Table of Contents

INTRODUCTION 2

WSIS Forum 2019: Chairman 2

Moderation: High-level Track Facilitators (HLTFs) 3

Official Opening Segment: Opening Ceremony 7

High-level Strategic Dialogue - Multistakeholder Partnership for WSIS Implementation 9

High-Level Strategic Dialogue – ICTs for Achieving the SDGs & Celebrating 10 Years of the WSIS Forum 23

High level Policy Sessions 32

Session One: WSIS Action Lines in 2030 Agenda 32

Session Two: Bridging Digital Divides 45

Session Three: Bridging Digital Divides 67

Session Four: Enabling Environment 83

Session Five: Building confidence and security in the use of ICTs 109

Session Six: Bridging Digital Divides/ Digital Economy and Trade/ Financing for Development and role of ICT 125

Session Seven: Ethical dimensions of information and knowledge societies 143

Session Eight: Inclusiveness – access to information and knowledge for all 161

Session Nine: ICT applications and services/Climate Change 183

Session Ten: Inclusiveness – Inclusiveness – access to information and knowledge for all 204

Session Eleven: Digital Economy and Trade 224

Session Twelve: Gender mainstreaming 250

Session Thirteen: ICT Applications and services 272

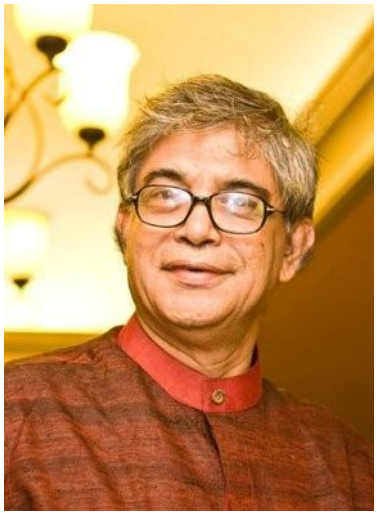
Session Fourteen: Knowledge societies, capacity building and e-learning / Media 290

INTRODUCTION

High-Level Policy Sessions

At the WSIS Forum 2019, moderated High-Level Policy Sessions of the High-level Track (HLT) took place on the 9 and 10 of April. During these sessions, moderated Policy Sessions with high-ranking officials of the WSIS Stakeholder community, representing the Government, Private Sector, Civil Society, Academia and International Organizations were held.

WSIS Forum 2019: Chairman



H.E. Mr. Mustafa Jabbar,
Minister, Ministry of Posts, Telecommunications and Information Technology,
BANGLADESH

Moderation: High-level Track Facilitators (HLTFs)

All the High-level policy sessions were moderated by High-level Track Facilitators nominated by the different stakeholder types, i.e Civil Society, Academia, Private Sector and Technical Community.

Session No.	Photo	Name	Title	Organization	Type of Stakeholder
One WSIS Action Lines and the 2030 Agenda		Ms. Valeria Betancourt	Director - Communication and Information Policy Program	Association for Progressive Communication (APC)	Academia
Two Bridging Digital Divides		Prof. Francois Grey	Director, Geneva Tsinghua Initiative	University of Geneva	Academia
Three Bridging Digital Divides		Mr. Greg Francis	Managing Director	Access Partnerships	International Organization

Four Enabling Environment		Ms. Mei Lin Fung	Vice-chair for Internet Inclusion	Institute for Electrical and Electronic Engineers (IEEE)	Private Sector
Five Building confidence and security in the use of ICTs		Mr. Morten Meyerhoff		Tallinn University of Technology, Ragnar Nurkse Department of Governance and Innovation	Academia
Six Bridging Digital Divides/ Digital Economy and Trade/ Financing for Development and role of ICT		Ms. Valrie Grant	Chief Executive Officer	GeoTechVision	Private Sector
Seven Ethical dimensions of information and knowledge societies		Dr. Jabu Mtsweni	Research Group Leader	Council for Scientific and Industrial Research	Technical Community

Eight Inclusiveness – access to information and knowledge for all		Mr. Carl Gahnberg	Policy Advisor	Internet Society	Technical Community/ Academia
Nine ICT applications and services / Climate Change		Dr. Suay Ozkula	Research Associate & University Teacher	University of Sheffield	Academia
Ten Inclusiveness – access to information and knowledge for all		Ms. Sophie Peresson	Director of Innovation of Knowledge Solutions Department	ICC	Private Sector
Eleven Digital Economy and Trade		Mr. Ted Chen	Co-founder, Chief Product Architect	EverComm Singapore	Private Sector

Twelve Gender mainstreaming		Prof. Tim Unwin	Emeritus Professor of Geography & Honorary Professor	Royal Holloway, University of London & Lanzhou University, China	Academia
Thirteen ICT applications and services		Ms. Sabrina Cohen Dumani	President	Nomads Foundation	Civil Society
Fourteen Knowledge societies, capacity building and e-learning / Media		Dr. Naila Siddiqui Kamal	Senior Lecturer	Imperial College School of Medicine London	Academia

Official Opening Segment: Opening Ceremony

The Opening Ceremony set the priorities of the WSIS Forum 2019, bringing forth a wide range of topics within the global information and knowledge societies while emphasizing the role of Information and Communication Technologies (ICTs), WSIS Action Lines in particular, regarding the Sustainable Development Goals (SDGs). In this way, the WSIS Forum 2019 builds upon the outcomes of the UN General Assembly Overall Review of the implementation of the WSIS outcomes (UNGA Resolution 70/125), which recognized the necessity of holding this Forum on an annual basis and called for a close alignment between WSIS and the SDG processes.

The WSIS Forum 2019 therefore served as a key forum for discussing the role of ICTs as a means of implementation of the SDGs and targets, with due regard to the global mechanism for follow-up and review of the implementation of the 2030 Agenda for Sustainable Development (UNGA Resolution A/70/1). The WSIS-SDG Matrix, developed by UN WSIS Action Line Facilitator and presented at the WSIS Forum 2015, served as the mechanism to map, analyse and coordinate the implementation of WSIS Action Lines, and more specifically, ICTs as enablers and accelerators of the SDGs.

The ceremony began with opening statements from the host, co-organizers, partners and representatives of stakeholders engaged in the WSIS Process. This WSIS Forum 2019 was special as it marks the 10 years Anniversary of the Forum. WSIS Forum thereby continues to provide a platform for a “just and equal information society” for all WSIS Stakeholders as set by the Geneva Plan of Action.

The Opening Ceremony concluded with the announcement of the winners and the prize ceremony for the contest of the WSIS Prizes 2019.

The format, agenda, and the thematic focus of the Forum is a result of an open consultation process with the involvement of all WSIS Stakeholders. The Forum builds upon two tracks, the High-Level Track, and the Forum Track.

Please note that the captioning text of the Opening Ceremony is available online: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/119

High-level Strategic Dialogue - Multistakeholder Partnership for WSIS Implementation

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/119#

1. **Chairman of the WSIS Forum 2019** — H.E. Mr. Mustafa Jabbar, Minister, Ministry of Posts, Telecommunications and Information Technology, Bangladesh
2. **Mr. Malcolm Johnson, Deputy Secretary-General, ITU** (Moderator)
3. **Japan** — Mr. Hisazumi Shirae, Director for Technology Cooperation, International Policy Division, Ministry of Internal Affairs and Communications
4. **Oman** — Mr. Dr. Salim Al Ruzaiqi, CEO, Information Technology Authority
5. **Switzerland** — Mr. Thomas Schneider, Ambassador and Head of International Relations Service, Federal Office of Communications of Switzerland (OFCOM)
6. **Rwanda** — Ms. Claudette Irere, Permanent Secretary, Ministry of ICT and Innovation
7. **Poland** — Mr. Marcin Cichy, President, Office for Electronic Communications
8. **IEEE** — Dr. Konstantinos Karachalios, Managing Director
9. **ICANN** — Ms Theresa Swinehart, Senior Advisor to the President on Global Strategy at ICANN, and Senior Vice President, Multistakeholder Strategy and Strategic Initiatives
10. **ISOC** — Mr. Sebastian Bellagamba, Regional Bureau Director for Latin America and The Caribbean
11. **ELM** —Saudi Arabia - Dr. Nasser Zaid Al-Meshary, Vice President, Business Sectors

JAPAN

Mr. Hisazumi Shirae
Director for Technology Cooperation, International Policy Division
Ministry of Internal Affairs and Communications

Excellencies, distinguished guests, ladies and gentleman. I am honored to attend the 2019 WSIS forum and would like to express my sincere appreciation to the ITU Secretary-General, Deputy Secretary-General, distinguished representatives of international organizations, WSIS Secretariat and all stakeholders. I am pleased to have this opportunity to answer the questions.

Regarding the first question, broadband networks are essential for the use of ICT, and the policy issue to be addressed first is bridging the digital divide. In Japan, the percentage of population that can connect to the Internet is over 99.9%, and the household coverage rate that can connect to lines of 30 Mbps or faster is approximately 99%. As a next step, we need a policy to utilize ICT to achieve SDGs. For that purpose, Japan currently advocates the concept of "Society 5.0" for the solution of social issues and for future social development.

Today, ICTs such as AI and IoT are becoming integrated part of society. In the future, it is expected that digitalization will progress in various industries and this will be further accelerated by the 5th generation mobile communication system (5G). Digitalization not only helps in solving social problems, but it also allows people to challenge themselves through doing or learning new things in their spare time as well as creating new jobs and industries.
"Society 5.0" is a society that can solve social issues via ICT by establishing an environment that enables new challenges and innovations. As the name "Society" shows, governments and businesses in both urban and rural areas need to work in the entire society to achieve SDGs

Furthermore, the Multistakeholder approach becomes extremely important, as all stakeholders become involved in building Society 5.0. Although network infrastructure such as optical fiber and 5G can be built by telecommunications carriers, to create a sustainable society where people can live safely, policies cannot be created only by those who currently use ICT. It must be discussed by everyone including future ICT users.

Regarding the second question, we should assume everyone as a Multistakeholder in order to tackle the issues of the whole society. It should not only be cross-industry and cross-gender, but also be inclusive in central and regional areas. Although the introduction and use of ICT tends to stay only in the central or urban area, we have begun working to enable the regional areas to take advantage of Society 5.0.

It may practically be difficult to hear everyone's opinion. However, by thinking on a sector-by-sector basis, I think that it is possible to involve people in a wide range of fields, not only suppliers, but also for local governments and citizens as well as industries.

In June this year, we will host the G20 Ministerial Meeting on Trade and Digital Economy in Tsukuba. Japan aims to promote SDGs by digitalization with the "leave no one behind" stance.

Thank you for your attention.

OMAN

Mr. Dr. Salim Al Ruzaiqi,
CEO, Information Technology Authority

SWITZERLAND

Mr. Thomas Schneider, Ambassador and Head of International Relations Service, Federal Office of Communications of Switzerland (OFCOM)

RWANDA

Ms. Claudette Irere, Permanent Secretary,
Ministry of ICT and Innovation

POLAND

Mr. Marcin Cichy
President of the Office of Electronic Communications (UKE)

Questions:
1) This year we celebrate 10th anniversary of the establishment of WSIS Forum which is an im-portant platform for a high-level debate on the emerging trends. Polish regulator UKE has been engaged in many of its activities. In your opinion, what is the role or regulator in the rapidly evolving digital environment?
2) We are in the midst of a public debate about artificial intelligence and other emerging technologies changing our lives (for example 5G or Internet of Things). We need a multi-disciplinary approach and multistakeholder discussion on this topic. You speak here not only in your capacity of the national regulator, but also of BEREC Vice-chair and Broadband Commissioner. What is your approach to shaping the digital future?

Answer:
Thank you very much for giving me the floor. I am really proud to be here and to attend the WSIS Forum. I fully support the idea regarding the important role of regulators. When it comes to the national level or tasks, our responsibilities are quite clear. Having in mind my over 12 years of experience in regulation, I would say that telecom operators will become more and more focused on the roll-out of infrastructure on one side but on the end side we're still responsible for granting the competitive conditions for entrepreneurs, investigating relations between the supply and demand parts of the market. In the meantime it occurs that we need to take a closer look at the issue regarding the roll-out of broadband infrastructure. What is the biggest bottleneck in terms of granting KPIs for the development of information society? Of course, it's the roll-out of infrastructure.

Having in mind the role of BEREC, which is the regulators' body for all EU Member States we need to guarantee a level playing field for all participants in terms of the pace and of the level of development, not to leave anyone from the European society deprived of appropriate level of access to infrastructure and to services as well.

We have two different groups. First group are those countries that are able to deliver an appropriate level of services. They have very competitive entrepreneurs, high-priced elasticity of demand and extremely high level of penetration, even more than 100%. On the other hand challengers are doing their best not to lose the opportunity to get on the train that is leaving the station. The role of UN Broadband Commission, BEREC and especially ITU and WSIS Forum is to guarantee that we're able to combine our expectations and make both ends meet at the same time, in terms of our knowledge. This kind of events like WSIS Forum are really crucial for finding out about the latest work scene and having some kind of discussions regarding what is on the backstage, what are the real bottlenecks in the infrastructure, 5G development. On the issue of QoS that's quite challenging project in front of us, also regarding the net neutrality cases, when it comes to the IoT and other still undefined issues. Comparing to telecom industry where everything is quite clear and we've got rules and obligations set for everything, these definitions are still very crucial for us to sort out. When we are talking about services, the real meaning of such issues like IoT or Smart Grid are really difficult, especially for white collar clerks to be defined and measured.
The most important issue in front of many countries and regulators is how to clarify definitions for such kind of issues that are in front of us. We are starting to talk about it. Many years ago we had only one horizontal and important issue to be discussed, namely how to develop the information society. We've got UN Sustainable Development Goals but apart from that more and more issues should be addressed during such kind of events like WSIS Forum.

Thank you very much.

IEEE

Dr. Konstantinos Karachalios,

Managing Director

Q1: The theme of this WSIS Forum is Information and Communications Technologies for Achieving the Sustainable Development Goals. How do you see IEEE—with its mission to advance technology for humanity—contributing to the advancement of the SDGs?

Secretary General, Honorable Ministers, Distinguished Guests, Ladies and Gentlemen, I am honored to be here today, and for IEEE to be a Specific Activity Partner of the 2018 WSIS Forum.

IEEE is the world's largest technical professional organization, representing over 420,000 members worldwide from over 190 countries, and has a vital role for impactful technology development and standardization. Every day, thousands of IEEE members from around the world work to shape ICTs for current and future generations.

These technologies and the standardization of them under the IEEE umbrella have great impact on society and play a role in advancing the SDGs. One example of this, among many, is the IEEE family of standards for wireless or Wi-Fi connectivity. This technology is key to enabling data to be transferred and for various devices ranging from smart phones and laptops to IoT sensors and devices to communicate with each other, and more so, to enable people to communicate and share information that can be vital in addressing the global challenges we face today and enabling sustainable development solutions.

What is even more remarkable is that the technical work that IEEE members do is increasingly expanding beyond technical solutions to being inclusive of ethical and human values and well-being dimensions. The ongoing development of powerful technologies and disruptive innovations in ICT, including AI or, at IEEE what we refer to as autonomous and intelligent systems, demands a keener focus on social responsibility and accountability from the global technology community.

Working in partnership with many other organizations, government and inter-governmental bodies, industry, academia and more, we have stood up collaborative tech ethics programs and initiatives, and are delivering outputs such as best practices, standards and certification programs that are open for those around the world to join and use in their efforts to advance the 2030 Sustainable Development Agenda.

Q2: ICTs are crucial to achieving the SDGs. What measures can be taken to ensure that they are developed and deployed with appropriate ethical considerations for human and societal values?

As the use and impact of AI and Autonomous and Intelligent Systems become pervasive—especially in their use in achieving the SDGs, there is a need to establish societal and policy guidelines in order for such technologies and systems to serve humanity's values and ethical principles.

To contribute in a positive manner, stakeholder communities need to participate in an open and honest debate around sets of values, institutions, symbols and representations. This will allow for an elevated level of trust between people and technology that is needed for AI/AS to be truly beneficial to our daily lives. A/IS have been recognized as key enablers for achieving the goals of humanitarian relief, human rights, and the SDGs. This recognition provides the opportunity to demonstrate the positive and supportive role that these technologies can play in these critical areas, but we must be very cautious and keep informed. A/IS hold great promise to benefit society, but they also present new social, legal and ethical challenges, with corresponding new requirements to address issues of systemic risk, diminishing trust, privacy challenges and issues of data transparency, ownership and agency. There is therefore a need for developers and operators of A/IS to maintain awareness of and employ consensus-based global best technical practices and standards that recognize and align end-users' and citizen's values when building and deploying A/IS.

ICANN

Ms Theresa Swinehart,

Senior Advisor to the President on Global Strategy at ICANN, and Senior Vice President, Multistakeholder Strategy and Strategic Initiatives

ISOC

Mr. Sebastian Bellagamba,
Regional Bureau Director for Latin America and The Caribbean

Those of us that are connected to the Internet are connected to advantages. Some are economic, others are social. It allows us to learn new things, to communicate with others, to solve problems, and not least to make a living. For us, it's hard to imagine what life would be without access.

But as we all know, close to half of the global population is missing these opportunities that we all take for granted. And as connectivity brings more and more of life and economic opportunities online, so does the relative disadvantages for those lacking access increase.

The notion of access of course has many dimensions. Its about having access to physical infrastructure, about an ability to afford access, to choose between providers, and to have the literacy and skills to utilize its potential. Those that are unconnected live in underserved urban, rural, and remote communities. To connect the billions that are still unconnected we must recognize that the challenge is complex and that there is not one but many potential solutions for expanding connectivity and access. Importantly, we must enable those communities that are unconnected to set the pace themselves.

This is why we believe that Community Networks are a complementary solution for providing accessible and affordable connectivity in underserved urban, rural, and remote areas. They provide options to communities - either by providing connectivity where it did not exist, or as a cheaper option than current infrastructure provides. They empower communities to change local circumstances.

The Internet Society is a strong supporter of community networks, and have been for many years. We believe that community networks are not the "only" solution for connecting the next and final billions, but we see them as a key step in the process to change policies and allow for innovative solutions with stakeholders to connect more people.

The Internet Society work with partners around the world to develop community networks and to catalyze communities. Many of our partners are in this very room, whether from governments, the

private sector, and international and regional organizations. To us, there is no such thing as "connecting alone" in a network of networks.

Promoting community networks is about promoting opportunities. But in many parts of the world, those opportunities are held back due to old policies, whether they relate to spectrum, universal service, licensing, or other areas. What we have seen from our experiences is that the right policies can empower and enable opportunities that were once limited.

Our hope here at the WSIS Forum is to have others to come join us in these efforts, because much is yet to be done, and there is no standard way to look at new access solutions. But we must remember that this is a feature, and not a bug, in the network of networks that is the Internet. It is an opportunity that we must seize.

In this light, we believe that old policies need to be changed to support new approaches to connect more people. Policies that allow the Internet to grow. In many instances its about streamlining or eliminating enerous regulatory requirements, especially those that are not applicable to small, community-based networks. In other instances, its about expanding funding opportunities, or enabling innovative approaches to providing access to spectrum.

Our experience shows that each country has different regulatory and policy solutions and access agendas, but the good news is that we have many good examples to learn from. Together with our partners to hold 4 regional summits this year (LAC, NA, Africa, APAC), and a global summit in 2020. These meetings - places to convene people and look at "access solutions" are key ways to share information, take to potential funders, talk about technical solutions, and will be a forum to discuss new regulatory and policy solutions.

The Internet is premised on collaboration, and together we can help expand it to those that are yet to be connected.

ELM —Saudi Arabia

Dr. Nasser Zaid Al-Meshary,
Vice President, Business Sectors

High-Level Strategic Dialogue – ICTs for Achieving the SDGs & Celebrating 10 Years of the WSIS Forum

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/RemoteParticipation/119

Chairman of the WSIS Forum 2019: H.E. Mr. Mustafa Jabbar, Minister, Ministry of Posts, Telecommunications and Information Technology, Bangladesh

Ms. Doreen Bogdan-Martin, Director, Telecommunication Development Bureau, ITU (Moderator)

1. **Dominican Republic** – Mrs. Zoraima Cuello, Vice Minister, Ministry of the Presidency
2. **Germany** - Dr. Daniela Brönstrup (Co-Chair of MAG 2019), Deputy Director-General, Regulatory framework for digital policy, postal policy, international affairs, media, Federal Ministry for Economic Affairs and Energy
3. **China** - Mr. Wang Xinzhe, Chief Economist of the Ministry of Industry and Information Technology
4. **Russia** - Prof. Dr. Vladimir Minkin, Chief Scientist, FSUE NIIR (Chairman Council Working Group on WSIS&SDGs and MPP WSIS+10 High level Event 2014)
5. **UN Secretary General's High-level Panel on Digital Cooperation**- Mr. Amandeep Singh Gill, Co-Lead and Executive Director of the Secretariat
6. **UN Technology Bank, for the Least Developed Countries** - Mr. Joshua Setipa, Managing Director
7. **WHO -** Dr Soumya Swaminathan, Chief Scientist
8. **UNIDO** - Mr. Philippe Scholtès, Managing Director, Programme Development and Cooperation
9. **IFIP** - Ms. Moira de Roche Holmes, Chair of IFIP IP3

CHINA

Mr. Wang Xinzhe

Chief Economis,Ministry of Industry and Information Technology

Question1:The Global ICT industry is developing rapidly and increasingly integrated with other industries. It plays an important role in promoting economic growth and social progress, and has become the core driving force towards achieving the Sustainable Development Goals. Does China have any experience to share with us in terms of employing the ICT industry to drive sustainable development?

Question1(问题一)：全球信息通信产业高速发展，与其他行业加速融合渗透，在促进经济增长和社会进步方面发挥着重要作用，已成为实现可持续发展目标的核心驱动力。请问中国在利用信息通信产业促进可持续发展方面有哪些可供分享的经验？

回答：中国高度重视并长期致力于促进信息通信技术的普及和应用，推动提升社会的信息化水平，缩缩小城乡差距，弥合数字鸿沟，促进可持续发展。

一是加快建设高速宽带网络。着力构建高速、移动、安全、泛在的新一代信息基础设施。截至 2018 年年底，固定宽带接入用户总数约 4 亿户，光纤接入的用户数占比超过 90%，100 兆及以上速率的用户数占比超过 70%。在移动宽带方面，移动宽带用户（即 3G 和 4G 用户）总数超 13 亿，我们着力推进网络提速降费，移动用户每个月大约花费 10 美金。二是积极鼓励创新发展和融合应用。鼓励信息通信技术、业务、服务创新，加速向经济社会各行业各领域融合渗透，促进经济社会转型发展。在工业领域，着力发展工业互联网，促进传统制造业焕发新活力，优化资源和要素配置。面相未来，我们将继续深化开放与合作，与世界各国一道，共同推动信息通信技术发展和应用，实现联合国 2030 年可持续发展目标。

Question 2: You just mentioned that ICTs are of great importance to the economic and social development. Is China using ICTs to promote the development of rural and remote areas?

Question 2: 问题二：**您刚才也提到了，信息通信技**术对促进经济和社会发展具有重要作用，**中国是否也在利用信息通信技**术促进农村和偏远地区的发展？

回答：农村和偏远地区的信息化发展水**平反映了一个国家的信息化程度，中国政府高度重**视农村**通信和信息化建**设，**大力推**进电信**普遍服**务。2015 **年以来，中国已成功**组织实施了四批电信普遍服务试点：**使我国行政村光**纤覆盖率达到 98%；**在推**进电信**普遍服**务**中，中国注重大力推**动网络**扶**贫，为部分贫困**和偏**远地区带去了**医疗**和学**习资源，农民**可以方便地在网上**缴纳**水**电费，**收看高清影**视节目，**生活方式得到了很大改善。当然，我**们也认识到，**同世界其他国家一**样，电信服务**的均等化、普惠化需要持**续**推**进。

Russia

Prof. Dr. Vladimir Minkin, Chief Scientist, FSUE NIIR (Chairman Council Working Group on WSIS&SDGs and MPP WSIS+10 High level Event 2014)

Ваши превосходительства,

Уважаемые коллеги,

Дамы и господа

Форум 2019 года не только отмечает свой 10-летний юбилей, но и рассматривает 15-летний результат реализации Женевского Плана действий. Форумы 2019 и 2020 годов представляют своевременную площадку для проведения промежуточной оценки к общему обзору выполнения решений WSIS в 2025 году.

Задачи, поставленные Саммитом в 2003 -2005 годах и подтвержденные Генеральной ассамблеей ООН в 2015 году до сих пор не потеряли свою актуальность и значимость. Так, например, несмотря на то, что к настоящему времени более половины населения мира уже имеет доступ к Интернет, разрыв в подсоединении между развитыми и развивающимися странами достигает 400 процентов, особенно в Африканских странах.

Комиссия по широкополосной связи ООН определила 7 новых целей по широкополосному доступу к 2025 году, направленных на дальнейшее сокращение цифрового разрыва.

Выполнение Плана действий Женевы 2003 года, концепции ВВУИО на период после 20215 года и целей Комиссии по широкополосной связи напрямую связаны с достижением Целей устойчивого развития, как это видно их постоянно обновляющейся Матрицы ВВУИО&ЦУР.

Такая деятельность на всех уровнях – глобальном, региональном и местном возможна только совместными усилиями государств, частного сектора, гражданского общества, международных и региональных организаций.

Оценка достигнутых результатах проводится на разных уровнях – это и проведение ежегодных Форумов и симпозиума партнерства по измерению информационного общества, рассмотрение в рамках сессий КНТР и ЭКОСОС на основе докладов Генерального секретаря ООН, отчетов заинтересованных организаций системы ООН и региональных комиссий ООН, а также страновых вкладов.

Заглядывая вперед, на пути к совещанию высокого уровня по общему обзору выполнения решений WSIS в 2025 году, хотелось бы обратить внимание на п.71 Резолюции ГА ООН 70/125, где говориться об участии всех заинтересованных сторон и внесение ими своего вклада, в том числе в процесс

подготовки этого совещания, и проведении оценки хода осуществления решений, а также выявлении как областей, по-прежнему требующих повышенного внимания, так и областей, сопряженных с особыми трудностями.

В этой связи представляется целесообразным обратиться к позитивному опыту проведения, по инициативе МСЭ и других участников процесса WSIS, Многосторонней подготовительной платформы WSIS+10, разработавшей при равноправном участии всех заинтересованных сторон Заявление WSIS+10, где приводится анализ 10-летнкй реализации Плана действий Женевы, отмечены как достижения, так и возникшие трудности и проблемы.

Второй разработанный документ содержал Концепцию WSIS+10 на период после 2015 года, где были указаны приоритетные направления реализации решений WSIS на период после 2015 года и предложения по обновлению и дальнейшему развитию каждого направления деятельности WSIS.
На собрании Группы Совета МСЭ по WSIS в этом году было предложено обратиться к ГИОООН, организациям системы ООН и всем заинтересованным сторонам процесса WSIS рассмотреть целесообразность проведения в 2023-2024 годах аналогичной Многостороннего подготовительного процесса WSIS+20 (МРР WSIS+20) с целью проведения подробного анализа выполнения каждого направления деятельности Плана действий, оценки

уровня

достижения запланированноых результатов, их вклада в достижение соответствующих ЦУР и подготовки предложений по дальнейшей

деятельности в рамках процесса WSIS. Итоговые документы могут быть представлены на Форуме WSIS в 2024 или 2025 году в формате, например, мероприятия высокого уровня, и направлены в качестве вклада на Совещание высокого уровня ГА ООН в установленном порядке.

В случае решения ГАООН о проведении нового Саммита WSIS такой подготовительный процесс пройдет на более высоком уровне.

Представляется, что процесс WSIS не завершится в 2025 году. Развитие информационного общества и обществ знаний будет продолжаться и катализатором этого процесса является его инновационный характер, внедрение новых технологий, не только в области ИКТ, о которых не говорилось ни в 2003, ни даже ни в 2014 году – искусственный интеллект, блокчейн, машинное обучение, нано и биотехнологии и др. Новые технологии создают огромный возможности и перспективы, но также вызывают и новые проблемы, прежде всего, в образовании нового цифрового разрыва на более высоком уровне.

Тесная

взаимосвязь процессов WSIS и Повестки дня в области устойчивого развития также определяет необходимость продолжения процесса WSIS по крайней мере до 2030 года.

High level Policy Sessions

Session One: WSIS Action Lines in 2030 Agenda

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/RemoteParticipation/137

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

Executive Summary by High Level Track Facilitator

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

- 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.

- 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.

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.

BANGLADESH

H.E. Mr. Zunaid Ahmed Palak,

Hon'ble State Minister for Information and Communication Technology

BHUTAN

H.E Mr. Karma Donnen Wangdi,

Minister, Ministry of Information & Communications

Excellencies, Esteem Panel Members Distinguished delegates, Ladies and Gentlemen!

I am honored to be here presenting our modest journey so far in leveraging ICT for the 2030 agenda. Bhutan is a developing nation guided by our development philosophy of Gross National Happiness. This has ensured a balance between the economic development, environmental sustainability and socio-cultural vibrancy which is underpinned by the framework of good governance and resonates well with the Sustainable Development Goals. Therefore ICT today has become a key enabler and driver in achieving our country's vision and the 2030 agenda. To this end, we have adopted the triple 'A' approach:

I. Accessibility of ICT Services

Bhutan adopted an inclusive digital policy so that all citizens can benefit from technology. We are extensively connected with fiber optics network down to the block level leveraging the power transmission towers and distribution lines. Bhutan is also ranked third in the cheapest mobile-broadband services in the region. Further with the establishment of the Bhutan Internet Exchange point (IXP), it is also expected to make local traffic cheaper. However the cost of dedicated internet leased line remains one of the highest in the region. We have also invested in establishing community centers (CCs). Out of 205 blocks we have 200 blocks with operational CCs and the remaining 5 blocks which are in the remotest part of the country will have operational CC within this plan (2018-2023). Blocks comprises of communities with around an average of 1200 households. These centers provide one stop service to all the people in the community. Further with the installation and testing of VSAT terminal over the South Asia Satellite, remote areas over 4150 m above sea level are also now connected with internet and television (Bhutan Broadcasting Service channels).

ii. Adoption of ICT for improved Service Delivery

The internet penetration rate is 94.11% (March 2018). The technology adoption in the country has been rapid and are used for communications and gradually for economic empowerment and innovation. The focus hereafter is to increase the citizen use of technology for innovation and economic empowerment.

The country is also witnessing boom in technology startups with launch of diversified technology businesses such as presence of e-commerce, online logistics and many other online services, including IOTs. Our E-Gov policy underpins a whole of government approach where the citizen is at the center of development. The Government has created a National Enterprise Architecture that defines technical standards and best practices to enable ICT systems to integrate and interoperate across government agencies. Data hubs have also been established to provide single sources of truth for improved data sharing and public services.

iii. Application of ICT for promoting efficiency and effectiveness in Governance and Economy

Some of the major initiatives undertaken are the establishment of government data center, government data hubs, and the use of online services for public service delivery. The government has also invested in strengthening the ICT industry in the country through investment in the development of the first IT park. While development and growth is our priority, we also take our environment seriously. That is why our Government promotes green and sustainable economic development to maintain our pledge to remain carbon neutral for all times to come. Some of the key initiatives are, Green

Bhutan, promoting a paper-less government, and focus on environmentally clean investments such as green data centers. I am here today with the humble presentation of the progress my county has made so far on the WSIS action lines and the 2030 agenda. We know we still have a lot to do and we hope to learn a lot from our engagements at the WSIS. Lastly, as you may be aware, Bhutan is set to graduate from the least developed country category by 2023. Our current plan will be the last plan as a LDC and shall address challenges in all sectors to ensure that Bhutan graduates on a sure footing. We however urge our development partners and the international community to continue their support and partnership.

Thank you and Tashi Delek

DJIBOUTI

H.E Mr. Abdi Youssouf Sougueh,
Minister, Ministry of Communication, Post and Telecommunication

IRAN

H.E. Mr. Mohammad Javad Azari Jahromi,
Minister, Ministry of ICT

SIGFOX

Mr. Ludovic Le Moan, CEO

CIBERVOLUNTARIOS FOUNDATION

Mrs. Yolanda Rueda, Founder and CEO

INTERNATIONAL COMMISSION ON CYBER SECURITY LAW

Dr. Pavan Duggal, Chairman

FERMUN

Mr. Sebastien Behaghel,
Secretary General FerMUN 2019

What is the role of the youth in ICT for development? How does FerMUN participate in spreading the use of ICT for the Sustainable Development Goals?

Thank you for your questions Valeria. I will start by answering with a fact: As of 2018, in Europe, 16-24 year olds spend on average 2.5 hours on their phone, per day. And that's without counting computers, laptops, television etc. The fact is, young people nowadays are surrounded with ICT. Just two weeks ago, a 12 year old girls started her own blog, and is currently averaging 30 000 viewers. I personally cannot work on my computer without having dozens of WhatsApp messages appearing on the top right, new YouTube videos appearing in the tabs, mails coming in on the bottom and Facebook notifications coming out of an unknown page.

So we are, the youth, the first generation growing up in an age of technology. Is this good or bad? Some say it makes us lose concentration, creativity; that ICT is the problem. That is not right, the priority is to concentrate on the use of ICT. Information Technology is not only a doorway for development, it also involves games, money, hacking and terrorism. The real challenge is to inspire the youth to us it to change their world in a positive way.

That is where FerMUN, a Model United Nations conference in Geneva, comes into play.

