday, 30 May 2022

Interactive High-Level Dialogue with Mayors on Smart Cities, Drivers of Innovative Sustainable Development

Workshop Name: Interactive High-Level Dialogue with Mayors on Smart Cities, Drivers of Innovative Sustainable Development

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/378

Organization: WSIS/Geneva Cities Hub

Date: Monday, 30 May 2022

ICTs, women entrepreneurs and climate change adaptation: a path to sustainability

Workshop Name: ICTs, women entrepreneurs and climate change adaptation: a path to sustainability

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/379

Organization: WOMENVAI

Date: Thursday, 2 June 2022

ICT Accessibility Capacity Building

Workshop Name: ICT Accessibility Capacity Building

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/380

Organization: Qatar Assistive Technology Center - Mada

Date: Monday, 23 May 2022

Connecting innovations to persons with disabilities in alignment with the Sustainable Development Goals: an overview of the innovation ecosystem from Mada

Workshop Name: Connecting innovations to persons with disabilities in alignment with the Sustainable Development Goals: an overview of the innovation ecosystem from Mada

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/382

Organization: Qatar Assistive Technology Center - Mada

Date: Wednesday, 25 May 2022

WSIS Multistakeholder Alliance on ICTs and Older Persons

Workshop Name: WSIS Multistakeholder Alliance on ICTs and Older Persons

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/386

Organization: WSIS and stakeholders

Date: Friday, 3 June 2022

Breaking barriers to universal meaningful connectivity

Workshop Name: Breaking barriers to universal meaningful connectivity

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/391

Organization: International Chamber of Commerce Business Action to Support the Information Society

Date: Monday, 30 May 2022

Academia Round Table

Workshop Name: Academia Round Table

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/397

Organization: WSIS and Academia

Date: Wednesday, 1 June 2022

Cybersecurity for the future: Deep dive on Cyber Defence Centers

Workshop Name: Cybersecurity for the future: Deep dive on Cyber Defence Centers

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/403

Organization: ITU Study Group 17

Date: Thursday, 2 June 2022

7) Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C5

8) Did your workshop highlight any issues related to COVID-19? If yes, please explain.

No

9) Key achievements, announcements, launches, agreements, and commitments

N/A

10) Main outcomes highlighting the following:

I. Debated Issues

As digital transformation accelerates, people, organizations and systems are connected more and more thus exposed to dynamic cyber-attacks, data and privacy breaches even more. In this changing landscape, active defence is becoming a top prioritized cybersecurity strategy.

A Cyber Defence Centre (CDC) is an entity that provides security services in an organization to manage cybersecurity risks associated with its business activities. Its application ensures an organization can continuously evolve with any emerging cybersecurity needs in the future.

ITU-T Recommendation X.1060: Framework for the creation and operation of a Cyber Defence Centre (CDC), a newly developed Recommendation by ITU-T Study Group 17 in 2021, provides a framework to build and manage a CDC which is an entity within an organization that offers security services to manage the cybersecurity risks of its business activities, and to evaluate its effectiveness. It specifies a service portfolio with 54 services in nine categories that a CDC should have in order to implement cybersecurity measures.

Driven by interests from some African countries, ITU-T SG17 held a survey until end of March 2022 with the aim of understanding the status of cybersecurity measures related to CDC, including Security Operations Centre (SOC) for governments and the private sector, Computer Emergency Response Team (CERT), Computer Security Incident Response Team (CSIRT) etc., in African countries who wished to adopt the X.1060 framework.

This workshop provided an in-depth introduction to X.1060, the motivation and findings from the survey conducted by ITU-T Study Group 17. It also discussed the status of CDC implementation in Ghana, Nigeria and Algeria, the way forward for future work on this game-changing concept of a Cyber Defence Centre (CDC) in ITU-T Study Group 17 and equipped its audience with tools for building and operating an effective secure organization utilizing its framework.

The session was moderated by Ms. Gillian Makamara, ITU and featured presentations from 4 speakers from both the public and private sectors:

- In his capacity as editor of Recommendation ITU-T X.1060, Mr. Arnaud Taddei, Practice Leader, Broadcom Software Group and ITU-T Study Group 17 Vice-chair, provided a detailed description of the CDC framework.
- As the chairman of the Study Group 17 Regional Group for Africa, Mr. Kwadwo Gyamfi Osafo-Maafo then gave some insight into the interest of African countries in the CDC framework, the motivation for the CDC survey, introduced its findings and presented Ghana's status with regards to CDC implementation.
- Finally, the session concluded with two country cases – Nigeria and Algeria:
    - Ms. Ebenmelu Nkiru, NCC, Nigeria elaborated on the experience and observations from responding to the survey and provided insight on Nigeria's sectoral Computer Security Incident Response Team (CSIRT) and the role of Recommendation X.1060 in it; and
    - Mr. Abderrazak Bachir Bouiadjra, Algérie Télécom, who provided insights on Algeria's experience implementing the X.1060 framework.

II. Quotes

Mr. Arnaud Taddei, Practice Leader, Broadcom Software Group and ITU-T Study Group 17 Vice-chair

- "It is extremely important that the business objectives are kept in perspective. You cannot produce security without a business objective. Business objectives are, for example, if I'm company X, I want to be cyber resilient because I want my business to be resilient or it could be that with the pandemic, I want to make sure that my employees have a good seamless security experience. There are other objectives e.g., how security participates to sustainability. These are themes that I see more and more with my own customers. So, with this in place the CISO now has to create and empower a cyber defence centre, and this is the unit that's going to offer a catalogue of services so that it can achieve the objective of this organization."

- "We need feedback, we absolutely need feedback on what the framework is today before we do the next step and the feedback is, if you find a service that is not in the catalogue that should be in the catalogue, make a contribution to Study Group 17 so we can improve. And by the nature of security, security evolves every day, our attackers change the rules, every day. We have no idea if, tomorrow, we need another service, so this framework is very flexible and that is its intention."

Mr. Kwadwo Gyamfi Osafo-Maafo, Head of Cybersecurity Division and Chief Information Security Officer (CISO), National Communications Authority, Ghana and ITU-T Study Group 17 Regional Group for Africa Chairman

- "Having the CDC framework will help us benchmark each other, see where we are going, understand our interests in a much more uniform way. We need to understand the context of all the work that we're doing within security and for ITU, it's Study Group 17 and having awareness of the various resources or recommendations is important, and in this case, we're looking at the CDC knowing who our stakeholders are. And I'm hoping that, as people participate more, we will have better discussions and we can have feedback from everybody, so that we can improve how we implement X.1060."

Ms. Nkiru Ebenmelu, Head of Cybersecurity, Nigerian Communications Commission

- "Our participation in ITU-T Study group 17 meetings helped us become aware of Recommendation X.1060. Our participation in the survey provided us with an avenue to review our performance. Although we are still new in the sphere of cybersecurity, it still gave us an idea of where we stood and how we were doing and, in the process, we identified gaps, lots of gaps, when marking what we do with the catalogue of services listed in X.1060. Our plan is to start with a few services to perfect them and then grow to taking up additional services. We are currently reviewing the X.1060 framework to help us identify gaps and adopt measures to address the identify gaps. As we grow, they'll definitely be considerations for the implementation of the full CDC framework."

