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WSIS Forum 2019 High Level Track Outcomes

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Chairman Summary

Focused Themes:

- Enabling Environment
- Inclusiveness-access to information and knowledges for all
- Bridging digital divides/ digital commerce and trade finance for development and role of ICT
- Ethical Dimension of information and knowledge society
- ICT application and services/ climate change

Outcome and Actions needed:

- Integrated and citizen centric regulatory framework is needed that will support the digital transformation process and will ensure digital identity;
- To bridge the digital divides the developing nations, need to build capacity development in fundamental knowledges of high tech and digital economy, countries should design the projects and programs after identifying the target groups;
- Open telecom market to Digital commerce and create competition that will drive investment, lower price and boost connectivity;
- Emerging technologies like 5G, AI, IoT that is the outcome of the 4th industrial revolution should be accessible, affordable to all; and Government must take initiatives to bring everyone on board- rural-urban, people with all ages and gender, people with special needs;
- With the adoption of emerging technologies, the regulations and policies should be formulated in such a way so that new digital divides do not emerge;
- The Design, development, deployment and use of emerging technologies need to be inclusive, trusted and safe, should incorporate all ethical dimensions of information and knowledge society; secure cyber space is needed for the trust of people,
- ICT application should be service oriented benefitting the population, should be adopted more in natural resource management and waste management combatting the climate change;
- High quality digital infrastructure must be built that is accessible, affordable and reliable.
- Protection of Intellectual property for next generation innovation for the knowledge workers and to protect cultural heritage as well.



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WSIS is the largest gathering of information and communication community discussing the trends, evolution and challenges of new digital innovations. The high-level policy tracks bring all the issues, challenges and opportunities of emerging technologies together from showcases of different countries. These sessions have given us a way forward to extract the maximum benefit from the 4th industrial revolution. But we must remember that technology is for the people, people is not for the technology. Different country has different specialty and characteristics; the technology that is appropriate for one, may not be appropriate for the other country. So, the new technology should be tailored made for different countries. For this to happen we expect active collaboration among countries, governments, private sectors and different stakeholders.



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High Level Policy Session 1: **WSIS Action Lines and the 2030 Agenda**

Moderated by High-level Track Facilitator: Ms. Valeria Betancourt, Association for Progressive Communication (APC), South Africa

WSIS Action Line Facilitator ITU: Dr. Eun-Ju KIM, Chief, Innovation and Partnership Department (IP)

Speakers:

1. **Bangladesh** - H.E. Mr. Zunaid Ahmed Palak, Hon'ble State Minister for Information and Communication Technology
2. **Bhutan** - H.E Mr. Karma Donnen Wangdi, Minister, Ministry of Information & Communications
3. **Djibouti** - H.E Mr. Abdi Youssouf Sougueh, Minister, Ministry of Communication, Post and Telecommunication
4. **Iran** - H.E. Mr. Mohammad Javad Azari Jahromi , Minister, Ministry of ICT
5. **Sigfox** – Mr. Ludovic Le Moan, CEO
6. **Cibervoluntarios Foundation** - Mrs. Yolanda Rueda, Founder and CEO
7. **International Commission on Cyber Security Law** - Dr. Pavan Duggal, Chairman
8. **FerMUN** - Mr. Sebastien Behaghel, Secretary General FerMUN 2019

Introduction

This session tackled the critical role that information and communication technologies play in promoting, advancing and measuring the Sustainable Development Goals (SDGs). It looked at progress made, emerging trends, opportunities, challenges and the road ahead in relation to the integration of ICTs into the approach of the various stakeholders for implementing the 2030 Agenda and facilitate the WSIS Action Lines. The panel was constituted by representatives of the governments from Bangladesh, Buthan e Iran and delegates from Cibervoluntarios Foundation, Sigfox, International Commission on Cyber Security Law and FerMUN in representation of the non-governmental stakeholders.

Vision

- Inclusive digital societies where everyone can benefit from technology.
- Affordable connectivity and access to communication services.
- ICTs as enables of gross national happiness: balance between economic, social and cultural development underpinned by frameworks of good governance.
- Use of technology for innovation and economic empowerment.
- Combination of key factors: infrastructure, investment, innovation, inclusiveness

Fresh priorities



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- Expansion of infrastructure, as a key pillar for building the digital society, is still among the key priorities for policy interventions by States.
- Formal training in the use of ICTs.
- Integration of ICTs across government agencies.
- Strengthening the local and national ICT industries.
- Expansion of e-government services to leverage efficiency, accessibility, transparency, and accountability in the government sector.
- Access to information to combat corruption.

Emerging trends

- Adoption of new technologies to expand access to internet and television, such as satellite communication systems.
- Technological startups with launch of diversified technology businesses including online logistics and Internet of Things.
- Government data centers/hubs and the use of online services for public service delivery.
- Promotion of green and sustainable economic development to remain carbon neutral through initiatives such as green data centers.
- Make employment accessible to all through low-bandwidth and secure-transactions based communication networks.

Opportunities

- Established government strategies to underpin the use of ICTs with development purposes.
- Existence of public-private and multi-stakeholder alliances.

Key challenges

- High costs of dedicated internet connections.
- Unilateralism: use of certain countries of their technological advantage as a tool to exercise the power against others, which results in restrictions to investment.
- Significant portion of the world's population still not connected.
- Civil society not recognized as key protagonist of change to its full extent.
- Not harmonized cybersecurity legislation and jurisdictional issues in relation to cybersecurity not addressed adequately.
- Lack of clarity in relation to responsibilities and duties of Artificial Intelligence coders.
- Aspire the youth to use ICTs to change the work into a better place.



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Road ahead

- Explore alternative uses of existing technology.
- Support innovation.
- Strengthen partnerships.
- Examine the interactions between artificial intelligence and advancement of the SDGs.
- Find new answers in young generations about how to achieve the SDGs with support of ICTs.



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High Level Policy Session 2: **Bridging Digital Divides**

Moderated by High-level Track Facilitator: Prof. Francois Grey, Geneva Tsinghua Initiative, University of Geneva, Switzerland

WSIS Action Line Facilitator UNESCO – Abdulaziz Almuzaini, Director of the Geneva Liaison Office

Speakers:

1. **Bulgaria** - H.E. Mr. Rossen Jeliaskov, Minister, Ministry of Transport, Information Technology and Communications
2. **Lithuania** - H.E. Mr. Elijus Čivilis, Vice-Minister, Ministry of the Economy and Innovation
3. **Namibia** - H.E. Mr. Stanley M. Simataa, Minister, Ministry of Information and Communication Technology
4. **Egypt** - Dr. Abeer Shakweer, ICT Minister's Advisor for Social Responsibility and Services
5. **Somalia** - Mr. Abdi Sheikh Ahmed, General Manager, National Communications Authority
6. **United Kingdom** – Mr. Alex Jones, Head of Emerging Futures and Technology, Department for International Development
7. **Facebook** - Mr. Robert Pepper, Head of Global Connectivity Policy and Planning
8. **Research ICT Africa** - Prof. Alison Gillwald, Executive Director

Introduction

In this session, we heard case studies from several participants representing ministries involved in promoting internet and telecommunications in their countries (Bulgaria, Namibia, Lithuania, Egypt and Somalia), as well as public and private organizations at the cutting edge of ICT issues and the SDGs (DiFD in the UK, Facebook and Research ICT Africa). The discussion covered a lot of ground, from both high-level reflections on what, exactly, digital transformation means, to statistical analysis of the state of the digital divide, to specific implementation programmes at national and regional levels, which highlight the practical difficulties of leaving no one behind, when it comes to telecoms access.

Vision

H.E. Mr. Rossen Jeliaskov, Minister, Ministry of Transport, Information Technology and Communications of Bulgaria captured the vision of this session when he asked the rhetorical question, “ What is the role of the younger generation for bridging the digital divide?”. His answer was a reminder to realize that today's youth is tomorrow's older generation. Thus, the most challenging Digital Divide to bridge, is that between the generations. Because we are all aging, and the world is moving forward with technologies developing at a revolutionary pace, we are all going to need lifelong learning to adapt and keep up. He emphasized that this was a challenge for public authorities in his country as well as donors, who must step up to the plate and work together.



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Fresh Priorities

H.E. Mr Elijus Čivilis, Vice-Minister, Ministry of the Economy and Innovation of Lithuania, pointed out how one of the new challenges in the public sector in his country was basically demystifying what digital transformation means. He emphasized that transformation means going beyond just employing IT technologies to help a process. It means making these processes fully digital from cradle to grave. Coming from the private sector, Mr Čivilis pointed out that governments should not just adopt a wait-and-see policy, saying to businesses “please do something with your business models to become competitive in the global market” The new priority for governments should be to become one of the key players and a role model for the digital transformation, too. Lithuania is making concrete steps in this direction by, for example, training people in ministries but also in local municipalities in the use and impact of machine learning or blockchain.