FerMUN 2019 took place in January and invited 600 high school students from 28 countries to debate in the UN office of Geneva and in the WIPO premises. Our themes, following the sustainable development goals, aimed to capture the use of technology in reaching these goals.

We also had 200 students debating on the use and implications of Artificial Intelligence in society. Artificial Intelligence has unlimited potential, but it is also dangerous and must be restricted and regulated in order to fully profit from it.

Through such debates, students had the opportunity to learn about the essential issues surrounding technology and its use for development. By finding new solutions, debating on them and finally voting, the youth is given a unique perspective on the Sustainable Development goals, and their close link to ICT. FerMUN's 10th edition has been a success; students came home to their respective communities feeling invigorated and determined to act for their world.

Which is why FerMUN 2020 is being actively prepared and will take place in January next year with issues even more intricately linked to ICT.

Session Two: Bridging Digital Divides

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/RemoteParticipation/138

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 Jeliazkov, 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

Executive Summary by High Level Track Facilitator

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 Jeliazkov, 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.

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 is 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.

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 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 exists 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.

BULGARIA

H.E. Mr. Rossen Jeliazkov,

Minister, Ministry of Transport, Information Technology and Communications

The 10th anniversary edition of the WSIS Forum 2019, setting out the guidelines for implementing the Sustainable Development Goals by exploiting the potential of information and communication technologies, is taking place at a historic time when close to 51 % of the world's population is connected and is using the internet.

Connectivity alone is not enough to ensure that people are able to benefit from the digital transformation of the world. The internet should be relevant to all, inclusive, affordable and allowing usage that enables positive social and economic outcomes. Younger people or the so-called millennials are the driving force for bridging the digital divide.

Our efforts should be aimed at improving digital skills, training in ICT; training of highly qualified ICT professionals; enhancement of the qualification in a lifelong learning perspective, protecting children's rights in the digital environment, etc.

To take the maximum advantage of the digitalization and the digital transformation we need to invest in people - in young people, in employed, in vulnerable groups, etc. Special emphasis should be put on the role of young women in ICT. For example, there is statistic data that if 40 % or more women are employed in the ICT field the shortage of staff in this field will decrease by at least 60 %.

Now women are under-represented among technology professionals. Currently there is a lack of 350 000 IT specialists and the expectation is that this number will increase to 500 000 in 2020. This gives young girls an opportunity for professional development. But currently almost 2 million young people in Europe are studying in ICT and only about a quarter of them are girls. Bulgaria ranks first in the EU level with 34 % girls who are studding in ICT specialties and first in the EU with 27.7 % women in ICT sector, which is a good example on European level.

The basis for the digital transformation will be the relevant infrastructure. This is why, Bulgaria started public investment in next-generation broadband networks. It created a safe, secure and reliable broadband infrastructure for e-government needs, while at the same time provided the conditions for the development of e-services for the citizens and businesses.

More and better internet connectivity requires investments in high speed and quality networks, so we should focus our efforts on providing it in the economically underdeveloped and remote areas. We are planning a new project that will target rural areas in order to close the big gap between cities and small villages. The goal is to drive economic opportunity and enable the exchange of data and information.

Other ambitious project and good example of the benefits of digitalization is the provision of free Wi-Fi broadband access to public places in local communities. The aim is to provide fast and high quality Wi-Fi connectivity for citizens and visitors in public spaces all across Europe. There are very small settlements among the municipalities, that received financing, which is a great opportunity for the local authorities to stimulate the usage of high-speed connection for access to e-government services, e-health, SME development, etc.

Reliable infrastructure and free access to internet and information will provide tools to address some of our biggest global challenges, including delivering education and healthcare, increasing energy efficiency, and making the government more effective and responsive to the needs of its citizens.

Using the full potential of digital technologies will not just replicate an existing service in a digital form, but will use technology to transform that service into something significantly better and useful for citizens and businesses.

We are facing a complete overall of the world, as we know it. The development of artificial intelligence, connected devices, machine learning are part of our everyday life. The shortage of competences in these areas and the need for improvement of IT literacy and skills of the work force in general is one of the most significant challenges to the education and training systems at all levels. Urgent efforts have to be taken to incorporate digital skills with a special focus on new technologies into the curricula at all levels of education and vocational training systems and relevant training of professionals in the current labor market.

New technology is an opportunity, but trust is also needed. New ethical and legal issues must be addressed to create an environment of confidence and accountability around the development and use of the technology, with sufficient safeguards to protect citizen and businesses fundamental rights and freedoms.

The insufficient digital, communication and entrepreneurial skills of citizens and the lack of highly qualified workforce in high-tech activities are emerging as the main obstacles to the development of the digital economy. In our country, we have a strategic, coordinated approach, involving all stakeholders, to ensure

that digital skills programmes are updated at all levels and parts of the education system, further training and retraining of employees and the unemployed.

Universal digitalisation is a key driver of economic growth and competitiveness.

The extensive use of modern technologies such as cloud computing, big data, artificial intelligence (AI) and robotics create not only new market opportunities but also help tackle key societal issues. The development and widespread take-up of artificial intelligence in various social and social fields creates a number of ethical challenges that will affect a wide range of people. In this context, digital ethics and information security are one of the most important building blocks for the success of these technologies. We are applying a coordinated approach in our country to make the most of the opportunities and address the new challenges.

The economic and technological lag and negative demographic developments in some regions can actually lead them to “desert areas” of an innovative nature. In the past year, countries in the Western Balkans are making steps forward development of beneficial cooperation. In this regard, we believe that our region can become a key partner for digital innovation and economic growth, digital connectivity, cooperation and experience sharing between start-up communities.

At the political level, we should implement all the possibilities to promote ICT solutions to boost digital services, the deployment of new business models for SMEs within any potential partnership cross-border initiatives.

The WSIS Forum needs to strengthen its position as an international platform at political and expert level. This is a unique opportunity for the launch of a new digital, inclusive transformation.

LITHUANIA

H.E. Mr Elijus Čivilis, Vice-Minister,
Ministry of the Economy and Innovation

NAMIBIA

H.E. Mr. Stanley M. Simataa,
Minister, Ministry of Information and Communication Technology

EGYPT

Dr. Abeer Shakweer,
ICT Minister's Advisor for Social Responsibility and Services

Q1: Egypt has put in place a forward – looking national strategy for digital transformation.
Share with us your efforts in this regard to accelerate the implementation of the strategy's action plan on the following fronts: Infrastructure, Policies, Government readiness, Strategic initiatives

Egypt has an aggressive plan to put the national strategy for digital transformation into implementation. This plan is based on a number of pillars and let me start with the infrastructure as it is at the core of the strategy. We are working to upgrade the infrastructure, both in terms of the coverage and the speed of the internet service. We are increasing the number of locations covered by the FTTH networks and we already started with public schools. We are also considering having a legislation which mandates the installation of FTTH networks in green field to expand the coverage. At the same time, we are working on other technologies such as vectoring and super vectoring in order enhance the speed of internet in brown field. In a parallel track, we are working on increasing the percentage of Egyptians who have access to the internet whether through cables, mobile or satellite. So, upgrading the infrastructure is the first step towards a digital society that we are aiming to develop.

Another important pillar is concerned with the provision of governmental services through one digital platform. This is complemented with several programs to overcome the challenge of ICT illiteracy, in particular in rural and remote areas. So, for example, we are working with the Egyptian post, to provide citizens with access to governmental services and helping them obtaining the services through the digital platform via the post outlets, since it is one of the most widely spread entities in Egypt. We also need to complement this with call centers and mobile applications. So, we are providing one digital platform for governmental services with various options for citizens to obtain the service at their convenience.

The third pillar, which is of great importance to Egypt, is the capacity building. We are working very hard to increase the number of young people who are trained on various disciplines of ICT. To give you a feeling of the magnitude of the work, while we have five training institutes affiliated to the ministry, only this year, we are establishing eight other training institutes with a broader and just geographical coverage.

So, while we are focusing on infrastructure, human development, and government readiness, such components cannot be efficient without an overarching legislative framework. Therefore, we are drafting a digital crime law, a data privacy law and an e-commerce law that should be submitted to the parliament before the end of this year.

Q2: Please share with us the Egyptian experience in shaping citizens of the future and building a competent generation able to meet the needs of the global job market.

Egypt is very rich with its young people, with 50% of the 100 million citizens are aged below 25. Such young people are eager to learn and build a career. So we are taking serious steps to build their capacities in various new and emerging ICT technologies through different venues. So, on the educational level, the first faculty for Artificial Intelligence will open its doors in Egypt next year, together with a 4-year program on Artificial Intelligence that will be run at 4 universities.

When it comes to training and as I mentioned we are multiplying the number of training institutions by three. This is in addition to a number of e-learning initiatives which were already launched in collaboration with reputable institutions.

We are also focusing on boosting innovation and entrepreneurship and work on building an ecosystem that is conductive to innovation. So, we are establishing a set of incubators at several universities, and provide young people who have innovative ideas with the needed support and a set of incentives to help them develop their ideas into technologies and link them with venture capitalists to help them grow their companies.

So, it is education, training and supporting innovation and entrepreneurship.

SOMALIA

Mr. Abdi Sheikh Ahmed,
General Manager, National Communications Authority

Q1: Given the growing global digital between developed and developing countries, which is often partially attributed to uneven access to the Internet and information and communications Technologies in general, how does a developing country like Somalia reduce the digital divide with other countries and within Somalia?

First of all there several dimensions to the digital divide. Broadly speaking digital divide refers to disparity between information and communications technologies diffusion between countries particularly between developed developing countries or it may refer to disparities in access and use of ICTs between segments of the society within a country. The latter form of digital divide is a problem that both developed and developing countries face and must address both in their own ways and collectively through forums like WSIS and in other multilateral ways.

Today access to knowledge and information is essential to participate in the global economy. Yet far too many people in the developing world particularly in Least Developed Countries lack access to basic connectivity to access essential information that citizens of other countries take for granted.

This is especially true in my country, which is struggling to recover from decades of conflict. In our case, the biggest challenge is rebuilding the communication infrastructure that has been destroyed during the years of conflict and providing broadband or even basic Internet access to our people through of mix technologies.

Connectivity is essential but not enough. It must be affordable, people must have digital literacy skills, and there has to be relevant and accessible content that people can use. The availability of Internet-enabled, affordable user-friendly devices is also essential for people to access applications and content. Along with infrastructure and access, we are addressing these other issues to reduce the digital divide within Somalia and with other countries

Q2: What policy or regulatory measures is your Administration undertaking to alleviate or mitigate the challenges you mentioned that pose risks of exacerbating the digital divide in your country? And how does Somalia ensure that it does not miss on the benefits of digital inclusion? `

Reducing the digital divide requires policy and regulatory regimes at the national and international levels. We have recognized in our National Development Plan that ICTs are essential catalysts and enablers of socio-economic development and that equitable access to ICTs is crucial to reduce or alleviate the digital divide. The policies and regulatory measures that we are working on are directed at creating the necessary legal, regulatory, and institutional enabling environment to facilitate the development of ICT infrastructure while addressing the digital divide in its various forms – between geographies, genders, economic, and vulnerable groups in our society.

Some of the policy goals in our National Development Plan include:

1. Using regulatory levers to incentivize deployment of infrastructure, through licensing and spectrum availabiity and use,
2. Breaking the digital isolation of large segments of the population by promoting and investing in ICT infrastructure and access
3. Improving access to quality telecommunications/ICT services at affordable prices
4. Improving social, economic and financial inclusion of the people through ICTS
5. Promoting Internet connectivity to schools and health clinics
6. Establishing ICT training centers and embedding ICT literacy in the educational curriculum
7. Deploying ICT applications and services, such as, e-Government, e-commerce platforms and emergency warning system, etc.

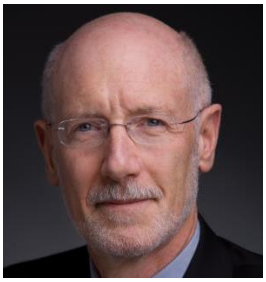
We all recognize that widening digital divides breed a world of haves and have-nots – a world prone to conflicts. Therefore, it is in the best interest of developed and less developed countries alike to cooperate in addressing the digital divide in all its dimensions.

UNITED KINGDOM

Mr. Alex Jones,

Head of Emerging Futures and Technology, Department for International Development

FACEBOOK



Mr. Robert Pepper,
Head of Global Connectivity Policy and Planning

RESEARCH ICT AFRICA

Prof. Alison Gillwald,
Executive Director

HARNESSING OPPORTUNITIES, MITIGATING RISK Dr. Alison Gillwald Executive Director, Research ICT Arica Adjunct Professor: University of Cape Town

Your excellencies, honorable Ministers Secretary General Mr Zhao, esteemed panel members and delegates and the WSIS Forum organisers, - thank you for invitation to join the high-level panel discussions: it is a honour to do so on behalf of civil society and academia.

The truth is that despite the valiant efforts of various agencies within the UN System, including the ITU, we don't really have the data in developing countries to determine where we are now, or to know what progress we are making towards overcoming the 'digital divide' reflected in the ICT targets underpinning many of the UN General Assembly's Sustainable Development Goals.

This is particularly so in our predominantly prepaid mobile markets where the supply side data we are dependent on can only tell us how many active SIM cards there are in a country, creating the inflated indicators we receive from operators. It cannot tell us how many unique subscribers there are in country, whether they are men or women, what their incomes are, what they are able to use their connectivity for. Critically, we don't have the information from those not connected or have their reasons for not being so – all information essential for evidence-based policy and planning.

We are also grappling with the rapidly changing nature of information and communication technologies in this dynamic and increasing complex and adaptive, globalised communication system, all incompatible with measurement and monitoring. What we do know from the evidence available is that we have to move beyond the connectivity discourse that assumes that simply by expanding networks we are addressing the digital divide.

In fact, paradoxically, as more people are connected, digital inequality is increasing.

This is not only the case between those online and those offline, but between those who have the resources to use the Internet optimally and those barely online – between those passively consuming a fraction of the apps and services on offer - and those with the resources – financial and human - to put the technology to productive use – not only for their survival but to build their prosperity. This digital inequality paradox is arguably the biggest policy challenge facing developing countries in an increasingly globalised digital economy and society.

As we move from basic voice services to broadband services with Over the Top applications offering low-cost voice and text substitution; micro-work platforms promising labour mobility and frictionless work; and digital platforms enabling financial inclusion, we need to understand what is working in the Global South and what is not.

Particularly, we need to understand what is happening in Africa, which lags even other developing regions of the world. What are the reasons for this? What can be done to harness the opportunities offered by Internet-enable services - and now, artificial intelligence and machine learning, robotics and big data analytics.

And most importantly, as we are swept up in the hype of the so called 'Fourth Industrial Revolution' what needs to be done to limit the harms to citizens and particularly the most vulnerable who are most at risk as they come on line, often unaware or unable to exercise their rights.

The After Access survey - long made possible through the support of the Canadian International Development Research Council (IRDC) and in 2018 by the Swedish International Development Agency (SIDA) - and conducted by DIRSI in LatAm, LIRNEasia and Research ICT Africa across 20 countries in the Global South during 2017 and 2018, 10 of them in Africa - provides some sobering insights into the policy outcomes of three decades of reform.

While the liberalisation of markets and introduction of mobile technology revolutionised the lives of people in the Global South enabling millions of people to communicate by phone for the first time and to be financially included through mobile money – dramatically modernising economies and societies - it has been highly uneven.

As we move from simple voice to higher value Internet services this inequity is compounded. By 2018 in many African countries the number of Internet users had not even met the roughly 25% Internet penetration believed to be the critical mass required to enjoy the network effects associated with economic growth and development.

While broadband network extension remains and issue in several countries, coverage is not the only factor determining connectivity and use of the Internet. In Lesotho, Rwanda and South Africa to name but a few African countries broadband coverage stands at over 95% and yet significant portions of the population remain unconnected. As Internet penetration tracks GNI per capita, South Africa is on the only country in sub Saharan African Africa in 2018 to have an Internet penetration rate above 50% - and the half of the population offline do not look very different from the more than 70% offline in the bigger African markets of Nigeria, Kenya, Ghana and Senegal or the 85 to 90% still offline in Rwanda, Mozambique, Tanzania - the former of which (Rwanda) also has the highest gender gap of 60% - only paralleled by the populous countries of Bangledesh and Pakistan in the wider Global South study. And this despite have some of the strongest supply side measures and investments on the continent and amongst the most progressive gender policies.

The barriers to use for many people is therefore not that they are not covered by a signal, but that people do not have the resources to get online - the primary barrier being the cost of devices as well as the price of data.

The After Access survey findings show that affordability of devices and lack of awareness are the main barriers to Internet use in the countries surveyed. Of those who do use the Internet in Mozambique 76% indicated they cannot afford Internet enabled devices Internet despite having amongst the lowest data prices on the continent, while in Tanzania this figure is not much less at 64%, in Uganda, half the population and in Rwanda just less than half. Of those who do use the Internet 33% of South Africans stated that the price of data is unaffordable.

Similarly, in Ghana and Nigeria, 43% and 40%, respectively, of those who do use the Internet do not know what the Internet is.

While human development in Africa remains the biggest to dealing with digital inequity, alternative strategies to extend affordable access to communications are urgent. We simply cannot carry on doing things the way we have and expect the exponential changes we require.

Without complementary stratgies, offline inequalities will simply be mirrored, indeed amplified on line. A multipronged strategy should include targeting the following areas.

• While connectivity on its own will not reduce economic inequality, connectivity is a precondition for participation in a modern economy and society. The fact that there is extensive coverage and yet a large percentage of the populations remains unconnected suggests challenges with the current commercial model of exclusive spectrum licensing and universal service fund strategies. To address this problem, complementary regulatory and delivery strategies will be required to enable different types of services to be offered by different kinds of operators.

o Reform spectrum policy should be reviewed to enable more optimal co-existence of licensed and unlicensed spectrum that will optimise spectrum for diverse needs of countries, but which will prioritise affordable access to communications. Licensed spectrum required for the evolution of existing services needs to be released at a competitively-determined (efficient use) price to ensure the build out of capital-intensive networks benefitting from economies of scale and devices.

o With evidence that even cost-based GSM prices are not affordable to most Africans, spectrum should be made available for secondary use. Nationally allocated spectrum not in use in remote areas must be made available through low cost or licence-exempt spectrum for communities, non-profit providers or micronetworks. Extending unlicensed spectrum to new frequency bands can spur investment and innovation, lead to the introduction of technologies that can complement licensed networks (e.g. via the hand-off from GSM to public Wi-Fi, which now also has backhaul application) and expand broadband access in lowcost, last-mile access. Enabling the deployment of dynamic spectrum is a critical aspect of spectrum management seeking to optimise the use of spectrum in the context of providing exclusive use required by operators for large sunk investments as well as the expanded licence-exempt spectrum that can reduce digital inequality by enabling access but also complementing high cost, private use.

• To effectively develop such alternatives, requires institutional arrangements that enable capacitated regulators to regulate effectively an increasing complex and adaptive globalised environment without state or industry capture and succumb to pressures from state to enforce retrogressive taxes that undermine their digital futures or be lobbied by operators who act anti-competitively or place securing extractive rents above the national public policy objectives.

• This will also require data and information about what exists, in what form, how much its costs, its price at the point of sale, and what gaps exist in the reach of services from an economic, social and cultural perspective. An integrated and coordinated data-gathering procedure for the sector, and ICT across sectors, using audited administrative data, rigorous demand side data and exploits available big data with the underlying dataset available according to open data access principles that guarantee anonymity and privacy. • The data available shows that besides affordability, human development – particularly education and therefore income - are the primary determinants of access, intensity of use, and use of Internet for production and not only consumption. The development of relevant local content and applications in local languages, along with the enhancement of citizens' digital literacy skills, are all important demand stimulants. This will require a cross-sectoral approach that builds capacity not only digital literacy but advanced skills to support optimal use of software and local content development to meet local needs and in local languages. It will increasingly require skills development and realignment of skills to deal with increased automation of work, artificial intelligence, big data analysis and robotics.

• Need to create the cyberpolicy frameworks necessary to build a trust-based environment for e-commerce, e-government, digital finance and personal use. This requires introduction of legislation and guidelines in the areas of cybersecurity, privacy, protection of data and access to information. This needs to be developed in the context of wider state responsibilities that safeguards these rights and mitigates the risks and harms associated with the increasing value of data and the uneven power relations attached to it. Proactively protecting consumer and citizen interests and local online businesses will help in ensuring that the benefits ofthe digital economy do not only accrue to global platforms and the countries in which they are located.

• Africa economies need to formulate policies with the aim of removing barriers that prevent full engagement in the digital economy and harnessing the benefit. The policies must enable participation of Africans in e-commerce, microwork to create jobs and boost Africa's long-term competitiveness. This will require greater state coordination across sectors and between the public and private sector of policies and implementation that will align skills and improve citizens, state and companies' readiness for digital technology moblisation.

• Africa needs to develop initiatives towards attaining harmonised regional strategies to make smaller markets more attractive for investment and which takes into account generation, storage, processing, and transfer of data locally and across boundaries, egovernment, taxation in the digital economy, and inclusive access and use. The policy should take into consideration and reflect the changes occurring in the production process and the increasing digitisation of production and consumption processes and international trade. Enabling cross border trade and reciprocal financial and taxation regimes will be critical to realising the African Free Trade Agreement.

Without these efforts, overlaying new technologies and platforms on existing offline inequalities will simply mirror them online. Indeed, with the powerful network effects at play is likely to amplify inequality.

Session Three: Bridging Digital Divides

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/172#

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

Speakers:

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

Executive Summary by High Level Track Facilitator

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

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.

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

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.

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 SGD 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.

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.

EQUATORIAL GUINEA

H.E. Mr. Hipólito Ondo Envo Bela, Vice Minister,
Ministry of Transport, Post & Telecommunications

GEROGIA

H.E Mr. Lasha Mikava, Deputy Minister,
Ministry of Economy and Sustainable Development

POLAND

H.E Ms. Wanda Buk, Undersecretary of State,
Ministry of Digital Affairs

Q1. We all need to share with each other best practices and experience in order to improve digital transformation, to bridge digital divide. Could you please tell us more about good practices of projects that your Ministry runs as a policymaker?

As a governmental unit our goal is to keep telecom market innovative and competitive. I am certain that Operational Program Digital Poland which was submitted by Poland for WSIS Prizes 2019 suits best this definition and because of the results – it has met its purposes. It's a really significant project as OP DP applies to development of modern telecom infrastructure but also of e-government services, digitalisation of cultural heritage and in consequence – it improves digital skills of society in full spectrum.
By its definition, in context of digitalization the role of every government as a policymaker is to deliver legal environment for the faster, more cost-efficient roll-outs of next-generation networks.
All actions must be taken in a justified manner and any kind of funding support should be granted only if necessary, to serve best market competiveness.

Following this path, there are some regions that due to low population and limited funding, are missing broadband infrastructure. So in case of policies that are needed to support digital transformation, we must pay special attention to these regions. Therefore **our job was to precisely detect and find out a model of support that suits the needs of telecom market.**

Currently many countries (not only EU) are facing digital exclusion, especially in low populated areas which lack broadband infrastructure. This happens mostly in rural areas, which are very likely to be digitally excluded because of low level of profitability of investments in broadband infrastructure. Even when there is a broadband infrastructure, lack of fast-Internet access in schools may come due to limits of financial resources to purchase high-quality services. For such circumstance we provide Internet service free of any charges, to have unlimited access to modern ICTs solutions and technologies in schools.

All actions taken must be horizontal as well as clearly defined. Only by making decisions at the top level, we ensure our digital agendas are harmonized and moving us into Gigabit Society.
As a policymaker we're not done at supporting infrastructure. This infrastructure has huge potential and so we came up with next gen. national strategy, this time dedicated to e-learning. In very rules of OP DP we addressed special requirements for schools that due to location in low population areas were facing lack of access to Internet services. Connecting over 11 thousand schools to broadband network is leading to equalization of opportunities for all students and will allow to create a new quality and style of learning.

Young IT specialists benefiting from free Internet access in schools undoubtedly are going to accelerate economic development. We must just make sure that their knowledge is properly used in practice. For that reason we are currently implementing next project, called Nationwide Education Network that will serve this purpose. We believe that higher usage of Internet in schools will influence the whole society and close gaps between generations.

Therefore it is worth to underline that our new broadband infrastructure is able to fulfil not only the current requirements of European Digital Agenda but also to fulfil objectives of European Gigabit Society target for 2025.

Thank you.

Q2. Poland is implementing Operational Program Digital Programme, would you please point out some essential specifics about Polish intervention and about National Education Network which won WSIS Prize last year? Could you please share some specifics on that project and its evaluation?

Regarding the results of OP DP that I have mentioned - in context of telecom infrastructure at first we hoped to provide Internet access of at least 30 Mbps to a little over 720k households. And so we have invested public funds into over 160 infrastructure projects that are currently deploying over 105 000 km of broadband infrastructure in excluded areas. What's also worth mentioning, is that this scale of investment surpassed our initial expectations. All projects that were granted a subsidy, were to provide household with bandwidth of at least 30 Mbps, but most of our beneficiaries declared to provide those households with access of 100 Mbps. Also the amount of households has reached over 270% of primary goal, thus nearly 2 mln households are going to get NGA access by OP DP intervention (and 70 % of all households in those projects are located in places where less than 5 000 inhabitants live). The value of the projects has reached over 1,5 bln euro.

Most of the OP DP projects are being carried out at this moment. Currently, over 100 thousand households and 6 thousand schools is already connected, but we expect amount of household connected to NGA network to reach 1,1 mln by summer 2019. In case of schools this will basically mean that every educational unit in Poland will get the Internet access of 100 Mbps.

Regarding schools and Nationwide Education Network, **this is currently one of largest (in its scale), projects in the world** that is transforming analogue education into fully digital. **Last year WSIS Prizes award meant a lot to us,** and I am glad that Nationwide Education Network was so appreciated. As some of you know, this project is about providing fast, save and free of charge Internet access to primary and secondary schools in Poland by internal network, dedicated to these schools. This project is very complex, as we are not only providing infrastructure for those schools that were digitally excluded before, but also brand new digital curricula.

But this project is not only about the Internet access, as it is a digital tool that enables the provision of services for teaching digital skills and constantly increasing competences of its users. It's by our experience that (if done well) e-learning is kind of equalization of educational opportunities for all students. We all agree that access to knowledge from digital resources was (and in many countries still is) consider as a privilege for students form huge cities. Telecom operators are in fact not likely to invest in broadband infrastructure on remote, low populated areas (because of low profitability of investments in broadband infrastructure in such areas), and so many schools were not able to provide their students with digital sources and streams of knowledge. In fact, the lack of universal access to the fast Internet is an obstacle for full development of intellectual capital. This deficiency is especially unfavorable for children living in low populated areas which are very likely to be digitally excluded and that's where Nationwide Education Network steps in. **We hope to share the idea of Nationwide Education Network so other governments make use of our solutions** as ICT are of major importance for the development of the economy and lead to dynamic changes in all forms of social life.

Considering all said, because of our experience in field of building infrastructure and providing ICTs for education we are much obliged to provide all interested stakeholders with necessary know-how for setting up interventions. Please don't hesitate to ask questions and share your own experiences. Only by cooperative relationship we will achieve our ultimate goal – to make digitization affordable and of great use, to make everyone's lives better and smarter.
Thank you.

CMAI ASSOCIATION OF INDIA

Prof. Narendra Kumar Goyal,
President

eWORLDWIDE GROUP

Dr. Salma Abbasi,
Chairperson and CEO

TELEFONICA

Mr. Christoph Steck,
Chief Policy Advisor

ISOC

Ms. Constance Bommelaer de Leusse,
Senior Director of Global Internet Policy and International Organizations

UNESCAP

Ms. Atsuko Okuda,
Chief of the Information and Communication Technology and Development Section of IDD

UN WOMEN

Ms. Christine Löw. Director,
UN Women Liaison Office in Geneva

1) A substantial divide persists between women and men in internet access and use. In twothirds of countries worldwide, the proportion of young women using the internet is lower than the proportion of men using the internet. What is causing this digital gender gap?
Women and girls indeed continue to face a technology gap that prevents them from accessing, using and creating digital tools at the same level as men and boys. Without equal access to technology and the internet, it is challenging for girls and women to be able to participate in our ever more digital societies and the global community on an equal basis.

So why does this divide exist and persist? Often, people already excluded from social and economic opportunities tend to be digitally excluded. In other words, the digital gender divide is perpetuated by existing gender inequality. Inequality in access to and use of technologies result from systemic sources of discrimination in society.

For example, patriarchal social norms, traditions, beliefs and policies may restrict women's access to technologies directly or indirectly through uneven and unequal access to education, the gender wage gap, unpaid work, or lack of access to social protection systems for the 740 million women making their living in the informal economy.

Careers in science, technology, engineering and math (STEM) are considered the jobs of the future, but women and girls remain largely under-represented in those fields. Worldwide, only 3% of ICT graduates are women and only 35% of higher education students studying STEM subjects are women. Girls' achievements and interest in STEM are shaped by the environment around them: so parents, teachers, educators, media have a role to play to create a more positive and diverse environment and expand their education choices.

Another important aspect is that access is becoming more a problem of economics than geography. Three billion people will not have access to the internet in 2020. They are often poor, lowly educated, and female. Although 80% live near telecommunication towers, devices and data are still really expensive, and social norms biased against women and marginalized groups.

It is also important to keep in mind that technology is not gender-neutral. Innovation and technology reflect the people who make it. If there is gender imbalance in the number of innovators, designers or leadership, it is highly likely that the infrastructure or services being developed will not take into account the specific needs of other parts of the population.

UN Women through the Global Innovation Coalition for Change is promoting the Gender Innovation Principles, so that women are supported as innovators but also women's needs and experiences are taken into account by innovators.

All of these root causes need to be addressed to close the digital gender divide, while at the same time achieving a more gender equal world.

2) How can we overcome these challenges? What are some of UN Women's key recommendations to bridge the digital gender divide?

Instead of being another barrier, technology and the internet can be a great enabler for all women and girls. The world needs to harness the power of technology and the internet to introduce significant, positive change and accelerate progress towards gender equality.

Digital solutions are probably the most impactful innovations to accelerate such progress. However, for these solutions to be successful, it is important to look beyond technological aspects and pay attention to how these solutions are accessed and used. The more public services and public financing depends on access to digital technology, the more women risk being left behind. Women also stand to be disproportionately harmed by machine-learning and artificial intelligence where algorithms classify data and make decisions that perpetuate existing biases in ways that become enormously more complex and difficult to undo.

The most recent Agreed Conclusions from the Commission on the Status of Women also call upon governments to work towards closing the digital gender divide and promoting equal access to ICT and internet for women and girls. More specifically, it calls upon governments to promote and respect women's and girls' rights to education and address gender negative social norms and gender stereotypes, including through investing in public education systems and infrastructure, eliminating discriminatory laws and practices, eliminating female illiteracy and promoting financial and digital literacy, and supporting women and girls in diversifying their educational and occupational choices in emerging fields, such as STEM and ICT.

The Agreed Conclusions further stress that governments should explore ways to address any potential negative impact of new technologies on gender equality. As mentioned earlier, this means that we need to make sure that technology is gender-transformative. That women and girls are not only consumers of innovation, but also take their place as innovators. With their engagement, both design and execution of technology can address the unique needs, wants and rights of women and girls.

Session Four: Enabling Environment

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/173#

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. **A2i 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

Executive Summary by High Level Track Facilitator

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.

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

UAE Ajman Government 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

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 s 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

BAHRAIN

H.E. Mr. Kamal bin Ahmed Mohammed,
Minister, Ministry of Transportation and Telecommunications

Bahrain has consistently been a regional leader in enabling a robust and competitive telecommunications and ICT sector. A key component of developing such a successful and thriving telecommunications sector is implementing a robust and fair regulatory environment that enables fair competition between licensed operators

It is vital that easily accessible and affordable telecommunications infrastructure is available to all sectors. Over the last five years, over 700 million USD has been invested into the telecommunications sector, which has led to Bahrain being ranked 4th globally in the UN's Telecommunications Infrastructure Index (TII) as well as being ranked among the top countries regionally and globally in other telecommunications/ICT indices such as the ITU's ICT Development Index.

We are continuing to enhance our infrastructure services and initiatives. By mid-2019 we will have launched our National Broadband Network, which will enable operators to provide fiber based services covering over 90% of the Kingdom and we also expect to provide commercial 5G services by mid-2019, pending the availability of consumer handsets and devices.

It is also important to establish a strong framework for public-private partnerships (PPP) that encourage smart investment in the right areas. In order to facilitate ease of investment we have implemented a concept we call Team Bahrain, an approach that gives the private sector direct access to the government to help scale their businesses as well as providing programmes that build trust in technology. We have also facilitated the adoption of a pro-innovation bankruptcy law and helped to facilitate the $100 million USD Al Waha Fund of Funds that will enable increased venture capital investment.

Bahrain is also home to numerous incubators, including the first, and still largest, FinTech accelerator "Bahrain FinTech Bay" which was launched in 2018 in partnership with multinationals such as Microsoft, Cisco and American Express. The digital economy's contribution to overall GDP is 8% in Bahrain which is significantly above the regional average of 4.1%.

Once infrastructure needs are met, it is important to create a supportive commercial environment to allow new technology to flourish. This includes investing in a highly trained workforce, creating a level playing field for small and large companies to fairly compete and enabling access to funding to rapidly scale new innovations.

As the gateway to the Gulf region, Bahrain is perfect suited for technology companies looking to enter the GCC market, and we have had great success in attracting global brands such as AWS, Huawei and Finastra to Bahrain thanks to our low cost of doing business, ease of setting up commercial ventures and a high standard of living.