Mr. Abderrazak Bachir Bouiadjra, Algérie Télécom SPA, Algeria and ITU-T Study Group 17 Vice-chair

- "The most interesting aspect we found in this recommendation resides in its richness, its adaptability and its adequation, to be adopted and implemented progressively. Organizations don't have to adopt and to implement it as a whole. It's not rigid at all, and we think that it's intended to be understood first and to be adopted and progressively implemented and improved. In our case, we are not just interested by this recommendation but, rather we already adopted the framework and implemented more than 50% of its services. The main idea here is to adopt the PDCA, (Plan Do Check Act) approach done in cycle in which we can do some efforts to start, and to do static or direct mapping between what we already offer and what is already proposed by the CDC framework. In the second phase, we can improve it progressively and improve our implementation."

III. Overall outcomes of the session highlighting

- The cyber defence centre is a game changing concept for active defence which offers a catalogue of services so that an organization can achieve its objectives.
- **ITU-T Recommendation X.1060: Framework for the creation and operation of a Cyber Defence Centre (CDC),** a newly developed Recommendation by ITU-T Study Group 17 in all six official ITU languages, elaborates this framework.
- It is a rich, adaptable and flexible framework that can be adopted and implemented progressively/iteratively.

- Implementing the framework can assist in benchmarking cyber resilience and monitoring processes at a national, regional and global level as well as in understanding global cybersecurity interests and areas of concern uniformly
- Security evolves daily and the framework is also expected to evolve with it. Feedback to and participation in Study Group 17 is essential for development the framework further.
- Participation and engagement with both Study Group 17 and its regional group for Africa is encouraged to foster the adoption and further development of this framework.

11) Main linkages with the Sustainable Development Goals (please specify the SDGs)

SDGs 8, 9

12) Emerging Trends related to WSIS Action Lines identified during the meeting

Cyber defence centres, active defence

Academic perspectives on WSIS & SDGs

Workshop Name: Academic perspectives on WSIS & SDGs

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/406

Organization: WSIS and Academia

Date: Thursday, 2 June 2022

Assurance and conformity assessment of digital products and services

Workshop Name: Assurance and conformity assessment of digital products and services

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/410

Organization: Ernst & Young

Date: Thursday, 2 June 2022

International Conference on Digital Infrastructural Transformation & Education: Road towards SDG 4

Workshop Name: International Conference on Digital Infrastructural Transformation & Education: Road towards SDG 4

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/415

Organization: CMAI Association of India

Date: Thursday, 2 June 2022

WSIS Regional Commission Meeting

Workshop Name: WSIS Regional Commission Meeting

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/426

Organization: WSIS

Date: Thursday, 2 June 2022

SDGzine - Collaborative publication and projects on the UN Sustainable Development Goals

Workshop Name: SDGzine - Collaborative publication and projects on the UN Sustainable Development Goals

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/427

Organization: Addictlab/SDGzine

Date: Friday, 3 June 2022

Race to Net Zero: Combat Climate Change with Technology Innovation

Workshop Name: Race to Net Zero: Combat Climate Change with Technology Innovation

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/434

Organization: WSIS

Date: Friday, 13 May 2022

Upcoming Micro, Small and Medium-sized Enterprises (MSME) Day celebration 2022 and ITU SME Awards 2021 winner spotlight

Workshop Name: Advancing Internet Universality to support sustainable development, digital collaboration and the WSIS+20 review

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/450

Organization: WTO/ITU Telecom SME Programme

Date: Monday, 30 May 2022

IPR 4 ICT – Yesterday, Today and Tomorrow A

Prospective towards Young Think-Tanks

Workshop Name: IPR 4 ICT – Yesterday, Today and Tomorrow A Prospective towards Young Think-Tanks

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/451

Organization: International Young ICT Group, International Federation for Information Processing

Date: Thursday, 2 June 2022

Promoting knowledge creation in the digital era: wisdom for

young people

Workshop Name: Promoting knowledge creation in the digital era: wisdom for young people

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/472

Organization: Wisdom Accelerator for Youth / WSIS Youth Campaigners

Date: Thursday, 2 June 2022

1)Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

C1. The role of governments and all stakeholders in the promotion of ICTs for development
C3. Access to information and knowledge
C4. Capacity building

2)Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all

3)Key achievements, announcements, launches, agreements, and commitments

The world is rapidly changing, young people are facing new and complex challenges today, such as climate change, vast inequalities, migratory pressures, a world post pandemic, and the advancements of digital technologies such as Artificial Intelligence, Machine Learning and other technologies which are replacing thousands of jobs and creating many, some which haven't yet been imagined. The future of work is a concept that many people are talking about with concern. Current educational systems do not necessarily answer for the necessities of the world of today AND tomorrow. With this in mind, young people need to develop knowledge, values and a whole range of critical thinking, communication and other skills to thrive in this world. ICTs and other digital technologies offer multiple opportunities that can help them accelerate their learning skills to build a brighter society

4) Main outcomes highlighting the following:

I. Debated Issues

Our speakers captured the subject of youth and ICTs and offered advice according to their own professional experience. Some of the topics discussed were the following: ICTs and digital technologies can facilitate the transition of young people from school to work. Organizations and businesses can help to build ecosystems that help bridge the digital divide and generational divide as well. Youth should embrace innovation and develop different skills. Soft and hard skills are proportionately important to become wiser. Resilience, creativity, curiosity, adaptability, boldness are some personality traits that are well developed in different organizations and initiatives. Hackathons, virtual workshops, events, mentorships, and even Video games teach many skills valuable for our society.

We spoke about the potential of smart cities to build more sustainable societies. It was mentioned how Artificial Intelligence, digital twins, and that smart cities tools in general is an emerging topic and embedding these skills into the curriculum at the school level or the university level will help youth work towards these topics, answering to what the market needs nowadays.
We discussed leading concerns of technology advancements: job loss, threats to security, or increased technology use which could have the potential to create social disconnection. However, our speakers did recognize that ICTs and digital technologies offer multiple opportunities for personal development.

II. Quotes

- "It is wrong to believe that young people are "digital natives". All young people need to be supported; they need help making sense of a rapidly changing world of technology which gives them access to vast amounts of information" Daniela Marko, WSIS Youth Campaigner and Wisdom Accelerator for Youth

- "Wisdom accelerator really aims to open more doors for teenagers around the globe by sharing stories, knowledge, wisdom and using ICTs. The ability to have a speaker calling from commodities or Liberia to share the wisdom that is very specific to the region and the challenges that we face every day is something quite unique"Marcelo Garcia, the Founder of Wisdom Accelerator for Youth

- "In developing countries, more than half of the future earning capacity will be derived from your experience. So, getting the right experience and getting the right foot into the Labor market is extremely important, and these new technologies can really give you some guidance." Ekkehard Ernst, International Labor Organization (ILO)

- "Progress on the actual basic connectivity is very encouraging; over 60% of people are now using the Internet regularly fueled partly by the pandemic, which has just given a massive boost to the online economy and schools." Ms. Phillippa Biggs, International Telecommunications Union (ITU)

- "Soft skills such as research, leadership and teamwork are really needed to actually come up with solutions and work towards a more sustainable society. There are two fantastic programs or organizations that help with these skills: The global shapers community and the Local Pathways fellowship Program." Mr. Mounir Kabbara, PwC and Global Shapers Alumni (World Economic Forum)

- "Young people must be prepared to respond to the challenges they may have to face in the future at the professional, economic or social level, both locally and globally. However, there is a gap between the skills that young people acquire at university, the hard skills, and the transferable skills, also called soft skills, which will be critical for the development of a successful professional and personal life."Ms. Mireia Azpiazu, from Bizkaia Talent in Spain

- "The global shapers community of the World Economic Forum is a good platform to start thinking about how Youth can change things. It helps youth to have a global mindset which can help local communities, like us, to find solutions." Mr. Anass Hanafi Dali, Globals Shapers Italy (World Economic Forum)

- "The skills we are acquiring while playing video games are real. When playing video games we do get better at something. However, it's important to identify what this something is. For example, hand-eye coordination or decision making skills" Mr. Julien Barbe, Game designer and teacher

III. Overall outcomes of the session highlighting

Our panelists informed, shared their experience and expertise of the new trends to expand learning abilities to youth with the help of ICTs and Digital Technologies. The intent was to educate our global audience on world challenges, ICTs advancements and existing opportunities that young people can learn about to become wiser. The speakers successfully and comprehensively framed this issue.