Emerging Trends

Dr. Abeer Shakweer, ICT Minister’s Advisor for Social Responsibility and Services of Egypt, described how her country was implementing a comprehensive national digital transformation plan based on three pillars. Such national plans appear to be an emerging trend. In Egypt, this involves three pillars. There is an infrastructure pillar at the core of the strategy. Egypt is expanding network coverage, starting with public schools. In parallel, the government is working to increase the percentage of Egyptians with access to the Internet service whether through cables, WiFi or satellites. Another important pillar is capacity building, by increasing the number of Egyptians trained on new and emerging ICT technologies. There are already five training institutes and this year alone another eight institutes will be added. The third pillar is an overarching legislative framework that is taking form, with the drafting of important laws on digital crime and one on data privacy. Egypt is rich when it comes to young people. 50% of Egyptians are below the age of 25. So, the country is working on offering them ICT programs at the educational level, on the training level and also boosting innovation and entrepreneurship.

Opportunities

Mr. Abdi Sheikh Ahmed, General Manager, National Communications Authority of Somalia, described how in his country, which is recovering from decades of conflict, the biggest opportunity is that which comes with providing connectivity and access. The government is beginning to rebuild the telecommunications infrastructure so people can have access. Connectivity is essential, but it's not enough. It must be affordable and accessible. So, people must have digital literacy and user-friendly devices that they can use for that. ICTs are essential catalysts and enablers of social and economic development and so equitable access to information technology is essential. So, national policy and regulatory frameworks are being developed to ensure that access and investments in infrastructure go to the right places.



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Key Challenges

Mr Alexander Jones, Head of Emerging Futures and Technology, Department for International Development of the UK (DFID) explained how DFID has hundreds of programmes harnessing digital technologies to address development challenges across a wide range of sectors include financial inclusion, fintech, transparency and accountability, work on humanitarian crises and education just to name a few. DFID sees that the power to transform the lives of poor people in these varied ways, and this is why access to the Internet is one of the key indicators and targets of the Global Goals. DFID has spent the last year and a half trying to get a better handle on some of the major challenges to access, and drawing on a wide range of expertise. Market failures are holding back connectivity in lots of the countries where DFID works. So there is a real gap around affordability and geographic reach. Promoting new business models is one way to try and overcome this challenge. A second major challenge is information security – trying to prevent as far as possible online harm and security issues – requires working across Government, Civil Society and business. A third challenge is what the World Bank calls analog enablers: the effective policy and regulation and support for skills and inclusion that was discussed by other delegates. But also accountability, to help ensure that the Internet is being used to empower rather than just control citizens. And a fourth challenge, for a bilateral donor like DFID, is the need to engage effectively with the local ecosystems.

Link with the WSIS Action Lines and SDGs

H.E. Mr. Stanley M. Simataa, Minister, Ministry Of Information and Communication Technology underlined the links between the challenges his country was facing, and several WSIS Action lines. For example, Action Line 1, the role of governments in the promotion of ICTs for development, and in particular the need for a policy and regulatory framework that is predicated on empirical data on what perpetuates the digital divide so that one can use that information to then determine interventions that needs to be undertaken. Equally, one needs policy and regulatory frameworks that speak to the perennial challenges of lack of connectivity, particularly connectivity in the rural areas, in line with Action Line 2 on Information and Communication Infrastructure. Policies that are geared at addressing existing digital impediments, such as the lack of digital skills and also the need for appropriate digital content, connect with Action Line 3 on Access to Information and Knowledge, as well as 4 on Building Capacity. And as Minister Simataa pointed out “here I’m talking about content which is not simply dumped on our people, but content that can speak to the challenges, the everyday issues that our people are confronted with.” This is also a reflection of Action Line 8, which emphasizes the need for local content.

Case Examples

Mr. Robert Pepper, Head of Global Connectivity Policy and Planning at Facebook described an annual study called 3i that his company did with the Economist Intelligence Unit. It looks at 53 indicators for each of 100 countries about availability, affordability, relevance and readiness of ICT infrastructures. One of the key findings this year, which is quite disturbing, is that while governments have been making a lot of progress globally closing the digital divide over the last decade, this progress appears to be stalling



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out. Specifically, when countries are grouped by economic quartile, the bottom quartile, the bottom 25% of countries have stalled their improvement on Internet connectivity and are separating from the upper 75%. Even while the next lowest income group is continuing to improve, the lowest income group is not. For example, between 2017 and 2018 the lowest income countries improved 65%. But from 2018 to 2019, the equivalent figure is less than 1%. One of the implications is that it reinforces the need for connectivity projects. In a survey of 99 countries about Internet usage, focused last year on livelihood, one of the remarkable results is the high percentage of people who said that they have used the Internet to look for jobs. The result is 73% overall, and in Sub-Saharan Africa it was 75%. Also, 77% of people said that they use the Internet to develop new skills while they are at work, while 48%, almost half, said that they use the Internet several times a day at work as part of their job. These are encouraging statistics, but the observation of a digital divide that's reopening for the poorest people remains a key issue to address, based on this study.

Road Ahead

Prof. Alison Gillwald, Executive Director of Research ICT Africa rounded up the discussion by reminding the audience that while connectivity is certainly a pre-condition to digital equality, and to overcoming the digital divide, it's not a sufficient condition. While governments tend to emphasize capacity building, institutional development and regulatory effectiveness, as well as bringing the prices down, they need to look beyond these figures, especially in Africa. Because many of the figures one hears refer really to the earlier adopters, and countries are hitting a wall on early adopters who have the skills and financial resources to become connected. The road ahead is clear, but also challenging. While in many countries in Sub-Saharan Africa, connectivity and coverage rates of above 50% are common, and sometimes much higher, the challenge of affordability is limiting participation to much smaller levels of the population. Effective regulation of prices is a key, as more competitive markets. Many people in Africa cannot afford current prices, which should compel governments to address the existing licensing regimes, the existing business models, the existing assumptions being used around markets and the ability to deliver to the poorest of the poor. Demand-side valuing of spectrum could allow people to come online through public WiFi, for example. Micro cell operators are another part of the solution. Africa needs something that is far more hybrid than has been done in the past. That's the only way we will get people on line who can afford it. The benefits go beyond poverty alleviation, and address the prosperity that needed in order for Africa to catch up with the rest of the world.



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High Level Policy Session 3: **Bridging Digital Divides**

Moderated by High-level Track Facilitator: Mr. Greg Francis, Access Partnerships, United Kingdom

WSIS Action Line Facilitator UNDESA: Mr. Vincenzo Aquaro, Chief E-Government Branch, Division for Public Administration and Development Management

1. **Equatorial Guinea** - H.E. Mr. Hipólito Ondo Envo Bela, Vice Minister, Ministry of Transport, Post & Telecommunications
2. **Georgia** - H.E Mr. Lasha Mikava, Deputy Minister, Ministry of Economy and Sustainable Development
3. **Poland** - H.E Ms. Wanda Buk, Undersecretary of State, Ministry of Digital Affairs
4. **CMAI Association of India** - Prof. Narendra Kumar Goyal, President
5. **eWorldwide Group**, Dr. Salma Abbasi, Chairperson and CEO
6. **Telefonica** - Mr. Christoph Steck, Chief Policy Advisor
7. **ISOC** – Ms. Constance Bommelaer de Leusse, Senior Director of Global Internet Policy and International Organizations
8. **UN Women** - Ms. Christine Löw. Director, UN Women Liaison Office in Geneva
9. **UNESCAP** - Ms. Atsuko Okuda, Chief of the Information and Communication Technology and Development Section of IDD

Introduction

Excellent balance of geographical policymakers, infrastructure providers and digital stakeholders with a global perspective; the panel enjoyed good but not equal gender balance. The panel highlighted some of those policy and practical innovations that held lessons for most national policymakers.

Vision

- Rethinking regulation to make it more amenable to experimentation
- Enabling more multistakeholder, public-private partnerships
- More support from national governments for testing of innovative approaches.

Fresh Priorities

Of the many useful initiatives discussed, several, such as creation of tax incentives and cybersecurity laws to underpin digitization initiatives got special mention. Others included a focus on community Wi-Fi as well as the need for capacity building initiatives to equip citizens with the necessary skills and higher levels of digital literacy.