Moving forward, we believe that a key area to focus on is cloud computing. Working with AWS, the Bahrain is setting up schemes to encourage companies to access the cloud and has already committed to transitioning all government services to the cloud. Training programmes are well underway, with a forecasted need for 10,000 data scientists across the region and an anticipated compound annual growth rate of 49.75% in cloud uptake by 2020.

Data privacy is also going to be crucial moving forward. Bahrain has introduced a unique data jurisdiction law that allows foreign entities to determine jurisdiction over their data held in certified Bahraini data centres and we have also issued its own data privacy laws and is closely following the implementation of GDPR to assess if further efforts are required.

There are a lot of interesting developments on the horizon and we look forward to collaborating with countries and companies for the mutual benefit of our digital societies.

ZIMBABWE

H.E Mr. Kazembe Kazembe,
Minister, Ministry of Information Communication Technology and Courier Services

UAE

H.E. Ms. Ohoud Ali Shehail,
Director General, Ajman Digital Government

AFGHANISTAN

Dr. Mohammad Najeeb Azizi,
Chairman, Afghanistan Telecom Regulatory Authority

MEXICO

Mr. Adolfo Cuevas Teja, Commissioner,
Federal Telecommunications Institute

What is the role of a telecommunications regulator to overcome the digital divide and foster an enabling environment considering the Sustainable Development Goals for 2030? According to the International Telecommunications Union (ITU), the digital divide separates those who are connect to the digital revolution of ICT from those who does not have access to the benefits of the new technologies.

The digital divide produce across international borders as well as inside of the communities, as people are by one or other side of economic and knowledge barriers1. The digital divide is a complex problem that must be take it from the side of the supply and demand. Some reasons of the digital divide is the lack of resource, difficulties in the Internet services access, lack of literacy and digital skills, as well as the lack of access to devices with Internet connection capacity, among others.

Nowadays, the telecommunications and the information and communications technologies (ICT) are tools for the economic and social development, they allow create opportunities, reduce the poverty and promote economic and social progress for the wellbeing of the population. Studies show that an advance of 1% in the digitalization index, generate an increase of the productivity that it is translate into economic growth of 0.3% of GDP, whereby is indispensable reduce significantly the digital divide and consolidate a telecommunications infrastructure that allows it, as well as the intensive incorporation of the information and communications technologies in the productive processes of companies.

One of the first actions to face and overcome the digital divide, is that the telecommunication regulators have the information relative to the number of people who still do not have access to telecommunications and ICT, and have a diagnosis on what are the principal causes, which will allow having the necessary elements to be able to generate projects, regulations and actions which favors to reduce the digital divide. Have this information will allows to the actors, publics and privates, design and implementing actions to improve the skills in the adoption of ICT and the uses of the Internet which are considerate socio - demographic factors that can hinder and facilitate its

effectivity. Similarly, it facilitates the development of public policies in aimed at reducing the digital divide and overall prioritized actions for vulnerable sectors of the population.

Among the diverse activities that regulators can implement, is the development of normative recommendations for the improvement of the digital inclusion and the deployment of infrastructure, in order to increase the provision off the telecommunications services in those zones where they are not available, as well as include to the population in the use of information technologies on their social, cultural, economic development, among others.

The above, encourages countries to have a normative framework in the sector that allows implement public policies that seek to reduce the digital divide, contribute to the social welfare trough more equality accelerated development, as well as facilitate the investments providing major certainty.

Other of the actions that regulators can realize, is through the implementation of a competence policy that stimulates the invest, consequently, as well as a greater number of telecommunication/ICT services providers that could significantly reduce the prices of these services, allowing increase significantly the number of users who can have access them. This offer not only originate that the prices are more affordable, also promotes the increase the quality of services, which benefits the user.

Be able to connect the unconnected brings multiple benefits and is align to diverse priorities at global level. Among this priorities are the Sustainable Development Goals (SDG), for which the ICT represent a transversal tool that contributes to achieve the established goals.

According to the Organization for Economic Cooperation and Development (OECD) in its publication "Broadband policies for Latin-America and Caribbean", it highlights that the policies of the public sector aimed at increasing broadband access and reduce the divides in their use; they must design digital strategies and national broadband plans that respond to a complete government approach. Therefore, is necessary make them assuming a clear leadership in collaboration with stakeholders and include a periodic collection of data that allows evaluate the achieved progress making the necessary revisions.

On the other side, according to ITU, around the half of the world's population does not use Internet. In order to achieve the 17 SDG is indispensable that the digital society include marginalized populations, in particular women and girls, the elderly, people with disabilities, Indigenous populations, the economically disadvantaged, as well as habitants of least development countries, landlocked developed countries and small island developing states.

In the 2030 Agenda for Sustainable Development recognizes that the world interconnection offers great possibilities to accelerate the human progress, reduce the digital divides and develop knowledge societies. As already mentioned, the ICTs have become in an essential part for the economic and social development of long-term, but the progresses will depend of the infrastructure and reliable, resilient, available, secure and trustworthy communications infrastructure and services. Therefore, the work of the regulators to achieve these elements is paramount and is for the benefit of all.

In this order of ideas, for the Federal Telecommunications Institute, one of the principal challenges for this 2019 consist on increase the coverage and penetration of the services to reduce the digital divide among the population, keep the security and reliability of the networks, with the objective to achieve the major connectivity with better possible conditions of price and quality; promote the right to information; as well as users protection, fostering an environment of accessibility and affordability for the whole population.

What are, at present, the key factors for the creation of an Information Society?

In 2015, the General Assembly endorsed the principles of the World Summit on the Information Society (WSIS) to achieve a people-centered, inclusive and development oriented that contribute to the economic prosperity, the social equity and the environmental sustainability.

According with the report there have been many development in the ICT, as well as a constantly evolution of the economy and the society so the nature of the information society is in constant movement as consequence of emerging technologies, motivating transformations every more radical times. Therefore, the elaboration of policies and regulations must be chosen with prudence in order to guarantee improvements to the economic and social welfare of our populations.

In that sense, the responsibility of the regulatory authorities, enterprises and the relation between different national jurisdictions are key elements to build an enabling environment that generates an information society promoting of the competence among the online and the traditional markets one equilibrate way removing regulations that restrict the innovation and establishing the necessary for that exist and competitive environment among them that facilitate that the population that does not have broadband connection can access it an affordable cost.

According to data from Measuring the Information Society Report 2018, from ITU, it shows the increase in investment of broadband technologies is promoting the global digital transformation, which benefits more people can get access to more services. This report highlights the increase in access and use of the ICT services in the last decade, the prices of these technologies have fallen in a global scale.

The services of fixed broadband registered the highest price drop in all ICT services. The prices of mobile telephony also maintained a firm down trend in the 2017-2018 period, in line with the continuous increase of the penetration rate of the mobile telephony. The improvement of regulation and of the policy formulation has played a fundamental role in creating the conditions for the reduction of prices that occurred in the 2008-2017 period, guaranteeing that the gains in terms of efficiency derived of the greater ICT adoption rates partly to the customers.

For its part, ECLAC indicates that ICTs are instruments of general purpose that can be incorporate in any sector of activity; they allow optimize the process that support the daily activities of the actual society. For this reason, the creation of information societies demands the increasing of access to these technologies, and its adoption in all sectors of the social and economic organization, in order to generate intrasectorial complementarities that allow exploit the potential of a based in knowledge and information society.

Additionally, in order to develop the knowledge and information necessary for use and generate the ICT infrastructure products, is indispensable the implementation of public policies, regulation, legislation and national strategies that have as definitive objective that the effective use of ICTs are reflected in economic and social benefits for the society. In the national case, according to the attributions of the Federal Telecommunications Institute, it has a predominantly technical and specialized nature; and has worked to generate a regulatory framework that allows greater competence, more offer, better prices, better quality and more coverage in the telecommunication services, fundamental premises to promoting and guarantee the population its integration to the knowledge and information society.

ROMANIA

Mr. Sorin Mihai Grindeanu,
President, National Authority for Management and Regulation in Communications

1) **What is Romania's experience in creating an enabling environment for the implementation of SDGs?**

First of all, please allow me to say that I'm honored to be an active part in this panel discussion on how ICTs can contribute to creating an enabling environment for the implementation of the Sustainable Development Goals. I wish to offer my congratulations for the 10 years anniversary of this key event that brings together so many stakeholders from all over the world.

As you may know, at present, Romania holds the rotating Presidency of the Council of the European Union. One of our priorities is to foster digitalization, innovation and connectivity, in order to increase the competitiveness of the European economy and industry. Our firm belief is that access to information and communication technologies is the solution for the development of disadvantaged communities.

And Romania has its own very special experience in this area. We ranked fifth in the world by broadband internet speed in 2018 and we've been in the top 10 rankings in this field for many years now. But, at the same time, we do have a problem with digital literacy and with the digital integration of the economy.

One program meant to close the digital gap is Ro-NET, an EU-funded project which aims to encourage investments in telecoms infrastructure in areas that are not covered by next-generation networks. Another specific measure, we, as regulator, have taken was to introduce in the spectrum licenses granted during the last tender in 2012 some obligations for the operators regarding the coverage of the white spots (rural areas with no mobile communications services). It was one very successful measure and we consider similar ones for the next spectrum auction planned for this year. We are also making efforts to introduce broadband internet in the scope of the universal service, mapping the telecommunications infrastructure in order to get the right

picture of the situation, improving communication with the local authorities in order to quicken the installation process.

Given the current situation in Romania in terms of service availability and usage of the digital means, whenever we develop projects or taking decisions, we always consider what advantages we can bring to the rural, disadvantaged areas, where people do not have the same opportunities, as in urban environments. Giving people the chance to easily get informed, to quality education or decent work alternatives, empowers the population as a whole.

From my point of view, that means to sustain an enabling environment, where citizens have free access to means of information and communication, without constraints. That is what we are trying to promote in Romania, the creation of favorable premises that will encourage the industry innovations and will give equal chances to men and women, wherever they live.

2) There is much talk about 5G and how it will change our world. What is your view about how this emerging technology will contribute to the creation of an enabling environment?

As it was mentioned in many of the discussions here at the WSIS Forum, I also believe that when 5G technology will become reality on a large scale, innovation will be blooming.. Moreover, this technology has the potential to generate a shift in the traditional way of running and organizing businesses and societies and will most likely lead to the creation of new organizational patterns.

It is crucial for decision-makers to ensure that the benefits of this new technology are made available to all. We must strive to make sure that 5G is put to use with the final goal of bridging social and economic gaps all over the world. Developing a global enabling environment in this hyperconnected world represents a challenge for the authorities from every country. The only viable solution is collaboration and open communication, admitting clear roles and promoting coordination between all involved actors, reducing the unnecessary procedures.

For achieving a sustainable and coherent development, all stakeholders should implement the WSIS Action Lines in accordance with the UN 2030 Agenda.

We, at ANCOM, together with a dedicated group of professionals from the Ministry of Communications and other important authorities in Romania have worked on issuing a National Strategy on the implementation of 5G technologies. By the end of this year, we plan to conclude the tender for awarding the necessary spectrum for 5G.

Because we value our users opinions, we initiated a market research at the end of the previous year, targeting people of various ages, asking what is their fear regarding the new revolutionary technologies and the Internet of Things. As, maybe anticipated by some, their biggest fear was losing of personal data.

It is generally accepted that for the implementation of the 5G technology and the upcoming Internet of Things, the consolidation of the existing infrastructures is imperative. Along with the much higher volume of data and internet speed, there will be also greater risks that require much more efficient measures to secure the networks.

Contributing to the well-being of the citizens, our role is to assure them that they are protected and their personal information will be safe. For this reason, in our perception, enhancing security represents a precondition not only for adoption of 5G per se, but for the imminent increase of interoperability between states ITC and security systems.

SWITZERLAND

Mr. Philipp Metzger,
Director-General, Federal Office of Communications (OFCOM)

Mr. Secretary-General,

Ministers,

Excellencies,

Distinguished Delegates,

Ladies and Gentlemen,

Digitization is a global phenomenon; it does not stop at national borders. Information and communication technologies are omnipresent today and are changing the way we live, work, trade and communicate.

Digitization inspires a large number of people and allows many innovations. At the same time, it worries and destabilizes some: Rapid change creates a certain fear by forcing us to leave our comfort zone and adapt to a new reality.

Digitization is above all an opportunity, but the important thing is what we do with it. Our task is therefore to develop a framework that allows as many people as possible, regardless of gender, age or origin, to take advantage of new opportunities.

Switzerland is convinced that regulation should not be too much or too early. If we regulate, we should do so in compliance with human rights and we should envisage regulations that serve to protect the rights of citizens against the business methods of overpowering corporations.

We must create an environment that favors the opportunities offered by digitization and not see it in the first place as a threat. At the same time, we must not minimize the challenges of digitization, but work with all interest groups to find common solutions. To achieve this, processes must be developed in the most inclusive manner possible in order to take the various interests into account.

Digitization is increasingly linking very different policy areas such as health, economics or education, which have traditionally been managed through processes that are independent of each other. In the digital world, we must take these interdependencies into account when discussing common themes, such as data processing or security.

Current processes sometimes reach their limits, which is why we need new forms of global digital collaboration. We need to further develop multistakeholder processes to keep pace with digital developments. And we need to be multidisciplinary, as the UN Secretary-General said on the occasion of IGF 2018 in Paris.

In this regard, Switzerland welcomes the launch by the UNSG of the High-Level Group on Digital Cooperation.

We hope that this independent multi-stakeholder and multidisciplinary group can remove existing bottlenecks and contribute, through concrete recommendations, to ensure that the many actors who discuss the different aspects of digital governance and make decisions according to their roles and responsibilities can collaborate better - that is, in a more constructive and effective way - and develop pragmatic solutions.

In our view, digital cooperation should be human-centred, inclusive and embrace human rights. This is a prerequisite for more digital trust, stability and sustainability.

The main principles for structuring and further optimizing our cooperation should be based on our shared experience and best practices of consensus-oriented decision-making, full inclusion of all interested parties, and leaving room for innovation.

Such an improved digital cooperation requires a vibrant and strong deliberation and exchange of ideas. We need better flexible cooperation mechanisms to ensure synchronisation of efforts, interoperability and policy coherence. Innovation needs to come from the grassroots and the edges. Good solutions can be scaled up when needed.

We need better implementation and follow-up of our global deliberations, and we need to find innovative ways to develop global norms and guidelines, based on consensus building processes, so that these standards and norms are acceptable by all actors.

The basis for this is support and capacity building to enable meaningful participation of all relevant stakeholders.

We believe that any resulting innovations should build to the furthest extent possible by existing institutions, processes and arrangements.

In this sense, over its 10 years of existence the WSIS Forum has importantly contributed to improve cooperation in the digital environment.

WSIS Forum provides a great example of how to strengthen cooperation between all relevant stakeholders in exchanging experiences and different views. From its early days, Switzerland has been supporting the WSIS Forum as a partner for specific activities – as we are doing again this year.

Also, the global partnership to bridge the gender digital divide EQUALS or the Broadband

Commission for Sustainable Development, launched in collaboration with UNESCO, are successful examples.

We hope that the HLP may deliver bold recommendations that build on valuable experiences like the one embodied by the WSIS-Forum.

Esteemed colleagues,

We are convinced that if we continue to develop collaboration among all interest groups, we will succeed in creating together a global community in which everyone will benefit from new technologies and in which the digital gaps between "connected and unconnected", between the sexes, countries and regions of this world will be less profound.

Ladies and Gentlemen,

Finally, on behalf of the Swiss federal authorities as well as the canton and the city of Geneva, I am pleased to invite you to a reception to be held tonight at the premises of the CICG.

Thank you for your attention.

A2i BANGLADESH

Mr. Anir Chowdhury, Policy Advisor

ASIET

Mr. Pablo Bello, Executive Director

REGULATION FOR THE BALANCED DEVELOPMENT OF THE TELECOMMUNICATIONS SECTOR IN THE CONVERGENCE ERA CONSIDERING THE CHALLENGES TO THE DEPLOYMENT OF INFRASTRUCTURES.

In the beginning, telecommunications networks were conceived and built based on the capacity necessary to support a limited amount of traffic and to offer a certain service to its users. Today, the same networks are in a gradual and irreversible migration towards common architectures whose essence is to offer a neutral transport service, capable of accommodating any type of traffic and therefore any type of service simultaneously.

"Telecommunications and audio-visual services have undergone profound and vertiginous changes in recent years. The proliferation of the convergent phenomena – technologies, services, devices –their popularization and the Internet access have contributed to broaden and redefine the different ways in which users meet their communication needs and entertainment"

Although all the indicators clearly show that the competitive environment has varied substantially, the **regulatory, institutional and public policy frameworks** in force in Latin America **have not fully adapted** to the new surrounding reality, so some transformations are required to be able to tackle the existing challenges in an effectively and agility manner.

The current sector regulation was conceived for an environment in which the provision of services was strongly integrated with the management of the network infrastructure. However, in this new converging environment, **this regulation is not fully coherent** with technological convergence. That Is, the regulation has not recognized as similar these services that are transmitted by different platforms, despite the fact that the current telecommunications networks are able to integrate any type of traffic and therefore any type of service in a simultaneous and neutral way. The application of obsolete regulations to the current scenario has given rise to important **asymmetries** that hinder the optimal development of innovation, competition and investment incentives in the current Digital Ecosystem

A specific regulation is still being applied to some services provided by telecom operators based on their qualification as "old type" service providers: ECS (Electronic Communications Services). While services offered on the Internet are subject to rules based on their qualification as SIS (Society Information Services). Similar services offered through different technological solutions compete in the same market of the digital services.

There is no doubt that the deployment of connectivity networks capable of sustaining present and future needs will require significant investments, and telecom operators are not in the best scenario to cope with this challenge, due to factors as the changes in the market and business models, but also the low levels of ARPU[1], the instability of economies, or political and regulatory uncertainty. All factors that combined caused a clear impact on the growth and profitability of the telecommunications industry. In short, the phenomenon of convergence is a paradigmatic transformation that makes essential a dialogue between all the actors of the Digital Ecosystem based on confidence to work hand in hand to materialize the agenda of change; in the flexibility to achieve agile and flexible structure that can be changed as technology changes; and in the regulatory and technological innovation. A dialogue with a sense of urgency and with political, business and social leadership to build an ***enabling environment for the benefit of all users and regional economies***

It is, in short, a question of determining the conditions that seek to accelerate investment, and have as one of the priorities, the concern for the health of the telecommunications industry. There is a need for regulatory, policy and institutional innovation that will allow a balanced development of the telecommunication sector in Convergence. In our view a new regulatory framework for convergence, should consider the following aspects:

- *Have as primary objectives; Encouraging investment in infrastructure and innovation, promote an environment of effective competition, balanced, fair and equitable and protect consumer interest and rights.*
- *In Addition, in order to be able to achieve these objectives efficiently, it should be in a perfect harmony and closely linked to an* ***institutional and public policy framework that reinforces and complements it*** *at all times, especially concerning the fulfilment of objectives of high social impact, such as to achieve the digital inclusion of the whole population.*
- *Also, in order to reinforce the* ***virtuous circle of innovation-investment-competition****, which ultimately benefits directly to the consumers, should be guided by the principle of minimizing market distortion, migrating progressively towards a* ***lighter regulation model*** *and using the*

[1] *The ARPUs per user are around 7 $ USD per month and decreasing*

*General framework of competition law and the model **ex post** actions to correct eventual market failures.*

- *As for the principles that should guide the design of this framework, it must provide confidence and certainty, for which it should be **predictable and stable**, contributing to minimizing as much as possible the level of risk and uncertainty, but at the same time **flexible**, to allow the access of new competitors and to be able to adapt itself to the dynamism that characterizes the new converging environment.*
- *Additionally, the regulation should adopt an approach based on the desired functionality, not on the structure of the sector or the technology. That is, It should be designed to meet its objectives in the most efficient way possible, regardless of the technology, the structure of the sector or pre-existing regulatory regimes*

On the other hand, and no less relevant, the region faces important challenges in terms of infrastructure development to close the gaps in both **connectivity networks** as **a**ssociated **investment**. The investment in infrastructure is essential for the development of the Digital Ecosystem, in LA region has been made considerable investments in telecommunications networks during the last years[2]. These strong levels of investment testify the vocation and sustained commitment of telecom operators to deploy infrastructure capable of supporting new services and to make possible the enormous transformations that have come coupled with the emergence and popularization of the Internet, broadband and the phenomena of technological and services convergence.

The telecommunications industry is without any doubt a strategic ally for the development of Latin America. Our region is one of those in the world that the productivity has least increased, and because the factors that allowed a high growth in previous years have weakened, because the international demand of our products no longer grows at the same speed, the levels of investment have stabilized and the incorporation of people to the labour market slows down, growth will only be possible with the increase in productivity levels through the intensive incorporation of ICT in all productive sectors. Otherwise, regional growth will not be compatible with the aspirations of economic and social progress that citizens demand, and we can face a new lost decade.

At such a crucial moment as the current in the Region, decisive to lay the foundations of the Digital Economy through a world-class infrastructure, the expectations of declining returns are questioning the investment efforts in the sector and its future development, and it demands a decided and coordinated response from all **telecommunications industry agents** to establish the appropriate incentives and to ensure firm commitments of investment in infrastructure, investment that will not necessarily come, in its entirety, from the operators or the private sector.

[2] *According to data reported by Ovum, the average annual investment in mobile infrastructure in the region amounted to 16.129 million USD between 2010 and 2017, being, in the last year, 21% higher than in 2010. Similarly, the average annual investment in fixed infrastructure in the same period stood at 13.715 million USD, with a total growth of 22% also compared to 2010. STUDY: "Proposed New Regulatory Framework for Convergence". Analysys Mason for CET. LA, December 2018*

Two particular trends are exerting considerable tension on traditional networks:

- *The increase in the number of users of fixed and mobile services; And*
- *The strong growth in the volume of data traffic.*

In Latin America and the Caribbean, the number of mobile users is expected to reach 768 million in 2022 (700 million in 2017), according to data reported by Ericsson. Ericsson also expects that mobile data traffic will represent **95%** Total mobile traffic in 2022 (**86%** In 2015). This implies that operators will need to undertake a thorough process of **transformation and evolution** of their infrastructure towards **New Generation Networks**, in order to efficiently address an increasingly demand generated by the change in consumption patterns, increase in the number of users who make use of new technologies and increase the use of Smartphones, which will obviously require **intensive and continuous** Investments in the next few years.

As a result of the need to finance strong investments required and the constant pressure that operators are subjected to in the region due to a **decrease in their incomes and a reduction in their margins,** there are certain problems that need to be addressed in order to expand the coverage and quality of telecommunications services and close the gap, including:

- *The adoption by users of new technologies such as 4G/5G Or FTTH will not always generate additional revenue*
- *The return over investments of the operators is declining due to increased infrastructure investments needs and decreased revenues, as noted above.*

Also, on the basis of investments in telecommunications infrastructure carried out by the private sector in the region in the last recent years, it is estimated[3] that between **2018 and 2025** The sector will attract an investment of approximately **119 billion USD**, of which it is estimated that **78 billion USD** will be for mobile broadband and **41 billion USD** for fixed broadband. However, in achieving the goals of coverage and capacity to equip the region with a **world-class infrastructure** for 2025 there is the evidence of a need for investment of approximately **178 billion USD** in the same period 2018 – 25. Therefore, in order to close the **Infrastructure gap**, it is estimated that an **additional investment (Investment Gap)** to the foreseeable contribution of the private sector of approximately **58 billion USD.**

Definitively, we are facing the challenge of being a key industry to leverage the growth of the region, with the targets still ahead of closing the digital gaps and deploying a first-level digital infrastructure, as well as boost the intensive incorporation of the ICT in all productive sectors. All this in a scenario of strong technological and market disruptions, which make more necessary than ever to build a new regulatory and policy consensus for this new Digital Era.

[3] *Study of Analysys Mason for Cet.la. December 2018: "Proposal of a New Regulatory Framework for Convergence ".*

ABOUT ASIET: The Interamerican Association of telecommunications Companies (ASIET) was born in 1982 with the name of AHCIET and it is comprised of public and private companies from the telecommunications sector operating in the countries of the American continent. We work for the development of telecommunications and the Information Society in our region through the public- private dialogue promoting the growth of the industry and favouring the exchange of knowledge and best practices, ensuring for the common interests of our partners and the industry.

INTERNATIONAL CHAMBER OF COMMERCE

Mr. Crispin Conroy, ICC Representative Director and Permanent Observer to the UNOG

Session Five: Building confidence and security in the use of ICTs

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/175#

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

Executive Summary by High Level Track Facilitator

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 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, Symantec, EastWest Institute and Paniamore Foundation. The use of multi-factor electronic identifiers as Indias Adhar or as highlighted by Symantec.

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.

CUBA

H.E Mr. Ernesto Rodríguez Hernández,
Deputy Minister, Ministry of Communications

¿Cuál es el rol de los Estados en la creación de confianza y seguridad en el uso de las TIC.

En la Declaración de Principios aprobada por las Jefas y jefes de Estado y Gobierno en la primera fase de la Cumbre Mundial sobre la Sociedad de la Información se afirmó que:

"El fomento de un clima de confianza, incluso en la seguridad de la información y la seguridad de las redes, la autenticación, la privacidad y la protección de los consumidores, es requisito previo para que se desarrolle la Sociedad de la Información y para promover la confianza entre los usuarios de las TIC."

Este mandato cobra hoy en día una mayor relevancia ya que el uso de las TIC han transformado el panorama de seguridad internacional a partir de su empleo con fines delictivos y para otras actividades de desestabilización contrarias a la paz y a la seguridad internacional lo cual ha producido un aumento del riesgo en los últimos años.

Respecto al empleo de las TIC con fines delictivos, los gobiernos, deben elaborar instrumentos y mecanismos, incluidos tratados y acuerdos de cooperación, para que se investiguen eficazmente los incidentes y se procese a los autores de delitos cometidos en el ciberespacio y contra las redes y los recursos tecnológicos,

independientemente del territorio en que se cometa el delito y la localización de los medios tecnológicos utilizados, respetando la soberanía de los Estados al abordar el problema de la jurisdicción transfronteriza.

Además estas tecnologías pueden provocar conflictos internacionales por el empleo encubierto e ilegal de las TIC, por individuos, organizaciones y Estados, para agredir a los sistemas informáticos de otras naciones.

El único camino para prevenir y enfrentar estas novedosas amenazas y evitar que el ciberespacio se convierta en un teatro de operaciones militares es la cooperación mancomunada entre todos los Estados.

¿Considera Ud. que la confianza y la seguridad en el uso de las TIC debería continuar siendo considerado como uno de los pilares fundamentales de la sociedad de la información?

Las TIC deben ser empleadas para lograr el desarrollo económico y social, promover la paz, el conocimiento, erradicar la pobreza y la exclusión social, sobre la base del estricto respeto a la carta de las Naciones Unidas y el Derecho Internacional, y no como instrumentos para promover la guerra, el intervencionismo, la desestabilización, la subversión, el unilateralismo o las acciones terroristas.

Sin embargo, hoy en día crecen los ciberataques, el ciberterrorismo, la violación de la privacidad de las personas, las noticias falsas, el discurso de odio, entre otros usos inadecuados de las TIC.

Además, el desarrollo acelerado de nuevas tecnologías vinculadas a las TIC, como la inteligencia artificial, la Internet de las cosas y la 5ta generación de telefonía móvil, entre otras, hacen más complejo el enfrentamiento a estos males.

Teniendo en cuenta los elementso antes señalados, hoy, más que nunca es necesario propiciar la cooperación entre los gobiernos dentro de las Naciones Unidas, y con todas las partes interesadas en otros foros apropiados, para aumentar la confianza del usuario y proteger los datos y la integridad de la red; considerar los riesgos actuales y potenciales para las TIC, y abordar otras cuestiones de seguridad de la información y de las redes.

SLOVENIA

H.E Mr. Ernesto Rodríguez Hernández,
Deputy Minister, Ministry of Communications

Q1: Given the fact that the Internet has become the main building block of a modern, globally integrated society, which will have to be based on sustainable development in the future, we cannot imagine modern communication without it. Therefore, we must ask ourselves how to ensure an adequate level of trust and security. I am interested in what kind of experience does Slovenia have, as one of the smaller members of the European Union? What measures has it taken in legal framework, institution building and capacity building, international cooperation? Should one of the most important things be highlighted among the measures? Where do you see the biggest obstacles?

In Slovenia, we are aware that increasing customer confidence, whether it is business, government, or individuals, is increasing the Internet, increasing its use, lowering operating costs and, consequently, allowing digital economic growth.

The increase in user confidence on the Internet has a direct impact on the development of new services and business models associated with its use, which is reflected in digital economic growth and the increase in social welfare. Slovenia strives for the development of international norms of operation in cyberspace and in cooperation with other countries and international partners to establish practical confidence-building measures.

With the adoption of the strategies DIGITAL SLOVENIA 2020 (adopted in spring 2016), which includes the Strategy for the development of the information society by 2020, the next generation of broadband development plans by 2020 and the Cyber Security Strategy set a series of measures to eliminate the biggest development gaps in the field of digital society to establish an appropriate digital infrastructure for the equal involvement of Slovenian stakeholders in a single European digital space.

The cyber security strategy sets out measures to establish a comprehensive national system for ensuring a high level of cyber security. With this, the Republic of Slovenia will ensure open and secure cyberspace, which will serve as a basis for the smooth functioning of the infrastructure important for the functioning of state bodies and the economy as well as for the lives of all citizens. By 2020, Slovenia will

set up an effective system for the provision of cyber security, which will thus prevent and eliminate the consequences of security incidents. To achieve this goal, we are implementing measures in the following areas:

• Strengthening and systemic regulation of the national cyber security system;

• Security of citizens in cyberspace;

• Cyber security and the economy;

• Reliable operation of the critical infrastructure of the national importance of the information and communication support sector;

• Deterrence of cybercrime;

• Development of defense cyber capacities;

• Ensuring the safe operation and availability of information and communication systems in case of major natural and other disasters;

• Strengthening national cyber security through international cooperation.

In April 2018, we adopted the Information Security Law (ZInfV), which regulates the system of information security in the Republic of Slovenia, while Directive 2016/1148 / EC of the European Parliament and of the Council of 6 July 2016 on measures is being transposed into the national legal order for a high overall level of network security and information systems in the Union (Directive 2016/1148 / EC). ZInfV regulates measures to achieve a high level of network and information security in the Republic of Slovenia, which is essential for the smooth functioning of the state in all security conditions, provide essential services for the preservation of key social and economic activities and regulates the provision of cyber defense in the Republic of Slovenia. It lays down minimum security requirements and incidents notification requirements

for the IBS, digital service providers (PDSs are online marketers, web search engine and cloud computing), and public administration bodies that manage information systems and share networks or provide information services necessary for the smooth functioning of the state or for ensuring national security. IBS operates in the fields of energy, digital infrastructure, drinking water supply and distribution, health, transport, banking and financial market infrastructure, food supply and environmental protection. ZInfV also regulates the competencies, tasks, organization and operation of the competent national authority (PNO), the single point of contact, the national group for dealing with incidents in the field of security of electronic networks and information (national CSIRT) and the groups dealing with incidents in the field of electronic network security and information in state administration bodies (CSIRT bodies of state administration). At the end of February 2019, the Government of the Republic of Slovenia prepared a new Resolution on the national security strategy of the Republic of Slovenia, which clearly defines the threat

of hybrid threats and information-communication threats. Especially curvy cyber-attacks with the use of information technology and the sabotage method represent a challenge for maintaining the resilience of the key functions of the state and society and critical infrastructure.

With the completion of the national authority for the information cybernetics (deadline 1/1 2020), comprehensive management of the area will be ensured and coordination with all departments and other entities in all security conditions. Based on resolution and cyber risk assessment, we intend to refresh the cyber security sector strategy.

Ensuring an adequate level of information security is a prerequisite for faster digitization of the economy and society, and it is also extremely important for ensuring national security. Information security is our shared responsibility.

Q2: A very important aspect, which, unfortunately, is very often forgotten is the protection of children online. What kind of projects are you doing in this direction in your country? Do you cooperate with service providers and non-governmental organizations?

Citizens should be able to learn about the risks in cyberspace and how to manage them, and the associated responsibility of everyone for their own security in the global communications network.

We must be aware that citizens can still do the most for providing our own information privacy. To help raise awareness about security and communication privacy in cyberspace, we have several long-standing and successful awareness programs in Slovenia. We give special emphasis to young people who will be future carriers of digital transformation.

Young people are the primary audience of projects within the Safer Internet Center (Safe.si, TOM Phone and Spletno oko).

Safe.si is a point of awareness about the safe use of the Internet and mobile devices for children, teenagers, parents and teachers. Intensive use of social networks, video content, mobile applications, materials for different age groups of young people, teachers and parents. They carry out education through schools and other institutions and have an organized support center. Among the last projects is the campaign "Stop Online Violence Against Women and Girls".

This phone is an advisory line for online problems. Tom Phone 116 111, on which, between 12 am and 8 pm, advisers answer questions, dilemmas, and resolve your problems with using the Internet every day. The service is available for children, young people and their parents. In February 2013, TOM chat room http://www.e-tom.si/ started, where children, adolescents and their parents can receive advice and help through online chat.

Spletno oko is an anonymous online reporting of illegal online content - videos of child sexual abuse (child pornography) and hates speech. If you encounter such content on the Internet, you can report them on www.spletno-oko.si. The participation of similar points in Europe has proven to be an effective measure in the fight to reduce illegal content on the Internet.