5) Emerging Trends related to WSIS Action Lines identified during the meeting

Digital literacy.
Bridging the Digital gap.
Video Games challenges and opportunities.
Older and younger generations understandings and partnerships.

6) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

Cybersecurity opportunities for young people.
Mentorships for AI, Machine Learning and other digital technologies for young people under the WSIS framework.

WSIS Gender Trendsetters

Workshop Name: WSIS Gender Trendsetters

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/475

Organization: WSIS

Date: Thursday, 2 June 2022

WSIS Forum 2022 Highlights and Key Outcomes

Workshop Name: WSIS Forum 2022 Highlights and Key Outcomes

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/489

Organization: WSIS

Date: Monday, 30 May 2022

Parliamentarians Role in Advancing WSIS Action Lines

Workshop Name: Parliamentarians Role in Advancing WSIS Action Lines

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/490

Organization: WSIS and Hon. Neema Lugangira (MP, Tanzania)

Date: Thursday, 2 June 2022

How to create your crypto-wallet?

Workshop Name: How to create your crypto-wallet?

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/493

Organization: World XR

Date: Monday, 30 May 2022

Breaking barriers to universal meaningful connectivity

Workshop Name: Breaking barriers to universal meaningful connectivity

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/391

Organization: International Chamber of Commerce Business Action to Support the Information Society

Date: Monday, 30 May

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**

C1 – The role of governments and all stakeholders in the promotion of ICTs for development

C2 – Information and communication infrastructure: an essential foundation for an inclusive information society

C3 – Access to information and knowledge

C6 – Enabling environment

2) **Key achievements, announcements, launches, agreements, and commitments**

Held during the High-Level Week of the WSIS Forum, this session marked the global launch of the International Chamber of Commerce's (ICC) White Paper on Delivering Universal Meaningful Connectivity.

The white paper explores various barriers to this ecosystem and showcases innovative approaches to overcome them. It is built on case studies of real-life projects implemented across the world by businesses and through private-public partnerships to provide meaningful connectivity to unconnected or underserved communities of different demographic, geographic and economic circumstances.

Based on the learnings and strategies derived from the private sector's experience, the paper

offers the following two basic principles for policymaking and highlight three priority areas for improvement:

- Policy and regulatory mechanisms should promote the value of the entire communications and digital services ecosystem.
- Policies should be non-discriminatory, technology-neutral, and supportive of innovative business models and the development and deployment of a wide range of technologies, standards, and system architectures.

To incentivise rapid and efficient action to close the connectivity gap, governments, in collaboration with businesses worldwide, should:

1. Facilitate investment across the entire digital value chain
2. Effectively manage spectrum
3. Ground policies in evidence and data

Expert speakers at the workshop discussed these recommendations at length, reflecting on their implementation and opportunities to collaborate on putting them into practice.

- **Main outcomes highlighting the following:**

VII. Debated Issues

- Please capture highlights of the main issues discussed and interactions with audience.

  This session aimed to explore the challenges to delivering universal meaningful connectivity, as well as to uncover solutions and policy mechanisms that can be leveraged to ensure that everyone, everywhere can reap the benefits of information and communication technologies (ICTs).

  Discussions focused on the need to foster and operationalize collaboration across and within stakeholder groups. This cooperation was identified as fundamental to address the connectivity issue from a truly holistic and transformational perspective. Conversations also delved into the need for such projects to build upon the idiosyncrasies of various communities and remain alert to the persistence of gender and geographical digital gaps, especially when capacity-building is not addressed as part of connectivity-delivering projects.

  The session also marked the global launch of the ICC White Paper on Delivering Universal Meaningful Connectivity. This paper discusses barriers to connectivity and, building on real-life case studies, spotlights innovative and scalable industry approaches to tackle coverage and usage gaps. The paper

then offers a set of principles for policymaking and highlights priority areas for improvement. These recommendations aim to be an actionable roadmap for policymakers to enable and support business efforts to deliver meaningful connectivity and drive associated private sector investment.

The workshop started with a keynote speech by Carlos Lopez-Blanco, Chair of the ICC Global Digital Economy Commission reflecting on the existing global connectivity divides and the need for the right public policies to foster meaningful connectivity for their communities. He highlighted major obstacles to delivering connectivity which were identified and categorized on the paper in three types of barriers: financial, technological, and regulatory ones.

The discussion was then structured in two parts. The first gathered two business representatives who shared their takeaways from their involvement in the creation of the paper. The second part invited to expert speakers to discuss the findings and recommendations of the paper and possible avenues for their implementation.

- Please highlight key achievements and challenges shared by the audience and/or panelists

  Participants discussed the partnership projects and good practices showcased in the case studies of the ICC White Paper. Eusebio Felguera-Garrido, Head of Internet Public Policy at Telefónica highlighted the importance of collaboration across public and private spheres and within these to overcome financial risk and uncertainty and leverage the size and profitability in challenging projects as those to deploy networks in rural areas.

  Building on the importance of multistakeholder approach, Jane Coffin, Chief Community Officer at Connect Humanity, noted how emerging alternative financial mechanisms and business model innovations are an effective path to make everyone, everywhere, connected.

  Participants welcomed the forward-looking approach presented in the paper and stressed the need to operationalize these multistakeholder partnerships. Recalling the challenge of making collaboration effective, participants stressed the importance of consistent communication among the stakeholders of the project and continuous blended assessment, i.e. progress evaluation based on qualitative and quantitative data. This reflection was grounded on the three priority areas for improvement underlined by the White Paper: facilitate

investments across the entire digital value chain, effectively manage spectrum and ground policies in evidence and data.

Together with the importance of multistakeholder projects, speakers addressed the need for such initiatives to consider existing dynamics of the communities (such as gender inequality for example), and address gaps in capacities and skills when aiming to deliver connectivity.

Andrew Bennett, Director for Global Public Policy at The Walt Disney Company, emphasized how meaningful connectivity includes the trio of robust infrastructure, relevant digital services, and effective skills.

Panelists closed the debate acknowledging the existence of important barriers for delivering universal meaningful connectivity and underlining the need for cooperation projects that involve all stakeholders and recognize that different communities will need different solutions and different kinds of partnerships. Speakers also emphasized the strong need for flexible and forward-looking regulatory approaches to enable such projects and ensure their long-term sustainability.

VIII. Quotes

- Please provide two important quotes from the session and the names & organisations of the person you are quoting

Eusebio Felguera-Garrido, Head of Internet Public Policy, Telefónica

"Governments must put connectivity high on their agendas, but with a new approach in terms of regulations and obligations. They need to be aware that what works for cities or the densely populated areas does not work for other areas."

"The first step for digitalization, especially for those people that are not connected or have low quality connection, is that they need to feel the goodness of having connectivity, they need to discover how good is to be connected. We can care about the supply side but we also have to care about the demand side"

Andrew Bennett, Director for Global Public Policy, The Walt Disney Company

"We framed [the concept of meaningful connectivity] in three main parts: (1) accessible and affordable infrastructure and devices, (2) the applications layer, applications and services built upon the infrastructure that are appropriate for the community, and (3) user ability to use a device and understand the features of these application and services".