Emerging trends



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Consideration of gender balance remains a trend, which is inadequate to ensuring that women and girls are able to be fully connected to the digital economy (to say nothing of participating in the fourth industrial revolution): gender equality must move from a “trend” to a formal component of any digital initiative.

Opportunities

Key Challenges

Ensuring female participation in the digital economy and providing last-mile connectivity were the most emphasized. Several panellists also highlighted the significant digital divides *within* countries as well as *between* countries.

Link with WSIS Action Line and SDGs

WSIS Action Lines

The discussions turned on the importance of multistakeholder efforts to foster an enabling environment to bridge the digital divide, echoing WSIS Action Line C1 on ‘the role of public governance authorities and all stakeholders in the promotion of ICTs for development’, and WSIS Action Line C6 on ‘enabling environments’. Moreover, this session affirmed the need to enable ‘access to information and knowledge’, in line with WSIS Action Line C3.

SDGs

The session’s review of capacity building initiatives reflects progress to achieve SDG 4 on quality education, which in turn has been proven to have a significant effect on work prospects and economic growth – especially in rural areas – as per SDG 8. Moreover, the discussion on the importance of bridging the digital (gender) divide contributes to reducing inequalities as per SDG 10, and encourages innovation and infrastructure development for sustainable cities and communities as aligned with SDG 9 and 11, respectively.

Case Examples

- **Asia Pacific Information Superhighway – UNESCAP**
 - The Asia-Pacific Information Superhighway initiative aims to increase the availability and affordability of broadband Internet across Asia and the Pacific, by strengthening the underlying Internet infrastructure in the region.
- **Community e-Commerce – Thailand**
 - Effort by Thai government to foster digital inclusion at community level and to underpin that with legislation and regulation that engenders trust in the network.
- **Infrastructure subsidies – Georgia**
 - Public private partnership aiming to provide business and regulatory incentives for infrastructure providers and network operators.



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Road Ahead

The UN e-government survey and some panellists with regional perspectives highlight that the digital divide is not simply within national borders but between countries. Despite the international community's progress thus far, this new threat suggests the need for (additional) urgent action the basis of which is captured in the recommendations in the report cited below.
<https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2018>

Recommendation

- Develop a scorecard system of the most effective projects in key categories (e.g., rural connectivity, digital inclusion, gender balance) that enables governments to test or adopt them on the basis of their proven worth.
- Increase the statistical evidence connected with divides between countries, and organize resources around the implementation of the most successful solutions from the scorecards.



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High Level Policy Session 4: **Enabling Environment**

Moderated by High-level Track Facilitator: Ms. Mei Lin Fung, Institute for Electrical and Electronic Engineers (IEEE)

WSIS Action Line Facilitator ITU: Mr. Kemal Huseinovic, Chief, Department of Infrastructure, Enabling Environment and E-Applications

Speakers:

1. **Bahrain** - H.E. Mr. Kamal bin Ahmed Mohammed, Minister, Ministry of Transportation and Telecommunications
2. **Zimbabwe** - H.E. Mr. Kazembe Kazembe, Minister, Ministry of Information Communication Technology and Courier Services
3. **UAE** - H.E. Ms. Ohoud Ali Shehail, Director General, Ajman Digital Government
4. **Afghanistan** - Dr. Mohammad Najeeb Azizi, Chairman, Afghanistan Telecom Regulatory Authority
5. **Mexico** - Mr. Adolfo Cuevas Teja, Commissioner, Federal Telecommunications Institute
6. **Romania** - Mr. Sorin Mihai Grindeanu, President, National Authority for Management and Regulation in Communications
7. **Switzerland** - Mr. Philipp Metzger, Director-General, Federal Office of Communications (OFCOM)
8. **AZi Bangladesh** - Mr. Anir Chowdhury, Policy Advisor
9. **ASIET** - Mr. Pablo Bello, Executive Director
10. **International Chamber of Commerce** - Mr. Crispin Conroy, ICC Representative Director and Permanent Observer to the UNOG

Introduction

Common goal of an enabling environment for the industry, providers, operators, for the consumers, for the government to offer the best possible services for citizens, businesses to flourish

Vision

Humanity can realize our social and economic goals – the UN SDGs - with the help of digital technology, and we can and must make sure no one is left behind.

Fresh Priorities

Bahrain 99% of people will be covered by broadband with 5G by June, aim to be the first nation in the world to offer full coverage.



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Zimbabwe government main focus is infrastructure development and digital literacy - ICTs to be taught at every age

UAE Ajman Govt set up a Lab that co-creates/co-designs services by engaging the customers and stakeholders in designing better services

Emerging Trends

Switzerland - Problem that data is addressed in silos - needs to be multi-disciplinary

Bangladesh - Empathy training of Civil Servants + contractors can reduce costs and improve service
Opportunities

Romania ranked 5th in the world in growth/internet speed in 2018 but now working to bring to rural, disadvantaged areas where people do not have the same opportunities

Afghanistan Promote global interoperability standards for ecommerce

ASIET – Harmonize protocols and terms for flow of data cross border

Key Challenges

Afghanistan Integrated regulatory framework is a must.

International Chamber of Commerce – Business wants stable legal environment , open markets/free

UAE - Archiving personal data will represent risk for 70% of organizations

ASIET - Critical to bridge digital divide – half of Latin America is not connected

Link with WSIS Action Line Enabling Environment

Kemal Huseinovic - Overall thoughts and connections between panelists

- Obvious that regulation should support digital transformation process
- Achievement of SDGs
- Regulation should put citizens/consumers in the center
- think about/apply multi-stakeholder regulation
- Connectivity/availability/affordability/digital literacy/skills
- Very important to provide trust in ICTs
- Data protection and privacy - digital identity

Case Studies



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Bangladesh - Introduced empathy training for 5000 civil servants. Set up Innovation fund - incentivizes new thinking to improve service delivery to the rural areas. Unleashed 1500 innovation pilots to improve service delivery. One-stop-service centers for accessing dig. Literacy – using public private partnerships eliminated \$5 bn and 627 million visits by introducing health service in rural areas.

Road ahead

Afghanistan - Coordination of allocation of spectrum is important and should be affordable. Regulators must facilitate e-commerce

Mexico - Regulator must have tech ability to decide what is necessary to achieve SDGs – evidence-based decision-making - Must overcome the divide - digital and gender

Romania - personal info must remain safe – essential to have interoperability between states and security systems

Switzerland - More important the HOW of this should be done

4th industrial revolution presents opportunities and big threats – we can organize to achieve the SDGs with interoperability and integrated regulatory frameworks to provide enabling environments for people and businesses to flourish



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High Level Policy Session 5: **Building confidence and security in the use of ICTs**

Moderated by High-level Track Facilitator: Mr. Morten Meyerhoff, Tallinn University of Technology, Ragnar Nurkse Department of Governance and Innovation/ United Nations University

WSIS Action Line Facilitator ITU: Mr. Preetam Maloor, Senior Strategy and Policy Adviser, ITU

Speakers:

1. **Cuba** - H.E Mr. Ernesto Rodríguez Hernández, Deputy Minister, Ministry of Communications
2. **Slovenia** - H.E Mr. Leon Behin, State Secretary, Ministry of Public Administration
3. **France** - Mr Serge Abiteboul, Member of the High Level Board, Autorité de Régulation des Communications Électroniques et des Postes (ARCEP)
4. **Turkey** - Mr. Ömer Abdullah Karagözoğlu, Chairman of the Board and President of the Authority, Information and Communication Technologies Authority
5. **Symantec** - Mr. Jeff Greene, Vice-President, Global Government Affairs
6. **EastWest Institute** - Mr. Bruce McConnell, Executive Vice President
7. **PANIAMOR Foundation** - Mrs. Milena Grillo, Director of Strategy and Innovation
8. **UNODC** - Mr. Neil J Walsh, Chief Cyber and Crime and Anti Money Laundering Section

The vision is clear: Building and maintaining confidence in IT and technology; a safe and secure environment of systems and the digital content within them.

The vision and priorities remain the same. Technology developments provides both challenges and opportunities. Ten years ago, the primary treat was malware, i.e. bad software doing bad things. Malware is not always easy to detect but are relatively easy to detect by todays' standards. Today are legitimate programs and social media platforms are used to for malicious and ill-legitimate things, i.e. good software doing bad things. Those can be much harder to detect and require analysis of huge volume of data. Bots, fakes, phishing, catfishing, identity theft are all on the raise as are cross-border cyber-attacks. Big data feeding AI solutions, decentralized ledgers and trust-chains also help manage data, facilitates transparency, trust and help detect malicious practice.