The Center for Safer Internet is implemented by the University of Ljubljana, the Faculty of Social Sciences, the Arnes Institute, the Association of Friends of Youth of Slovenia and the MISSS Institute (Youth Information Advisory Center of Slovenia), financed by the INEA Agency at the European Commission (through the Connecting Instrument Europe) and the Ministry of public administration.

FRANCE

Mr Serge Abiteboul, Member of the High Level Board,
Autorité de Régulation des Communications Électroniques et des Postes (ARCEP)

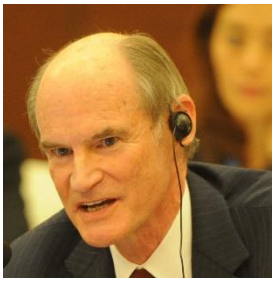
TURKEY

Mr. Ömer Abdullah Karagözoğlu, Chairman of the Board and President of the Authority, Information and Communication Technologies Authority

SYMANTEC

Mr. Jeff Greene, Vice-President,
Global Government Affairs

EASTWEST INSTITUTE



Mr. Bruce McConnell,
Executive Vice President

PANIAMOR FOUNDATION

Mrs. Milena Grillo,
Director of Strategy and Innovation

This statement is delivered on behalf of Fundación Paniamor (PANIAMOR), acting with the formal support of the Ministry of Science, Technology and Telecommunications of Costa Rica. PANIAMOR is a Costarrican civil society organization with over 30 years of experience in combatting all forms of violence and social exclusion against children, including child online violence and digital divide. As such, this statement reflects on the road map completed and the learnings obtained in the process of developing and setting in motion the E-Mentores Costa Rica Model, a policy innovation that makes Costa Rica a pioneering country in Latin America, in integrating child online safety into a national strategy addressing digital inclusion as a way for poverty reduction and social inclusion. We salute and thank ITU and all WSIS 2019 organizers for inviting Costa Rica to share the EMentores CR Model before such a distinguished audience and as we understand it in Costa Rica: as an achievement for our children, made possible by the will and commitment of State authorities and program operators, private sector, cooperation agencies, and the families and children themselves. As a policy Innovation, the E-Mentores CR Model meets each and all the four criteria that PANIAMOR and partners deem essential for an intervention to qualify as such.

1. It is context-sensitive and responds to two national concerns: the digital divide affecting underserved groups, and the exposure of their children to online violence and abuse.

Rationale: In 2010, our Constitutional Hall declared access to Internet as a fundamental right for all Costarrican inhabitants. Following this mandate and out of legitimate interest, the GoCR expanded its efforts and investment, making of digital inclusion a key national milestone, both in terms of equal enjoyment of rights and as a means for personal, social and national well-being and well-becoming. The Hogares Conectados Program (HCP) was launched in 2013 to tackle this challenge, becoming the country's flagship initiative, and distinguished with the WSIS Knowledge Award 2015.

Slowly but surely, as the HCP developed, both informed confidence in the use of ICT and child online safety, emerged as missing pillars for tackling digital inclusion in an effective way with underserved **families, a segment of our society deserving and needing to become safe, responsible and productive consumers** and prosumers in the information society, if the country is to own the SDG pledge "Not to leave anyone behind". This since lack of informed confidence common to this social group not only inhibited its capacity to embrace ICT as a means for personal growth and social inclusion, but increased the risk of exposure of their children to online violence in its various expressions.

2. It engages the meaningful participation of key stakeholders from day one. Rationale: The E-Mentores Model call for action developed a whole new ecosystem where usual and unusual stakeholders were credited and mobilized as essential enablers of sustainability and scale. This includes:

- High-level champions mediating to secure formal governmental engagement by main public entities with related mandates.
- Private ICT sector engaging in multiple ways, particularly through mentoring and volunteering. - International cooperation supporting the country's initiative, with The Global Partnership End Violence against Children accompanying the development of the Model by providing monitoring and funding; and ECPAT International providing valuable expert guidance and feedback.
- Underserved families with children served by the Connected Homes Program embraced and enabled at all times, from design to evaluation, as the real makers of change and therefore, co-developers of the Model resulting
- A well-recognized non-partisan CSO -PANIAMOR - leading the call for action, providing evidence-based know how at each phase, creating contents and methodologies to generate informed confidence essential to minimize risks and maximize potentials; and documenting everything rigorously to make E-Mentors CR replicable within and beyond its hostess program and allied institutions.

3. It is situated and cost-effective. Rationale: No new program was proposed to bring forward the country's intend, but capacity development for the development of a third component into the existing Hogares Conectados Program, originally designed to tackle digital divide by providing connectivity and equipment to underserved families but clearly missing what both evidence-based knowledge and the very same HCP learnings allowed identifying as a central pillar of successful digital inclusion: building informed confidence and security amongst Program users, particularly families with children.

4. It is political in essence but not partisan. Rationale: The E-Mentores CR Model recognizes and celebrates the sustained support from day one of its design through implementation and national scaling along two Governmental Administration, in both periods under the joint leadership of the Ministry of Science,

Technology and Telecommunications, and the Office of the Minister of Human Development and Social Inclusion

For all parties interested in learning further about the E-Mentores Model CR, please refer to the attached one-pager that explains, in detail, the Innovation it represents in terms of the problem it tackles, the response it provides, the strategy it follows, and the partnerships that first supported its development and now provide for its sustainability and scaling. At the bottom of this one-pager there is a link to a 2-minute animated piece where Costa Rica herself, tells the story behind the story, for our nation successfully walking this walk.

UNODC

Mr. Neil J Walsh,
Chief Cyber and Crime and Anti Money Laundering Section

Session Six: Bridging Digital Divides/ Digital Economy and Trade/ Financing for Development and role of ICT

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/176#

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 Ofosu 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

Executive Summary by High Level Track Facilitator

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 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.

ARMENIA

H.E Mr. Hakob Arshakyan,
Minister, Ministry of Transport, Communication and Information Technologies

UNITED KINGDOM

H.E. Mr. Julian Braithwaite, Ambassador and Permanent Representative, Permanent Mission of the United Kingdom to UNOG

RWANDA

Ms. Claudette Irere,
Permanent Secretary, Ministry of ICT and Innovation

GREECE

Prof. Konstantinos Masselos, President,
Hellenic Telecommunications & Post Commission (EETT)

POLAND

Mr. Marcin Cichy,
President, Office of Electronic Communications (UKE)

Questions:

1) Now, for the first time, more than half of the world's population is online. In Poland more than 80% of households have Internet access. Having achieved this milestone we now confront new connectivity challenges - smart ecosystems of Industry 4.0 enabled by 5G. In your opinion (as the President of the Office of Electronic Communications, national regulator for Poland), what is essential to the success of Industry 4.0 powered by emerging technologies?

2) The rapid expansion of disruptive technologies brings a lot of benefits to society and accelerates the economic growth of the countries. How can we ensure that everybody can benefit from these technological advancements, including children and youth?

Answer:

The most important issue is the understanding and starting this discussion with answering the previous questions. When we are talking about Artificial Intelligence, Internet of Things, smart grids or 5G, we need to clarify how the ecosystem is organized and prepared in order to grant added value for the end user.

We have got some kind of basis like 5G or Artificial Intelligence and what follows from that, we have got the other technologies to B2C-levels like, for example M2M communications, Internet of Things and advanced solutions that bring us closer to the Information Society, to the fulfillment of SDGs.

We have to bear in mind that Poland has many examples of successful infrastructure rollouts and what follows from that is the very high penetration for both fixed and mobile services, above the fixed KPIs - for mobile penetration it is more than 140%. We have extremely low price elasticity of demand, we have extremely good conditions in terms of quality of service and the way that end user is able to change the operator in even 24 hours.

Poland is one of the few countries where the lowest ARPU for user is generated. From the end user perspective it is a very good scenario. From the entrepreneurs perspective it's a little bit difficult to generate appropriate return on assets and generate appropriate investments, but having all of those things in mind, the most important issue is understanding what follows from what.

We started with the infrastructure rollout as the most crucial issue to deliver KPIs like broadband penetration. We decided to use some additional EU funds that were available for us. We propose amendments to acts and affiliated acts to boost incentives for the entrepreneurs to start the infrastructure rollout. As a telecom regulator, I become more and more focused on infrastructure roll-out as I am responsible also for some disputes between owners, landlords and tenants of buildings in terms of in-house wiring to guarantee an appropriate roll-out of infrastructure. The other issue is that also even with this 80% coverage, we still have got these remaining 20% that are quite difficult to cover with the FTTH infrastructure. It's strictly about the rural areas where payback from the investment lasts even more than 20 years. We need additional incentives for operators having in mind the supply part of the market. We should take into consideration also the demand one.

Apart from interconnection relations we should be aware of the human expectations. Every year in December, we conduct consumer survey regarding end-user expectations in terms of the market developments. And what follows from that survey, is that every year we prepare some educational campaigns - focused on the youth education in digital skills strictly dedicated to over 70,000 of our pupils, how to use Internet sensibly, how to avoid some negative impact from the Internet usage. We are addressing also the elder generation - parents are contacting us on the issues of overpriced invoices, overpriced bills. Finally we prepare some trainings for elderly people to prepare them for the fourth industrial revolution that they will take part in in the nearest future.

Thank you very much.

Questions from the audience

1. How do we strike a balance between trying to ensure the security of users in an environment where we put Artificial Intelligence as it relates to machine learning and deep learning and at the same time ensure ethical behavior in that area. We are also trying to ensure that we don't startle the development of these technologies. If you consider the gender protection regulations they give the rights to individual to ensure that any decision that is made by machines is interpretable, which means some human being should be able to explain how that decision was made. Does it not stifle the development of this technologies?

Answer:

The question is who is responsible for this kind of security. When it comes to the regulatory playground, regulators do not have enough competences to take full responsibility for that. Partially we can regulate the telecom industry. It means addressing the issue of some wholesale interconnection agreements between operators, but even the cooperation between operators and over the top providers. On the other hand, as we are talking about Artificial Intelligence, even the Industry 4.0, Internet of Things or even M2M communication that the Artificial Intelligence somehow is based on in terms of result, the question is who is responsible for that, what kind of authority? Partially governments, when it comes to Artificial Intelligence strategy and some rules and regulations imposed at the national level. But when it comes to the general approach, to European Union level, where the BEREC creates an added value of European

regulators for electronic communications that is important for telco industry, we rather do not have appropriate regulatory measurements and regulatory rules to regulate that.
It's open question mark and open discussion who should take this responsibility. From my perspective as an engineer, I'm a little bit cautious to answer that question, because it's quite difficult. As a clerk I would say let's leave it to the governmental level to sort the case out. It sounds nice in theory but it doesn't work in practice when the white clerks are responsible for everything. I believe that it is quite crucial to define what we are talking about and then to find out what kind of authorities should participate in this process and the regulation or maybe some more lenient cases like self-regulation of some best practice to start with that, not to kill this business from the very beginning.
Thank you very much

2. Today, we don't really know who is responsible for what. What if I call my cousin up and things don't work? Who is responsible for the quality of my multimedia influx, my multimedia data? I'm talking about the quality of services but I guess we could add to it that security, safety and other things. How can one look at the various parts of the network and how can regulators behind all of that get involved? The question is who is responsible? One can talk about techniques. We still look at ways we can make money with what we have, but there are also questions of ethical nature, and I think at the one point or another we will need to monitor and be able to detect people who are causing damage or causing the problems with the network.

Answer:
We cooperate in this legal environment. There are many examples of different methods of QoS measuring provided directly to the end-user to clarify the real conditions of the services delivered by providers.
The best solution for the end-user, even to sue the operator in front of the court for appropriate level of services is to use the last mile measurements. So the KPIs are varied starting from bit stream access, your Internet throughputs, latency and other KPIs, but the most important issue is that it should be conducted in natural end-user environment. Another, alternative solution is to use some kind of special devices in the Internet network, just close to the interconnection points. It's very difficult to guarantee that it will be quite good evidence to present to the operator.
From the end user perspective and in line with net neutrality regulation and other affiliated regulations in EU zone, the measurements should be conducted at the end users level. It should be repetitive exercise per 24 hours to deliver some continuous evidence for an relevant service. That's how it works on the European level.

Thank you very much.

SUBAH INFOSOLUTIONS GHANA LIMITED

Dr. Kwaku Ofosu Adarkwa,
Chairman of the Board

Topic of Policy Statement:
Financing sustainable research and development (R&D) towards the rapid uptake of disruptive technologies in developing economies: Government-Private Sector Partnership essential.

Conceptual Background:

In the history of the World Summit of the Information Society (WSIS), the need for the promotion and financing of ICT-enabled developmental solutions and projects that will propel countries and marginalized people to join the information society has always been advocated.

Right from the preparatory process of the WSIS, therefore, and indeed in 2002, the visionary idea of "Digital Solidarity" was mooted during an Africa Region preparatory conference in Bamako. The idea behind, was to ensure sustainable funding mechanism to support research and development (R&D) that will lead to innovative solutions creation to bridge the digital divide. The Digital Solidarity (DS) was therefore conceived to lead to the creation of a funding scheme that Governments, in partnership with the Private Sector and Academia, could have access to undertake collaborative and meaningful research to hasten ICT diffusion in various industries including, Healthcare, Financial Services, Manufacturing, Mining, Transportation, Environmental Sanitation Services, among others.

The DS concept was later to be to be agreed upon, when on 14 March 2005, it was given a global dimension and named the Global Digital Solidarity Fund (DSF) and inaugurated in Geneva with a far reaching charter couched as below:-

"Let us act together, locally and globally, to ensure that the digital opportunities provided by the emerging information society promote a fairer, more equitable and more cooperative society."(https://www.itu.int/itunews/manager/display.asp?lang=en&year=2005&issue=03&ipage=global_digital)

The ITU leadership, at the time, was highly impressed about the setting up of the fund to address the R&D gap, especially for the emerging economies. On the part of the United Nations, the DSF was seen as a response to the setting up of a developmental fund that could be applied to harness ICT to empower underserved communities as agreed upon in the Monterrey Consensus. Similarly, from the perspective of the African Union the DSF was classified as a useful effort to help developing country governments financially support local efforts to bridge the digital divide.

Unfortunately, because the DSF concept was structured to be sustained through voluntary commitment, it could not be sustained and was subsequently dissolved in January 2009 for lack of adequate financial contribution into the fund. Ghana, I must add made its initial contribution into the DSF.

The Pervasiveness of Disruptive Technologies

Sixteen (16) years down the WSIS path, the problems associated with governance transformation are now rife in the developing economies than ever. Transformational governance, in the digital era, no doubt hinges on innovative and smart solutions and applications deployment to benefit the citizenry in various industries that bring socio-economic impacts to the citizenry. The inability therefore of the economies in transition to empower the private sector (SMAs) to promote R&D development to enhance technological innovation that would boost the associated transformations in businesses and services to bring value to the society, has created in its wake a wider digital gap between the north and the south.

There is, however, an important point to make, that, as the world marks the 16th year of the WSIS process, it is highly acknowledged that the global Action Plan for ICT transformation adopted at WSIS 2003 and 2005, has given rise to many countries, Ghana inclusive, paying specific attention to improve upon their ICT backbone infrastructure and networks thus improving access to broadband. ICT policies and strategies have also been developed.

Notwithstanding, the big gap identified is at the ICT application level where the south still depends a lot on innovative solutions and products obtained from the developed economies. The R&D benefits that is needed to bring innovations to make the citizenry of nations mainly in the developing economies access the benefits of the huge infrastructure investment made has therefore been elusive.

For this gap to be closed, there should be conscious efforts to move the emerging economies ICT ecosystems towards a sustainable path of "Digital Disruption". This should be the case so that the benefits of change can be experienced through the utilization of new digital technologies and business models to affect positively on the lives of the citizenry. And for this to happen there should be the harmonisation of the disjointed approach between private sector players and policymakers so the grounds will be prepared for a major breakthroughs in research and product development funding that will contingently help the citizenry to reap the benefit of the Information Society.

The Absence of Financing Models

The absence of financing mechanisms to support the private sector in the drive towards the sustainable uptake of R&D in disruptive technologies in the developing economies context, Ghana inclusive, is generally worrying. With the emergence of Internet of Things (IoT), Machine to Machine (M2M) Artificial Intelligence (AI) etc. if this gap is not closed the private sector in the developing economies would not be able to match the innovative progress expected to be achieved in the application of disruptive technologies to complement the huge investment made in infrastructure.

As cities and indeed communities move into smart ICT ecosystems, there is equally the migration towards the use of smart devices and requirements built on big data to ensure efficiency. Equally the society also

has to go through behavioural changes to take advantage of the developmental changes. In the developing economies therefore there is the high need for research/analysis in technology innovation to drive associated transformations in e-governance, business and solutions that will inure to the citizenry interest. In achieving efficiency therefore, there of necessity, should exist a complementary role play between the Government, the private sector and academia to aid the matching of research to technological analysis. There is however generally an absence of financial mechanisms in the developing economies to support the private sector in the drive towards the sustainable uptake of research in disruptive technologies.

The Case Studies:

The time has arisen for policy makers to adopt practical ways that would be supportive of the private sector to access capital from various bodies and finance houses to boost sustainable technological research to fast-track migration towards the diffusion of disruptive technologies.

It is appreciative that in the European Union (EU) context, under the EU Sustainable Finance Action Plan, various funding structures have been created benefiting the private sector in member countries. The European Leadership through Disruptive Technologies Forum on the Future and Emerging Technologies Towards 2030, Organised by European Parliament did look at the future of EU Research and Innovation policies, and the related financial supporting mechanisms for the private sector. Strategies were developed on how to obtain massive investment annually to meet the Sustainable Development Goals (SDGs) by 2030. The EU Innovation and Start-ups forum is another platform that highlights the importance of financing the digital transformation of society, economy and industry in a concerted manner even as cutting-edge innovations from across Europe showcased.

On the part of the African Union, the Science, Technology and Innovation Strategy for Africa (STISA-2024) has been adopted with the view to contributing to achieving the global Sustainable Development Goals (SDGs) and the creation of long-term economic benefits for the continent and beyond. Under the segment of “promoting entrepreneurship and innovation” there would be the need to let this strategic component

have rapid effect to aid the private sector of member states rapidly join the global R&D community. Indeed the pressure for countries to meet the targets set under the SDGs call for a review of the innovation strategy towards the uptake of disruptive technologies in Africa.

For the Administration of Ghana, the Universal Service Fund which has been set up is seen as a step in the right direction. The fund utilization however is not tailored to handle support to private sector (SMAs) to enhance their product development. Basically, it is more concerned with extending connectivity and access to far fling areas. Indeed the financial contributions made into the fund also is done by a limited section of the telecommunication service providers thus not obliging the fund with the adequate resources it needs to expand its scope to support SMAs.

The Subah Infosolution Case

Subah Infosolution, a private sector ICT Company in Ghana has been focussing, over the years on the development of innovative disruptive technologies with much socio-economic impact on the society and citizenry at large, among them the following:

a) The Enhanced Revenue Management Module (eRMS)
b) The Integrated Waste Management Information System (IWMIS)
c) The Document Digitalization Solution
d) Property Data Bank Geospatial Solution

One of the major challenges facing Subah, and for that matter similar ICT solution providers is the lack of financing and partnership for the promotion of these technological solutions developed in and without the country. To overcome these challenges Subah, as a private sector member of the ITU, is poised to improve upon its participation in study group meetings to expand its innovative horizon. Subah would equally take advantage of opportunities offered by ITU at international events such as the WSIS and ITU Telecom World platforms to build partnerships. This is with the view to help market its products and seek international partnerships to undertake further product research based on global best standards.

Conclusion

Such has been the disjointed path in providing the joint efforts towards financing ICT uptake, as per the case studies highlighted. There is however the pressing need for the promotion of the benefits of ICT to be of equal benefit to the citizenry, without geographic limitation, as envisaged under the sound charter of the DSF. Moving forward therefore, new models of financing disruptive technologies ought to be explored. This is the only way we can give meaning to the promotion of global information society. It is therefore appropriate that the WSIS process appreciates, at this point in time, the need for a paradigm shift of delivering on development goals through ICT-Centric Innovation in a unified manner.

The suggestions are therefore being made that at a WSIS review platform such as occurring at the 16th anniversary pf the WSIS process and 10 years of WSIS Forum, we should, as a global body:-

a) Take a relook at the global nature of the DSF
b) Revisit the "Geneva Principle" and perhaps go beyond it such that aside the one (1) per cent contribution on public ICT procurement contracts envisaged at the time, the payment of contributions into the fund be revisited and structured to extend to other sectors. This is on account that ICT diffusion permeates all industries now. This measure will address the problem of limited contribution into the DSF in the first attempt.
c) Adopts a binding resolution under the banner of the UN to guide the payment into the fund on consensus basis instead of voluntary basis.
d) Extend similar initiatives into national plans such that payment into the Universal Service Fund will be extended to other bodies in addition to the Telecommunication Service providers, as is the case of Ghana.
e) Extend the use of the university fund to cater for disruptive technologies product development of the private whose application will bring social benefit to the citizenry.

The world has to move in unison and 16 years of the WSIS process review should bring the understanding that given a relook, the DSF, or it's like, could be a good source of funding support to the Private Sector ICT entities in the developing economies of the UN member countries to support disruptive research needs to bridge the gap between the north and south.

I thank you.

QATAR

Mr Ali Alwaleed Al-Thani,
Economic Advisor to the Prime Minister, Amiri Diwan - Office of the Prime Minister

Session Seven: Ethical dimensions of information and knowledge societies

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/177#

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

Executive Summary by High Level Track Facilitator

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 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
- 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 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"

SINGAPORE

Mr. Zee Kin Yeong, Assistant Chief Executive,
Infocomm Media Development Authority (IMDA)

Chairman of WSIS Forum, His Excellency Mr. Mustafa Jabbar

Ladies and Gentlemen,

On behalf of Singapore, I would like to first express our sincere appreciation to the International Telecommunication Union (ITU), United Nations Educational, Scientific and Cultural Organisation (UNESCO), United Nations Development Programme (UNDP), United Nations Conference on Trade and Development (UNCTAD) and the various United Nations organisations for the steadfast efforts in assembling government officials, experts, civil society leaders, academics, business leaders and international organisations for the World Summit on Information Society (WSIS) Forum 2019. I am deeply honoured that Singapore's "Artificial Intelligence (AI) Governance and Ethics Initiatives" has been chosen as the Winner of WSIS 2019 Prize in the category of the Ethical Dimensions of Information Society. This is an important international recognition for Singapore and great encouragement of our early efforts in building a trusted AI ecosystem.

2 AI technologies have begun to transform our economy, improve labour productivity, and enhance our quality of life; and will continue to do so. Singapore recognises the importance of leveraging AI for innovation and growth. Our public sector plans to infuse AI in its delivery of public services. AI-based solutions have also found their place in some of our digitalisation plans as we transform our private sector, as we strive to enhance our global competitiveness. These are, in turn, supported by programmes to develop our IT profession's ability to work with this technology and increase our overall savviness as users across our work force.

3 Because AI technologies enable the creation of very personalised services, consumer trust and confidence cannot be taken for granted. We seek to create a reinforcing feedback loop wherein consumer trust and confidence in using products and services enhanced with AI technologies will spur commercial

investment into developing evermore innovative features powered by AI technologies. I take this opportunity to share Singapore's efforts in building an environment of trust through a policy approach that achieves the twin goals of innovation and consumer protection. In our view, there are three key focus areas – bringing relevant stakeholders together in building a trusted ecosystem; providing guidance on ethical and responsible use of AI that organisations can voluntarily adopt; and lastly, funding research to anticipate and create solutions for legal, regulatory and policy issues as AI use broadens. Let me elaborate each of these areas below.

Bringing Relevant Stakeholders Together to Build a Trusted Ecosystem

4 In 2018, an industry-led Advisory Council on the Ethical Use of AI and Data ("Advisory Council") was established, comprising international leaders in AI technology, advocates of social and consumer interests, and leaders of companies who are keen to make strategic use of AI. The Advisory Council will advise the Government on ethical issues arising from commercial deployment of AI that may require regulatory or policy attention. It will engage stakeholders such as ethics boards of commercial enterprises and consumers on ethical and related issues arising from private sector use of AI and data. It will also assist the Government in developing ethics standards and reference governance frameworks, and publish advisory guidelines, practical guides, and codes of practice for the voluntary adoption by the industry.

5 To demystify and promote public confidence in AI, we will have public outreach and awareness programmes that target different segments of the society, such as students and youth, workers, senior citizens. There will also be programmes designed to help businesses and organisations manage changes to business processes and redesigning jobs so that workers will have more fulfilling jobs as AI is introduced to augment their roles. These programmes aim to promote individuals' awareness and build understanding in AI, with the goal to inspire trust and confidence and becoming savvy users of AI both at work and in our homes.

6 To equip students and working professionals with knowledge in AI, AI Singapore — a national programme to catalyse, synergise and boost Singapore's AI capabilities — has developed several initiatives. For example, the AI Apprenticeship Programme trains fresh graduates with programming experience to become AI professionals. The AI for Industry will equip working professionals and students with basic AI and data competency skills. The AI for Everyone initiative will introduce how AI can improve the way one lives, works and plays to students and working adults. It is conducted twice a week and anyone can attend free of charge.

Providing Guidance on Ethical and Responsible Use of AI

7 In June 2018, the Personal Data Protection Commission ("PDPC") published a Discussion Paper on AI and Personal Data – Fostering Responsible Development and Adoption of AI. This was the product of a round table of sector regulators who set out to develop a common framework and vocabulary so that we can have structured and constructive conversations with the private sector as AI technology adoption proceeds apace. The regulators round table has since expanded to include public agencies and continues to meet as a community of practice to discuss and exchange views.

8 The Advisory Council provided guidance in developing the Discussion Paper into a Model AI Governance Framework ("Model Framework") after a closed consultation involving local and international stakeholders. The Model Framework was released as a living document in January 2019 for broader consultation and pilot adoption. The target audience of the Model Framework are organisations deploying AI at scale to offer products and services, or to improve their operational efficiency. The Model Framework is sector-agnostic in that it serves as a baseline set of considerations and measures for organisations operating in any sector to use as is or adapt to meet their specific requirements.

9 The Model Framework adopts two basic guiding principles, namely, decisions made by or with the help of AI should be explainable, transparent and fair; and that AI systems should be human-centric — the safety and well-being of humans should be at the centre of the design and use of AI. The Model Framework translates these guiding principles into implementable practices, covering four key areas of a technology deployment process. These areas are Internal Governance Structures and Measures; Risk Management in Decision-Making; Operations Management; and Customer Relationship Management. The Model Framework will be periodically reviewed and updated as AI technologies evolve and as we receive feedback.

10 In November 2018, the Monetary Authority of Singapore (MAS) released a set of principles to promote fairness, ethics, accountability and transparency (FEAT) in the use of AI and data analytics in finance. The FEAT principles are aligned with PDPC's Model Framework. This exemplifies our intent in adopting a consistent approach across sectors, while providing sector-specific clarity and certainty to businesses that wish to deploy AI at scale.

11 The Infocomm Media Development Authority ("IMDA") actively participates in relevant international forums on AI ethics and governance. This allows us to contribute to international discourse on these areas, and to ensure that the Model Framework aligns with AI ethics principles that are internationally accepted.

Funding Research to Anticipate Issues and Develop Solutions

12 We believe that while AI as a technology is not new, the recent frisson of development and adoption is only the beginning. Commercial applications will become more sophisticated as companies discover how to make use of AI technologies. While we do not think that regulation or legislation is necessary at this time, the legal, ethical, societal and regulatory issues arising from the development and use of AI require in-depth and longer term study. We have therefore established a Research Programme

on Governance of AI and Data Use ("Research Programme") to identify and anticipate these complex and pertinent issues and explore potential solutions and/or options.

13 The Research Programme is hosted in Centre for AI and Data Governance (CAIDG), Singapore Management University School of Law. The aim is to build up a body of knowledge of the legal, policy and governance issues concerning AI and data use to the end that when these issues appear, we will be ready to react promptly and with confidence. The public discourse of these issues will also help us identify and groom expertise that we can tap on when the time comes. Further, we hope to collaborate internationally as we develop a pool of experts in these areas, and establish Singapore as a centre of knowledge exchange in AI ethics and governance.

14 IMDA also facilitates industry partnership and collaboration with CAIDG to ensure that the research conducted will be on real world problems and that the solutions developed, useful and industry-relevant. The Research Programme complements the scientific research and professional training to build a robust AI ecosystem.

Conclusion

15 The benefits of AI can be tremendous and the challenges AI brings, complex and multifarious. International collaboration is key to harness the full potential of AI and address related ethical and governance challenges. Singapore hopes that by sharing our experience in building a trusted and progressive AI ecosystem, we can join the collective efforts in responsible AI and contribute to the WSIS Action Lines and achievement of all 17 Sustainable Development Goals (SDGs).

Mr. Yeong Zee Kin
Assistant Chief Executive (Data Innovation and Protection Group),
Infocomm Media Development Authority
Deputy Commissioner, Personal Data Protection Commission
Singapore

IEEE

Dr. Konstantinos Karachalios,
Managing Director

Q1: Since when and why has IEEE been engaging in ethical aspects of technology and which areas?

With the mission to advance technology for humanity, these aspects are part of IEEE's DNA, with significant focus and dedicated work programs initiating in 2016 with the formation of the IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, the IEEE Tech Ethics program and other efforts throughout the organization, and where we have introduced a variety of platforms for open, multidisciplinary conversation, understanding and outputs around questions related to societal and ethical aspects of technology.

A focus area for us has been Autonomous and Intelligent Systems (A/IS). A/IS are increasingly used by many industries and sectors, with promotion of their potential positive impact, but we are also already witnessing unintended consequences. Such consequences can delay digital inclusion, impact negatively human rights and our democratic systems and thus reduce trust in technologies that have a significant potential to improve our living conditions while preserving our natural environment.

From our side, as one key representative of the global techno-scientific communities, we felt strongly that there is a need to develop in a voluntary, bottom-up manner best practices and appropriate technical standards. We are engaging also to inform the evolution of regulatory and legal environments, among others, that will ensure that the future development of A/IS are performed with appropriate care and in alignment with societal values and ethical principles.

Q2: What are the outcomes of these efforts and how could they influence the way technology is developed and used?

The challenges of ethical adoption of A/IS are so great and nuanced that no single organization could possibly provide a home for all of the necessary conversations and work toward tangible outputs. It is also evident, that industry actors alone, either as single companies or in form of consortia, cannot overcome

the public demand for transparency and neutral assessment. So, there is an urgent need for open and transparent platforms where both an outcome-oriented dialog and robust elements of self-regulation (aka voluntary standards) can take place.

IEEE is one of the organizations globally that is lending its particular strengths and constituency expertise in the network-of-networks effort to offer such collaborative platforms, build understanding of the unfolding A/IS domain and produce voluntary standards and codes of conduct. We are pleased that through the expertise of the IEEE community and working in collaborative partnerships, outcomes of our efforts that are influencing the way the technology is developed and used include:

- IEEE P7000 series of and several other standards projects focusing on societal and ethical issues associated with A/IS.
- The Ethics Certification Program for Autonomous and Intelligent Systems (ECPAIS), initiated to create specifications for certification and marking processes advancing transparency, accountability and reduction of algorithmic bias in A/IS.
- A 10-course program in AI and Ethics in Design for global professionals in engineering, information technology (IT), computer science, big data, artificial intelligence and related fields across all industries.
- A/IS ethics glossary, including more than 200 pages of terms helping define the context of A/IS ethics for engineers, policymakers, humanistic sciences, standards developers, computational-disciplines experts and other stakeholders.
- The Ethically Aligned Design University Consortium (EADUC), aiming to reach engineers at the beginning of their studies to help them prioritize values-driven, applied ethical principles at the core of their work.
- The Open Community for Ethics in A/IS (OCEANIS), a global forum for discussion, debate and collaboration for organizations interested in development of A/IS standards.
- The Council for Extended Intelligence, a partnership between MIT Media Lab and IEEE SA, working to provide a pragmatic vision for the algorithmic age putting humans, not machines at the centre of our attention.
- AI Commons, an ecosystem to democratize access to artificial intelligence capabilities and, thus, to allow anyone anywhere to benefit from their possibilities.

WeROBOTICS

Ms. Sonja Betschart,
Co-Founder and Chief Entrepreneurship Office

At WeRobotics, we build local capacity in Africa, Latin America, Asia and Oceania on how to use robotics technologies such as drones and AI to acquire data, analyse data and produce outcomes that help address SDGs. We do this through our growing network of Flying Labs, local knowledge hubs, who's activities include training, pilot projects, sharing, and building local ecosystems. In all our work, we see that the "robotics" part, the drones itself, only represents 10%, while the remaining 90% is about data as well as community and stakeholder engagement. Meaning that technical capacity building is only a part, and that we also need to address the ethical aspects of applying emerging technologies.

Today, we are working with 2 main elements to address ethics in our work:

1) **Ethical guideline**: Based on the Humanitarian UAV Code of Conduct, we have created a summary that is an easy-to-use working document, our "Drone Code of Conduct for Social Good", that includes a checklist of 11 points, grouped around 5 following themes:
    - **Do no harm:** clear social purpose and respect of principles of humanity, neutrality, impartiality and independence
    - **Fly responsibly:** Follow local regulations, familiarize yourself with environment
    - **Be open:** Share flight activities, coordinate and create partnerships
    - **Be prepared:** be trained, take responsibility for your actions and be liable, create contingency plans
    - **Think about your data:** collect, use, manage and store data responsibly, only collect what you need, share your data openly to increase impact
2) **Stakeholder & Beneficiary engagement** through Community Engagement and information sessions, data interaction workshops and sharing of outcomes.