"Both private and public sector have to do their homework in understanding the community and what are the tools that are going to bring meaningful connectivity to it. When targeting remote and rural areas, policymakers should strongly consider the increased complexity of delivering connectivity, and provide specific, adapted, flexible and non-discriminatory policy solutions in these areas."

Jane Coffin, Chief Community Officer, Connect Humanity

"If the traditional business models are not going to make everyone connected, it means that the financial models have to change, it means that the policy and regulatory models have to shift a bit and it means that we have to collect a lot of data to influence them, to bring people along with us."

Teddy Woodhouse, Senior Research Manager, A4AI, World Wide Web Foundation

"We really have to think about the diversity of markets. It is not a one fits all solution, we have to diversify our markets, diversify the ways that we are fundraising capital, diversify the ways we are providing internet services, both technologically and economically, if we actually want to achieve this goal."

IX. Overall outcomes of the session highlighting

- main conclusions reached during the discussion

The discussions developed on the importance of delivering universal meaningful connectivity for everyone, everywhere. Even if enormous progress has been made on the digital empowerment of communities around the world, participants highlighted the existing barriers and challenges to close the coverage and usage gaps. Building on the insights of the ICC White Paper on Delivering Universal Meaningful Connectivity, they stressed the need for a transformation approach to address economic, technological, and regulatory barriers.

Overcoming these barriers requires effective multistakeholder collaboration, investments across the entire digital value chain, effectively managed spectrum and as well as evidence and data to inform policy approaches.

Importantly, speakers also brough to the front two basic principles for policymaking. They emphasized the importance of policy and regulatory mechanisms promoting the value of the entire communications and digital services ecosystem. They also noted how policies must be non-discriminatory, technology-neutral, and supportive of innovative business models and the development and deployment of a wide range of technologies, standards, and system architectures.

- the vision for implementation of WSIS Action Lines beyond 2015

The WSIS Action lines aim to create and sustain an open and inclusive Information Society where governments, civil society, businesses, the technical community, and international organizations could work together to achieve the full potential of ICTs for development, to bridge digital divides and leave no one behind.

The role of the WSIS Forum is to highlight the important activities and contributions the pursuit of the WSIS action lines can make. By highlighting the efforts made across the many UN agencies involved as well as the work of governments, business, civil society, and others in making progress – the WSIS Forum is an annual opportunity to benchmark progress, share success stories and learning experiences and incentivize further action.

3) Main linkages with the Sustainable Development Goals (please specify the SDGs)

This workshop is strongly linked with Sustainable Development Goals 4 (quality education), 5 (gender equality), 9 (industry, innovation, and infrastructure), 10 (reduce inequalities) and 17 (partnerships for the goals).

4) Emerging Trends related to WSIS Action Lines identified during the meeting

The workshop highlighted key recommendations for policymaking that move forward the implementation of WSIS Action Lines for development. It identified key areas for priority action or improvement that would enhance collective action necessary for the WSIS Action Lines. Importantly, it showcased multistakeholder cooperation and public-private

partnerships and investments that are at the core of the achievement of universal meaningful connectivity and adoption of digital technologies.

5) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

WSIS Forum 2023 should keep seeking in-depth discussions on connectivity and meaningful access to Internet and ICTs and how this contributes to bridging divides and closing the coverage and usage gaps. The WSIS Forum mandate refers to taking stock of the progress made on the WSIS Action Lines. Thus, discussions should gather more in depth multistakeholder conversations on the lesson learnt and progresses made at advancing the Action Lines.

6) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

We consider that WSIS+20 is a great opportunity to reflect and discuss on the evolution of the WSIS implementation process, reflect on the lesson learnt and discuss future actions.

This reflection should acknowledge both the enormous progress made and the challenges that remain in delivering universal meaningful connectivity to all. This would be an opportunity to stress the role that all stakeholders play in the achievement of WSIS Action Lines, and to reflect on opportunities to foster new and further strengthen existing multistakeholder partnerships.

Special Tracks

ICTs and Older Persons Special Track

Opening of the ICTs and Older Persons special track

Workshop Name: Opening of the ICTs and Older Persons special track

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/176

Organization: WSIS and stakeholders

Date: Monday, 2 May 2022

Addressing social isolation and loneliness among older persons through digital interventions

Workshop Name: Addressing social isolation and loneliness among older persons through digital interventions

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/243

Organization: Campbell Collaboration / Global Coalition on Ageing / Global Initiative on Loneliness and Connection / International Telecommunication Union / United Nations Department of Economic and Social Affairs / World Health Organization

Date: Tuesday, 3 May 2022

Technology That Drives Life-long Healthy Ageing - From Mid-Life Onward

Workshop Name: Technology That Drives Life-long Healthy Ageing - From Mid-Life Onward

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/254

Organization: Global Coalition on Aging

Date: Monday, 2 May 2022

ICTs and Youth Special Track

Opening of the ICTs and Youth Special Track

Workshop Name: Opening of the ICTs and Youth Special Track

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/141

Organization: ITU and WSIS Youth Campaigners

Date: Wednesday, 16 March 2022

Transformation for Sustainability: Carbon Neutrality in SMEs

Workshop Name: Transformation for Sustainability: Carbon Neutrality in SMEs

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/143

Organization: WSIS

Date: Thursday, 17 March 2022

E-Waste and what solutions can young people generate (Part 1)

Workshop Name: E-Waste and what solutions can young people generate (Part 1)

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/166

Organization: WSIS/Geneva Youth Call

Date: Wednesday, 20 April 2022

E-Waste and what solutions can young people generate (Part 2)

Workshop Name: E-Waste and what solutions can young people generate (Part 2)

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/168

Organization: WSIS/Geneva Youth Call

Date: Thursday, 21 April 2022

Intellectual Property and Youth: Innovating for a better future

Workshop Name: Intellectual Property and Youth: Innovating for a better future

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/262

Organization: World Intellectual Property Organization

Date: Friday, 22 April 2022

ICTs and Accessibility for Persons with Disabilities and Specific Needs Special Track

Opening of the ICTs and Accessibility for Persons with Disabilities and Specific Needs special track

Workshop Name: Opening of the ICTs and Accessibility for Persons with Disabilities and Specific Needs special track

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/358

Organization: WSIS

Date: Monday, 9 May 2022

Relay Services: What they are, who they are for, and how they began

Workshop Name: Relay Services: What they are, who they are for, and how they began

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/360

Organization: ITU-T Joint Coordination Activity on Accessibility and Human Factors

Date: Tuesday, 10 May 2022

Future Media Accessibility

Workshop Name: Future Media Accessibility

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/361

Organization: ITU Intersector Rapporteur Group on Audiovisual Media Accessibility

Date: Wednesday, 11 May 2022

Green Digital Accessibility

Workshop Name: Green Digital Accessibility

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/363

Organization: Universitat Autonoma de Barcelona

Date: Thursday, 12 May 2022

ICTs and meaningful employment for people with disability

Workshop Name: ICTs and meaningful employment for people with disability

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/412

Organization: Include Ability

Date: Friday, 13 May 2022

ICTs for Developing Countries (and Least Developed Countries) Special Track

Opening of the ICTs for Developing Countries (and Least Developed Countries) special track: Connectivity in LDCs

Workshop Name: Opening of the ICTs for Developing Countries (and Least Developed Countries) special track: Connectivity in LDCs

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/159

Organization: WSIS/ITU/UN Technology Bank for Least Developed Countries

Date: Monday, 4 April 2022

E-resiliency and digital transformation in developing economies

Workshop Name: E-resiliency and digital transformation in developing economies

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/160

Organization: South School on Internet Governance , Economic Commission for Latin America and Caribbean of the United Nations, Centro de Capacitación en Alta Tecnología para América Latina y el Caribe

Date: Tuesday, 5 April 2022

I. The session directly links to WSIS Action Lines

- C2,
- C3,
- C4,
- C6,
- those C7 related with E-business, E-Environment and E-Learning and
- C10 Ethical dimensions of the Information Society

II. Key achievements, announcements, launches, agreements, and commitments

Announcement by ICANN of a special fund for connectivity in emergency areas.