The **challenge** is two-fold challenge. First, to ensure responsible, common sense and informed use of technology by citizens, businesses, tech and the public sector. Second, to protect from cyber-attacks, malware, phishing identity theft and misinformation on the other.

The session linked to **WSIS Action Line C5** on building confidence and security in the use of ICTs plus and **SDG Goal 9** to build resilient infrastructure, promote sustainable industrialization and foster innovation. Other SDGs include **Goal 16** on strong and resilient institutions, **Goal 17** on partnership for the SDGs and



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associated WSIS Action Lines **C1** on the role of stakeholders, **C3** on access to information and knowledge, **C4** on capacity building, **C5** on confidence and security in the use of ICT, **C9** on media, **C10** on the ethical dimensions of the information society, **C11** on international and regional cooperation.

Case examples highlighted the cyber security frameworks and ecosystem established by authorities in partnership with the private sector, the role of CERT and regulators in both Cuba, France, India and Turkey. The use of AI and ML to detect attacks, malicious behavior, training and awareness raising initiatives like those of India, Turkey and Slovenia authorities and Costa Rican Paniamore Foundation. Public-private-societal collaboration to combat the security issue by the French and Turkish regulators, Symantex, EastWest Institute and Paniamore Foundation. The use of multi-factor electronic identifiers as Indias Adhar or as highlighted by Symantex.

Road ahead is multi-dimensional. First, ensure common sense, informed and responsible use of technology. Second strengthen regulatory frameworks, capabilities and capacities. Third, early detection and response ecosystem. Fourth, cross-sectoral and cross border collaboration.



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High Level Policy Session 6: **Bridging Digital Divides/ Digital Economy and Trade/ Financing for Development and role of ICT**

Moderated by High-level Track Facilitator: Ms. Valrie Grant, GeoTech Vision

WSIS Action Line Facilitator ITU: Dr. Cosmas Zavazava, Chief of Department, Projects & Knowledge Management, Telecommunication Development Bureau

Speakers:

1. **Armenia** - H.E Mr. Hakob Arshakyan, Minister, Ministry of Transport, Communication and Information Technologies
2. **United Kingdom** - H.E. Mr. Julian Braithwaite, Ambassador and Permanent Representative, Permanent Mission of the United Kingdom to UNOG
3. **Rwanda** – Ms. Claudette Irere, Permanent Secretary, Ministry of ICT and Innovation
4. **Greece** - Prof. Konstantinos Masselos, President, Hellenic Telecommunications & Post Commission (EETT)
5. **Poland** - Mr. Marcin Cichy, President, Office of Electronic Communications (UKE)
6. **Subah Infosolutions Ghana Limited** - Dr. Kwaku Ofose Adarkwa, Chairman of the Board
7. **Qatar** - Mr Ali Alwaleed Al-Thani, Economic Advisor to the Prime Minister, Amiri Diwan - Office of the Prime Minister

The session focused on finding ways to bridge the digital divide between developed and developing countries, trends in Technology, looking at how to leapfrog innovation in some economies and financing the innovation.

The Vision is for a digital future where all can participate and benefit from this technological revolution. The priorities highlighted for advancing the digital transformation includes leadership, policy, flexibility, engagement.

Some of the emerging trends highlighted in the session included:

- AI
- IOT
- 5G
- Smart City

Technology is supporting and changing how we organize our governing systems, our economies, and our cultures in unprecedented ways. There are several opportunities for partnerships and collaborations



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between countries and private sector stakeholders. Other opportunities exist for research and development, country to country mentoring- which will ensure that experiences are shared, and no country is left behind. Other opportunities include challenging the status quo and finding new ways to find solutions to old problems. This can lead to new business models and a growing ecosystem of new ventures. Opportunities also exist for creative models to build awareness and educate the general public. One such initiative is the digital Ambassadors program in Rwanda. It targets about 5 million citizens and is designed to train young people as trainers (digital Ambassadors). These digital Ambassadors are trained to train the citizens, and they teach them how to use different applications, Government services, talk about taxes, procurement, transport, all of these they can't do them by themselves.

The key challenges highlighted were:

- Funding innovation in developing economies
- Mainstreaming e-development
- Going beyond our comfort zone
- Recognizing that Access is not education
- Human expectation and interoperability

The discussions and outcomes of the panel are linked to WSIS Action Lines C1, C3, C4, C7 and C11. It is also linked to SDG 9.

The U.K. indicated that it has been very active and a strong advocate for the WSIS Action Line C7 which speaks to Governments, international organisations and private sectors promoting international change and the use of e-Business. This, as they are one of the most digitalized economies in the world and exporting over \$65 billion worth of digital goods and services annually.

There are still many who are not yet benefiting from the digital revolution. The digital revolution will be more meaningful when we all benefit. Going forward a multi-stakeholder approach where government, private sector and academia recognize that they must work together to bridge this divide.



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High Level Policy Session 7: **Ethical dimensions of information and knowledge societies**

Moderated by High-level Track Facilitator: Dr. Jabu Mtsweni, Council of Scientific and Industrial Research (CSIR)

WSIS Action Line Facilitator ITU: Mr. Yushi Torigoe, Deputy Director, Telecommunication Development Bureau

Speakers:

1. **Singapore** - Mr. Zee Kin Yeong, Assistant Chief Executive, Infocomm Media Development Authority (IMDA)
2. **IEEE** - Dr. Konstantinos Karachalios, Managing Director
3. **WeRobotics** - Ms. Sonja Betschart, Co-Founder and Chief Entrepreneurship Office
4. **Ecole polytechnique fédérale de Lausanne (EPFL)** - Dr. Julia Binder, Head of EPFL Tech4Impact
5. **The FutureWork Institute** – Ms. Margaret Regan, President & CEO
6. **Intervale** – Dr. Yuri Grin, Deputy Director General
7. **Aerospace Engineer**- Ayanna T. Samuels

Introduction

The session entitled *ethical dimensions on information and knowledge societies* focused on SDG16 and SDG9 composed of diverse speakers from the government, private sector, international bodies, and civil society working in different emerging technology areas, including drones, artificial intelligence, future game changer technologies, and aerospace. From the session, it was evident that the role of technology is to advance humanity and ethical dimensions are central to a trusted, safe, inclusive, and equitable information and knowledge society. The main themes of the session focused on building trust and confidence, putting ethical principles into practice, community and stakeholder involvement, access and gender equality and thinking about the future technologies and possible ethical dilemmas.

Vision

The design, development, deployment and use of emerging technologies, such as AI, drones and assistive technologies need to be inclusive and contextual involving different stakeholders in order to incorporate all ethical dimensions of information and knowledge societies. Emerging technologies need to be human-centric, ethical, and safe. Ethically aligned principles for



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designing such technologies must be in place and followed. Decisions made by ICTs must be explainable, fair and transparent in order to promote ethical technology behaviour and create confidence and trust in the use of ICTs.

Fresh Priorities

- Bringing relevant stakeholders together to build trusted ecosystems, ethical guidelines and principles for emerging technologies
- Ethically aligned design principles, standards, guidelines and policies for emerging technologies
- Gender digital divide and intersection of multiple forms of social disadvantages

Emerging trends

- Ethical use and application of AI and other emerging technologies
- Contextual design ethically aligned principles and use of technology in information and knowledge societies
- Futuristic ethical dilemmas that comes with innovative ICTs
- Ethics and equality of assistive and access technologies

Opportunities

- The principal opportunity on which the panelists focused is that technology has to consider all ethical dimensions in order to be trusted, contextual and accessible to all.
- Collaboration, coordination, and corporation is vital in building technologies, guidelines, standards and policies that are ethical, human-centric, gender-conscious.
- Opportunities exist in expanding and initiating new regulations and guidelines that addresses ethical aspects and establishes easy-to-use guidelines on using technology to address the sustainable development goals
- Community and stakeholder engagement in building ethical ICTs
- Creating awareness on the ethical dimensions for information and knowledge societies

Key Challenges

The main challenges that emanated from the session include the following:

- Regulations that addresses ethics in the design and development of emerging technologies do not exist
- Existing ethical guidelines and principles are not being put into practice



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- Emerging technologies such as AI come with a number of issues including bias, as observed in facial recognition software
- How do we make AI to be guided by human interest and human ethics?
- How do we deal with futuristic ethical dilemmas that will may emerge with technology game changers?
- Understanding the intersection of multiple forms of social disadvantages presented by assistive technologies affecting women and young girls.
- Many assistive and access technologies are not cost effective and easily available, yet they remain vital for those that are socioeconomically disadvantaged

Link with the WSIS Action Lines and Sustainable Development Goals (SDGs)

- The session focused on SDG-6 promoting just, peaceful and inclusive societies and SG9: building resilient infrastructure, promote sustainable industrialization and foster innovation. The WSIS action lines touched on in the session include:
- C1. The role of public governance authorities and all stakeholders in the promotion of ICTs for development
- C5. Building confidence and security in the use of ICTs
- C10. Ethical dimensions of the Information Society

Case Examples

The Artificial Intelligence (AI) Governance and Ethics Initiatives project which won an award (Action Line 10 at WSIS 2019) focuses on how to use AI to promote trust and confidence, and bring stakeholders together to build a trusted ecosystem advising government on ethical issues and creating awareness programmes on ethics targeting different segments of societies in Singapore.