One of the main advantages of drones is the fact that, to acquire the data, you need to be on the ground. You are in the middle of the area you are collecting data from, surrounded by the beneficiaries. And drones being a very visible data acquisition tool, that also create a lot of curiosity, both positive and negative, they allow to gather crowds and interact with people.In such engagement sessions and

workshops, our Flying Labs, can not only inform on the technology as well as the projects they work on while they collect data, they can also take this opportunity to learn from the stakeholders and beneficiaries. These interactions allow to gather a wealth of **contextual information**. The inclusion of this contextual information into the data analysis does not only allow for more informed analysis, but also creates the opportunity to include ethical inputs.
In summary, we are trying to address ethics not only through guidelines, but also through direct, open and transparent interaction with the stakeholders and beneficiaries, making them part of the process and including their experiences into the feedback loop.

I strongly believe that for the application of all technologies, we need to ask ourselves 2 questions:

1. **Can** we use "this technology" for this specific application? A question addressed by regulations.
2. **Should** we use "this technology" for this specific application? A question in relation to ethical use, for which today no regulations exist.

This second question becomes even more important when taking into consideration the use of technology for social good, when using technology to address SDGs.

In my opinion, the key elements needed to ensure ethical usage of technology are:

1. Regulations that address not only the technical aspects but also the ethical aspects of technology use
2. "Translation of ethical regulations" into guidelines that are easy enough to be implemented for each and every usage
3. A format that allows direct interaction with beneficiaries and stakeholders, to allow them to voice their concerns, collect their point of view, and integrate their contextual information into the process.

Thank you very much for giving me the opportunity to share my experience and point of view.

ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE (EPFL)

Dr. Julia Binder,
Head of EPFL Tech4Impact

THE FUTUREWORK INSTITUTE

Ms. Margaret Regan,
President & CEO

1) **Title of your session**
   Ethical Dimensions of Information and Knowledge Societies

2) **Name of Organisation(s) organizing the session**
   a. **The FutureWork Institute—Margaret Regan, President & CEO**

3) **Relevance with the WSIS Action Lines – please specify the Action lines C1 to C11**
   C10-Ethical Dimensions of the Information Society
4) **Key achievements, announcements, launches, agreements, and commitments (There was not time for this)**

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

   I. **Debated Issues (NOTE: There were no issues debated—just presented because of rescheduling the session and a lack of time)**
      - Please capture highlights of the main issues debated and interactions with audience
      - Please highlight key achievements and challenges shared by the audience and/ or panellists

   II. **Quotes**
      - Please provide two important quotes from the session and the names & organisation of the person you are quoting (Have provided quotes from my presentation

We need to focus on three technologies that will be game changers and how they lead us to the ethical questions of what it means to be human and the meaning of personhood.

- ***AI-Artificial Intelligence***
- ***ESI-Enhanced Singular Individuals***
- ***CRISPR-Clustered Regularly Interspaced Short Palindromic Repeats***

III. Overall outcomes of the session highlighting

- main conclusions reached during the discussion
- ***Every day, we are also confronted with the issue of AI and Bias. In the US, AI facial recognition software failed on iconic black women including Oprah Winfrey, Serena Williams and Michelle Obama. Amazon REKOGNITION falsely matched 28 members of congress to mugshots from convicts. The NY Times recently carried an article and photo on AI Experts questioning and protesting Amazon's facial recognition software which is sold to police departments and is showing bias against ethnic minorities in the US. We also learned from another study that humans are likely to perceive an anthropomorphic robot to have race and then bring their race-related prejudices with them. Shouldn't we assess the wider impact of new AI system by mapping out its life cycle risks before releasing it? Shouldn't we ensure an inclusive approach to design with diversity in development teams and training for designers and development on human rights responsibilities and unconscious biases?***
- the vision for implementation of WSIS Action lines beyond 2015
- ***As we approach 2030, we get closer to the radical fusion of the human body and technology, where we will meet the ESIs or Enhanced Singular Individuals. What will race, gender, disability, etc. mean if others are enhanced and you are not? Will we introduce new forms of discrimination between the ESIs and the NORMS. We will also see the tiny new world of designer babies changing once again the definitions of being human as the non-enhanced struggle for equality with the ESIs. What are the ethical implications of the fusion of humans and technology? Shouldn't we have policies where countries agree on standards?***

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

SDG#4 Quality Education and SDG#*8 Decent Work and Economic Growth --AI replacing many jobs done by humans– By 2030, over two billion jobs will have disappeared, freeing up talent for many new fledgling industries. We can expect backlashes with cries of "destroy the robots" but we need to have policies that encourage organizations to retrain their people for the new roles as we move from the information network economy where AI and Machines are better, to the creative network economy where humans can excel with Creativity, Curiosity, Empathy, Passion and Humor.

V. Emerging Trends related to WSIS Action Lines identified during the meeting

Some law firms are using ROSS, the AI Lawyer and others are announcing the first AI member of her Board of Directors this year. We also saw the humanoid robot, Sophia, now a Saudi Arabian citizen, open last year's Munich Security Conference and become the UNDPs first non-human Innovation Champion All this brings us to the ethical question that needs to be considered in this Action Line: Should a robot be a "person" and be entitled to rights? Are they "virtual people" or "legal persons" entitled to personhood?

VI. Suggestions for Thematic Aspects that might be included in the WSIS Forum 2020

By 2030, CRISPR will revolutionize genome engineering delivering stunning advances in human therapeutics, agricultural biology and scientific research. Some of this is already happening. But, as we look at gene editing in human beings and its ability to reverse some genetic defects and diseases, what are the ethical implications here? What will be the ripple effect passed down to other generations as we continue down this road? Will the entire species eventually bear the marks of genetic editing? Will we allow genetic editing for aesthetic or non-illness related reasons? Will parents craft their child in minute detail creating a true designer baby? Once again, this raises questions of what it means to be human. And then—the unthinkable…will authoritarian governments edit genes to create an underclass to serve the political elite?

The debates about the ethics of CRISPR lag well behind the realities of scientific and technological progress. Shouldn't this be part of our conversation around ethical dimensions of the information and knowledge society?

INTERVALE

Dr. Yuri Grin,
Deputy Director General

Aerospace Engineer
Ayanna T. Samuels

Session Eight: Inclusiveness – access to information and knowledge for all

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/178#

Moderated by High-level Track Facilitator: Mr. Carl Gahnberg, Internet Society
WSIS Action Line Facilitator ITU: Mr Bilel Jamoussi, Chief of the Study Groups Department

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

Executive Summary by High Level Track Facilitator

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 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)

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.

DOMINICAN REPUBLIC

H.E. Mrs. Zoraima Cuello,
Vice Minister of the Presidency

ROMANIA

H.E. Ms. Maria-Manuela Catrina,
State Secretary, Ministry of Communications and Information Society

UGANDA

Dr. Norah Mulira, Commissioner,
Uganda Communication Commission

The Chairman,
Your Excellences Honourable Ministers,
The Secretary General of the ITU, Mr. Houlin Zhao,
ITU Bureau Directors,
Distinguished delegates,
Ladies and Gentlemen
It gives me great pleasure to participate in this World Summit of the Internet Society Forum2019 and present this Policy Statement to you

On behalf of the Government and People of Uganda, I congratulate and commend the government of Switzerland, ITU and the WSIS Facilitator organisations for hosting this high level meeting that provides a much needed forum to share experiences and learn further how to achieve the sustainable development goals through leveraging ICTs.

The government of Uganda through its Vision 2040 is committed to transforming the livelihoods of its citizens to middle income status by 2025. This ambitious goal can only be achieved through leveraging ICTs as the highest priority enabler in transformation of societies.

Ladies and gentlemen,
In order to develop relevant interventions, the government has focused on unique transformational needs of specific groups in our communities with a commitment to inclusiveness that means **"to leave no one behind"**

Uganda's population of over 40 Million; is one of the youngest and most rapidly growing in the world with over 50% of this population below 35 years old. Our demographics offer an opportunity of future

markets and workforce that has necessitated the need for policy makers to project the required future and how it can be attained; through leveraging ICTs.

I will share with you our targets and interventions which have garnered success riding on the focus for broadband connectivity.

1. Access: Our initial goal to ensure access to the ICT infrastructure / networks has been achieved, with over 90% voice coverage and 60% broadband internet coverage country wide.

2. Affordability: Uganda's stable and predictable ICT regulatory environment has attracted over 10 players into the market. The competition has brought a diversity of ICT products and services therefore bringing the cost of ICT products and services down to one of the lowest in the region.

3. Applicability: After ensuring that the services are available, and that they are affordable, the Government of Uganda is now promoting applicability and relevance of access to the internet. This is realised in tandem with equipping the masses with a minimum level of digital literacy

4. Curriculum Interventions: at curriculum level, Uganda has made ICT a compulsory part of the primary and secondary subjects. This intervention coupled assisted by our robust universal Access program has seen 90 % of the public schools equipped with computer labs with internet connectivity and ICTs tools, like virtual science labs.

Outstanding interventions
The Digital Literacy & Skilling Campaign for SMEs.

The digital literacy SME project targeting the private sector deserves mention because it has a high multiplier effect and it stimulates the uptake of broadband services. This project targets SMEs entrepreneurs to use ICT as a tool that can enhance efficiency, innovation and access to new market and ways of doing business. This program uses the internationally recognized International Computer Driver License (ICDL) has so far trained over 100,000 persons.

Targeted interventions - Refugee Host Communities
Inclusiveness has also been extended to the over 1.2 Million refugees in Uganda. The Govt has partnered with UNHCR and other local and international development partners to harmonise efforts towards connectivity and digital services for refugees.

More discussion on this will feature in the WSIS session on Thursday 11th 9.00 -10.45 titled "Enabling access to connectivity for refugees: inclusion in national frameworks"; by UNHCR in Popov Room 2, ITU Tower

Persons with special needs,

As we craft more targeted inclusion initiatives, the Govt of Uganda has just concluded a study on access to ICTs by persons with special needs. The key objective of this study was to understand the extent of the challenges in accessing ICTs by these "determined" persons and therefore identify critical areas of intervention to inform proactive investment by Govt and development partners.

Ladies and gentlemen

These and more are some of the highlights of Uganda's "inclusiveness" Journey. This has not been without challenges, including, Privacy, data protection and the unintended consequences of getting online. Participation in high level forums such as WSIS 19 enables sharing and learning to further strengthen our resolve to "Leave no one behind".

I thank You.

ZIMBABWE

Dr. Gift Kallisto Machengete,
Director General, Postal and Telecommunications Regulatory Authority

Q1: What approaches are available to increase Internet access and digital literacy among unserved and underserved rural communities?

Article 5 of the 2015 United Nations General Assembly established the link between WSIS and the 2030 Sustainable Development Goals (SDGs). Goal 9c of the SDGs stresses the need to 'significantly increase access to ICT and strive to provide universal and affordable access to the Internet in least developed countries by 2030'. One cannot talk about Digital literacy without internet access neither can one talk about digital literacy without general literacy. The approaches to increase access and use of the internet are varied but I will deliberate on the major ones.

Firstly, there is need for sound regulatory interventions, to attract investments in the ICT sector. Regulations should also ensure that prices of ICT products are affordable. On that note, I am happy that Orange recently launched the Sanza smartphone, which costs only 20USD. Relatedly, plans by Mara group to start full-scale smartphone manufacturing in Africa are expected to push the prices of smartphones down.

There is also need for a good national ICT infrastructure backbone supported by a robust National Broadband Plan. This can be complimented by both Private- Public partnerships between USFs and operators and Private – Private Partnerships between operators and tech giants. For example, there could be partnerships between operators and tech giants, such as Facebook, to launch free connectivity services for the benefit of marginalised communities.

Additionally, there is need to create local content which would significantly reduce costs of using the internet and even earn the content creators revenue, when this content is redistributed to other parts of the world. The evolution and wide usage of Web 2.0 tools, allowing ordinary users to become contributors and content developers, offers an opportunity for wide availability of local content in a variety of languages.

Local content creation can be supported by the establishment of Internet Exchange Points. IXPs can also improve Internet quality and affordability in local communities by strengthening local Internet connectivity, improving competitiveness, and can also serve as hubs for technical activity.

Relatedly, there is need to make content available in local languages for it to have a wider reach. According to the World Wide Web Technology Surveys 2018 statistics, approximately 53.4% of Web content is in English, whereas only 20% of the world's population speak that language. All the other languages share 46.6% of Web content despite having 80% of the world population.

It is also important to use appropriate technologies depending on terrain and distance from fibre links. This will entail savings on cost of internet roll-out. Similarly, appropriate assistive hardware and software should also be availed to vulnerable groups such as people living with disabilities. It would be of no use to avail computers to the disabled with no assistive hardware and software

Awareness campaigns on the need for digital literacy and on the advantages of ICTs to communities are important as they create the appetite to learn how to use ICTs. These should be followed up by the actual training in basic computer appreciation skills as a foundation for use.

Lastly, but not least important, is Rural Electrification as an enabler for ICT use and access. ICT gadgets run on electrical energy and without it there cannot be any ICT access and use. Therefore, rural electrification becomes an integral component in the ICT access and use matrix. In fact, others contend that rural electrification programmes should start and ICT interventions should follow.

Q2: What are the measures that the regulator in Zimbabwe has taken and continues to take, in order to ensure universal access to ICT Services and knowledge for all, in Zimbabwe?

I would like to begin by saying that, the World Bank's World Development Report 2016, on Digital Dividends indicates that; "even though digital technologies bring benefits to people, businesses, and governments, these benefits are not spreading evenly enough and rapidly enough to allow true global economic growth." The most affected areas are the marginalised rural communities, which have lagged

behind in terms of access and use. To overcome this challenge, the regulator in Zimbabwe is rolling out various ICT access and use programmes.

To start with, we have the Passive Infrastructure project, where twenty (20) Multi Operator Radio Access Network sites have been completed to date. The country needs 350 base stations to ensure total coverage. A partner has since been identified for this project and contract negotiations are underway. In the same vein, the regulator is rolling out base stations under a Built Transfer Operate (BTO) model. Here, operators are requested to erect shared towers on behalf of the regulator and then pay reduced annual licence fees in order to recoup their investment. Similarly, the regulator has introduced infrastructure-sharing regulations into the regulatory framework for MNOs to complement this project.

The regulator is also running an e-learning and schools connectivity programme where to date, it has distributed 4823 computers, 30 servers and 90 printers to 323 rural schools, while a total of 750 schools have been connected. To cater for community members who are out of school, the regulator has set up 145 Community Information Centres and 24 Containerised Village Information Centres. Over 10500 people have been trained at these centres, countrywide, since October last year. To cater for the disabled, the regulator availed customised computer hardware and software to six (6) institutions housing people living with disabilities.

I am glad to say that, Zimbabwe won a grant from the ITU to set up a regional IXP and that project is already up and running with numerous local organisations already peering on it. Additionally, the regulator is promoting local content creation and innovation through an Innovation Drive, where young people are receiving funding for bankable ICT projects.

Meanwhile, the regulator has been consistently lobbying government to remove or lower excise duty on ICT gadgets especially smartphones. This will improve ICT access and use by the rural communities.

Finally, in support of the National Broadband Plan, the regulator has also embedded Broadband roll-out targets as part of the licence conditions for ISPs. In line with these targets, government owned ISP, TelOne, recently launched a multi-million dollar fibre backbone project. This will see the provision of cheaper internet at higher bandwidths, across the country.

PORTUGAL

Mr. João Miguel Coelho,
Vice-Chairman of the Board of Directors, ANACOM

There are multiple facets to the concept of inclusiveness. I would highlight two main aspects that are essential to promote access to information and knowledge for all:

1. to bring networks and services to people, and
2. to bring people to the services and networks

The first one, which falls largely under the scope of the communications regulator, relies primarily in creating conditions for the deployment of infrastructure, in order to provide the users with good coverage of quality and reliable communications services.

But that is not all, the decision maker objective can only be fully realised if high quality access to communication networks and services is made available at affordable prices for all people and firms no matter where they live or who they are. Indeed, one cannot ignore that a number of divides exist in our societies including differences in access to broadband between rural/remote areas and urban areas, and divides along gender and age, among others. Policy makers need to set national targets and strategies to reduce those divides.

This involves promoting investment in communication infrastructures to address the increasing demand for data generated by the billions of devices coming online. In effect, meeting the fast growing demand for greater connectivity requires investment in fixed communication networks, including optical fibre.

Increasing competition and making it easier to roll out the needed infrastructure will encourage this investment. We believe that encouraging competition between network operators will drive investment, lower prices and so boost connectivity. In some circumstances, enhancing infrastructure sharing and reducing administrative barriers to investment could also expand coverage.

In this context, a number of regulatory and policy measures were introduced in the last decades in Portugal that created conditions for the deployment of new generation networks. In fact, our country ranks relatively well in Europe and worldwide in terms of broadband coverage, at least in large numbers, but we still receive a large number of complaints from municipalities and civil parishes concerning the lack of broadband coverage, fixed and mobile. Complaints may not necessarily be of lack of coverage but of unequal access to broadband of sufficient quality.

To expand coverage in lower density areas, one option is to encourage private investment through a variety of incentives, such as tax exemptions or lower spectrum fees.

In this context, especially in the event of forest fires (that hit Portugal very seriously in recent years), ANACOM proposed to the Government a reduction of the value of spectrum fees for radio links. A reduction of 50% in the value of the fee per radio link, when the location of at least one fixed station is within the territory of low populated areas of Portugal, which are particularly susceptible in the event of fire or other natural disasters.

This would allow operators with immediate savings in the order of 3.5 million euros per year and provide a strong incentive to invest in this solution that was considered to provide a more resilient alternative to aerial communications cables and may also provide a solution to improve network redundancy.

If not commercially viable, governments could also invest directly or through public-private partnerships, in order to share the risks associated with the creation, development and operation of infrastructure.

I would also like to address one measure intended to promote inclusiveness and territorial cohesion.

ANACOM is deeply committed in facilitating the deployment of a new domestic submarine cable system, in cooperation with the Portuguese government and the regional governments of autonomous regions of Azores and Madeira, our islands in the Atlantic Ocean.

This system, intended to replace the current system and to be operational by 2023, interconnects mainland Portugal with the Azores and Madeira Islands via a fibre optic ring with landing points in the continent and the islands. This ring is fully located within the national exclusive economic zone and allows for the interconnection of all national territory without depending on transit via third countries.

The second aspect relates to bringing the users to networks and services available taking the most benefit from them.

It is relevant to mention that Portugal does not classify very well in terms of digital literacy, in particular within some disadvantaged communities, such as remote areas population or elderly people. This has had a negative impact in terms of communications services uptake.

In this context the promotion of improvements to the users' rights and media campaigns to explain those are part of the regulators toolkit.

A few examples of actions taken by ANACOM in this context:

- Recently ANACOM has sent a proposal to the Assembly of the Republic and to the Portuguese Government to amend various sectoral legislation items. This proposal includes relevant changes in the context of the protection of consumers and other end-users, in particular related to:

(1) protection of micro and small businesses and non-profit organisations;

(2) billing for services, unsolicited activation of services or additional services, suspension of services to consumers due to non-payment of bills and access to call recordings and other records related to the signing, amendment or termination of contracts;

(3) protection of subscribers in the event of interruption of services contracted where this interruption is for reasons beyond their control;

(4) enhancement of subscriber mobility in the market, reviewing and clarifying the limits to be applied to charges payable by subscribers in the event of early termination of contracts with lock-in periods;

(5) promotion of greater transparency and easier access to information on charges arising from early termination of contracts during lock-in periods;

(6) clarification of the regime applicable to contractual amendments made unilaterally upon the initiative of service providers;

(7) the impossibility of extending lock-in periods through association of other contracts;

(8) enshrining the obligation that providers obtain express authorisation from subscribers before charging for services that do not constitute electronic communications services, such as "WAP Billing" services;

(9) clarification of the obligations of service providers and of ANACOM as regards the handling of complaints;

(10) better information for end-users of electronic communications services on the performance of providers;

(11) dissemination of information derived from the measurement of Internet access speeds;

(12) oversight of compliance with the rules governing contracts concluded at a distance and off-premises.

- Furthermore, ANACOM provides easily accessible tools for price and performance comparisons:
  - COM.escolha is an interactive tool that will help users to consult the tariffs for electronic communication services: (including television, Internet, fixed telephone and mobile). To consult the tariffs of service packages users just have to combine the options of their choice. They can

also make a simulation to see which tariff is best suited to their needs. The information published by ANACOM in this tool is of the full responsibility of the service providers and was supplied by them.

- NET.mede is a tool that can be used to test parameters of Internet service quality (fixed and mobile) from a computer, smartphone or tablet, making it possible to measure an Internet connection's download and upload speeds. It also makes it possible to check whether there is evidence of the operator employing Internet traffic management through the application of restrictions on traffic and contracted speeds (traffic shaping).

- We conduct media campaigns through several forms to inform consumers of their rights; and
- We inform the users about the availability of affordable and simple conflict resolution mechanisms.

ITALY

Dr. Rita Forsi,
Director-General of Institute for Communications and Information Technologies,
Ministry of Economic Development, Labour and Social Policies

INDIA

Mr. Sanjay K. Thade, Principal Secretary, Backward Classes Welfare & Tribal Department Divisional Commissioner, Medinipur Division, Government of Bengal

Q1: Access to information & knowledge – How relevant it is in delivery of public services by Govt?

Information access is the freedom or ability to identify, obtain and use of data and information effectively. information access is insurance of free and closed access to information.
Access to information facilitates transparency and accountability, it also encourages Governments and societies to move towards Digital Democracies. Various countries are now promoting "Right to Information" as part of universal agenda of infusing transparency in public governance and ushering in better delivery of services. Public services cannot be successful if it is not transparent. Every public service should aim at providing services at the doorsteps & bridging the 'divides', in terms of 'social', 'economical' & 'digital" perspectives.

Q2: Whether Government of West Bengal (INDIA) has created any success story?

The State of West Bengal, India, is one of the leading states to emphasize 'inclusiveness' as its key agenda to provide service to the citizens including the ones who are at the other sides of social/economic/digital divides.
The "Sabooj Sathi" project implemented by Department of Backward classes aims at ensuring accessibility for School going Students between Std VIII - Std XII. It aims at providing 10 Million bi-cycles to students so that they get access to Schools & in turn get access to education.
The scheme was conceived with the objective of enhancing access to education particularly, in rural Bengal. Climate actions. The Bicycles helps to achieve the following objectives.

- To increase retention in schools
- To encourage students to take up higher studies
- To inculcate sense of confidence among the girl students by promoting mobility
- To promote environment-friendly and healthy means of transportation.

These objectives are aligned with four Sustainable Goals of agenda 2030. These are SDG3: Good Health & Well-being, SDG4: Quality Education, SDG5: Gender Equality and SDG13:

Implementation of the scheme had multi-dimensional challenges like bulk procurement, transportation of large consignments in tranches, management of huge supply chain and finally handing over a quality product to the target group students with accountability in Public Domain. Time bound implementation, minimizing operational expenses and above all maintaining transparency were key issues of concern.
Sabooj Sathi Online (www.wbsaboojsathi.gov.in) is the e-Governance mechanism of the scheme which ensures end-to-end ICT enablement in management of entire processes like capturing of students' record, finalization of bi-cycle requirements (delivery point wise), supply chain from factory to distribution point, updating distribution records online and proactive disclosure in public domain.

The Sabooj Sathi portal has been planned as the central virtual space for all stakeholders like school Teachers, Inspectors, Govt. officials at District and Sub-District levels, Manufacturers (Suppliers) and students at large. The entire process is monitored through single-window portal www.wbsaboojsathi.gov.in, which was designed & developed with the help of National Informatics Centre, Ministry of Electronics & IT, Govt of India.

Impact
The scheme was flagged off in September 2015. Reporting time is less than 2 years from the date of launching. State Government has engaged "Pratichi (India) Trust", an organization founded by Nobel laureate Dr. Amartya Sen, for conducting impact study of the Scheme which is in progress. A quick assessment of available information revealed:

- An increase by 12.2% in class IX enrollment from 2015 to 2016 and a subsequent increase by 6.18% from 2016 to 2017.
- In case of girl student's enrollment in Class IX is increased by 9.5% from 2015 to 2016 and by 6.2% from 2016 to 2017.
- Girl examinees in Class Xth standard Board Exam is 9.18% more than the Boy examinees in the year 2016.

The Scheme is ongoing and the Portal url: https://wbsaboojsathi.gov.in/v2/

HORYOU SA

Mr. Yonathan Parienti, CEO

AMPLIO NETWORK

Mr. Cliff Schmidt, CEO

Amplio uses audio messages and our Talking Book technology to provide access to information to the world's most vulnerable communities and to ensure their voices are heard by the organizations that wish to serve them. It is with this experience and perspective that we raise these concerns.

The 2030 Agenda declared that we will "reach the furthest behind first", but our global community is rarely doing that. We may succeed at reaching millions of people with technologies that seem like intuitive solutions to people living in urban areas and working with well-educated colleagues. However, we are failing to adequately invest in our citizens who have been historically marginalized.

SDG 5 includes a goal to "give women equal rights to economic resources." We cannot close the equality gap if we focus most of our investments in services that put women at a disadvantage. The GSMA's 2018 Mobile Gender Gap Report states that women are at a 50% disadvantage compared to men in accessing the Internet in rural areas throughout Sub-Saharan Africa and across many countries in South Asia. And yet, we continue to invest heavily in Internet services without a balanced investment in solutions to reach those without Internet access.

In 2007, women made up two-thirds of the world's illiterate population. In 2017, nothing changed; women are at the same disadvantage. So when we attempt to empower women with a new SMS text message service, we must acknowledge that we are probably empowering far more men than women—widening the gender divide, not narrowing it.

So what can we do? The International Telecommunications Union and the World Health Organization have partnered with Amplio to provide access to empowering health and agriculture knowledge to the hardest to reach. Together we are working with government ministries that want to find ways to put the furthest behind first.

We are using technology, such as the Talking Book audio device, designed for the needs of those who haven't had access to education. We are creating health and agriculture audio recordings produced in local dialects with local participants. We share these recordings with communities having low literacy rates and limited access to the Internet or electricity. Most importantly, these communities are recording their voices to help our partners understand their challenges and the root causes behind them.

The challenges are biggest where digital divide is the deepest; but we must take on those challenges if we are to reduce the digital divide for all people.

Session Nine: ICT applications and services/Climate Change

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/179#

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

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).

Executive Summary by High Level Track Facilitator

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.

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 like 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 long term 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.

BURKINA FASO

H.E Ms. Hadja Fatimata Ouattara Sanon,
Minister, Ministry of Post and Telecommunications

OMAN

H.E. Mr. Salim Al Ruzaiqi, CEO, Information Technology Authority

LATVIA

H.E. Mr. Edmunds Beļskis, Deputy State Secretary for Information and Communication Technologies, Ministry of Environmental Protection and Regional Development

Q1: Could you brief us on the most recent advancements in the provision of public services in Latvia?

The data based 4th Industrial Revolution provides a unique momentum and opportunity for compact and agile countries with a well-established ICT capacity like Latvia. To exploit that momentum, Latvia consolidated academia, industry and business around a common national vision of a Data Driven Nation (DDN). The concept is based on tree pillars:

I **Data democracy and free access to public data**
II **Data enabled citizen engagement**
III **Data driven innovations (and commercialization of innovative data products)**

Latvia is proud of internationally regarded quantum computing research group at the University of Latvia focusing on the theoretical aspects of quantum information including quantum algorithms and cryptography.
Latvia's objective is to make all public services digitally available while providing people with face-to-face customer services in justified exceptional cases.
We aim at proactive delivery:

- **Customization**. The one-size-fits-all model is being replaced by an increasingly customized one based on organizational design and specific customer preferences.
- **Proactivity.** The best contact with the government is no contact. We are gradually introducing a governance model, where services are proactively offered to citizens rendering it unnecessary to request them. Examples include automatic property tax discounts for large families and other relevant groups.
- **Customer engagement**. Digital governance calls for dynamic, open and inclusive services and processes, enabled by technology, that support a digital two-way communication and engagement.

At this point, more than 600 electronic services are actively used in Latvia. Electronic services are particularly popular in the areas of tax administration, social insurance, vehicle administration and business registration. The most popular individual e-service is the application for higher education programs.

With the adoption of the Latvia State Information Systems Law in 2002 Latvia has introduced the "once only" principle, prohibiting public authorities to repeatedly request from citizens and enterprises such data and documents that already are at their disposal. Gradually, in line with the EU law and bilateral as well as transnational agreements, Latvia is introducing the "once only" principle also for cross-border services in certain areas.

The network of the State and Municipal Joint Customer Service Centres (VPVKAC) has proven to be an effective service provider. In October 2018, a pilot project for assisted e-services was launched involving 7 service centres. It resulted in over 2000 applications submitted.

Latvia's achievements have been noticed and rewarded, notably within the European Union last year:

- According to the Single Market Scoreboard, Latvia takes the 3rd position in the e-services provision for business;
- According to eGovernment Benchmark Latvia is among top 5 countries with mobile friendly digital public services and among top 8 countries with digitally available public services.
- Latvia has rapidly improved its rank in the DESI index of Digital public services achieving growth from the 14th to the 9th place within one year, thanks to the rapid improvement of the open data availability.
- And finally, Latvia ranked at the respectable 12th place in the European Data Portal's data re-use index (compared to the 18th place obtained in 2017).

Thus Latvia remains in the leadership of the European Union as regards rapid improvement in the open data availability.

Governments should transform and organize the public sector functions in innovative ways. Here I would like to mention a few examples demonstrating how engagement with the wider public can help to meet the challenge of rising expectations. This can be achieved through:

- User Driven service design, co-creation;
- Citizen centric delivery;
- Piloting, prototyping and innovations.

Open and accessible national government data are essential for the further advancement of the digital transformation. Therefore public data[4] should be opened for the development of AI and other solutions to meet the everyday needs of citizens, including entrepreneurs and public servants. Latvia is opening high-value data sets extracted from data volumes. 54 public authorities of Latvia currently offer 267 open data sets in Latvia's Open Data portal. These can be used to launch a new business and to develop new

[4] Public data includes both static and dynamic data in public registers and databases

forms of public-private partnership. Technological solutions allow to reach users in their favourite messaging format.

In order to promote the use of open data, a number of open-data hackathons have been organized. Among the most visible ones was the Open Data Hackathon in 2018 focusing on culture, regional development and tourism. This year has started with the open data hackathon of schools.

As regards AI solutions, automation allows front-line employees to dramatically reduce the time spent on administrative tasks, freeing up the time for mission-focused work.
Latvia has successfully introduced neural networks based Machine Translation (NMT) technologies and Virtual Assistants (chatbots). The high precision NMT technologies for small languages developed by the company "Tilde" of Latvia have won the World Machine Translation Competition for the last two years in row (2017 – 2018). Hugo.lv allows for the translation as well as speech synthesis and recognition functionality in your computer, mobile device, professional translation environment and your homepage. (The developer "Tilde" has proved that its NMT system provides a higher precision for small languages than the more generic Google or Microsoft systems).

Latvia is among the first to introduce several virtual assistants in public service provision and in private customer service. The virtual assistant UNA of the Enterprise Register was nominated as the best digital solution of Latvia in the "World Summit Award" 2018 under the "Government & citizen engagement" category and has been included in the world's 100 best innovative projects. Latvia is currently working on the Public Sector Virtual Assistant platform that will be available for further tailor made development of specialised Virtual Assistants to all public and local authorities free of charge.

Latvia is elaborating its national Artificial Intelligence Strategy aimed to be adopted this year.

Environment and ICT

As a representative of a ministry responsible for both digital issues and environmental protection, I see impressive possibilities to protect our planet using innovative ICTs. As regards ICT integration and effective application to environmental protection, Latvia chooses future proof technologies and facilitates active involvement of citizens.

Let me introduce you to some examples:

1. The introduction of green procurement principles to public procurement promotes the utilization of environmentally friendly, innovative and sustainable technologies in the manufacture of goods. Digital means are developed to increase the effectiveness of green procurement.

2. Deep learning technologies allow to process satellite images automatically and to identify specific natural/ man-made phenomena including oil pollution spots in the sea as well as pollution in urban and forest areas.
3. **In forest industry: a** remote forest stand evaluation tool sensing data and using deep machine learning technology allows the user to monitor logging, reduce illegal logging, predict the duration of forest regeneration, etc. The forest industry cooperates also with telecom operators in using drones in remote forest for monitoring and surveillance.
4. AI powered machine translations allow to overcome language barriers, enabling international trade. Europe is rich in many languages. Though it's a treasure, it may have impeding effect upon export of products and services. To overcome these challenges the forest sector of Latvia and the leading language technology company "Tilde" of Latvia created a forest machine translation. AI based neural machine translator was uploaded with 13 thousand forest industry specific terms as well as 211 thousand industry data in Latvian and 1 million industry data in English.
5. In July 2018, the operation of a waste tracking system (APUS) was launched in Latvia, requiring registration of waste shipments, including end-of-life tires, to the recovery or recycling area. The system ensures traceability of waste shipments limiting illegal shipments, as well as such storage of waste that does not comply with regulatory enactments.

Q2: Could you share with us the approach of Latvia to the use of Digital Identity in the provision of efficient digital services at a national and cross-border levels?