Announcement of the next edition of the South School on Internet Governance in three stages:

1- Online self-assisted training of 8 weeks – August and September 2022
2- One week of onsite / remote capacity building – Mid October 2022
3- A research phase for those fellows with a university degree that will give access to a university diploma on Internet Governance and Regulations in Latin America granted by University of Mendoza, Argentina.

7) Main outcomes highlighting the following:

X. Debated Issues

- Please capture highlights of the main issues discussed and interactions with audience

Relevance of the importance of information and telecommunications infrastructure in the national economy and society.

Cybersecurity is an important issue that must be taken at the highest level, not only as a technology problem.

COVID and natural disasters have shown the importance of e-resiliency in the recovery of the ICT services.

Digital transformation can only be achieved based on a strong ICT infrastructure which must be also resilient.

During the workshop several important issues were highlighted:

- The importance of training and capacity building
- The need to make awareness about cybersecurity issues
- The relevance of the ICT infrastructure
- The importance of SMES to be up to date in the technology developments considering their role in many developing countries' economies.
-

XI. Quotes

Christopher Painter, President of the GFCE Foundation Board

United States

Cybersecurity and digital transformation must be taken very seriously as we think about how we're going to plan and how we're going to make the ecosystem we're building more resilient.

it's great to have those people will talk about that in a moment, but if it doesn't have the higher-level government by, and this is a real priority, and if it's not resourced and support it you're not going to get.

Elena Estabillo

Directora /CEO

Centro-i para la Sociedad del Futuro - Mexico

The COVID experience in addition to the frequency in natural disasters in different parts of the world have highlighted the importance of ICT systems being prepared for different risks and being flexible, adaptable, and able for rapid response.

Raul Katz

Director of Business Strategy Research

Columbia University's Center for Tele-Information - USA - Argentina

Resilience has its limits, because even though the number of connections has increased, we still see a portion of the population that are left out of the system in terms of lack of access, because of economic reasons or limited digital literacy.

Maarten Botterman

Chairman of the ICANN Board

ICANN - The Netherlands

ICANN stands for single global Internet that is interoperable and that serves all people in exercising their fundamental human rights, including the right to seek receive and impart information.

XII. Overall outcomes of the session highlighting

- main conclusions reached during the discussion

- The importance of training and capacity building
- The need to make awareness about cybersecurity issues
- The relevance of the ICT infrastructure
- The importance of SMES to be up to date in the technology developments considering their role in many developing countries' economies.

- the vision for implementation of WSIS Action Lines beyond 2015

1) The role of governments and all stakeholders is fundamental in achieving digital transformation and e-resiliency

2) Information and communication infrastructure: an essential foundation for an inclusive information society

3) Access to information and knowledge: Capacity building and access to information to protect the ICT infrastructure and data are fundamental for development.

4) Capacity building: Capacity building and access to information to protect the ICT infrastructure and data are fundamental for development.

5) Building confidence and security in the use of ICTs: of great importance to achieve e-resiliency.

8) Main linkages with the Sustainable Development Goals (please specify the SDGs)

Goal 1: End poverty in all its forms everywhere
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 8: Promote inclusive and sustainable economic growth, employment, and decent work for all
Goal 10: Reduce inequality within and among countries

9) Emerging Trends related to WSIS Action Lines identified during the meeting

1) The role of governments and all stakeholders in the promotion of ICTs for development
Importance of cooperation among stakeholders
2) Information and communication infrastructure
Importance of access and affordability
3) Capacity building
Education/training to prevent cyber-attacks a) Building confidence and security in the use of ICTs
Authentication and consumer protection towards cyber-security

10) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

Digital transformation in developing economies
Best practices in cybersecurity and the protection of critical infrastructures

11) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

Specially in developing economies, one of the most important challenges is to implement the WSIS action lines related with ICT infrastructure as a high important issue in the policy and pollical agenda, and not only as a technology issue.

Role of ICTs in Finance and Digital Inclusion

Workshop Name: Role of ICTs in Finance and Digital Inclusion

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/225

Organization: ITU/UN Technology Bank for Least Developed Countries

Date: Wednesday, 6 April 2022

ICTs opportunities and challenges in developing countries – An Academic perspective

Workshop Name: ICTs opportunities and challenges in developing countries – An Academic perspective

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/286

Organization: WSIS

Date: Thursday, 7 April 2022

ICTs Access and Affordability in Developing Countries for Digital Inclusion

Workshop Name: ICTs Access and Affordability in Developing Countries for Digital Inclusion

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/288

Organization: WSIS/United Nations Economic Commission for Africa/United Nations Economic Commission for Latin America and the Caribbean

Date: Friday, 8 April 2022

ICTs for Industry 4.0 and Emerging Digital Technologies for Sustainable Development Special Track

Opening of the ICTs for Industry 4.0 and Emerging Digital Technologies for Sustainable Development special track

Workshop Name: Opening of the ICTs for Industry 4.0 and Emerging Digital Technologies for Sustainable Development special track

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/273

Organization: WSIS

Date: Monday, 11 April 2022

How to combine blockchain technology to revolutionize the supply chain?

Workshop Name: How to combine blockchain technology to revolutionize the supply chain?

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/283

Organization: WSIS

Date: Tuesday, 12 April 2022

Consolidation of programmes

Workshop Name: Consolidation of programmes

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/231

Organization: The OneGoal Initiative, Zurich AR/VR Meetup

Date: Wednesday, 13 April 2022

Using emerging technologies to reduce pollution and combat climate change

Workshop Name: Using emerging technologies to reduce pollution and combat climate change

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/278

Organization: WSIS

Date: Thursday, 14 April 2022

Multi-stakeholder collaboration for responsible and ethical Artificial Intelligence

Workshop Name: Multi-stakeholder collaboration for responsible and ethical Artificial Intelligence

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/237

Organization: World Benchmarking Alliance

Date: Thursday, 14 April 2022

Measuring the deployment of Industry 4.0 in developing countries

Workshop Name: Measuring the deployment of Industry 4.0 in developing countries

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/215

Organization: UNCTAD, the University of Johannesburg, the Science and Technology Policy Research

Date: Wednesday, 13 April 2022

ICTs for Well-being and Happiness Special Track

Opening of the ICTs for Well-Being and Happiness special track

Workshop Name: Opening of the ICTs for Well-Being and Happiness special track

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/272

Organization: WSIS

Date: Monday, 11 April 2022

How ICTs Create Happiness

Workshop Name: How ICTs Create Happiness

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/266

Organization: WSIS

Date: Tuesday, 12 April 2022

ICTs for Well-being and Social Connectivity

Workshop Name: ICTs for Well-being and Social Connectivity

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/268

Organization: WSIS

Date: Wednesday, 13 April 2022

ICTs and Sports Special Track

Opening Session of the ICTs and Sports special track: International Day of Sport for Development and Peace. "The power of sport broadcasting and their role in the implementation of the SDGs"