The Institute of Electronics and Electrical Engineers (IEEE) has been involved in ethical issues and AI for many years, and have developed guidelines (manifesto) published in a book titled: *Ethically Aligned Design: A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems*. The guidelines are openly available (see here http://cn.ieee.org/files/EAD_FINAL.pdf) using the creative commons. Furthermore, IEEE has created a global community aimed at understanding the context in which technology is made. WeRobotics used emerging technologies such as drones and AI for social good in the Flying Labs projects across the different continents. Their process of data collection follows a systematic community engagement model. To date, they have published a set of ethical guidelines



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available on <https://werobotics.org/community/> based on the humanitarian code of conduct and organises workshops on stakeholder and beneficiary engagement.

Road ahead

The WSIS Action Line Facilitator (Mr. Yushi Torigoe) summed it up in his opening remarks by saying “Cooperation, coordination and collaboration are at the heart of 2030 agenda which will shape our digital future. Together we need to face the challenges and opportunities of digital revolution” and the newly elected WSIS 2019 Forum Chairman (H.E. Mr. Mustafa Jabbar) highlighted that “technology is for human beings; human beings are not for technologies”



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High Level Policy Session 8: **Inclusiveness – access to information and knowledge for all**

Moderated by High-level Track Facilitator: Mr. Carl Gahnberg, Internet Society
WSIS Action Line Facilitator ITU:

Speakers:

1. **Dominican Republic** – H.E. Mrs. Zoraima Cuello, Vice Minister of the Presidency
2. **Romania** - H.E. Ms. Maria-Manuela Catrina, State Secretary, Ministry of Communications and Information Society
3. **Uganda** – Dr. Norah Mulira, Commissioner, Uganda Communication Commission
4. **Zimbabwe** - Dr. Gift Kallisto Machengete, Director General, Postal and Telecommunications Regulatory Authority
5. **Portugal** - Mr. João Miguel Coelho, Vice-Chairman of the Board of Directors, ANACOM
6. **Italy** - Dr. Rita Forsi, Director-General of Institute for Communications and Information Technologies, Ministry of Economic Development, Labour and Social Policies
7. **India** – Mr. Sanjay K. Thade, Principal Secretary, Backward Classes Welfare & Tribal Department Divisional Commissioner, Medinipur Division, Government of Bengal
8. **Horyou SA** - Mr. Yonathan Parienti, CEO
9. **Amplio Network** - Mr. Cliff Schmidt, CEO

Introduction

The session “Inclusiveness - Access to Information and Knowledge for All” explored the notion of inclusiveness, and the policies and projects that can promote access to information and knowledge for all through ICTs, as articulated in the WSIS Action Lines and the UN SDGs. The panel had a good representation of the various stakeholder types and regions, and produced interesting discussions on the multi-faceted nature of how, and why, we should promote greater inclusiveness for all, and the various ways in which governments, private sector and civil society groups are addressing this issue.

Vision

As pointed out by one of the panelists, the Agenda 2030 for sustainable development includes a call for information and communication technologies (ICT) for all as ICTs enable opportunities for people. Some key themes that emerged were that it is critical to have a broad outlook to identify the various communities currently left behind, or at risk of being left behind, including populations like refugees. Furthermore, there was an emphasis on the demand side of access, and that inclusiveness goes beyond



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just connectivity but also ensuring accessibility for people with disabilities, and that users are able to trust and find relevant content online.

Fresh Priorities

A key priority that was highlighted by many of the panelists was the need for further efforts to ensure that disadvantaged groups are not left behind. Many panelists expressed a concern that people with disabilities are currently at risk of falling behind. However, as the representative from Romania highlighted there are also opportunities with ICTs to foster greater inclusiveness, providing the example of new innovations from Romanian universities that used artificial intelligence to support the visually impaired. Similarly, the representative from Portugal highlighted pointed to elderly people as a group at risk of being left behind. Furthermore, and as expressed by many participants, affordability and infrastructure development remains a challenge in many parts, for which ensuring a competitive market for access provision, and public-private partnerships was highlighted as important factors.

Emerging trends

Many panelists highlighted the importance of institutional tools to bring change, and the importance of setting targets and vision. Several panelists described their experience of how such clear targets and goals have been beneficial to their work. For example, Italy has a strategy for 100megabit speeds for 85% of the population, and 30megabit speeds to all of its citizens by 2020.

Opportunities

The opportunity to foster inclusion through the use of emerging technologies was also highlighted. The representative from Romania highlighted the opportunities of using AI for people with visual impairment, but also in education, pointing to a recent project whereby an artificial agent could be used for teaching individual students new skills. A project that now has 60% of all schools on board. Similarly, the representative from the private sector highlighted the opportunity of blockchain technologies to support funding for initiatives promoting the SDGs.

Key Challenges

The key challenge that many participants emphasized was the dual challenge of ensuring both the deployment of infrastructure to get people online, but to then ensure that the services are available, and designed in such a way that it promotes inclusiveness. In this view, important challenges included design, local content, and digital literacy. In addition, was the importance of security and trust. As one of the panelists expressed it, security cannot be treated as an after-thought.

Link with the WSIS Action Lines and Sustainable Development Goals (SDGs)



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The direct WSIS Action Line connection is to C-2 and C-3 and related SDGs, the discussion showed the interconnections between these and the other action lines, as the role of government and all stakeholders, the enabling environment and other items were also discussed.

Case Examples

Uganda shared an interesting case whereby the government is collaborating with UNHCR and other local and international partners to promote Internet access to the 1.2million refugees currently living in Uganda. This effort includes expanding connectivity, not only to refugee camps, but also to provide e.g. mobile financial services.

Road ahead

- In looking towards the future and the most important, the following points stood out:
- The importance of articulating clear goals and measurable targets to ensure that success is well understood and can be measure
- The importance of articulating clear roadmaps and policies to progress those goals and targets
- The importance of engaging those communities at risk of being left behind, and to work in partnerships across stakeholder groups to ensure that true inclusiveness of all can be achieved.



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High Level Policy Session 9: **ICT applications and services / Climate Change**

Moderated by High-level Track Facilitator: Dr. Suay Ozkula, University of Sheffield

WSIS Action Line Facilitator ITU: Mr. Yushi Torigoe, Deputy Director, Telecommunication Development Bureau

Speakers:

1. **Burkina Faso** - H.E Ms. Hadja Fatimata Ouattara Sanon, Minister, Ministry of Post and Telecommunications
2. **Oman** - H.E. Mr. Salim Al Ruzaiqi, CEO, Information Technology Authority
3. **Latvia** - H.E. Mr. Edmunds Beļskis, Deputy State Secretary for Information and Communication Technologies, Ministry of Environmental Protection and Regional Development
4. **Senegal** –Mr. Modou Mamoune Ngom, Director of Telecommunications, Ministry of Telecommunications, Posts and Digital Economy.
5. **CMC-Iraq** - Dr. Ali Al-Khwildi, Chief Executive Officer
6. **Iraq** - H.E Dr. Naem Yousir, Minister, Ministry of Communication

The session was moderated by Dr. Suay M. Ozkula from the University of Sheffield (UK) with the Chairman of the summit Mr. Mustafa Jabbar from the Ministry of Posts, Telecommunications and Information Technology (Bangladesh).

Vision

The onus of the session was the increasing effort in making services available to the wider public through the use of ICTs. Areas that appeared as prominent concerns for future visions were health care, governance, access to technology, as well as green procurement.

Fresh Priorities

One of the main priorities that exist in the area is the establishment of digital infrastructures, particular in less connected areas, addressing existing issues around digital inequalities and the respective divides. In that regard, the importance of customer / citizen engagement in the adoption of ICTs has also been highlighted as a key priority towards extending both access and participation. Additionally, the related cost has been raised as an issue in overcoming these existing obstacles.