For digital inclusion of citizens it is crucial to assure everyone with digital means – eID smartcard, mobile ID and secure trusted eSignature.
The national eID smart cards and mobile eID means of Latvia are on a qualified high security level. Most of the eID assurance levels in Latvia are stricter than eIDAS.

The national authentication portal, the identity integrator, is used by 50 public administration portals. That covers virtually all public online services. The identity integrator is also used by 9 commercial banks.

To provide secure data exchange with citizens we develop a secure digital e-address. **It enables a one click digital only communication with the national and local governments**. The e-address solution of Latvia ensures secure public e-communication with citizens and enterprises involving more than 3000 organizations since 2018.
Latvia prioritizes ensuring cross-border online services crucial for the daily activities of citizens, especially those living close to the borders, as well as the services listed by the EU Single Digital Gateway Regulation. In order to achieve that, appropriate surveys are being carried out among public authorities and service providers. The first service to be implemented will be the "official electronic application to the institution". This service will replace authentication of foreigners when full service is not achievable or does not make sense businesswise.

Latvia also considers the acceptance of Nordic-Baltic non-notified eID schemes based on bilateral agreements between the respective countries, eID service providers and identity integration services.

Gradually Latvia will transit to eID cards as compulsory personal identification documents including all the current passport owners and increase the number of public services demanding authentication on a qualified (high) level.

Ministerial Round Table (10/04/2019 at 16:00)

1. The WSIS Outcomes provide a framework for leveraging ICTs as enablers of Sustainable Development Goals. How have the national strategies towards using ICTs for achieving the SDGs been integrated as part of the National Development Plans? (Please share some challenges and success stories – highlighting innovation in technology and policy).

   In 2018, Latvia presented its national Report on the Implementation of Sustainable Development Goals (SDGs). Latvia's Voluntary National Review to the United Nations (UN) was based on two processes completed in 2017: 1) a mapping of the SDGs with the policies of the Government of Latvia at the level of targets, with the involvement of all ministries and 2) the Mid-Term Impact Assessment of the National Development Plan 2020 that also tracks progress towards Latvia 2030. The impact assessment described the degree of progress towards achieving SDGs and provided insight into the challenges that would require further crucial decision making.
   The prioritized national SDGs that are elaborated in Latvia 2030 are operationalized through seven year national development plans, such as the current National Development Plan for 2014-2020 (NDP2020), as well as through sectoral policies and plans.
   In our view sustainable outcomes may be achieved through small steps that start with the initiatives at an individual, community and governmental level requiring cooperation and, above all, willpower.
   I will use the privilege to mention the online platform "My Voice" (ManaBalss.lv) that we in Latvia benefit from for seven years already to ensure digital interaction between society and government allowing citizens to submit petitions to the Parliament for legislation adjustment. This platform is recognized as a convenient and contemporary digital tool to strengthen democracy and public involvement in the decision-making processes, to facilitate social and governmental efforts towards digital transformation and to help the society to come up with the initiatives for the achievement of SDGs.

2. We are celebrating 10 years of the WSIS Forum this year. The Forum serves as a platform to highlight and analyze the achievements of WSIS Action Lines. The world is witnessing the fourth industrial revolution ushered in by emerging technologies such as AI, IoTs, blockchain, 5G and many others. This offers many opportunities and also many development challenges including the risk of a new digital divide. In this context, how can we collaborate to strength the WSIS Forum as a unique platform of all ICT for Development practitioners?

Latvia sees the WSIS process as a catalyst and enabler allowing to turn my previously mentioned small steps into big ones. This can be achieved through working side by side with all of you. We should continue to listen and to understand each other be it NGOs, governments, entrepreneurs, academia or the technical community. All together we will improve WSIS as a unique environment for sustainable development.

SENEGAL

Mr. Modou Mamoune Ngom, Director of Telecommunications, Ministry of Telecommunications, Posts and Digital Economy.

Thème proposé : « Applications et services TIC » pour le développement

Q1: Monsieur le Ministre, le Sénégal a adopté depuis octobre 2016, la stratégie « Sénégal Numérique 2025 » dans une approche participative impliquant l'ensemble des acteurs de l'écosystème du Numérique. Dans ce document national de déclinaison de la politique relative au développement de l'Economie Numérique, quelle est la place réservée aux « Applications et services TIC » pour le développement ?

Eléments de réponse 1 :

- Monsieur le Président de la Conférence,
- Monsieur le Secrétaire Général de l'UIT,
- Monsieur le Modérateur/Facilitateur,
- Mesdames, Messieurs les Ministres,
- Mesdames, Messieurs les Représentants des Organismes internationaux,
- Mesdames, Messieurs les Ambassadeurs,
- Mesdames, Messieurs les Directeurs Généraux,
- Mesdames, Messieurs les délégués en vos rangs et grades,

Il m'est particulièrement agréable, au nom du peuple et du gouvernement de la République du Sénégal de participer au Forum 2019 du Sommet Mondial sur la Société de l'Information, tribune de premier plan pour débattre du rôle des Technologies de l'Information et de la Communication (TIC) en tant que véritable outil de contribution à la mise en œuvre des Objectifs de Développement Durable de l'Agenda 2030 (ODD).

Monsieur le Modérateur,

Pour répondre à votre première question, je voudrais tout d'abord souligner et saluer la forte volonté politique des plus hautes autorités du Sénégal, affirmée à travers le Plan Sénégal Emergent (PSE), document national de référence de la politique socio-économique, et dont l'axe-1 vise une transformation structurelle de notre économie pour atteindre une croissance forte, soutenue et durable.

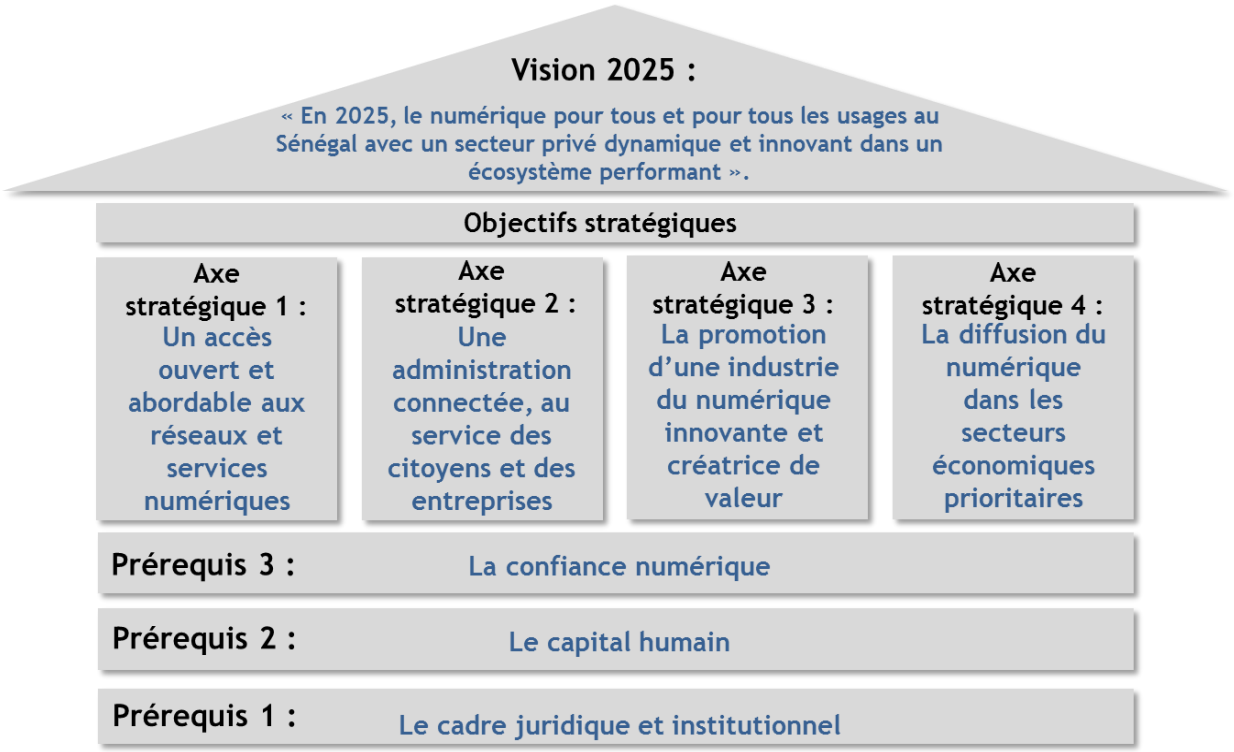
Dans la première phase du Plan Sénégal Emergent, faudrait-il le souligner, le secteur du Numérique a été identifié comme un des fondements de l'émergence, dans un contexte d'accélération de la diffusion des Technologies de l'Information et de la communication.

Dans le même sillage, le Président de la République du Sénégal a, dans la seconde phase du PSE, désigné le secteur du Numérique comme l'une des 5 initiatives majeures. Il consacre ainsi une grande priorité à l'économie numérique inclusive, tout en soulignant qu'elle nous prépare aux défis de la société du futur.

En effet, vous venez de le rappeler, le Sénégal a adopté depuis 2016 la stratégie « Sénégal Numérique 2025 », faisant ainsi un pas vers la prise en charge politique des nombreuses opportunités d'accélération du développement et d'intégration qu'offrent les TIC dans un monde de l'économie du savoir. La stratégie « Sénégal Numérique 2025 » a pour vision:

«En 2025, le numérique pour tous et pour tous les usages, avec un secteur privé dynamique et innovant dans un écosystème performant».

Elle est déclinée en trois (3) prérequis et quatre (4) axes stratégiques d'intervention prioritaires, avec un plan d'action de 28 réformes et 69 projets pour un cout total estimé à 2,5 milliards d'Euros.



Mesdames, Messieurs,

Permettez-moi de m'arrêter un peu sur l'axe-4 de la SN2025, à savoir : la diffusion du Numérique dans les secteurs économiques prioritaires retenus, notamment la Santé, l'Education, l'Agriculture, les industries culturelles, le Commerce et les services financiers…

A cet égard, plus d'une trentaine de projets TIC structurants, ont été identifiés en collaboration avec l'ensemble des acteurs des secteurs ciblés, pour un budget total de 135 millions d'Euros.

Il convient de souligner que dans toutes les actions engagées ou envisagées, une attention particulière est portée au rôle que les TIC peuvent jouer pour contribuer grandement à l'atteinte des Objectifs de Développement Durable (ODD), comme l'a fortement recommandé la Communauté Internationale lors de l'évaluation des engagements du SMSI en 2015 (SMSI+10).

Je voudrais aussi souligner qu'il existe un lien fort entre les quatre axes stratégiques ci-dessus mentionnés.

En effet, nous demeurons convaincus que le développement et le financement « d'Applications et services TIC » fiables, au profit des populations sénégalaises, passent nécessairement par la mise en place : d'infrastructures numériques de qualité et accessibles, d'un plan de renforcement de capacités ciblées et d'actions concrètes de sécurisation du cyberespace, susceptibles d'instaurer de façon pérenne la confiance des populations dans l'utilisation des TIC.

A cet égard, notre pays vient d'adopter un plan national haut et très haut débit et une stratégie de cybersécurité dont l'ambition est : « En 2022 au Sénégal, un cyberespace de confiance, sécurisé et résilient pour tous ».

Monsieur le Modérateur,

Je ne saurais terminer la réponse à votre première question sans souligner l'importance du fonds alloué aux Startup des TIC, qui passe d'un milliard de francs CFA en 2018 à 3 milliards en 2019, dans le cadre d'un vaste programme dédié à l'entreprenariat rapide au Sénégal.

A terme, le Projet de Parc des Technologies Numériques (PTN), en cours de construction à Diamniadio à 20 km de Dakar, devrait offrir un cadre attractif de développement de Startups orientées en grande partie vers les « Applications et services TIC ».

Q2: Monsieur le Ministre, pouvez-vous dans cette série d'actions, partager des exemples de réussites dans le domaine des « Applications et Services TIC pour le développement » au Sénégal ?

Eléments de réponse 2 :

Monsieur le Modérateur,

Pour aborder la deuxième question, permettez-moi de saluer une fois de plus, l'engagement politique sans faille du gouvernement du Sénégal, en faveur d'une mise en œuvre efficace et efficiente du plan d'actions de la stratégie « Sénégal Numérique 2025 ».

D'ores et déjà, des plateformes robustes et sécurisées ont été réalisées au Sénégal, notamment:

L'Université virtuelle du Sénégal (UVS), qui est un exemple de réussite en matière d'apprentissage en ligne, d'esprit d'entreprise et de développement de compétences numériques. Ayant démarré en janvier 2014

avec 2048 étudiants, l'UVS compte aujourd'hui plus de 28 000 étudiants répartis dans tout le territoire national.

- **Le Système Intégré pour la Gouvernance de l'Enseignement Supérieur et la Recherche (SIGESR) dont la plateforme CAMPUSEN**, offre divers services à des acteurs variés : les bacheliers souhaitant une inscription dans un établissement d'enseignement supérieur sénégalais, l'Office du Baccalauréat, les institutions d'enseignement supérieur, les institutions financières, le Ministère en charge de l'Enseignement Supérieur et les étudiants.
- **Le nouveau système d'information intégré du Ministère de l'Education Nationale (SIMEN)**, qui permet de renforcer les capacités de gestion et de pilotage du système éducatif, et de contribuer ainsi à l'amélioration des enseignements et apprentissages à travers une généralisation de l'utilisation du numérique à l'École.

Pour le SIMEN, nous pouvons citer quelques applications comme :

PETTAO : Portail Électronique pour le Travail collaboratif, le Traitement, l'Archivage documentaire et l'Organisation.

MIRADOR : Management Intégré des Ressources Axé sur une Dotation Rationnelle.

PLANETE: Paquet de Logiciels Académiques Normalisés pour les Etablissements et Ecoles, qui est une application de gestion des établissements depuis l'inscription des élèves jusqu'à la délivrance des bulletins de composition, en passant par les emplois du temps, le cahier de texte, la gestion des absences, les cellules pédagogiques virtuelles.

- La plateforme **« GAINDE Intégral »** de la Douane nationale et l'Application « e-tax » de la Direction Générale des Impôts et des Domaines pour le paiement en ligne des impôts, qui font partie d'un programme national de généralisation de la dématérialisation.

  La plateforme, appelée « Gestion intégrée des Ressources, Administrations et Fonctionnaires de l'Etat du Sénégal (GIRAFE) dont le « fichier unifié », composante essentielle du système, se

propose de contribuer à la maitrise des effectifs, de la masse salariale et à l'accélération de la gestion des actes d'administration.

- Le Système intégré de Gestion des Applications métiers (SIGA), une plateforme qui va permettre de gérer les ressources humaines de l'Administration. A terme, elle pourra intégrer d'autres modules tels que la gestion de la logistique et la gestion de la comptabilité matière.

Monsieur le Modérateur, Mesdames et Messieurs,

Des applications similaires sont aussi développées dans les secteurs comme la santé (gestion des patients, suivi des femmes enceintes...), l'agriculture (arrosage périodique à partir d'objets connectés IOT) et le Commerce (M-louma ou vente en ligne de produits agricoles), par les Petites et Moyennes Entreprises TIC, les incubateurs d'universités et l'incubateur CTIC Dakar, au grand bénéfice des populations locales.

Pour conclure mon propos, j'invite toutes les parties prenantes du SMSI (Gouvernements, Secteur Privé, Société Civile, Organisations internationales et Monde universitaire) à soutenir la Communauté internationale dans son nouvel engagement de considérer les TIC comme de véritables outils dont la contribution est sure et certaine, pour l'atteinte des objectifs de développement durable de l'agenda 2030.

Le Gouvernement du Sénégal, par ma voix, voudrait enfin remercier l'Union Internationale des Télécommunications et l'ensemble de ses partenaires, pour le soutien constant au secteur du numérique, mais aussi pour cette belle organisation du Forum 2019 du SMSI.

Nos remerciements vont également au pays hôte **la Suisse**, pour la qualité de l'accueil et les conditions optimales de notre séjour.

Je souhaite plein succès au Forum 2019 du SMSI.

Merci à toutes et à tous de votre très aimable attention.

Monsieur Abdoulaye BALDE, Ministre en

Charge de l'Economie Numérique (Sénégal).

CMC- IRAQ

Dr. Ali Al-Khwildi,
Chief Executive Officer

السيد رئيس المؤتمر المحترم
السيد الامين العام المحترم
السيدات والسادة ممثلي الدول الاعضاء الكرام مع حفظ المناصب والالقاب
السلام عليكم جميعا

انطلاقا من مساعي جمهورية العراق لمواكبة التطورات التكنولوجية وتقديم الخدمات الرقمية، وبما يلبي متطلبات المواطن العراقي في عموم انحاء العراق، وفي مختلف التوجهات والامكانيات المادية والاقتصادية ومستويات المعرفة، ولأن تكنولوجيا المعلومات والاتصالات اصبحت اليوم المحرك الرئيس للتحول الاجتماعي والاقتصادي ولم تعد مرتبطة بتقديم خدمات الصوت والبيانات فقط، اطلقت الهيئة مبادرة دوم (Du3M2025) والتي تهدف الى تعزيز وتطوير قطاع الاتصالات وتكنولوجيا المعلومات في العراق بالشكل الذي يساهم في تحقيق مجتمع معلوماتي متكامل، ويحقق اهداف التنمية المستدامة التي اعلنتها الامم المتحدة والنمو الاقتصادي في العراق، وتم استحصال قرار دولي لدعم هذه المبادرة وذلك خلال اجتماع مؤتمر المندوبين المفوضين الذي عقد في دبي (PP-18) كما وتم اطلاقها بصورة رسمية في بغداد بحضور الامين العام للاتحاد الدولي للاتصالات (السيد هولين زاو) حيث تعتبر هذه السابقة النوعية الاولى التي يقوم فيها الامين العام للاتحاد الدولي للاتصالات بزيارة العراق منذ انضمام العراق للاتحاد الدولي عام 1928.

إن مبادرة دوم تهدف الى تحقيق مجتمع معلوماتي متكامل ومتطور، يواكب التطورات الحديثة لتكنولوجيا المعلومات والاتصالات في العالم، وذلك من خلال مجموعة من المشاريع التي تساهم فيها تكنولوجيا المعلومات والاتصالات في تطوير قطاعات المجتمع المختلفة (مثل قطاعات الصحة والتجارة والزراعة والتعليم والنقل والصناعة والقطاع المالي وغيرها) بما يساهم في تحسين مستوى هذه القطاعات وتحقيق الرفاه الاجتماعي، ويلبي احتياجات المجتمع ويوفر فرص العمل التي تساهم في النمو الاقتصادي وانتعاش السوق، ويقلل من التكاليف المترتبة على عاتق المواطنين جراء التسهيل في الاجراءات والتعقيدات التي توفر التكنولوجيا الحديثة بديلا جيدا عنها.

ولأن المبادرة تشتمل على العديد من المشاريع فقد شرعت الهيئة بتنفيذ البعض منها وفق الجداول الزمنية التي وضعت لذلك وحسب الاولوية والخطة الاستراتيجية وبالتنسيق مع الجهات القطاعية ذات العلاقة مثل (الصحة، التعليم، والداخلية ...الخ.) ويمكن الاشارة باختصار الى ابرز اجراءات الهيئة في تنفيذ المشاريع:

- ففي مجال الخدمة الشاملة : باشرت الهيئة بإجراءات التنفيذ وقامت بجمع المعلومات واجراء المسوحات والاحصاءات لتحديد المناطق المشمولة بالخدمة الشاملة، وتحديد المتطلبات اللازمة لتنفيذ مسح ميداني شامل، ومتطلبات ووثائق تزويد الخدمات التي نصت عليها لوائح الخدمة الشاملة، ففي المرحلة الاولى تم اختيار ثلاث مناطق محرومة من خدمات الاتصالات شُملت بالخدمة الشاملة وتم الشروع بإجراءات ايصال الخدمة الى هذه المناطق وفقا لسياسة ولائحة الخدمة الشاملة، كما وتم التنسيق مع مجالس المحافظات ووزارة التربية لإنشاء مختبرات الحاسوب في المدارس.

- وفي مجال دعم ذوي الاحتياجات الخاصة: قامت الهيئة بوضع الخطط لتنفيذ مشاريع تمكين وتاهيل ذوي الاحتياجات الخاصة، والتي تهدف الى تطوير قدراتهم وقابلياتهم في تكنولوجيا المعلومات والاتصالات، وتطوير مهاراتهم وزجهم في المجتمع كعناصر فاعلين كأقرانهم، وذلك من خلال انشاء مراكز تأهيل نموذجية لاقامة دورات تخصصية وفعالة للذين يحملون شهادة البكالوريوس والدبلوم في

تتعلق تخصصات
بالاتصالات وتكنولوجيا المعلومات، بالاضافة الى غير الخريجين ممن يمتلكون مهارات العمل على اجهزة تكنولوجيا المعلومات والاتصالات، حيث تم افتتاح مركز دوم لتدريب وتأهيل ذوي الاحتياجات الخاصة في معرض بغداد الدولي وفتح باب التقديم الى هذا المركز من خلال الاستمارة الالكترونية، واستلمت الهيئة اكثر من (سبعة عشر الف) طلب، وقامت بفرز هذه الطلبات وفقاً للمؤهلات ونوع العوق بغية تحديد البرامج المتخصصة لكل فئة من فئات هذه الشريحة المهمة.

- وفي مجال التحول الى الـ (IPv6): شرعت الهيئة بإجراءات التحول الى الـ (IPv6) وباشرت بالتحول التجريبي في مقر الهيئة، والتحضير لتدريب وتأهيل المتخصصين في مجال الـ (IT) في مؤسسات الدولة لإتمام عملية التحول الى الـ(IPv6) وحسب الخطة الموضوعة، وذلك بالتنسيق مع المنظمة العالمية لتحديد نطاقات الانترنت (RIPE)، حيث تم عقد اول ورشة عمل متخصصة في بغداد برعاية هذه المنظمة للفترة 3-4/ 3/ 2019 والتي ركزت على موضوعات التحول الى الاصدار السادس لبروتوكول الانترنت (IPv6).
- وفي اطار سعينا الى تقديم افضل الخدمات وباحدث التقنيات قامت الهيئة بالتعاقد مع شركة PWC العالمية الاستشارية المتخصصة ووضعت الاسس والاستراتيجيات والشروط والضوابط للترخيص، وغيرها من المتطلبات اللازمة لمنح رخصة رابعة في اتصالات الهاتف النقال، اذ ان الهيئة مقبلة ومن خلال اللجنة الوزارية المختصة الى عقد ورشة عمل اولية للرخصة الرابعة خلال الربع الثاني من عام 2019، بالاضافة الى التعاقد مع شركة استشارية متخصصة لوضع متطلبات ادارة وترخيص خدمات النطاق العريض الثابت.
- وفيما يتعلق بالتحول الرقمي وبغية اتمتة الاجراءات وتسهيل معالجة الطلبات وتقديم افضل الخدمات، فقد انجزت الهيئة ما يتجاوز 87% من التعاملات الداخلية لها باستخدام النظام الالكتروني، كما وتعمل الهيئة على اعداد التطبيقات البرمجية التي تسهل حياة المواطن العراقي.

- في مجال الصحة: باشرت الهيئة وبالتنسيق مع وزارة الصحة في دراسة المتطلبات والبنى التحتية المتوفرة لدعم تطبيق الصحة الالكترونية، اذ انه و وفقا للجدول الزمني الموضوع لهذا المشروع سيتم انجاز اول تطبيق تجريبي للنظام الالكتروني خلال الربع الثاني من عام 2019، بالاضافة الى التنسيق مع وزارة الداخلية في دعم مشروع البطاقة الوطنية بالشكل الذي يسهل ويبسط الاجراءات ويقلل من التكلفة على المواطن في الحصول على خدمات البطاقة الوطنية، وتم البدأ بوضع المتطلبات والتصاميم اللازمة لإنشاء مراكز البطاقة الوطنية.
- وفي مجال بناء القدرات وتدريب الطلبة وايمانا من الهيئة بان المورد البشري من اهم الموارد التي يتوجب استثمارها بالشكل الامثل، لذا عمدت الهيئة الى وضع برامج ادارية وفنية وتنظيمية لبناء القدرات البشرية واستثمار الكفاءات، وتم ابرام مذكرات التفاهم لتطوير الاداء المؤسساتي، والتعاون مع القطاع الخاص من اجل تدريب ونقل المعرفة الى الطلبة الاوائل في الجامعات في مجال تكنولوجيا المعلومات والاتصالات، ومن اجل تحفيز ودعم الطلبة في هذا المجال اقيمت مسابقات لطلبة الجامعات في مجال انترنت الاشياء (IOT) للفترة 10-11 / 2/ 2019 في عدد من ابرز الجامعات العراقية.
- كما شرعت الهيئة ببناء وتجهيز المختبرات التي توفر الامكانيات البحثية لطلبة الجامعات والدراسات العليا وانشاء مراكز التدريب التي تقدم الدورات التدريبية لكوادر الهيئة، فضلا عن تجهيز مختبرات في عدد من الجامعات لتمكين الطلبة من اجراء وتطبيق الدراسات والبحوث عمليا.
- و بغية تزويد الاتحاد الدولي للاتصالات باحصاءات تعكس الواقع الحقيقي لمؤشرات قياس مستوى هذا القطاع في العراق وبعد ان كان الاتحاد يعتمد على احصاءات قديمة لاتعكس الواقع الحقيقي، قامت الهيئة بإنماء الرقم القياسي لتنمية تكنولوجيا المعلومات والاتصالات (IDI) لجمهورية العراق لعام 2018 لدى الاتحاد الدولي للاتصالات، وتعمل حالياً على إجراء مسح ميداني إحصائي لعموم البلد بالتنسيق مع وزارة التخطيط - الجهاز المركزي للإحصاء لتكوين قاعدة بيانات وإحصاءات دقيقة للأعوام 2018-2019, وتم انشاء منصة برمجية ذكية لجمع بيانات نفاذ الاسر والافراد الى تكنولوجيا المعلومات والاتصالات، كما وانضمت الهيئة إلى لجان الخبراء – مؤشرات الاتصالات وتكنولوجيا المعلومات في الاتحاد الدولي للاتصالات (EGTI/EGH)، اذ ان رفع مؤشرات تكنولوجيا المعلومات يساهم بشكل اساسي في تشجيع الاستثمار في السوق العراقية للاتصالات الامر الذي يؤدي الى زيادة نسبة الواردات المتأتية من هذا القطاع في اجمالي الوارد المحلي الـ(GDP).

ان الاجراءات والمشاريع كافة التي تم ذكرها ماهي الا الخطوات الاولى فقط في رؤية الهيئة وخططها الاستراتيجية الطموحة، وستعقبها خطوات فاعلة كثيرة في سبيل تطوير قطاع الاتصالات والارتقاء به الى مستويات متقدمة عالميا آملين من الدول الاعضاء والاتحاد الدولي للاتصالات التعاون في سبيل تحقيق الاهداف والغايات التي تحقق التنمية المستدامة في العالم والعراق خصوصا الخارج من اكبر ملحمة عسكرية واجه بها اعتى تنظيم اجرامي في تاريخنا الحديث، وخلص العالم من تهديد ارهابي استهدف البشر والحجر.
وفي الختام اتمنى لهذا النجاح، وتحقيق الاهداف التي عقد من اجلها ...

والسلام عليكم ورحة الله وبركاته....

IRAQ

H.E Dr. Naem Yousir, Minister,
Ministry of Communication

السيد الامين العام، السادة الوزراء المحترمون، السادة والسيدات الحضور، يسعدنا ان نشارككم اليوم في الجهود الدولية الساعية الى بناء مجتمعات المعلومات المزدهرة اقتصادياً واجتماعياً بخدمات تكنولوجيا المعلومات والأتصالات، واننا اذ نسترجع ذكرى القمة العالمية لمجتمع المعلومات منذ عام 2003 و 2005، نلاحظ تقدماً ملحوظاً في تنفيذ خطوط عمل القمة،وافاقاً جديدة للتعاون بين مختلف اصحاب المصالح لتحقيق الاهداف النبيلة للتنمية المستدامة 2030SDGs.

أن العراق قد اكمل البنى التحتية اللازمة لنشر خدمات الأتصالات وتكنولوجيا المعلومات، وبواقع ثلاث شبكات وطنية، شبكة واحدة منها خاصة مؤمنة للخدمات الحكومية، واثنتان عامة لجميع خدمات الاتصالات الاخرى، وبسعات تغطي الاحتياج المحلي، كما نسعى لتحسين هذه الخدمات و توسيعها لعدة اضعاف، ان وزارتنا تنوي اطلاق الاجازة الرابعة في العراق لخدمات الاتصالات الخلوية باستخدام افضل التكنولوجيات، ونظراً للموقع الاستراتيجي الجيوغرافي للعراق فاننا نعمل لخلق المتطلبات والتسهيلات اللازمة لربط الخليج باوربا وتوفير خدمات الترانزيت من خلال شبكاتنا في العراق، بالاضافة الى ذلك فنحن ننوي لزيادة عدد خطوط خدمات

الكيبل الضوئي بخمسة ملايين خط، لذلك فاننا هنا ندعو المجتمع الدولي والشركات العالمية الى الدخول في السوق العراقية الكبيرة والاستثمار فيها كونها سوق واعدة.

ان الهدف الاساسي الذي وضعته القمة العالمية لمجتمع المعلومات هو: "سد الفجوة الرقمية العالمية التي تفصل البلدان الغنية عن البلدان الفقيرة عن طريق نشر الوصول إلى الإنترنت في العالم النامي".اود ان اعرب عن اتفاقنا فيما ورد في قمة 2015 ان بأمكان "الإنترنت ان يسهم إسهاماً قيماً للغاية في حياه الإنسان، ويمكن ان يعزز الرخاء والسلام، والنمو الفكري والجمالي ، والتفاهم المتبادل بين الشعوب والأمم على نطاق عالمي".

1. أكمل العراق البنى التحتية اللازمة لنشر خدمات الأتصالات وتكنولوجيا المعلومات، وبواقع ثلاث شبكات وطنية متوازية، شبكة واحدة منها خاصة مؤمنة للخدمات الحكومية، واثنتان عامة لجميع خدمات الاتصالات الاخرى، وبسعات تغطي الاحتياج المحلي كل منها بسعة 120 Gbps. ونحن الان بصدد توسيع سعة الشبكةالى200 Gbps لتوفير خدمات افضل لجميع سكان العراق.
2. اوصلنا ربع مليون خط للكيبل الضوئي للبيوت السكنية،وفتحنا الان مشروعاً استثمارياً لإيصال 5 ملايين خط اضافي في كل انحاء العراق.
3. ربطنا العراق بالمجتمع الدولي من خلال عدة منافذ مع دول الجوار بالأضافة للكيبل البحري في الخليج ، ونظراً للموقع الاستراتيجي الجيوغرافي للعراق فاننا نعمل لخلق المتطلبات والتسهيلات اللازمة لربط الخليج وجنوب شرق اسيا باوربا من خلال العراق وتوفير خدمات الترانزيت للمعلومات والانترنت.

4. تقوم الوزارة بالعمل على استكمال متطلبات تنفيذ بوابات النفاذ الدولية والتي ستضمن السيطرة على مكافحة الارهاب السيبراني ومكافحة سرقة وتهريب السعات من خلال الشبكات الوطنية.
5. منذ اكثر من عام شرعنا بمشروع الحكومة الالكترونية وبدأنا بأطلاق بعض التطبيقات كتسجيل الولادات والوفيات وخدمات التوقيع الإلكتروني على المستوى المحلي والدولي، ونسعى لتطوير برنامجاً متكاملاً لهذه الخدمات.
6. اسست الوزارة سلطة للشهادة"Certificate Authority " لترصين صحة المعلومات من خلال تعريف الأشخاص والكيانات المادية والحركات بقيم وحيدة لا تقبل الشك. فاننا هنا ندعو المجتمع الدولي والشركات العالمية الى الدخول في السوق العراقية الكبيرة والاستثمار فيها كونها سوق واعدة.

- للاجابة على السؤال الثاني: ما هي القضايا التي تحتاج الى مزيد من المعالجة ضمن اطار القمة العالمية لمجتمع المعلومات؟

السادة الحضور....

ان الانترنت هي احدى معجزات القرن العشرين فبالأمكان الاستفادة منها للخير وللشر في نفس الوقت. فنحن نرى دوراً مهماً للقمة العالمية لمجتمع المعلومات لكبح الاستخدامات التي تضر المجتمعات الانسانية. فمن القضايا التي التي نرى انها تحتاج إلى معالجة هي:

1. تقنين لوائح تتعلق بالجريمة الالكترونية عبر الحدود ووضع معايير العقوبات في هذا المجال في مختلف القطاعات ومن ضمنها مواقع التواصل الاجتماعي وما تخلقه من مشاكل وفتن داخل البلدان.
2. منع تداول ونقل معلومات او احداث تسيء للانسانية كمثل البث المباشر على فيسبوك لواقعة ارتكاب مجزرة قتل المصلين المسلمين في نيوزيلندا.
3. تحريم استخدام الانترنت لتوجيه هجوم على البنى التحتية للدول كالكهرباء والماء او المنشآت الصناعية او الاقتصادية.
4. ندعو البلدان المتجاورة للتعاون لمنع ومحاسبة مهربي سعات الانترنيت.