Workshop Name: Opening Session of the ICTs and Sports special track: International Day of Sport for Development and Peace. "The power of sport broadcasting and their role in the implementation of the SDGs"

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/162

Organization: ITU/WSIS

Date: Wednesday, 6 April 2022

How technologies are improving sports injury prevention

Workshop Name: How technologies are improving sports injury prevention

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/233

Organization: WSIS

Date: Thursday, 7 April 2022

I. Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11

The session was in line with the below-mentioned ALs:
- WSIS AL 1: Promotion of ICTs for development
- WSIS AL 3: Access to information and knowledge
- WSIS AL 4: Capacity building
- WSIS AL 5: Building confidence and security in the use of ICTs
- WSIS AL 7: E-health
- WSIS AL 7: E-science
- WSIS AL 9: Media

II. Key achievements, announcements, launches, agreements, and commitments

The session helped to raise awareness about how sports injuries can be prevented by using various technologies, including GPS training data, machine learning, AI, smartphone applications, and wearables. Being aware of the fact that injuries can be prevented enables one to enjoy all the health benefits that sports bring and enables one to avoid injuries, that can be often life-changing since sports injuries are often associated with serious physical, psychological and financial consequences.

III. Main outcomes highlighting the following:

XIII. Debated Issues

- The main issue discussed during the session was how technology can make sports safer. There are several ways in which technologies can prevent sports injuries. For example, professional players wear GPS-equipped jerseys during sports training. To detect patterns and find a probability that a player will get injured in the next days or weeks, the data from GPS are utilized in machine

learning methods. This allows coaches to modify the training schedule of professional players to reduce the risk of injuries and even to predict the recovery status of the players. In addition to the GPS measurements and machine learning methods, mobile applications can for instance help to monitor the run of a person, provide valuable guidance and thus help this person to understand her/his running style and stay injury-free.

The panelists as well as attendees not only discussed the importance of these tools but also agreed that the technology must be available to all. The above-mentioned examples (GPS-equipped jerseys, use of machine learning mechanism, mobile apps) are especially relevant for couches, sportspersons/athletes both professional and recreational. The webinar, however, also mentioned it is important that every doctor has tools such as diagnostic ultrasound with high workflow efficiency and image quality, which would help her/him to monitor soft tissue and would thus help to prevent bad recovery. Nevertheless, healthcare professionals often lack these tools.

In addition, the webinar discussed how sports injury prevention positively impacts mental health.

XIV. Quotes

- "Prediction is better than cure" Alessio Rossi, Data Scientist at the University of Pisa, Italy
- "We should not have a situation where only an Olympian athlete should be able to get all the guidance on how to prevent the sports injury, but also people like you and me, who are doing their weekend runs." Anshuman Singh, CEO of Retisense

XV. Overall outcomes of the session highlighting

- Technology can significantly help in improving sports injuries prevention. Nevertheless, there needs to be an awareness about how technologies can prevent sports injuries, and the tools for improving sports injury prevention need to be available to everybody.

IV. Main linkages with the Sustainable Development Goals (please specify the SDGs)

The main linkages with the SDGs:

- SDG 3: Good health and well-being

- SDG 4: Quality education

V. Emerging Trends related to WSIS Action Lines identified during the meeting

More and more various technologies are being newly used to improve sports injury prevention, for example, machine learning. Without cooperation among various stakeholders, access to information, and confidence as well as security in the use of ICTs, this would not be possible.
(WSIS AL 1, WSIS AL 3, and WSIS AL 5)

VI. Suggestions for thematic aspects that might be included in the WSIS Forum 2023

How technologies are helping to improve sports injury recovery

VII. Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

I believe that the implementation of the WSIS ALs has proved to be successful, also thanks to the platforms such as WSIS Forum. Despite some challenges, for example, that in the least developed countries many people are still “offline”, I believe that we are on a good way to change the phenomenon of the digital divide.

Addressing Visual Impairment of Athletes and Sports Fans through New Technologies

Workshop Name: Addressing Visual Impairment of Athletes and Sports Fans through New Technologies

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/234

Organization: WSIS

Date: Friday, 8 April 2022

ICTs and Environment Special Track

Opening of the ICTs for the Environment week

Workshop Name: Opening of the ICTs for the Environment week

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/154

Organization: WSIS

Date: Monday, 28 March 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**
   WSIS Action Line 1 – Promotion of ICTs for Development
   WSIS Action Line 3 – Access to Information and Knowledge
   WSIS Action Line 6 – Enabling Environment
   WSIS Action Line 7 – E-Learning
   WSIS Action Line 7 – E-Health
   WSIS Action Line 7 – E-Environment
   WSIS Action Line 7 – E-Science
   WSIS Action Line 11 – International and Regional Cooperation
2) **Did your workshop highlight any issues related to COVID-19? If yes, please explain.**
   No.
3) **Key achievements, announcements, launches, agreements, and commitments**
   In this session, we welcomed four panelists from the academia, private sector, NGO, and UN agency to engage in conservation that shed light on the good use of ICTs for environmental conservation. By facilitating this discussion, we adopted the multistakeholder approach as advocated by the WSIS Process to bring more diversity to the topic, allow panelists to engage in fruitful discussions, and provide the opportunity for the participants to explore different perspectives. At the end of the discussion, the panelists all agreed on the importance and potential of digital technologies to accelerate climate action and bring more positive changes to our society.

4) **Main outcomes highlighting the following:**
   XVI. Debated Issues
   - The young people have played an increasingly important role in mobilizing the public to support climate change using technologies, ICTs, and social media. These digital tools have become increasingly popular and powerful in the last few years, as demonstrated by the global scale climate strikes across universities connected and

planned through digital platforms. The rise of digital activism has great potential to push for more significant climate action and raise greater awareness.

- In some communities, digital technologies are not utilized as often. And we need to develop digital competencies for environmental protection that might not exist in some ministries or countries. Digital solutions such as digital databases, monitoring systems, and tracking devices can connect the research communities across the world. Sharing data can help them discuss and facilitate knowledge exchange effectively, thereby developing more innovative solutions for climate change.
- While many of us acknowledge that climate change is an emergency for humanity. And we know that small actions such as taking the bike instead of the car or taking more vegetarian food instead of eating meat could help reduce carbon footprints, yet 80% of the people fail to fulfil their intentions. Therefore, to effectively tackle climate change, we need individuals to change their lifestyles and require systematic behavioural changes that can be guided by new technologies.

XVII. Quotes

a. Mr. Malcolm Johnson, Deputy Secretary-General, International Telecommunication Union: **"Time is a luxury we don't have, and it's in everyone's responsibility to ensure that today's digital transformation promises to deliver on the Paris Agreement on the 2030 agenda for sustainable development, and to do so before it is too late."**

b. Mr. Nick Wise, CEO, OceanMind: **"3 billion people around the world, particularly in the poorest nations rely on seafood for their protein source. And around 12% of the world's population rely on the ocean for their livelihood and some way connected with the seafood industry or with the ocean in general. And so, when you look across this this wide range of potential impacts breakdown of the ocean health is catastrophic. And then, if we think about the discussions on COP 26 and more recently round the climate crisis, it's become clear that the climate crisis and the biodiversity crisis there one thing, they're not two separate issues that we need to deal with separately, they are part of the same issue that we humanity are using the planet unsustainably."**

XVIII. Overall outcomes of the session highlighting

The panelists demonstrated their passions for climate action, highlighted the importance of utilizing digital technologies for environmental conservation, and shed light on the various existing digital environmental protection programmes worth exploring and further developing. The panel concluded that digital technologies would play an increasingly indispensable role in the coming decades to support climate action. And the continued implementation of WSIS Action Line 7 – E-Environment is highly appreciated.