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Emerging trends

One of the key emerging trends is the effort towards broadening digital access through innovative measures. In particular, the digitization of existing services across communities appears as a global trend and on both a governmental and private sector level. Another area that appeared as a growing trend is the use of AI in services, a novel and innovative approach.

Opportunities

New opportunities exist in the areas of artificial intelligence in supporting services (especially around healthcare), drone technology for documenting environmental change, as well as smart applications for urban areas.

Key Challenges

According to the panelists, a key challenge will be addressing remaining issues of access to digital technologies, primarily an infrastructural issue (e.g. frequencies and cable networks), towards making digital services widely available across the community. Issues also remain around cyber-security in an increasingly digitalized field of services and the connected governance practices.

Link with the WSIS Action Lines and Sustainable Development Goals (SDGs)

These issues link with a broad number of WSIS Action Lines and Sustainable Development Goals, above all the area of Enabling Environment (C6), but in the accounts of the panelists also particularly in the area of e-health (C7). Related concerns exist in the areas of access (C3), capacity-building (C4), and building confidence in security (C5).

Case Examples

Several innovative examples were presented as part of the session. They include breast cancer diagnosis through digital technology advances and the resulting increasing equalization of health care (Oman), smart cities / smart applications in city urban environments (Oman & Latvia), neural network based machine translation (Latvia), the creation of longterm digital strategies on digitization and digitalization (Senegal), as well as the Du3M initiative (Iraq).

Road ahead

The road ahead still shows obstacles in widening access and different aspects and levels of digital divides. It also shows some tangible routes towards achieving these goals through continuous co-creation, citizen centric delivery, piloting, prototyping, constant innovation, and increasing connectivity.



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High Level Policy Session 10: **Inclusiveness – access to information and knowledge for all**

Moderated by High-level Track Facilitator: Ms. Sophie Peresson, International Chamber of Commerce (ICC)

WSIS Action Line Facilitator ITU: Mr. Alexander NTOKO, Chief of the Operations and Planning Department

Speakers:

1. **Benin**- H.E. Mrs. Aurélie Adam Soule Zoumarou, Ministre de l'Economie numérique et de la Communication
2. **Portugal** - H.E. Mr. Luís Goes Pinheiro, Secretary of State for Administrative Modernization, Ministry of Presidency and Administrative Modernization
3. **India** - Ms. Roshni Sen, Principal Secretary, Government of West Bengal
4. **Malawi** - Dr. Esmie T. Kainja, Permanent Secretary for Information and Communications Technology
5. **ICANN** - Mr. Göran Marby, CEO and President
6. **UNICEF**- Ms. Jasmina Byrne, Chief of Policy
7. **United Nations University Institute on Computing and Society (UNU-CS)** – Dr. Araba Sey, Head of Research/Principal Research Fellow
8. **UN Internet Governance Forum** - Ms. Lynn St. Amour – Chair, UN Internet Governance Forum Multistakeholder Advisory Group

Vision

Shared vision among panelists that steps need to be taken and further pursued to ensure that all groups, including vulnerable groups such as women, children and socially disenfranchised, have access to the internet and knowledge. No one should be left behind.

Priorities & Emerging trends

- Acknowledgement that access to ICT is the prime accelerator of economic growth and social inclusion & development, and therefore pivotal in accelerating growth and acts as an enabler for poverty reduction and wealth creation.
- Public and private sectors have identified access as a priority and are taking concrete steps to address hurdles to access. Access here means not just opportunity to connect, but meaningful access that in addition to infrastructure also incorporates services and applications & local



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content and capacity development and skilling to enable populations not just to passively consume but to actively interact with technology

Opportunities

- ICT has been identified as a priority sector in countries given its ripple effect on pulling other sectors, like tourism and agriculture
- E-health services
- Children and young people as early adopters of technology

Key challenges

- Addressing social and cultural bias (including gender stereotypes, unconscious bias etc)
- Need for more and disaggregated data on access for all regions of the world
- Overcoming underdeveloped communications infrastructure, which has contributed to the high cost of doing business and poor access to information.
- Language sensitivities need to be addressed
- Making sure that people have access to the internet AND to knowledge
- Accessibility for youth, women, populations in rural or remote areas
- safety, privacy and protection need to be part of digital services
- Cyber safety and data protection are crucial, and people need to be informed about the responsible behavior online
- Need services on top of the infrastructure
- In addition to providing connectivity, there is a need to provide skills to include critical thinking and problem solving.

Link with WSIS Action Lines and SDGs

Action line C3 – access to information and knowledge

SDGs: 1 (No poverty), 3 (Good health and well-being), 4 (Quality Education), 5 (Gender equality), 8 (Decent work and economic growth), 10 (reduced inequalities), and 17 (partnership for the goals)

Case examples

- Portugal: 54 citizen shops – a ‘shopping center’ for public services, complemented with 566 citizen spots – equipped with digital technologies to help public services be more customer oriented



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- West Bengal: Linking local unit districts with cross-district knowledge sharing platform to share information and exchange best practices and fight information asymmetry
- Malawi: construction of the ICT Infrastructures such as Multipurpose Community Telecentres to create opportunities for rural people particularly the youth to access market information, employment opportunities, education + Legislation.
- UNU: EQUALS Global Partnership for Gender Digital Equality report in March 2019 on the state of gender equality in digital access, skills and leadership. Despite some positive achievements, gender gaps persist in most areas. As technologies become more sophisticated, expensive and transformational, new technology landscapes appear to be replicating existing gender inequalities and new gender divides are emerging.

Road ahead

- Multistakeholder partnerships are crucial and need to include all members of the public, with special attention to young people, women, populations living in remote/rural areas, and disenfranchised populations, as well to hear from them directly their needs and expectations
- Promote access to information and digital technologies to help empower local populations to benefit from information, education, healthcare services, employment and business opportunities, etc.
- Implement public-private partnerships to help bridge the investment gap and help reach local or excluded communities.



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High Level Policy Session 11: Digital Economy and Trade

Moderated by High-level Track Facilitator: Mr. Ted Chen, EverComm Singapore

WSIS Action Line Facilitator UNCTAD: Mr. Torbjörn Fredriksson, Chief, ICT Policy Section, Division on Technology and Logistics

Speakers:

1. **Cameroon** - H.E Mrs. Libom Li Likeng Mendo Moinete, Minister, Ministry of Telecommunications, Posts
2. **Republic of North Macedonia** - H.E. Mr. Damjan Manchevski, Minister, Ministry of Information Society and Administration
3. **Russian Federation** - H.E. Mr. Mikhail Mamonov, Deputy Minister, Ministry of Digital Development, Communications and Mass Media
4. **Indonesia** - Mr. Ahmad M. Ramli, Director General for Post and Informatics Operations, Ministry of Communication and Informatics
5. **Colombia** - Mr. Germán Darío Arias, Commissioner, Communications Regulatory Commission
6. **Asia-Pacific Telecommunity** - Mr. Masanori Kondo, Deputy Secretary General
7. **MLi Group** - Mr. Khaled Fattal, Chairman
8. **ASDF International** - Mr. Kokula Krishna Hari Kunasekaran, International Secretary
9. **Open Health Network** - Mrs. Tatyana Kanazaveli, CEO

Introduction:

Digital Economy and Trade is a very broad subject. The session started with the discussion on the development of e-commerce/e-services for individual countries in various regions. (*Cameroon, Republic of North Macedonia, Russian Federation, and Indonesia*)

The discussion then shifts toward to the regulatory challenges and threats in relations to the digital economy.

(with Indonesia starting as an example, then move over to the Asia Pacific Region by APT, and concluded the overall threats by MLI Group)

The session concluded with forecasting the potential of the digital economy by 2030 and addressing how new technology such as AI and blockchain can potentially impact international trade. (*ASDF International and Open Health Network*)

Vision & Fresh Priorities:



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Data is the foundations to any digital economy and managing the data flows within the country and across the border will have significant impact on trade and the digital economy

The priorities for many countries remain as to define, implement and revise the ever-changing data policy. Local data flow is relatively straightforward for many countries to define, with on-going infrastructure projects. However, for data flow going out of the country, it is more challenging and uncertain. At the global level, more countries are imposing restrictions on cross-border data flows without considering the impact on local capacity building and innovation. Finding the right balance between open and close in relations to local capacity building versus relying on foreign expertise will be critical to any country who wishes to drive and sustain the digital economy growth.

Emerging Trends & Opportunities:

For most country, E-commerce is the gateway to enter the global digital economy, and it is also a catalyst to build/improve the local digital infrastructure that can potentially improve all sectors. Therefore, the digital agenda is very high on the political agenda for most country.