ان وزارة الاتصالات العراقية تسعى الى بناء مركز بحث وتطوير للنهوض بواقع الاتصالات والمعلوماتية على مستوى البلد والعمل على المشاركة الفاعلة في نشاطات مجتمع الاتصالات الدولي، ونظرا لكوننا في بداية الطريق فبهذا التوجه فاننا نود الاستعانة بخبرات من سبقونا الى مجالات الاتصالات والمعلوماتية، هذا على الرغم من ان العراق يتمتع بوجود الكفاءات العلمية المتقدمة ولكن تبقى الخبرة العملية في مواجهة التحديات في مجالات كثيرة منها ادارة الترددات اللاسلكية لمجهزة خدمة الانترنيت واليات مراقبة استخدام القنوات الغير مرخصة (Frequency planning)ومعالجة محتوى الانترنيت (Internet Filtering) وادارة بوابات النفاذ والانتقال الى السيطرة الذكية على المرور، هذا على مستوى الاتصالات، اما على مستوى المعلوماتية فنحن نحث الخطى باتجاه انشاء المستودعات الذكية للبيانات (Data Smart Repository) ومن ثم تحويلها الى مستودعات معلومات (Knowledge Repositories)تمهيدا لأطلاق الخدمات الالكترونية الذكية، كما اننا ندعو مجتمع الاتصالات الدولي الى حث الشركات المتقدمة في مجال خدمات الانترنيت على انشاء عقد (Nodes) لها على الاراضي العراقية مساهمة منها في تقليل الترافك الدولي للانترنيت ومساعدتنا على توفير سعات اشتراك مناسبة للأعمال في القطاع الحكومي والخاص على حد سواء .

في الختام نتمنى ان تكون مخرجات هذه القمة كسابقتها، تمثل اطارا عمليا فعالاً يربط قطاع الاتصالات وتكنولوجيا المعلومات بأهداف التنمية المستدامة، كما نود ان نقدم شكرنا وتقديرنا لجميع القائمين على تنظيم هذا الحدث والجهود الكبيرة التي بذلوها لأنجاحه.

Session Ten: Inclusiveness – Inclusiveness – access to information and knowledge for all

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/180#

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

Executive Summary by High Level Track Facilitator

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 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

SGDs: 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
- 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 remore/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.

BENIN

H.E. Mrs. Aurélie Adam Soule Zoumarou,
Ministre de l'Economie numérique et de la Communication

PORTUGAL

H.E. Mr. Luís Goes Pinheiro, Secretary of State for Administrative Modernization, Ministry of Presidency and Administrative Modernization

INDIA

Ms. Roshni Sen,
Principal Secretary, Government of West Bengal

1. How do you ensure an integrated and sustainable development of the beneficiaries through your various schemes and initiatives?

As a public servant I would like to say that integration and sustainable development is possible only when integration starts at the grassroots.

Most of us think that integration and convergence at the policy makers level is sufficient to achieve grassroots impact. But actually the main challenge of integration lies at the local level. Top down communication with poor feedback loops from service delivery points to the policy makers actually under capacitate the service delivery points. Hence we need to focus on capacity building from top to bottom on empowering the grassroots level implementers. A scheme is as good as the people who run it.

The Core activities may be implemented centrally, but the social and behavioural change communication are to be left at the discretion of local administrative units which we call districts. Now what happened in our State is that districts with capable interested leadership or champions undertook a number of initiatives, but some districts had practically no such activities or initiatives. So at the policy level we are building a cross district knowledge sharing platform using ICT for dissemination of information and replication of best practices.

Since a scheme or a programme gets identified with a nodal Ministry or Department which also remains accountable, there is poor ownership by other Departments. This is what our Government is trying to address so that the strategy of integration is worked out at the planning process itself and supporting departments are also made accountable.

At the local level, the implementers are trained jointly by the departments concerned, which helps in cleaning a lot of doubts and facilitate convergence.

2. What are the communication channels that can be used to mitigate the information asymmetry?

In Economics, information asymmetry means that one party has better information than the other, so in their transaction, there is an imbalance of power, which may result in market failure. I would not go into an esoteric discourse, but address it solely from social perspective. The aim of our Government is to reduce the information asymmetry from citizens and Government. For this we need to use ICT so as to

empower beneficiaries, improve targeting and reduce poverty at the household level. It is at the design level itself, cognisance is taken of this asymmetry and a governance model is designed to ensure access of information to all stakeholders.

The efforts have to be supplemented by making digital infrastructure (access to Smartphone/ computer, internet) available to all. While designing a scheme, we have to design a strong communication strategy. This worked for both our award winning schemes Kanyashree & Utkarsh Bangla. Multiple channels of communications are to be used namely TV, hoardings, social media. But what worked best for Kanyashree, a CCT scheme for the girl child as well as for Utkarsh Bangla, a skill development initiative are the local level interventions. Focussed group discussions with teachers and parents , use of local folk artists and singers to spread the message, easy to use and interactive mobile apps, a robust public grievance mechanism using ICT in local languages all contributed to the 99.99% information dissemination. Various competition like poster competition, painting competition, slogan writing, photography competition etc. both online and offline on the scheme topic has helped to spread the message and involve greater number of stakeholders. The most effective of course were the beneficiary groups, teams of young girls, who would spread the message among the peers, resist social evils be ICT savvy, be participants in the development process, become change agents themselves.

MALAWI

Dr. Esmie T. Kainja,
Permanent Secretary for Information and Communications Technology

Your Honour, the Chairman of the World Summit on Information Society(WSIS)Forumfor2019,

The ITU Secretary General, Mr. Houlin Zhao and your Team, Your Excellences and Honourable Ministers here present, Distinguished,participants
Ladies and Gentlemen.

On Behalf of the Government and people of the Republic of Malawi, allow me to bring you greetings from the Warm heart of Africa. Let me thank the ITU Secretary General and his team for the excellent stewardship of our organization and Distinguished Excellences all ***Member States*** and all stakeholders present here for the commitment shown to WSIS forum as it commemorates 10 years of existence.

QUESTION 1: WHAT IS MALAWI DOING TO ENHANCE ACCESS TO INFORMATION AND KNOWLEDGE FOR ALL?

Distinguished Ladies and Gentlemen, Malawi considers **Inclusiveness or Access to Information and Knowledge for all** as a key pillar for economic development ***and therefore pivotal in accelerating growth of other sectors and act as enablers for poverty reduction and wealth creation*****.** This is evidenced by its inclusion in the Malawi Growth and Development Strategy (MGDS) which is an overarching strategy that guides development and domesticates the **Sustainable Development Goals (SDGs)** in Malawi. The efforts to enhance access to information and knowledge for all are anchored in the National Access to Information Policy and a National Information and Communications Technology (ICT) Policy.

In view of the foregoing, Malawi is implementing a number of initiatives to enhance access to information and knowledge for all, including the following;

1) Having learnt from the limited incorporation of accountability mechanisms in the implementation of the Millennium Development Goals (MDGs), Malawi swiftly developed the **Access to Information Legislation in 2016. This provides the right of access to information among members of the public** as an accountability mechanism in

the implementation of the MGDS which is a country version of the SDGs. This is in appreciation that broad public participation and access to information are essential to the attainment of the **Sustainable Development Goals**.

2) Malawi reviewed the Communications Act of 2016, E-Transaction and Cyber Security Act of 2016 which have improved ICT **utilization and access as well as facilitating easier access** to the Universal Service Fund (USF) as a **Sustainable Financing Source**;

3) Malawi is implementing the **digital migration project** in line with regional and global deadlines and the harmonization of the digital dividend in order to facilitate the socio-economic development;

4) Like many countries in Africa, Malawi had an underdeveloped communications infrastructure which contributed to the high cost of doing business and poor access to information. To curb this challenge, Malawi has constructed the **Optic fiber backbone** that has connected to the submarine cables through Tanzania and Mozambique in order to expand **access to information**. This has conspicuously enhanced district and metro connectivity;

5) Malawi is scaling up the construction of the Multipurpose Community Telecentres to create opportunities for rural people particularly the youth to access market information, employment opportunities, education and many more. By the end of the first phase, each constituency will have a telecentre. In additional, we are electing 136 tower to enhance connectivity for the rural population; and

6) Last but not least, Malawi is implementing a **converged licensing framework** and has **introduced the walk-in-application** to promote competition and reduce entry barriers amongst operators.

Mr. Chairman, in the spirit of leaving no-one behind, the initiatives that I have highlighted have significantly contributed to the reduction of inequalities between the urban and rural communities as regards to access to information as well as diversification of ICT services.

QUESTION 2: WHAT IS THE ROLE OF VARIOUS STAKEHOLDERS IN THE IMPLEMENTATION OF ACCESS TO INFORMATION INITIATIVES?

Mr. Chairman, as regards to **the role of various stakeholders in the implementation of Access to Information initiatives,** Malawi is doing the following;

As a requirement for the implementation of the Access to Information Law, a High-Level Steering Committee (SC) was set up to carry out preliminary work. The committee is comprised of the **Ministry of Information and Communications Technology** (MOICT), the **Ministry of Justice and Constitutional Affairs** (MOJAC) and the **Malawi Human Rights Commission (MHRC)**. In the Act, the Ministry of ICT provides strategic leadership, coordination and policy direction; the Ministry of Justice and Constitutional Affairs provides legal advisory services while the Malawi Human Rights Commission is among other roles designated to;

- Raise awareness of the right to access of information among members of the public and information holders;
- Give advice to Government and information holders regarding coordination and management of information; and
- Promote and protect the right to access of information and investigate violation of the right to access to information;

1. The **Media** is responsible for creating public awareness through frequent media updates. **Traditional Leaders** have

a strategic role of empowering communities to demand information from information holders.

2. Furthermore, Malawi acknowledges the role that the Civil Society Organizations play in community engagement as they work close to the communities.

ICT continues to contribute significantly towards Malawi's GDP and is further nurtured to enhance its performance though the ICT faces several challenges including affordability and cost of ICT services; and sporadic provision of services in terms of coverage.

Currently, regulations to roll out the ATI law are being drafted and **a multi-sectoral approach** is being followed to ensure **no one is left behind** ***as ICT forms the backbone of business activity, productivity, trade and social advancement.***

Conclusion

In conclusion, let me take this opportunity to thank the ITU leadership for the support which it renders to Malawi. On behalf of my delegation, I wish to express gratitude to you, Chairperson on the manner you are handling business of this conference and I have no doubt that this will bring out the expected the output.

ICANN

Mr. Göran Marby, CEO and President

UNICEF

Ms. Jasmina Byrne,
Chief of Policy

United Nations University Institute on Computing and Society (UNU-CS)

Dr. Araba Sey,
Head of Research/Principal Research Fellow

Over the years, significant progress has been made in closing gender digital divides. Led by UN University, the research group of the EQUALS Global Partnership for Gender Digital Equality released a report in March 2019 on the state of gender equality in digital access, skills and leadership. Our analyses show that despite some positive achievements, gender gaps persist in most areas. Especially troubling are indications that as technologies become more sophisticated, expensive and transformational, two things are happening: First, these new technology landscapes appear to be replicating existing gender inequalities. And second, new gender divides are emerging. Both trends have the potential to negate previous gains made, if not proactively addressed.

For example, while mobile phones have enabled greater digital access for women, in many parts of the world women are still less likely than men to personally own a mobile phone or use the mobile internet. And while advances have been made in encouraging girls to study technology and engineering subjects, gender-based barriers in the workplace hamper women's ability to thrive in these professions, especially in leadership positions. Overall, the potential of technology to promote gender equality is not being fully realized.
Two critical steps to make the world of digital technologies more inclusive for women and girls are ONE: address social and cultural barriers to inclusion and TWO: improve data and research on gender equality.

Our research identified six barriers to gender digital equality. These are:

1) availability of infrastructure
2) financial constraints
3) ICT ability and aptitude
4) interest and perceived relevance of ICTs
5) safety and security
6) socio-cultural and institutional contexts.

Social and cultural barriers need urgent and sustained attention, as they lie at the heart of most gender inequalities. Tackling this barrier includes actions such as addressing the gender stereotypes and

unconscious biases that affect women and girls (but also men and boys) from childhood through to their educational and professional lives; recognizing the impact of people's multiple identities; embracing diverse non-male-oriented models of professional excellence; and preventing artificial intelligence from learning gender prejudices.

Secondly, we need to address the severe lack of official gender-disaggregated data on digital access, skills and leadership. This is essential to capture the variety of gendered experiences that affect inclusion; to generate meaningful dialogue on solutions; and to be able to identify progress when it happens.

- For example, our analysis of ITU data shows that the proportion of men who can write a computer program is more than twice that of women. But this indicator is disaggregated for only 49 countries; in other words, this statistic represents only one-quarter of the countries in the world. Of these, the majority (two-thirds) are in Europe. Disaggregated data are available for only 11 countries in Asia, three countries in Africa and two in the Americas.
- Other sources show that only 35% of women pursue higher education in STEM subjects. This covers 97 countries, far better than the first example, but still just 50% of countries worldwide. Most of these countries are in Europe (31), and Asia (28), with only 19 in the Americas and 18 in Africa.
- Analysing the Trends in International Mathematics and Science Study (TIMSS) 2015 data, we found that more boys than girls take advanced math or physics in Grade 12. But this data is limited to just nine countries.
- ITU disaggregated data on mobile phone ownership covers 40 countries (21%), mostly in Asia, with only eight in Europe, seven in the Americas and six in Africa.
- ITU's disaggregated data on internet use covers 90 countries (46%), mostly in Europe and Asia, and including only nine countries in Africa.
- ILO data on women ICT professionals covers 53 countries (27%), mostly in Europe. Only eight are in Asia and two in Africa.
- UNESCO statistics on women engineering & technology researchers covers 25 countries (13%), mostly in Asia. Only five are in Europe, three in Africa and two in the Americas.

Furthermore, little data is collected beyond basic indicators.

- For STEM education, the focus is primarily on enrollment levels, graduation and test scores. Data are rarely collected on other relevant topics such as interest in STEM subjects and self-efficacy.
- Data on alternative pathways to science and technology skills (such as vocational and on-the-job training) are equally lacking.
- And in the classroom and workplace, official data on gender-related experiences (such as discrimination and harassment) are almost nonexistent.

Essentially, in the world of gender data on science and technology, most parts of Africa, Asia and Latin America are geographically invisible. And most relevant topics are thematically or conceptually invisible. Invisible problems are difficult to fix or are likely to have the wrong solutions applied.

Achieving a more gender inclusive digital society requires allocation of human resources and research funds to build the capacity of national institutions to collect appropriate gender disaggregated data and equip independent bodies to conduct research on relevant topics. UN University stands ready to support this effort, working in collaboration with UN agencies, governments, the private sector and civil society.

UN Internet Governance Forum

Ms. Lynn St. Amour
Chair, UN Internet Governance Forum Multistakeholder Advisory Group

Q1: Digital Inclusion is a term that encompasses a broad sector of key Internet governance issues, what can the Internet Governance Forum and all stakeholders do to help ensure that Internet governance processes are truly inclusive – at all levels everywhere?

IGF 2019 in Berlin will have three main tracks – Data Governance, Security, and Digital Inclusion. Digital Inclusion is about identifying those with less or no access to the Internet (e.g. underserved communities, marginalized groups, the minorities, people with disabilities or people lacking digital literacy) as well as identifying activities related to achieving an inclusive information society.

DIgital Inclusion means bringing individuals into the process and into the discussions and ensuring everyone has the same opportunity to participate/to contribute. It is about having the right access, skills, and environment to confidently go online.

The Digital Inclusion track at the IGF aims to provide a framework that would consider various elements and policies in support of the points above.

Not only is this the right thing to do, fostering digital inclusion contributes to a stronger economy and enhanced economic development.

The IGF community has been invited to submit WS proposals with clearly identified policy questions focused on concrete advancements.

The drivers to accelerate inclusion need to be relevant to the specific needs of very diverse communities. There is no one size fits all. This is where the National, Regional and Youth IGF Initiatives (NRIs) come in. There are 114 of them now in the IGF Ecosystem.

NRIs are independent organic initiatives following the same MS, open principles as the global IGF and they are recognized as an NRI in the IGF community. These are great opportunities to advance Internet public policy issues at national and regional levels, as well as provide many development and inclusion opportunities.

One final quick point – we can all do whatever we can to support the SDGs, as these are essential to level the playing fleld and they address many basic requirements.

Q2: "Access to information and knowledge FOR ALL" depends on more than just access, it requires a safe and trusted Internet. What else needs to be done?

Security, Safety and Trust are prerequisites to economic growth and a healthy digital environment beneficial to all. Security and safety applies to the systems, infrastructure, devices, and of course individuals and their online activities. We need to address all these levels.

The 2019 IGF will address this issue within the other two tracks: Data Governance and Safety, Security, Stability, and Resilience.

We need a safe and secure internet where our personal information is shared where and when we choose, where our children are safe, where the digital consumer is protected from illicit activities and where corporates and individuals that misuse our trust are held accountable.

Under the Security theme potential risks to security and safety will be discussed with consideration given to how stability and resilience can be achieved. Strategies for protection of both systems and users will be addressed, taking into account a multidisciplinary perspective to potential solutions and the importance of stakeholder collaboration for responding to the growing range of threats to the global Internet and its users.

The Data Governance track will contribute to identifying best approaches to ensure the development of human-centric data governance frameworks at national, regional and international levels. It will enable an exchange of views on how to support and operationalize the exercise of human rights and the empowerment of individuals in their digital identity in current uses and development of data-driven technologies. And it will consider how to create the conditions needed to facilitate data-driven innovation, ensure competition, and foster trust in the development of services and new technologies, including through the use of inclusive data and the fulfillment of the UN's 2030 Agenda for Sustainable Development.

Session Eleven: Digital Economy and Trade

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/181#

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 Mendomo Minete, 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

Executive Summary by High Level Track Facilitator

Introduction

Digital Economy and Trade is a very broad subject. The session started with the discussion on the development of e-commence/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

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 on 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 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.

CAMEROUN

H.E Mrs. Libom Li Likeng Mendomo Minete,
Minister, Ministry of Telecommunications, Posts

Excellences,

Mesdames et Messieurs, en vos rangs, grades et qualités respectifs,

Je suis particulièrement heureuse de l'occasion qui m'est donnée ce jour, en ma qualité de Ministre des Postes et Télécommunications de la République du Cameroun, de m'adresser à vous tous ici rassemblés, à l'occasion de cette séance interactive sur les politiques de Haut Niveau, dans le cadre du Forum sur le Sommet Mondial sur la Société de l'Information (SMSI), édition 2019.

Qu'il me soit donc permise d'exprimer la profonde gratitude du Gouvernement de la République du Cameroun au pays hôte et aux organisateurs des présentes assises, pour le cadre d'échange des meilleures pratiques et de retour d'expériences qu'ils offrent aux différents pays, d'exposer sur **l'économie numérique et le commerce**.

Excellences, mesdames et Messieurs,

Le rôle des pouvoirs publics dans le développement socio-économique du Cameroun se traduit à deux (02) principaux niveaux :

- une volonté réelle du Président de la République de bâtir une société plus juste, équitable et inclusive ;

- un secteur des TIC qui s'adapte à l'innovation.

Sur le plan politique, la volonté de bâtir une société plus juste, équitable et inclusive s'est toujours manifestée lors des sorties officielles du Chef de l'Etat, Son Excellence Paul BIYA dont la dernière date du 16 janvier 2019, lors du Conseil Ministériel où il a prescrit les principales actions de la feuille de route gouvernementale consacrée entre autres, *« …à la consolidation de la Paix, de l'Unité Nationale et du Vivre-ensemble…au développement de l'économie numérique, de l'industrialisation et de l'agriculture de seconde génération; à la modernisation de l'économie, à la relance de la croissance et à la création d'emplois…* »

S'agissant du développement de l'économie numérique, des aménagements sur les plans institutionnels, réglementaires et infrastructurels sont régulièrement apportés par les pouvoirs publics, pour prendre en compte la convergence et l'innovation technologique.

Au plan institutionnel, les capacités des structures de régulation et de formation ont été renforcées, pour tenir compte des nouveaux métiers et des exigences de la confiance numérique.

Le cadre réglementaire quant à lui est en constante révision, pour prendre en compte :

- les nouvelles menaces liées à l'avènement des technologies nouvelles ;
- l'usage des services par toutes les couches sociales ;
- la protection des consommateurs ;
- l'amélioration de la gouvernance ;
- la garantie d'une qualité de service ;
- la préservation de la paix sociale…

La mise en œuvre de la stratégie Cameroun numérique 2016-2020 aux plans institutionnel et réglementaire a contribué à la réalisation d'importants projets de développement des infrastructures large bande qui permettent au Cameroun de disposer, sans être exhaustif :

- de quatre (04) points d'atterrissement des câbles sous-marins à fibre optique ;
- d'une dorsale nationale à fibre optique d'un linéaire de 12 000 kilomètres ;
- d'une Infrastructure Nationale à Clé Publique (PKI) utilisé par les services publics;
- d'un Computer Emergency Response Team (CERT) ;
- de deux (02) Points d'Echanges Internet dans les villes de Yaoundé et de Douala.

Excellences, mesdames et Messieurs,

Les efforts combinés des pouvoirs publics, du secteur privé et de la société civile permettent aujourd'hui au Cameroun de disposer d'un écosystème où les TIC constituent le moteur du commerce national et sous-régional.

Cette tendance s'est illustrée notamment par :

- l'apparition des plateformes de commerce en ligne ;
- l'augmentation exponentielle du volume des transactions liées à la monnaie électronique ;
- la vulgarisation par les opérateurs de téléphonie mobile, des moyens de paiement par mobile ;
- le développement du secteur de la logistique ;
- la mise en place progressive d'une industrie nationale de contenus numériques.

D'autres initiatives sont entreprises afin de faire bénéficier au commerce les avantages des TIC suivant la prescription du Chef de l'Etat, dans son message de vœu de fin d'année à la nation en 2018, et je le cite « … *il est indispensable que nous fassions davantage pour intégrer les progrès du numérique dans le fonctionnement de nos*

services publics et de notre économie. La société digitale qui s'annonce n'attendra pas les retardataires… » fin de citation.

A titre d'illustration, le Gouvernement a entrepris, dans le cadre de la coopération avec l'Union Postale Universelle (UPU), de mettre en place la plateforme de commerce électronique de la sous-région Afrique Centrale dénommée « ecom@Africa ».

Excellences, mesdames et Messieurs,

Les progrès accomplis sont réels et perceptibles en matière de développement de l'économie numérique et du commerce électronique. A titre d'exemple, dans son rapport 2018 sur l'indice du e-commerce en Afrique, la Conférence des Nations Unies pour le commerce et le développement (Cnuced) qui s'est tenue à Nairobi (Kenya) du 10 au 14 décembre 2018, révèle que le Cameroun est désormais le 10ème marché africain du commerce électronique. Unique pays d'Afrique centrale à figurer dans le top 10, le Cameroun doit son classement à des scores tous supérieurs à la moyenne africaine sur les quatre critères suivants : le nombre d'acheteurs en ligne, le niveau de sécurité des serveurs, la facilité de paiement et la facilité de livraison.

Toutefois, le chemin à parcourir reste long pour atteindre les Objectifs de Développement Durable.

Nous savons pourvoir compter sur l'apport déterminant des pays développés et émergents à permettre au reste de la communauté internationale en général et au Cameroun en particulier, de rattraper le retard observé tant sur la fracture large bande que sur celle du numérique.

Je vous remercie pour votre aimable attention. /-

REPUBLIC OF NORTH MACEDONIA

H.E. Mr. Damjan Manchevski,
Minister, Ministry of Information Society and Administration

Q1: What is your vision for future actions with regards to Digital Economy, as part of the Western Balkan?

I would like to take this opportunity to express my most sincere gratitude and appreciation to all of you in this room who share the same vision for the future of the Western Balkans - a peaceful, prosperous and democratic region anchored to the European values and systems.

Only days ago, I met with regional digital policy makers at the Western Balkans Digital Summit in Belgrade to review the near and long term strategic vision for the region. Agreements and four very concrete initiatives are under way: reducing roaming in WB economies, mutual recognition of digital certificates, developing digital skills as well as joint cyber security activities.

However, as Nelson Mandela once said “Action without vision is only passing time, vision without action is merely day dreaming, but vision with action can change the world.” I am more than happy to say that as a region, we have a shared vision, as well as aligned activities in the area of digitalization. Instead of building separate national efforts, I would rather join our forces together. This will undoubtedly help us bridge the gap with EU MS, not as nations, but as a region.

The need for seamless integration and not only inter-governmental cooperation between our regional economies, but also industry, academia, as well as cross-border cooperation organizations.

As Governments, we support and encourage the inclusion of these stakeholders in digital policy making, given that these organizations act as catalysts in the process of digital transformation.

Taking the example of digital skills capacity building, regional Governments cooperate within the largest WB6-level project “21st century schools” aimed at facilitating the development of coding, critical thinking and problem solving skills. In this manner, the acquired knowledge is transferred among colleagues and most important preparing the students to be creative and innovative problem solvers and respond to the challenges of the 21st century.

Winning the national competitions, the best teams from the region met in Belgrade during the WBDS6 in order to take place in a regional prize winning competition. Along with my colleagues from Albania, BIH, Kosovo, Montenegro and Serbia, I saw some amazing innovative solutions created by our young and brilliant minds. This is a reminder of what our children can do if given the necessary tools, training and support that they need. It brings hope for a better tomorrow, a collaborative region that celebrates innovation, creativity and knowledge. It is a reminder for all of us gathered here today that our role in digital policy making in our respective Governments and organizations is to support the development and to stimulate the bright minds in our societies.

This is not a task that we need to do on our own. More than ever, all these efforts speak to the same urgent need for us to integrate our economies rather than to choose sides or to fragment our regional and global production and value chains.

The growing digital economy is a tremendous opportunity for economies in Europe and the rest of the world to come together. It is an opportunity for greater integration, but if we don't seize that opportunity then we also risk balkanization into digital islands - isolated digital islands, which contradicts the very essence of data and digital flows to bring about a more integrated world. And this is where North Macedonia, and with like-minded partners in Europe, America and elsewhere, must come together. Beyond taking care of the conventional goods and services sector, to look at the new rules that will enable the digital economy to grow, flourish and integrate.

On that note, I will be happy to hear your views and share thoughts and perhaps we can all, in our respective spheres of influence, help to bring about a more integrated world that will bring out the best in each of us, for the good of our people.

Q2: What are the measures undertaken in the Republic of North Macedonia in view of the e-services?

The process of digital transformation is a long and arduous one. Especially here on the Balkans where paper based governance is still regarded as a preferred and safer way to go. However, in the past several years we have taken serious steps towards remedying this and promoting the "digital first" approach. To do so we needed to establish the foundations, both technical and legal.

As digital policy decision makers, we are dedicated to providing equal access to public services for our citizens and businesses. . However, the greater availability of services and opportunities via digital channels brings greater challenges. In order to facilitate this economic growth, but also to bridge the gap with the EU, we need to provide a strong digital infrastructure, compliance with legislative requirements, as well as an open and safe cyber space. We need to think about security, cyber threats, sustainability and resilience of Government services and processes, electronic identification, and protection of our citizens, businesses and data available online in order to ensure the existence of digital operations.
The first pillar of the Digital Agenda of the European Union, and thus the beginning of the digital transformation of the North Macedonia, is harmonization of the domestic legislation with the EIDAS

Regulation. Hence, a law on electronic documents, electronic identification and trust services has been prepared. The purpose of this law is to provide mechanisms and services to increase the confidentiality in the electronic transactions, thus providing legal safety and encouraging the use of electronic identification. The implementation should enable the newly registered trust service providers in the country that demonstrate that they meet relevant requirements, to offer trust services regionally, and on the global market. Our role as a Government in this manner is to facilitate regional and EU level agreements, in order to bridge the gap with the EU MS and achieve recognition of Macedonian service providers.

National policies and priorities go beyond legislation and strategic documents. It a road towers results, which is aligned with projects and initiatives in different areas.

The infrastructure is the backbone of a strong European and regional digital economy has been recognized among Western Balkans economies. I am eager to speak about our efforts in in connecting our economies with one another in a regional network, thus facilitating a seamless integration of the Western Balkans regional network within the EU. In order to bridge the gap with EU connectivity and network standards, we have just adopted the National Operational Broadband Plan for access to faster and better internet services, in line with EU standards. Based on these criteria, as well as investments of operators in the next 3 years, national broadband targets for the RNM estimate that by the end of 2023, at least 1 city will be covered with 5G signal, whereas by the end of 2025. By the end of 2027 all cities in the territory of RNM will be covered by uninterrupted 5G signal and by the end of 2029 every citizen will have access to 5G internet with min speed of at least 100 Mbps.

In the same manner as we are protecting our land and aerospace, we should also protect and invest in our cyber space, although cyber space transcends territorial and legal boundaries.

Hence, Critical Information Infrastructure is subject to our national cyber security and protection.

On the doorstep of NATO and soon the EU, the Republic of North Macedonia is becoming an ever more attractive target for cyber-crime. Naturally, cyber security became one of the key priorities for the Government of the Republic of North Macedonia, especially for line ministries in charge of national cyber security. The combination of strong political will and prioritization of cyber security capacity building with the support from our strategic partners, resulted in momentous results in the past year. The political will, support from international partners, as well as multi-stakeholder cooperation within all sectors of society facilitates crucial phases of capacity building: capacity assessment, developing strategic documents, as well as awareness raising and education.

As a result, the National Cyber Security Strategy and Action Plan for the period 2018-2022 have been developed. Both were adopted by the Government in 2018. In addition, the RNM is listed as one of the countries that demonstrate high commitment in all five pillars of the index, according to the Global Cybersecurity Index 2018 (International Telecommunication Union), as the only country from the Western Balkan region in this category.

From a technical standpoint we had to establish the base registers and enable safe and reliable environment for standardized data exchange between the institutions. All of these building blocks had to be regulated with common guidelines and standards. This is where the National Interoperability Framework (NIF) comes in. It is a framework that regulates the legal, organizational, semantical and technical aspects of interoperability in the Republic of North Macedonia and is based on EU's EIF 2.0.

Based on this framework we have built a modern interoperability platform which enables safe, secure and reliable exchange of information between the government institutions. This enables the Service delivery platform to exchange needed data and documents, by consumption of available services from the existing backend platforms and solutions in the government institutions.

An integral part of the interoperability platform is the Service Register. It is a centralized register of all internal and external web services from backend systems for data access or transactional services from the institutions which are part of the platform. It manages the access privileges for every service and "actor" on the platform.

Another key register closely coupled with the interoperability platform is the Register of Administrative services. It is a central repository of all institutions, data, proofs and procedures related to administrative procedures. It is a sort of "master key" collection for the configuration of all administrative procedures as stipulated by the respective Laws. This tool enables us to maintain a standardized overview of the process flows and required documents/proofs for all administrative procedures.

Combining these two registers enabled the establishment of the National Portal for e-Services. Using the interoperability platform as a base we were able to identify key services on the platform and build electronic services for the citizens. The Portal can be regarded as a front-end solution facing the citizen utilizing the before-mentioned building blocks for service orchestration and delivery. In other words, it is an online service delivery platform for creating, administering and publishing e-Services using the national building blocks.

Other key enablers for digitalization are the new Government Single Sign-On component which allows the citizens to have one user profile for all government portals and services, as well as the introduction of the eID as an electronic proof of identity in the digital world.

Last but not least is the newly established National Population Register. This key enabler is one of the main cornerstones in the digitalization effort in North Macedonia. It represents a single integrated data

register for all citizens, that aggregates data on the entire population, thus enabling the implementation and the monitoring of public policies in a domain of population management and planning. It is key in establishing the national eID as well as providing digital services to our citizens.

RUSSIAN FEDERATION

H.E. Mr. Mikhail Mamonov, Deputy Minister,
Ministry of Digital Development, Communications and Mass Media

Dear Mr. Chairman,
Your Excellencies,

Dear ladies and gentlemen!

It has been 15 years since the inception of the Geneva phase of the World Summit on the Information Society (WSIS), and 10th anniversary WSIS Forum under the theme "Information and Communication Technologies for achieving the Sustainable Development Goals" will allow to review the progress made in implementing WSIS Plan of Action, the role and contributions made by the information and communications technologies in achieving the Sustainable Development Goals leading up to the High-Level Political Forum under the auspices of the United Nations General Assembly in September this year. It is widely recognized that information and communications technologies are crucial for ensuring all three components of sustainable development: economic, social and environmental. The matrix of WSIS Action Lines and the Sustainable Development Goals clearly shows the close relationship between the WSIS Action Lines and the Sustainable Development Goals.

The impact of digital technologies on the development of today's society, as well as on the production and circulation of goods and services is steadily increasing.
Thus, the WTO's 2018 World Trade Report identified digital technologies, namely the Internet of Things, artificial intelligence, 3D printing and blockchain as enabling technologies for the world trade in the long term.

Currently, electronic trading platforms are being actively developed in Russia, they meet the consumer demand that contributes to the growth of e-commerce. One of the new projects in this field is the development of B2C platforms under the joint venture established by Yandex and Sberbank.
We believe that in order to enhance the readiness of all stakeholders for their participation in electronic commerce (e-commerce), representatives of national business communities should be involved in setting the "rules of the game" in this field.

In addition, development of local platforms can also require updating legal framework in the field of competition and consumer protection, protection of personal data, taxation and labor relations. We believe that this work should be carried out based on the equitable dialogue between public authorities, business communities and academia, as well as taking into account consumers' opinion.
We are convinced that the state and all stakeholders should not only facilitate the development of new digital solutions for e-commerce, as well as to work out procedures for informing all the participants in e-commerce on its potential benefits. This can be done by adjusting educational programs, conducting special events, supporting relevant associations and think-tanks, as well as by providing open access to the most user-friendly and transparent information on recent trends in the development of e-commerce for all market participants.