5) Main linkages with the Sustainable Development Goals (please specify the SDGs)

SDG 1 – No Poverty

SDG 2 – Zero Hunger

SDG 6 – Clean Water and Sanitation

SDG 13 – Climate Action
SDG 14 – Life Below Water
SDG 15 - Life on Land
SDG 16 – Peace, Justice and Strong Institutions
The SDGs are interrelated. All environment-related SDGs will be achieved as we shift towards a more environmentally friendly world. The natural habitat will become more liveable for all living species on the planet. At the social level, more green job opportunities could be created that has the potential to eradicate poverty and bring zero hunger.

6) Emerging Trends related to WSIS Action Lines identified during the meeting

Ms. Katharina Paoli Brunat, the Founder and CEO of the Swedish company Nudgd introduced that behavioural changes are necessary for effective action against climate change. And digital technologies have an essential role in monitoring such progress and facilitating positive changes. The connection between technologies, behavioural changes, and carbon footprint reductions is an innovative convention that could be an emerging trend.

7) Suggestions for thematic aspects that might be included in the WSIS Forum 2023

- Digital technologies and climate action
- Digital environmental education
- Animal protection and monitoring
- Digital technologies and Protected Areas/Species

8) Towards WSIS+20 and WSIS beyond 2025, please share your views on the challenges, achievements, and opportunities in the implementation of the WSIS Action Lines to date.

- Regional implementation of WSIS Action Lines will be difficult as it requires extra human and financial resources.
- A lot of protected national parks that require digital technologies for conservation are located in rural areas where telecommunication services are limited, and the knowledge of WSIS Action Lines is also limited. It will be essential to raise greater awareness of the WSIS process.

Towards People-Oriented Cities

Workshop Name: Towards People-Oriented Cities

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/201

Organization: WSIS

Date: Tuesday, 29 March 2022

ICTs and Climate Change

Workshop Name: ICTs and Climate Change

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/210

Organization: WSIS

Date: Thursday, 31 March 2022

ICTs and Gender Mainstreaming Special Track

Code Like a Girl! : Intro to Computer Programming with the TechGirls

Workshop Name: Code Like a Girl!: Intro to Computer Programming with the TechGirls

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/194

Organization: TechGirls

Date: Tuesday, 22 March 2022

Support programmes for women's cooperatives

Workshop Name: Opening of the ICTs for the Environment week

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/152

Organization: Habitat Association

Date: Wednesday, 23 March 2022

Women in STEM Speak Up!

Workshop Name: Women in STEM Speak Up!

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/195

Organization: TechGirls

Date: Thursday, 24 March 2022

Knowledge Café

IEEE Knowledge Cafe

Workshop Name: IEEE Knowledge Cafe

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/318

Organization: Institute of Electrical and Electronics Engineers, Inc. (IEEE)

Date: Thursday, 2 June 2022

1) **Relevance with the WSIS Action Lines – please specify the Action Lines C1 to C11**
   WSIS Action Line C6 Enabling Environment

2) **Main discussion and outcomes:**
   I. **Debated Issues**
   How to:
   - Transform society and infrastructure to achieve Planet Positivity.
   - Identify the technological solutions we need to design, innovate and deploy to reach Planet Positive 2030.

   II. **Discussion**
   The participants discussed first what their envisioned future for a Planet Positive 2030 would be in the context of transforming society and infrastructure to achieve planet positivity and then discussed what innovations can be developed or used that helped achieve planet positivity. These are noted below.

Transform society and infrastructure to achieve Planet Positivity	**Innovations (tech/policy) developed in 2022 that will get us to a Positive Planet in 2030**
Consumption behaviour change to stop harming the planet - campaigns to educate and support populations and incentivise change - from private to common governance	Directing capital to sustainability - decentralised governance structures - restructure healthcare globally
Our youth and children have confidence and comfort that the world they live in is healthy and equitable, and will continue to flourish.	“Political will” empowered by policy and technological test beds that enable innovation and collaboration and sharing of best practices (reduce restrictions and politics)

Border justice; restoring pathways to citizenship and for asylum forMexican and Central Americans into the US. Stop the construction of the border wall and mention illegal use of water down the Rio Grande	Solar panelled roads Frontier technologies Blockchain Technologies for food security Energy efficiency Metaverse Artificial intelligence Internet of things
Bioregional commons - sharing resources as a bioregion; all systems/technology, process, governances following inherent laws of nature and life; protecting the ecosystem and biodiversity; nature-centred environment	Regenerative Living Labs - experimenting niche innovations on a consistent basis
Dream of ecosystem platform - technology at the service of people	Decentralised decision-making
Livable architecture (cities)	Manufacturing, processes in support of a more circular economy → minimise waste
Accessible, reliable, clean, sustainable electricity for all -> electricity enables clean water, connectivity, food	De-centralised production and decision-making
Access to free and reliable policy innovation recycling methodologies	Design for de-manufacturing; design and deploy technology and processes for a circular economy
Full global interconnectivity	Frontier technologies - energy storage, e.g. hydrogen as energy carrier
No more air conditioning automatically installed in countries where not really needed	Large-scale deployment of proven technologies like electricity generation from solar and wind - frontier technologies
No worries about GHG emissions due to travelling	Solar panels and other renewable clean energy generation: solar thermal, deep geothermal
No more plastic pollution	Education for sustainability, literacy and digital literacy

Knowledge Café: WSIS+20

Workshop Name: Knowledge Café: WSIS+20

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/474

Organization: WSIS

Date: Monday, 30 May 2022

Knowledge Café: Bridging the digital gender divide

Workshop Name: Knowledge Café: Bridging the digital gender divide

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/477

Organization: WSIS and stakeholders

Date: Friday, 3 June 2022

Intergenerational Knowledge Café

Workshop Name: Intergenerational Knowledge Café

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/481

Organization: WSIS/GCOA/GIMUN

Date: Thursday, 2 June 2022

Hackathon

ICTs for Preservation, Revitalization and Promotion of Indigenous Languages: Leaving no one behind, no one outside

Name: ICTs for Indigenous Languages

Link: https://www.itu.int/net4/wsis/forum/2022/Home/Hackathon

Organization: WSIS/ ITU/ UNESCO / ISOC

Date: STARTS ON: Apr 18, 2022
ENDS ON: May 10, 2022

People's ability and freedom to use their chosen language is essential for human dignity, peaceful co-existance, reciprocal action, and for general wellbeing and sustainable development of society at large.

Languages, with their complex implications for communication, identity, cultural diversity, spirituality, communication, social and political integration, education and development, are of crucial importance for people and the planet. People not only embed in languages their history, traditions, memory, Indigenous knowledge, unique modes of thinking, meaning and expression, but they also construct their future through them.

Many languages are today in danger of falling into disuse. A majority of these are indigenous languages. The gradual disappearance of languages, particularly indigenous ones, is connected, in practice to the structural discrimination to which they have been subjected, to the vulnerable situation of their users (speakers and signers), whose actual use of their own languages in everyday life depends on the daily reality of their socio-cultural, economic, political, technological, environmental, and demographic situations.

As part of the WSIS Forum 2022 Special Track on ITCs and Indigenous Languages, WSIS, UNESCO, in collaboration with other stakeholders co-organised a virtual hackathon inviting all interested stakeholders to ideate and create ICT solutions that contribute to the intergenerational transmission, preservation, revitalization, and promotion of indigenous languages.