Two weeks ago, UNCTAD released the numbers showing that global e-commerce sales reached 29 trillion in 2017, that's 13% up over the year before. In the context of international trade, data has shown that online buyers or online shoppers that are buying things across the border has risen from 15% to 21% in only two years.

Most key emerging trends centered around improving the 3Vs (data Volume, data Variety and data Velocity). For examples, e-commerce and social networks dramatically increases the data volume. With the emerging of internet of things (IoT) and connected devices, we now have a good variety of data, not just from human but also from machines/devices. Finally, the up and coming 5G network (estimated to be 20X faster than 4G) will improve data velocity and render information to almost real-time. This will enable entrepreneurs and innovators to create new types of services and applications that has never been seen/done before.

Key Challenges & Link with WSIS Action Lines

As the pace of technological change is growing at the exponential rate, it has becoming very challenging for public authorities to stay informed and manage the new opportunity/treats linked to new technology. Regulatory framework is constantly being reviewed and revised for the protection of consumers and national interests, while the use of digital services has now penetrated to all layers of society.

These challenges mentioned above are very much in-line with the WSIS action lines. For example, most countries are already aligned to the action lines C1 and C2. For the challenges in regulatory framework



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mentioned above, WSIS action lines C3, C5 and C7 are closely related. After all, the WSIS Forum helps bring countries together to identify, discuss and sharing of best practices, so all the ICT efforts done around the world can be aligned towards achieving the SDGs together.

Recommendations & Actions

Despite that people are coming to the WSIS FORUM with different background and perspective (public, private, academia, NGOs and etc), it is evident that most of us here now have reached a general consensus on the importance of the digital economy and trade in alignment to the SDGs. More specifically, everyone is now talking about e-commerce and e-services from the same reference point, which resulted in a common understanding of the challenges faced together.

The next step is to reach the same common understanding on the potential impact and consequences on solution implementation, be it a new regulatory framework or technology such as artificial intelligence/blockchain. We need to understand how these implementations will affect the data flow across industry and/or border, which will result in profound economic impact to the individual/global digital economy.



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High Level Policy Session 12: **Gender mainstreaming**

Moderated by High-level Track Facilitator: Prof. Tim Unwin, Royal Holloway, University of London & Lanzhou University, China

Welcoming Remarks: Ms. Doreen Bogdan-Martin, Director, Telecommunication Development Bureau

Speakers:

1. **YouTube-Google** - Ms. Sarah Clatterbuck, Director of Engineering
2. **Israel Tech Policy Institute** - Ms. Limor Shmerling Magazanik, Managing Director
3. **Health and Environment Program** - Dr. Madeleine Scherb, President
4. **Humanized Internet** - Ms. Monique Morrow, President and Co-Founder
5. **EC MEDICI Framework** - Prof. Alfredo Ronchi, Secretary General
6. **European Commission** - Ms. Maya Plentz, Innovation Policy Advisor
7. **World VR Forum** – Mr. Salar Shahna, President, World VR Forum
8. **EQUALS Global Partnership- Internet Society** – Ms. Joyce Dogniez, Chair (EQUALS) - Vice President of Community Engagement and Development
9. **Aspire Artemis Foundation** - Mr. Kenneth Herman, Director of Technology Programming

Introduction

This session included 9 panellists drawn from the private sector, civil society and international organisations, all speaking about the challenges and opportunities for achieving gender digital equality. It was opened by Doreen Bogdan (Director BDT, ITU) who gave an inspirational welcome speech, noting that gender equality and women’s empowerment are essential for achieving all of the SDGs.

Vision

The session emphasised three main issues:

- The difficulties in achieving gender digital equality;
- The need for new actions to be taken, drawing on existing good practices, to support the empowerment of girls and women through digital technologies; and
- The need for these initiatives to be context specific – there is no one-size fits all.

Fresh priorities and emerging trends

Six main emerging priorities emerged from the discussion:

- Recognition of the need to develop locally specific solutions;
- Recognition of the importance of combining diversity with equality;



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- The importance of working with children at a young age in supporting the achievement of gender digital equality and mainstreaming;
- The potential of new technologies, such as Virtual Reality, in offering novel solutions to the challenges of achieving greater understanding of the challenges;
- The important part that everyone – parents, friends, grandparents, teachers, peers and colleagues – can play in working together to achieve greater gender digital equality; and
- The need for collaborative and innovative partnerships.

Opportunities

Many opportunities were identified by speakers, among which were:

- Ensuring that new technologies are used creatively to enhance understanding of gender bias and harassment. Virtual Reality can, for example, be used to help people better appreciate these issues.
- Partnership initiatives, such as EQUALS (<https://equals.org>) can have a significant impact, but only if they do so in new ways that avoid replicating the mistakes of the past.
- Learning from the past. There have been many examples of successful women in STEM (and STEAM) in the past, and knowledge of these should be shared more widely.
- There is increasing global appreciation of the need to take action now, to reverse trends towards increasing gender inequalities in some contexts.
- Through gathering and analysing more, and better data, we will be able to develop new ways of tackling the remaining challenges.

Key challenges

Despite these opportunities, many challenges remain. Among the most important are:

- Deeply rooted cultural practices and behaviours which undermine the role of women in society in general, and specifically in science and technology.
- Systemic practices around education and employment that continue to restrict the role of women in STEM.
- Pay gap between men and women remains a fundamental issue that requires addressing in the tech sector
- The increasing ageing in many societies presents both a challenge and also opportunities. The challenge is that ageing women may not be able to engage actively in future digital environments, but if ageing is allied with disability/accessibility issues then this can represent a larger market that would attract wider financial investment.

Links with WSIS Action Lines



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By definition, this session was exploring cross-cutting mainstreaming issues around gender and digital technologies. It was therefore relevant to all WSIS Action Lines. However, it was particularly pertinent in the following ways

- C3 Access to information and knowledge:
 - Women and girls need access to appropriate information and training in STEM subjects to enable them to flourish in this sector
 - Wider society needs to access information and knowledge about the extent of bias, discrimination and harassment that can affect the choices that girls and women make
- C4 Capacity Building (closely linked to C3 above)
 - Educators at all levels need to be trained to ensure that they do not introduce unintended biases
 - Government officials require capacity development to develop policies, strategies and legislation that enhance gender mainstreaming
- C5 Building confidence and security in use of ICTs
 - Greater attention is needed to reduce the harmful effects of ICTs (such as increased harassment) that deter women from engaging more actively in STEM and the wider tech sector
- C8 Cultural diversity and identity, linguistic diversity and local content
 - It was widely recognised that culturally specific local solutions, building on wider global good practices, are needed to enhance gender mainstreaming in the tech sector

Case examples

Presenters gave many examples of good practices, but also challenges. Some of the most powerful were:

- In Israel 20% of students in high-tech professions in 2014 were women. That is the average of OECD countries. Interestingly, 25 years ago, it was 40%. We need to understand the reason for this decline.
- The Internet Society is working with the APC (Association for Progressive Communications) to increase women's involvement in community networks and enhance policy to allow community networks to access other spectrum, which ensures more wide spread access for women in local communities.
- The work of the EQUALS coalitions (Access, Skills and Leadership) as well as their Research Group led by UNU-CS shows what can be done when partnerships are created.
- TEQtogether – whose work focusing on changing men's attitudes and behaviours towards women and technology, which is essential for greater gender digital equality

The road ahead



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The overwhelming conclusion from the session was that all stakeholders need to work more closely together in effective partnerships to help achieve better gender mainstreaming that will reduce gender digital inequality. One vehicle for achieving this is the EQUALS partnership, and the session concluded both with a plea for more organisations to join this partnership, and also with a symbolic photograph of the panel and audience standing whilst holding their arms in the shape of the EQUALS symbol “=”.

Finally, the session provided a reminder that gender is at the heart of WSIS. Just a small change of lettering indicates the importance of “MISS” within “WSIS”:



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High Level Policy Session 13: ICT applications and services

Moderated by High-level Track Facilitator: Ms. Sabrina Cohen Dumani, Nomands Foundation

WSIS Action Line Facilitator ITU – Mr. Kemal Huseinovic, Chief, Department of Infrastructure, Enabling Environment and E-Applications

Speakers:

1. **Kenya** - Mr. Samuel Mutungi, Member of the Universal Service Advisory Council, Communications Authority of Kenya
2. **Pierre Mirlesse Consulting** - Mr. Pierre Mirlesse, CEO
3. **SAMENA Council** - Bocar Ba, CEO
4. **University of Applied Sciences, Western Switzerland (HES-SO)** - Prof. Nabil Abdennadher, Head of IT research institute /Head of LSDS research group
5. **Richard Kerby LLC** - Richard Kerby, President
6. **UN Habitat** - Dr. Graham Alabaster, Chief, Waste Management and Sanitation, Urban Basic Services Branch
7. **FAO** - Mr. Samuel Varas, Director of IT Division
8. **University of Ilorin, Nigeria/ University of York UK** - Dr. Abdulkarim Oloyede, Senior Lecturer in Wireless Telecommunications

Introduction:

The Panel was very engaged in providing Actionable Insights and best practices from Kenya, Niger, Switzerland, US and UK, to turn ICT into Application and concrete services for the benefit of Society and aligned with the SDGs. The exchanged further expanded with the Private Sector representatives and the academic view of University of Ilorin and of applied Science of Switzerland.

The key questions discussed by the track facilitator, Sabrina Cohen Dumani, were:

Challenges:

- By the end of 2018, 50% of the world population is connected to the Internet. We still need to get the other 49% online: 49%, 3 billion people are left behind.
- How can we deal with accessibility challenges and what strategy the government are putting in place?
- Integrated holistic approach is needed to implement the SDGs but this concept is proven to more difficult to achieving practice due to silos or the main approach or lack of policies and different levels of maturity.



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- Cybersecurity, property rights and data regulation digital divides gender inclusion and loss of traditional jobs.
- Training to improve the illiteracy to reduce the digital divide and increase the youth and gender.

Key insights shared, Opportunities and findings:

- ICT application and services must derive from cohesive ICT policy
- Governments have to invest the necessary framework to facilitate the infrastructure for mobile applications and services such as mobile money services,
- Government have to focus on tangible outcome for society (supporting each country's priorities) and thus be measured towards the SDG impact they enable.
- There are many best practices to be shared and leveraged to improve inclusiveness and poverty and illiteracy such as mobile payment in Kenya (use Smartphone/ access to the service nationwide using even 2Gs). It has given access to banking, savings and loans to farmers who had no access. >Had increased business transactions with customers within the same towns, across towns, and across countries.
- The collaboration between Private, Public and Academic actors has proven a key success driver in ICT applications and services best practices, we should now add another P for people as the dimension every pannelists agreed on. We must be inclusive of the Civil Society and have people on board to understand Internet, if not they will not use it. This is what creates smart applications. Human centered design should be applied to develop solutions for the new opportunities by involving human beings. And all in step and problem solving that we are going to face.
- CPI can be used to enhance monitoring capacity for the SDGs. These tools are used to assess the impact of influx of migrants, supply of water in cities (Nairobi city water company working with Ericsson to provide a system that collects data on access to water), food safety is also an issue

Looking to the future road ahead:

- ICT applications and Services are fundamental to the advancement of SDG progress in a country:
- Access to connectivity
- Ease of public services engagement (through Artificial Intelligence, blockchain and Big Data) driven by use cases: Healthcare, e-Science, Education, government services, disaster management, mobile payment etc.
- Ease of doing business (ICT Policies) are fundamental to this journey.



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- They should inform a Public policy and investment based on country priorities. But government policies should be coordinated internationally to allow interactions (ITU is working on standardization of Smart City technologies). The goal is to support local authorities and Governments to have these tools at their fingertips.
- They should be tracked and measured to provide insights to business leaders and Policy makers.
- Education civil servants and government officials to understand emerging technologies such as AI and blockchain is key to implement appropriate public policies, so continuing education is a priority.
- Inclusiveness: Civil society should be included and understand the benefits of Internet, otherwise they won't use it.



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High Level Policy Session 14: **Knowledge societies, capacity building and e-learning / Media**

Moderated by High-level Track Facilitator: Dr. Naila Siddiqui Kamal, Imperial College School of Medicine London

WSIS Action Line Facilitator ITU – Dr. Cosmas Zavazava, Chief of Department, Projects & Knowledge Management, Telecommunication Development Bureau

Speakers:

1. **AIESEC** – Mr. David Scicluna, President
2. **Bangladesh NGOs Network for Radio & Communication** - Mr. AHM Bazlur Rahman, CEO
3. **CEABAD** - Mr. Sunnam Choi, Program Director
4. **The Womanity Foundation** - Mrs. Valentina Di Felice, Head of Impact and Learning
5. **Iran University of Science and Technology (IUST)** - Dr. Hadi Shahriar Shahhoseini, Vice Chancellor for International Affairs and Director of Research Center for ICT Strategic and International Studies (ICT-SIS).
6. **International Organization for Migration (IOM)** – Leonard Doyle, Head of Media and Communications, Chief Spokesperson
7. **India** - Dr. Subrata Roy Gupta, Principal Scientist, National Informatics Center WBSC, Ministry of Electronics & Information Technology
8. **Just Net Coalition** – Mr. Norbert Bollow, Co-convenor
9. **TechLabs** – Mr Joel Radvanyi, Founder

Introduction

- The session was very well received.
- We covered the *emerging technologies using e-learning, their role in meeting the SDGs through the WSIS Action lines, the enablers and the barriers.*

AIESEC-

- A youth based network forum with more than 40,000 youth connected is looking for government agencies, civil society and business sector to provide opportunities for the members of this network to play their role in developing the future for themselves.
- This places youth as opportunity creators and not just opportunity makers.



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- Youth, need the opportunities to make the world better and they don't want to wait for opportunities to come out go out there and look for those opportunities and make them openly available to all the youth around the globe.

Bangladesh NGO-Community radio- plays a massive role in rural population in engagement, enablement, and empowerment of the disadvantaged groups and vulnerable groups.

CEABAD- Through their *ICT capacity building program in Central America* with a national broadband plan course, in Spanish. Until now, in April of 2019, they have *16 online courses in Spanish* and will have six more courses by the end of this year.

The *biggest challenge* in working are to the centre was finding the right person to create an eLearning platform and the contents inside Nicaragua

Through ICT, instead of reading the materials, we *encourage the learners to participate, the courses through the web and forum*, and any other internet based solutions.

Womanity Foundation:

Girls can code program is a *three-year vocational program* that Womanity foundation in Afghanistan, particularly in Kabul in the public school for girls.

- a three-year vocational training program in which in the first year, we *teach students English*, in the second year, *basic computer literacy* and we have an *introduction to coding* and web development in which we teach them basic language, coding languages, and languages
- research showed that in Kabul, there are a lot of IT companies, maybe start-ups but they always fail because maybe *they don't have a strong business plan*. So it's important also to provide other types of skills that can combine with the -- can be used in combination with the more technical skills.

Iran University of Science and technology:

- *4 million students in total and about 1 million in governmental university*, all major universities are equipped to *eLearning facility* and rural part of their student and full online system
- *Partnership of academic institution*, and industry play a *crucial role in the learning process*.



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- collaborative efforts taken by network of industry and network of university will help capacity building and knowledge and combined effort and initiative by these two networks will accelerate the implementation of knowledge society.
-

International Organization for Migration (IOM):

- *Access to the migrant population was*
 - *eLearning mobility, migration, are all interactively interlinked*
 - *258 million international migrants, about 10% of them are refugees fleeing conflict and fleeing a country*
 - *it's important to look carefully at how we can reinforce civic media, curated media, peer-to-peer communications and try to turn the crazy social media model on its head so that civics gets back into the discussion.*
 - *They had some good experience with this in West Africa where we have given SmartPhones and a little bit of help to my grants would have returned from detention in Libya so they can tell their own story.*
-

India-Principal Scientist National Informatics Centre.

- *ICTs has the power of transformation of economies, as well as societies.*
- *The knowledge societies, emphasized on four basic pillars.*
- *The first one is the freedom of expression,*
- *the second, universal access to information,*
- *cultural and linguistics diversities*
- *quality education*

Just Net Coalition

- *trustworthiness frameworks* by which I mean frameworks for systemic thinking, and understanding from multiple stakeholder perspectives and make them trustworthy from multiple perspectives.
 - *Calling for help from all of us, they hope that building knowledge societies can actually help in achieving the sustainable development goals*
-

TechLabs:

- *private market vendor of STEM services for children*
- *STEM stands for science, technology, engineering and math*
- *have partners with a global charity called Enabling the Future, where we become certified as a 3D printing hub that allows them to teach our students how to create prosthetic hands and*



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other prosthetic devices *that can be delivered to kids in need* would don't have access to prosthetic medical care, or live in a place where such a device could not be created affordably.

Recommendations:

- Promote access
- Engage stake holders in e-learning
- Collaborate at government, semi govt, pvt and civil society to enable startups to succeed
- Build strong business plans for sustainability and scalability.