Exhibition

Exhibition Inauguration

Workshop Name: Exhibition Inauguration

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/384

Organization: WSIS

Date: Monday, 30 May 2022

The WSIS Forum 2022 comprised of both virtual and physical. This year, a total of over 30 exhibitors in various stakeholder categories showcased the projects through our virtual and physical and exhibition platforms. The aim of the exhibition and networking platforms was to facilitate a free-flowing and social environment within the WSIS Forum, where stakeholders could interact and form partnerships according to their interests in alignment with the WSIS Action Lines and UN SDGs.

The exhibition inauguration took place on 31 May 2022 at 10:45 am CEST, in the ITU Popov area, where ITU Secretary General Mr. Houlin Zhao, the WSIS Forum 2022 Chairman H.E. Professor Isa Ali Ibrahim (Pantami) honoured the event, with several WSIS Forum 2022 partners who also were exhibitors, present.

The highlight of this year's physical exhibition was a virtual reality (VR) hologram of ITU's Secretary General, presented by World VR, where stakeholders could easily take pictures with the hologram at the click a button. The ground-breaking VR double attracted a lot of attention, further emphasizing the progress and importance of technological advancements for the Information Society.

The virtual exhibition platform also provided networking functions, which allowed users to interact with each other and with exhibitors according to their shared interest. The platform crowed a total of 188 users and 91 networking function registrations.

The topics of interest for this year's virtual exhibition and networking platform included:

- Cybersecurity
- Education
- Blockchain
- Digital Divide
- Digital Inclusion
- Digital Economy
- Digital Transformation

- Environment
- Big Data
- Artificial Intelligence
- Machine Learning
- Cloud Computing
- 5G Technology
- Smart Cities
- Infrastructure
- Health
- Ethics
- Cultural Diversity
- Media

WSIS Forum 2022 Partners
Platinum Partner
United Arab Emirates
Gold Plus Partners
Kingdom of Saudi Arabia
Gold Partner
State of Qatar
Partners for Specific Activities
Huawei
The Institute of Electrical and Electronics Engineers (IEEE)
MIC, Japan
Contributing Partners
Confederation of Switzerland
Internet Society(ISOC)
Supporting Partners
Global Coalition on Aging(GCOA)
International Federation for Information Processing
WSIS Forum 2022 Exhibitors
Basic Internet
AI4GOOD
WorldXR
RightsTech Women
Exponential Destiny
Healthrostrum
University of Pennsylvania
AddictLab
Bonocle
Ada Lovelace Software Private Limited
Fundación Abba Colombia
Humanitarian Encyclopedia
IPIFICATION
Tofara Online
WIWI

Social Networking Events

Date and Time	Event	Venue	Host	Type
Monday, 30 May				
08:45 – 09:00	Coffee break	In front of Room A	Qatar	Open to all participants
10:45 – 11:00	Exhibition Inauguration	Exhibition Area (-2 ITU Tower)	WSIS	Open to all participants
12:45 – 13:00	Coffee break	In front of Room C2	United Kingdom	Open to all participants
13:00 – 14:30	Mayors High-Level Lunch	Villa Rigot	ITU, Geneva Cities Hub, City of Geneva	Mayors only
	Knowledge Café - WSIS +20	ICT Discovery	WSIS	Open to all participants
16:15 – 16:30	Coffee break	In front of Room A	Saudi Arabia	Open to all participants
19:00	Reception by Poland	Permanent Mission of Poland	Poland	Invitation only
Tuesday, 31 May				
08:00 – 09:00	UNGIS Leaders High-Level Breakfast Meeting	Satellite	ITU Secretary-General	UNGIS members only
08:30 – 09:30	High-Level Networking	In front of Popov Room	WSIS	High-Levels only
12:30 – 14:00	High-Level Lunch (Sponsored by Platinum Partner)	ICT Discovery	ITU Secretary-General	Invitation only
15:30 – 15:45	Coffee break	In front of Popov	Japan	Open to all participants
18:30 – 22:00	Official Reception	Montbrillant Cafeteria	ITU Secretary-General	Open to all participants
Wednesday, 1 June				
10:45 – 11:00	Coffee break	In front of Popov	Bahrain	Open to all participants

12:00 – 13:30	High-Level Lunch (Sponsored by Gold Plus Partner)	ICT Discovery	ITU Secretary-General	Invitation only
15:30 – 15:45	Coffee break	In front of Room C2	Nigeria	Open to all participants
19:30 – 22:30	Cocktail and Gala Dinner	Four Seasons Hotel	ITU Secretary-General	Invitation only
Thursday, 2 June				
09:00 – 10:45	Knowledge Café - Planet Positive “Imagine the Future We Can Build Together”	ICT Discovery	IEEE	Open to all participants
10:45 – 11:00	Coffee break	In front of Room A	Lithuania	Open to all participants
16:15 – 16:30	Coffee break	In front of Popov	Gambia	Open to all participants
18:00 – 19:30	India’s Reception	Montbrillant Cafeteria	India	Open to all participants
19:30 – 22:00	WSIS TalkX (Networking Cocktail)	ICT Discovery	WSIS	Open to all participants
Friday, 3 June				
13:00 – 14:30	Knowledge Café - Bridging the digital gender divide	ICT Discovery	WSIS and Stakeholders	Open to all participants

Closing Ceremony

Closing Ceremony of the WSIS Forum 2022

Workshop Name: Closing Ceremony of the WSIS Forum 2022

Workshop Link: https://www.itu.int/net4/wsis/forum/2022/Agenda/Session/356

Organization: WSIS

Date: Friday, 3 June 2022

Quick Links

- WSIS Forum 2022 Official Website: https://www.itu.int/net4/wsis/Forum/2022/
- Open Consultation Process:
- https://www.itu.int/net4/wsis/Forum/2022/Pages/OpenConsultations#intro
- Agenda: https://www.itu.int/net4/wsis/Forum/2022/Pages/Agenda#intro
- Facebook WSIS Process: https://www.facebook.com/WSISprocess
- WSIS Flash: http://groups.itu.int/stocktaking/WSISFlash.aspx
- Twitter WSIS Process #WSIS: https://twitter.com/wsisprocess
- WSIS on YouTube: http://www.youtube.com/wsisprocess
- WSIS Stocktaking: www.itu.int/net4/wsis/stocktakingp/en
- United Nations Group on the Information Society: www.ungis.org
- Partnership for Measuring ICT for Development: http://www.itu.int/ITU-D/ict/partnership/

For further information please write to the WSIS Secretariat at wsis-info@itu.int

Documentation

Video Highlights and Interviews:
https://www.youtube.com/user/WSISProcess

Photographs:
Photo Contest | WSIS Forum 2022 (itu.int)

Invitation for WSIS Forum 2023

The World Summit on the Information Society Forum 2023 represents the world's largest annual gathering of the 'ICT for development' community. The WSIS Forum, co-organized by ITU, UNESCO, UNDP and UNCTAD, in close collaboration with all WSIS Action Line Facilitators/Co-Facilitators, has proven to be an efficient mechanism for coordination of multi- stakeholder implementation activities, information exchange, creation of knowledge, sharing of best practices and continues to provide assistance in developing multi-stakeholder and public/private partnerships to advance development goals. This Forum will provide structured opportunities to network, learn, and participate in multi-stakeholder discussions and consultations on WSIS implementation. The Agenda and Program of the Forum will be built on the basis of the submissions received during the Open Consultation Process.

Additional information about the WSIS Forum 2023 will be made available soon.