At the same time the development of e-commerce presents a number of problems and challenges, which include:
• consumer protection;
• legal regulation of cross-border data flows;
• effective application of tax policy.
In order to address the said issues the Program of Digital Economy of the Russian Federation stipulates a number of federals laws to be adopted, prescribing the following:
a) elaborating on the process of obtaining consent for personal data processing and ensuring the observance of rights and interests of citizens;
b) elaborating on the accountability for undue processing and security of personal data;
c) fostering the favorable legal conditions for data collection, storage and processing.
d) optimization of value added taxes on electronic services.

Moreover, the development of electronic commerce in the Russian Federation is facilitated through expanding the access to digital infrastructure of potential venders and customers as well as through ensuring the information security of relevant payment systems.

I wish to conclude by noting that at present the certain aspects of e-commerce regulation are divided among different international organizations and their efforts have no significant coordination. The interests of a number of countries, especially developing ones, are often not taken into account while the sheer complexity of the regulation requires close international cooperation under the leadership of states. It is important to keep in mind that in the digital environment, as well as in other fields, a special responsibility is imposed on states to ensure security, stability and economic relations with other countries. At the same time a robust competitive environment should prevail at the global market of information technologies to allow information and communications technologies fully realize their potential in achieving Sustainable Development Goals.

INDONESIA

Mr. Ahmad M. Ramli,
Director General for Post and Informatics Operations, Ministry of Communication and Informatics

Good Morning, Your Excellencies, Distinguished Delegates,

First of all, allow me to commend ITU for convening the WSIS Forum in which we can exchange ideas among others to boost the SDGs achievement through ICT.
On this occasion, I would like to update you on the progress of digital economy in Indonesia. Indonesia currently has the largest digital economy in South East Asia with a nominal of USD 27 billion in 2017 and year-on-year growth of 49%. Indonesia's digital economy is targeted to contribute US$ 130 billion to Indonesia's GDP by 2020.

However, Indonesia realizes that the maximum benefits from the digital economy is yet to be reaped. Therefore, Indonesia is motivated to continuously develop its digital ecosystem to further accelerate its digital economy and trade in order to create positive impacts and boost the overall economy.

In this regard, Indonesia has contributed to the achievement of WSIS Action Lines C1 (The role of governments and all stakeholders in the promotion of ICTs for development) and C2 (Information and communication infrastructure: an essential foundation in Information Society), in which we introduced several affirmative ICT policies that aim to minimize the telecommunication accessibility and affordability gap in Indonesia through deploying a National High Capacity Backbone Network, called Palapa Ring Project. The Palapa Ring, which is in the final leg of completion, provides high speed internet access to more than 440 cities and municipalities, in all major islands of Indonesia, such as Java, Sumatra, Kalimantan, Sulawesi, and Papua.

Indonesia's investment in digital infrastructure and ecosystem finally yields positive results. Indonesia currently has the largest number of internet users in South East Asia with more than 150 million people. Even though this amount of internet users is still behind other Asian giants, such as China, India and Japan, Indonesia's internet users are tech-savvy, evident from the time each user spends approximately 4 hours per day browsing the internet through mobile cellular services. Moreover, 78% of Indonesia's active

Internet users conduct online purchases, which boosts online or e-commerce transaction volumes, valuations of market places, such as through Indonesia's online shops like Tokopedia and Bukalapak. This massive number of active internet users also accelerated the adoption of digital payment services in Indonesia; 46% of Indonesia's internet users.

This circumstance becomes a catalyst for the development of digital financial inclusion in Indonesia, in which Indonesian people are no longer

COLOMBIA

Mr. Germán Darío Arias, Commissioner,
Communications Regulatory Commission

ASIA-PACIFIC TELECOMMUNITY

Mr. Masanori Kondo,
Deputy Secretary General

MLi GROUP

Mr. Khaled Fattal, Chairman

Today, local and global digital economies and their 29 trillion dollars value are under unprecedented threat from Geo-Poli-Cyber warfare and attacks.

A seismic shift in the global cyber and non-cyber threat landscape has occurred in the last few years entering the world into a new era of unprecedented events and cyber-attacks – the 21st century era of Geo-Poli-Cyber™ warfare. It is silent, undeclared and is already taking place worldwide.

This is putting not only the digital economy and trade locally and globally under unprecedented risk, but also people's lives, livelihood and society as well.

If You Cannot Name the Threat You Cannot Mitigate the Threat

Poli-Cyber & Geo-Poli-Cyber are MLi Group created labels in 2012-13 to differentiate them from traditional financially motivated cyber attacks; they represent a new direction in political, ideological, 'religious' and destruction motivated cyber attacks that we predicted long before they became the household words of today.

These labels were created to define a new threat that can cause devastation on unprecedented scales and to offer solutions to mitigate them that did not previously exist.

Fundamentally, if you cannot name the threat you cannot mitigate the threat. Therefore, we identified Geo-Poli-Cyber hacks as attacks perpetrated by a new breed of local, regional & global political, ideological, 'religious' and destruction motivated cyber hackers.

Geo-Poli-Cyber attacks are those perpetrated, directed, or inspired by:
- Extremist groups such as ISIS/Daesh,
- National security agencies,
- Rogue states,
- Proxies.

Scaremongering or Reality-Check

Leaders of nations and organizations worldwide should determine if this is scaremongering or a serious reality check and accept the consequences of their conclusions and decisions.

They must ask themselves if the current strategies and solutions they continue to rely upon today can successfully and effectively defend the national security of their nation states or secure the survivability of their organizations against devasting Geo-Poli-Cyber attacks and warfare. They must make the determination if their current approaches are up to the task of mitigating the devasting consequences of such attacks.

Compelling Facts

Each one of the facts below should have triggered a need for serious change in mind-sets, strategies and solutions at national and corporate levels, but they didn't.

Facts

1. Cyber Attacks are breaching organizations & governments daily, globally & at unprecedented scales,
2. Politically-Motivated cyber hacks with the aim to change the political & economic directions of nations are now routine occurrences,
3. Destruction-Motivated new breed of cyber terrorists, like ISIS are on the rise,
4. The upscaled sophistication & intensification of cyber criminals is ever growing,
5. Technology, AI, Machine Learning & IOT are evolving at breakneck speed – law enforcement can't keep up,
6. Artificial Intelligence is being weaponized,
7. Current resiliency, continuity and cyber security strategies and solutions are failing governments and organization too routinely,
8. A 16-year-old can hack a government, a hacker can shut down a city or country, and they have.

Alarmingly, the aggregate of all these facts and lack of proportionate strategic change make the threat even more critical and imminent.

It is conclusive; "CyberSecurity is No longer the Keyword – Survivability is". But more specifically, it is about "Survivability in a Geo-Poli-Cyber threatened world". Unless strategic change starts being considered and implemented urgently, nation states, organizations, and society may pay a price no one can afford.

Questions Every Leaders Must Ask of Themsleves

I. Can my nation state or business afford to continue to operate "business as usual"?
II. How will I defend my nation, or my business from becoming victims of:
    a. The upscaled sophistication of cyber criminals?
    b. Politically-motivated cyber hackers?
    c. Destruction-motivated cyber terrorists?
    d. Failing resiliency, continuity & cyber security strategies & solutions?
    e. Weaponized artificial intelligence?
    f. Conventional thinking that is dead, but not yet buried?
III. Are my current strategies, solutions and regulatory frameworks adequate to mitigate these new threats?
IV. If not, what is the way forward?

Still Not Compelled to Act - Lessons Still Unlearnt

For leaders who are still not compelled to take urgent action it may be worth reminding them of the many governments that have been compromised after being hacked, some repeatedly. And that Deloitte, Equifax, Yahoo and Marriott are giants who, like many governments, discovered the hard way that they were not immune.

The WannaCry Ransomware attack on May 12, 2017 hit more than 150 countries and is now officially linked to North Korea.

The Qatar crisis with damage in Billions of dollars was triggered by a Politically-Motivated cyber-attack which a Washington Post report claims was perpetrated by its neighbour the United Arab Emirates (UAE), but which the UAE denies.

Yahoo's 1 Billion user accounts hacked in 2013 was subsequently revised to 3 Billion. As a result, Yahoo's acquisition price was reduced by Verizon by a massive $350 Million following this hack.

On October 21st, 2016, the Mirai botnet was used in the largest DDoS attack of its kind ever to target DNS provider Dyn. It shut down Twitter, New York Times, PayPal and many others on an unprecedented scale with clear "Geo-Political" motivation. And don't forget to add to all this the ever-growing sophistication of the financially motivated cyber criminals.

More alarming, the hacks on French TV5 Monde June 2015 and the UK NHS February 2017 were claimed by ISIS's Cyber Caliphate.

MLi Predictions of ISIS Post-Caliphate

For those who think ISIS is less of a risk now it has been defeated in Iraq and Syria, MLi continues to warn and predict, as it did in 2013-15, that "ISIS direct or inspired terrorist attacks on the world will rise around the time its Caliphate in Iraq and Syria is defeated, but their destruction-motivated cyber-attacks will increase significantly after their caliphate is fully destroyed. That the death of the physical Caliphate will directly lead to the rise of the decentralized cyber-Caliphate. And that politically-motivated cyber-attacks will become the norm for the foreseeable future".

Actions Needed Moving Forward

Nations state and corporate leaders must re-consider the security strategies they are currently following which continue to fail government and corporations on daily basis.

What must national and organizational leaders start considering urgently?

For nation state leaders:

- A National Cyber-Survivability Strategy with Legislative Road Map & Plan.

For corporate leaders:

- A Corporate Cyber Survivability Strategy & Implementation Plan.

Conclusion

The devastation from Geo-Poli-Cyber warfare and attacks are already a daily fact of life taking place globally. They threaten nations and businesses everywhere in ways never witnessed before while current strategies and solutions continue to fail to address them.

Any delay that leaves this new and unprecedented threat unmitigated will have potentially devastating consequences not just on local and global digital economies and trade globally but also on society and people's lives and livelihoods everywhere.

CyberSecurity no longer being the Keyword, Survivability in a Geo-Poli-Cyber threatened world is.

To thrive today and in the 21st century leaders must move from CyberSecurity strategies and mind-sets to Survivability strategies and mind-sets.

Government must start considering and implementing a National Cyber-Survivability Strategy with Legislative Road Map & Plan.

Organizations must start considering and implementing a Corporate Cyber-Survivability Strategy & Implementation Plan.

ASDF INTERNATIONAL

Mr. Kokula Krishna Hari Kunasekaran, International Secretary

Your Excellencies, Honourable Ministers, The Secretary General of UN, The Secretary-General of the ITU, Distinguished delegates, Ladies and Gentleman. In a wider capacity as the Secretary General of The ASDF International, I am highly privileged to address at this event and to have an opportunity to bring ASDF inline to achieve the United Nations Sustainable Development Goals.

The Association of Scientists, Developers and Faculties (ASDF) is doing a massive job in creating a strong community of knowledge growth by providing the International platform for various Professional associations between Countries across the world. With a strong network of associates in almost 94+ countries, ASDF is growing everyday with seer leadership by enhancing the international cooperation between national and international organizations, universities, research bodies and individuals in all aspects of Research and Development. We are happy to be as a part of this 10th WSIS 2019.

Making a place holder with the advanced ICT had been as an important task for The Association of Scientists, Developers and Faculties in the past few years of its inception. The establishment has now grown into the well sustained organization with perfect internationalization is the victory achieved.

In this wide intellectual platform, I would like to extend my invitation to foster the socio-economic growth by all the Governmental Organizations and be as a part of ASDF. As a part of this upcoming strategy ASDF stands committed by making contribution in building the relationship between the equal valued bodies creating the framework and a strong expertise in measuring the progress along the WSIS action lines. The digital economy is a powerful catalyst for innovation, growth and social prosperity. The libraries have shrunk into a 3-kilogram book. It can serve our shared vision to promote more sustainable and inclusive growth focused on well-being and equality of opportunities, where people are empowered with education, skills and values, and enjoy trust and confidence.

The knowledge building is the important task and need for the hour. The cost of use of energy in the end user level is increasing widely creating a new metabolic activity. In the present trend, the information

pandemic can be a vital threat, but educating the society about handling the data could be the righteous way.

The concept of virtualisation has now taken the floor and automation is being performed instead of relying on the human mechanisms. Thus, it has leaded to the digitally connected cars, provenance, personalization of the content attributions, constant attention, and increased flexibility of learning pattern, premiumisation and polarisation of the opportunity.

These days the individualism is growing worse than cancer which in turn is increases the volatility of their growth scope. This is widening the gap between the haves and have nots. They don't share or transfer the knowledge. The uncertainty is expanding in all the possible means, and the key answer.

For this would be allowing the open access or providing the eLearning. The capacity building programs could cost the Governments a lot, but having the open access in the education system and advanced learning could be much better and convincingly cheaper than the conventional programs.

Mr Chairman,

In the outset of providing space for the other speakers, I would like to reiterate that we at The Association of Scientists, Developers and Faculties (ASDF) take this opportunity to thank all the Member States and Stake Holders for their efforts towards finalisation of the Outcome Document to be adopted by this high-level discussion of WSIS 2019 and recommit for future participation from ASDF into this WSIS.

I Thank you, Mr Chairman!

OPEN HEALTH NETWORK

Mrs. Tatyana Kanazaveli, CEO

Excellences
Distinguished Guests
Ladies and Gentlemen
First of all let me thank the organizers on behalf of Open Health Network and on my own behalf for inviting me to this very important forum.
WSIS has been one of the important meetings to remind us how technologies have been contributing for improving lives of many.
ICT has a huge impact on our ability to achieve the SDG goals setup by UN in 2015. We live in exciting times when the speed of innovation is happening on unprecedented levels and shows no signs of stabilizing.
With our ability to cheaply store and move petabytes of data disruptive technologies such as Artificial Intelligence, Blockchain, AR/VR, 3D printing and IoT will transform many industries. It is our responsibility to assess all the new capabilities of these technologies and create a roadmap of deploying them across many business processes. Organizations that will not embrace them will be disrupted.
Let's look at Global Health.
Though we have seen improvements still the number of children dying before the age of 5 is extremely high: 5.6 million in 2016. Lots of women still die during childbirth. Many don't have access to basic healthcare services. We are seeing increased number of deaths related to the use of opioids.

Developed countries have seen already the benefits of using AI in healthcare:
- image processing
- predictive modeling
- adaptive care

There is an enormous opportunity for resource poor countries to benefit from AI as well:
- mobile applications powered by AI can enable personalized access to care without a need of having on site doctors
- predictive models can help to determine necessary resources to support health needs
- AI powered image processing can increase accuracy of diagnostics

If you combine power of new technologies such as Blockchain and AI the impact on Global Health could be even more significant. Blockchain powered solutions could empower more people to manage their own health data: collect all of them in one place, determine who can do what with their data and even get paid if their data is used. In addition Blockchain powered applications could enable many people in underserved communities to participate in clinical trials, research.
It is our responsibility to embrace the change and find the best combination of innovative technologies to help us to achieve our goals.

Session Twelve: Gender mainstreaming

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/182#

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

YOUTUBE-GOOGLE

Ms. Sarah Clatterbuck,
Director of Engineering

Q1: Why is the inclusion of women important in technology fields?

There are three primary reasons why it is important to include women in technology fields:

1. First, without representation of women, technology is developed that has gender bias and represents grave implications for women in society. We have seen several examples of this in recent years. Specifically, we have seen biases appear in artificial-intelligence (AI) and machine learning. Training data used for machine learning often creates biases, even if the underlying algorithms lack bias. Joy Buolamwini, a PhD student at MIT, has shown that facial recognition software, in aggregate, has a 1% error rate for matching the faces of light-skinned men, but a 35% error rate for matching the faces of dark-skinned women. Additionally, predictive hiring tools used by many companies across industries also reinforce gender and other biases in hiring by leveraging training data from their existing employees to source potential employees. These examples show the power of technology to reinforce or magnify bias and injustice in society. Inclusion of women in the field can help call attention to and mitigate these biases.

2. Under-representation of women in technology also represents an economic opportunity issue. Technology workers have access to high and stable salaries. Technology entrepreneurs have access to capital. Additionally, many technology roles have flexibility in working hours, making the field an ideal career choice for many women. Access to the economic opportunity of technology fields has the capability to put more economic power in the hands of women. And, as we have seen with analog businesses for decades, putting economic power in the hands of women has the potential to uplift entire communities.

3. Finally, technology skills are in such high demand that companies in every industry are struggling to meet the demands of the modern information economy. In as much as women are not participating in technology, it limits the growth of all industries worldwide. Women represent 50% of the

Potential global workforce across industries. We are a largely untapped source of technical talent, which has the potential to power the modern economy for decades to come.

Q2: What are ways we can ensure women have equal access to technology fields?

There are two main ways we can ensure equal access for women to technology fields:

1. At the elementary school level, every child should have access to curriculum in computational thinking. In the United States, Hadi Partovi via code.org is working to ensure that all states require computational thinking as part of the math and science curriculum. Fortunately, computational thinking can be learned with just a blackboard and chalk or with pencil and paper. It does not require access to computers. Logic, statistics and algorithm design are accessible concepts that can be introduced to children of all genders and incomes. Normalizing access to computational thinking in the elementary years and not limiting experience to those with access to computers will increase exposure for women and other underrepresented groups, which will increase the number of women prepared to study further at the university level.
2. At the university level, programs in Information Computing Technology (ICT) can shift from a "weeding" mentality to a "feeding" mentality where women that have demonstrated strong analytical thinking in their elementary education, but who have not yet explored programming as a topic, can be helped to succeed in ICT programs. A focus on diversification of faculty can also help remove implicit biases in university education. Dr. Maria Klawe of Harvey Mudd college has done substantial work in this area, proving she can achieve gender balance of graduates in one of the most prestigious computer science programs in the United States. Her work can serve as a model for institutions around the US and the world. Universities like Carnegie Mellon, MIT and Dartmouth have been seeing similar success with the same approach.

Providing equitable access to computational thinking from elementary education through university education will ensure that, over time, women have greater access to technology fields and can contribute to the modern information economy toward the betterment of society as a whole.

ISRAEL TECH POLICY INSTITUTE

Ms. Limor Shmerling
Magazanik, Managing Director

I'm very honored to be here and participate in this High-Level Track focused on promoting Women's inclusion in the Information Communications Technologies sector. I believe this is a major goal for the whole of the tech business and the internet society, since one of the current problems is, that the workforce available to the industry lacks sufficient employees. This is a worldwide problem that will keep growing. More inclusion of women, from the early stages in schools, will benefit the ecosystem greatly, has great economic and social value, and women themselves will benefit at the same time.

Reflecting on my personal experience, I realized the main component for me was people – family, educators and work colleagues – supporting and advising me along my career development.

All through my childhood my parents told me I should get a higher education, one that will grant me a profession, and allow me to support myself independently.

When I was 6 years old my grandmother told me, I should be either an ambassador or a journalist. What a great message for a young girl.

In high school, when I wished to major in literature, the head mistress called me into her room and said: "I'm assigning you to major in Biology. In two weeks, if you wish to move – come let me know". Guess what – I didn't. This is not to say that Humanities studies are not important. I stuck to my passion later in life, and between a BA in Law and a MA in Law, I got a MA in Literature and Women and Gender Studies.

When I had difficulties in Mathematics and thought of giving up and switching to a lower-level group, the head of Math Teaching called me to say she believes I can overcome this, and she's assigning me to a small group class, that she tutors herself. It worked.

I've had many managers over the years. Including men who hired me to manage tech products, when I had no formal tech education. But the one that benefitted me the most, was a woman who did her best to teach me how to be a manager, taught me the politics of the civil service and government, sent me to computer investigations training and gave me my first chance as a public speaker.

I have many more examples, especially my supportive partner in life, but you get the point. I've had women and men role models, who pushed me and believed in me.

I think this is a key to getting more women into tech studies, tech training, tech management and leadership. Supporting and promoting them towards these goals and having role models for them to learn from and be supported by.

I have aspired to be one over the years, I have recruited and taught many. I hope that I have managed to influence and support them too.

We must support and encourage women throughout the work lifecycle: from early schooling to senior management.

As for the approach how to encourage women participation in the tech sector – I believe it should be based on research of the specific needs of girls and women today, that are often times different then the needs of men. Research of the reasons we have much less women in tech. Bearing in mind that the workplace was designed by men and for men, as were education frameworks, we need to evaluate how to best cater to the needs of girls and women in education and the workplace and change our models to suit them.

In 2014 20% of Israel students in High Tech professions were Women. That is the average of OECD countries. But interestingly, 25 years prior, it was 40%. We need to understand the reasons for this decline. Israel's government goal now is to reach 40% women students in High Tech professions again.
According to an Israel government study published this January, only 22% of managers in the High-Tech industry are women; only 10% of start-up founders are women, and only 26% of owners of small and medium sized businesses are women.

Israel has a new government plan on this subject. It will invest c. 200 Million NIS in promoting women in the tech business. This will be allocated to grants for start-ups led by women, grants to factories established by women, grants to export companies led by women and training and support programs for women entrepreneurs.

There are also numerous civil society initiatives promoting women in tech in Israel, together with industry supporters. These are aimed at both young girls in schools and supporting them to choose science studies, supporting women entrepreneurs and women managers in tech.

I believe the governing approach in all initiatives should be: “Different yet Equal”.

Studies have shown women may have different ways of learning, different needs in support when they encounter challenges in learning, different influences in choosing vocations, different needs in the workplace. We must cater to those differences in order to have more women in tech.

At the same time, we must fight gender biases that allow for lower salaries on women’s work. We must fight the workplace environment that may be hostile to women or doesn’t accommodate family life.

It is also a matter of reaching a critical mass. That is when we have more women in all roles and seniorities in the tech sector, including policymaking, regulation and governance, we have a better chance of fostering the environment that will attract more girls and women.

To sum up I think we should support and encourage girls and women throughout the work lifecycle, from early schooling to senior management, from an approach of Different yet Equal.

HEALTH AND ENVIRONMENT PROGRAM

Dr. Madeleine Scherb, President

Q1: How to empower women to achieve equality between men and women?

Women in most developing countries, especially in Africa, have insufficient economic, financial, material, intellectual and human resources compared to men who generally have capital, basic education and proven skills. The women are facing many challenges including polygamy rooted in traditional society. It is difficult to manage a harmonious management of the private life, and professional life entrepreneurship. The freedom to produce, to trade and to consume any good without the use of any constraint is called economic freedom as measured by the Index of Economic Freedom of the Heritage Foundation and the Wall Street Journal. This recognizes the fact that institutions that protect economic freedom are not always equally shared between men and women, making it more difficult — sometimes impossible — for women to enjoy the benefits of greater economic freedom in their countries. However, the Index shows the significant positive effects that a free society can have on the lives of women, especially in underdeveloped economies.

Women represent 51% of Cameroon's total population estimated at 25.21 million according to the World Bank, making Cameroon the 54th most populous country in the world and 17th in Africa. In view of this remarkable performance, women, like all human beings, have all their faculties to make investments in the field of information and communication technologies. ICT penetration and use are relatively low. The Internet penetration rate is around 35% in 2018 according to the National Agency for Information and Communication Technologies (ANTIC), which constitutes a potential market.

Q2: How to empower women to achieve equality between men and women?

In view of achieving the Sustainable Development Goals, in this case gender equality, the woman must invest herself in time to make up for her delays. This can only be achieved through the establishment of more efficient and transparent mechanisms for decision-makers, the reduction of social divisions, the increase in productivity of many economic sectors, the growth of infrastructures, and especially the technological innovation. Therefore, there is a positive correlation between empowering women to

greater opportunity and economic development. It is time to bring greater economic freedom to women on ICT.

In conclusion, strengthening women's skills in the ICT sector is a wish to guarantee access to information for all and by all in this globalized world.

HUMANIZED INTERNET

Ms. Monique Morrow,
President and Co-Founder

EC MEDICI Framework

Prof. Alfredo Ronchi,
Secretary General

Q1: Mr Ronchi how citizens perceive security issues in the use of ICTs ?

"Excellencies, ladies and gentlemen good morning,

Cybersecurity was one of the key enablers in order to enter the cyber era and activate e-Services, it contributed significantly to build confidence in these sectors, so citizens start to use home banking and e-commerce as well as e-health and e-government. Through the time it become more complex to maintain an adequate level of security and preserve confidence.
Risks associated to the diffusion and pervasive role of ICTs are no more concerning our computer and data but involve privacy, safety, public opinion, governments, national security, transportations, home appliances, and more.
After the explosion of the use of the Internet in the middle of the 1990s potential risks pertained more and more to the women side. Old and new dangers started to populate the network directly delivered on tablets and mobile phones.
A special role in this risky environment was due to chatrooms and social media, a nowhere land where thanks to anonymous genderless profiles and always on geo references devices cyber criminals found a proactive environment.
Till now despite experts efforts there are few countermeasures to minimize harm. GDPR in Europe is an attempt to protect privacy, national and international regulations/norms increase the opportunity to limit anonymity and pursue criminals but without risks awareness and proper education we cannot succeed.
If we want to consider the positive side of cyber, women today have a rich set of technologies to help them from the basic mobile phone, geo location to CCTV and specific apps protecting them in case of sexual harassment or any abuse."

Q2: Mr Ronchi how do you foresee the near future in the field of security?

"As we all see cyber technology is merging every day with an increasing number of sectors, from the diffusion of smart phones always-on onward we embedded cyber technology everywhere, any sector, so today and much more tomorrow we will deal with cybercrimes or cyber abuse/misuse. Our washing machine might be hacked by ransomware, fridge might send orders for tons of food, Alexa might spy our private life and broadcast audio, smart home might not be any more perceived as "sweet".
There is an urgent need to foster a culture of cybersecurity starting from kids and reaching elderly people. Onar bin Sultan Al Olama Minister of State for Artificial Intelligence (UAE) recently said: "It is very easy today for a nation to be attacked through hacking into its defence system unlike before when it required physical invasion."
From national security and cyberwarfare to our smart fridge and unmanned transport system we have to face security problems. Thank you for your attention"

EUROPEAN COMISSION

Ms. Maya Plentz,
Innovation Policy Advisor

Excellencies, ladies and gentlemen, distinguished colleagues, members of the news media, academics, and private sector representatives.

We have seen businesses all over the globe reckon with issues of accountability in the year 2018. It is great that so many in the tech sector are owning-up their share of responsibility on making our societies just and inclusive.

We are only getting started.

We, as a collective of multilateral organisations, governments, and private sector actors must continue to shed light in the structures that prevent, often unwittingly, the advancement of women in positions of decision-making in the technology sector.

These are systemic, structural issues, it takes a village. It takes villages and cities all over the globe connected through high-speed Internet. We hope in a not too far away future.

It takes greater transparency on the modus-operandi of all stakeholders. What it would take? As far as closing the pay-gap? Posting the companies' salaries online? Some organizations already do that, the UN and its system of agencies for instance, US federal agencies, government agencies in Norway, the UK for companies above 250 employees.

And for venture capital? Posting the amounts invested in each woman-led startup alongside the amounts invested in male-led startups?

And in tech companies' hiring? Posting the hiring processes online so the age, gender, sexual orientation of the candidate chosen to fill the position are for all to see? Anonymised, of course.

We need to see the Big Tech companies step-up their efforts too, since they have the means to use Artificial Intelligence and Machine Learning on their trove of in-house data, to uncover and categorize the

participation of women in their corporate structures in the US, and in the different regional offices that they run around the globe.

Looking candidly at the pay gap being one of today's pressing questions, the efforts towards creating an environment that welcomes women and people of colour and invests in their advancement is really the low-hanging fruit in an organization, come to think of it.

There is an amazing opportunity for these companies to go beyond cosmetic changes, or marketing gimmicks, they have literally the structures and the reach to do well, by doing good. They are beloved brands in far-flung corners of the globe, the local tech startup ecosystems look up to them.

It is time to unveil the stage and, once the country and sector-specific gaps identified, put in place action plans. We need metrics. Benchmarks. Targets. We need to monitor, measure, and deliver programs.

It is too easy to engage in public shaming. Social media offers plenty of opportunity for that. But we can all agree that is better to get the decision-makers, community organisers, and citizens together to design and implement solutions. And yes, policy-making can seem painfully slow to outsiders. But we must insist through deliberate work with our countries' legislative processes.

Because it is only through coordinated action that we can advance the digital and economic rights of women.

Corporations, multilateral organizations, governments, and citizens must be involved, engaged. I look forward to gatherings such as the WSIS to further strengthen the ties among stakeholders, to debate and find solutions to eliminate the inequalities in the digital economy.

From doing away with the culture of bullying, to unconscious bias, we need to collectively unveil that what is holding us back. Because it is not only your sister, or your wife, or your daughter that are being harmed, it is the society around them, it is all of us.

We need to stop the scarcity thinking that there aren't enough resources, capital, to go around. From what I hear in the magic circles of Venture Capital in Switzerland, France, the UK, and the United States, there is plenty of smart cash looking for a good investment opportunity.

Why are we not investing in women-led companies, why are there so few venture capital firms that are run by women and people of colour in the US, Latin America, and Europe?

We need to keep asking, keep looking for answers.

We have many studies published by venture capital research firms, including Jane VC, PitchBook, and CBI Insights in the United States, and others in Europe, that shed light on the state-of-the-art of Venture Capital investing and opportunities for women, as investors, and as founders.

The numbers are appalling.

But we have to continue to speak-up because it has not reached critical mass yet, the awareness, the understanding that there is plenty of smart money that has not yet connected to women-led companies.

There is, however, a tiny bit of progress.

I will give you numbers from the last 3 years:

In 2016 women received 1.9% of all Venture Capital invested in the US, around USD $77 Billion.

In 2017 women received 2.2% of all Venture Capital invested in the US, around USD $87 Billion.

In 2018 women received 2.3% from $120/130 billion USD invested in the US.

*Figures from Pitchbook.com and Jane VC

Given that so many look-up to the US regarding thought leadership, that is a concerning proportion of investments, and of transformation speed.

Horizon 2020, the European Commission funding framework for research and innovation, has invested in women-led research and companies about 17% of its 4-year budget of 77 Billion Euros.

We must share the data on women's participation in the digital economy widely, monitor, and compare. Only this way we can advance. This is one of the *raisons d'etre* of multilateral organizations, of the UN, and its telecommunications agency, ITU, and UNESCO. To share knowledge, best practices, and to shape policy.

Only now the conversation around inclusion and diversity is catching on, in conferences, and the news media. Sadly, it is thanks to the excellent investigative journalism of Vanity Fair, and the New Yorker, and the social movements that alerted us about the size and scale of incidents of sexual harassment, and other forms of bullying, of gas lighting women in the workplace, that we are discussing and seeing the interconnectedness of the issues.

Pay gap, stalled careers, women who do not help other women, who have internalized misogynistic behaviour. A topic of discussion in itself, giving its ramifications for closing the digital gender divide.

But here is what we know so far. We need to move the conversation forward. We need to talk at all levels of government: municipal, state, federal.

It is a multifaceted issue.

There is much to be aspiring to, there is plenty of scholarly research that illuminates the question of systemic misogyny in our societies. Here I want to point to two publications that have made an impact on the public discourse, on the question of women's economic and digital rights in the last year or so.

It is the work of Kate Manne, Philosophy professor at Cornell University, in the US. Her book examines the question of systemic misogyny, it speaks about the subtle and not so subtle ways that women are being prevented of fully participating in public life, and by extension in the digital economy. Its title is "Down Girl".

And Cambridge University's own revered Classics scholar, Mary Beard, on the cultural underpinnings of misogyny from the Classical world to the present, it is a short publication, titled "Women and Power", on how women are silenced when they point out power asymmetries or want to participate in public life.

With that I plead to you all, Excellencies, ladies and gentlemen, distinguished colleagues, members of the news media, academics, private sector representatives, that we do not stop talking and leveraging our networks to advance women's digital rights.

Support them when they are creating start-ups.

Make fair pay and safe workplaces a priority and invest in women-led companies.

Women of all ages, all persuasions, all cultural backgrounds.

Creativity does not stop at 50. Actually, the evidence points that the elderly have greater imagination powers, and to keep them from accessing Venture Capital and government funding because of ageist stereotypes is not only morally wrong, it is very short sighted when it comes to creating real economic value for society, and the next Unicorn.

We have too many copy-cats startups in crowded spaces, obsessing with the male, affluent, 18-to-34 years-old crowd. Enough of the Mad Men folly. It is 2019.

Besides, we are ignoring two thirds plus of the world's population.

My generation is looking at an increased lifespan of 30 years or more, the affluent among the Baby Boomers all looking at a healthspan of 120 years of age. So, if an elderpreneur approaches you, think about it, a 55-year-old will live long enough to launch and exit a tech company within 5 to 10 years. At the young age of 65.

Bringing more experience and imagination to the table than most, just by the sheer force of the experiences that she will have accumulated and learned from, through life. Because we have also to pay close attention to the changing demographics not only in Europe and the US, but in emerging economies, including India and Brazil.

Instead of fear-mongering and seeing it as a crisis to our social security systems, lets us see it as an opportunity to create programs that support entrepreneurship among the 50 years-old plus population. By 2030 there will be 2.5 billion + people over the age of 65 worldwide, according to Pew Research, a leading research organisation in the US.

Women are going to be a significant segment of the population to address through programs that support their entrepreneurship efforts. Whoever jumps in that space will have huge first-mover advantages.

The elderpreneur is the entrepreneur of the Future. Like it or not.

Thank you.

#SpeakUp
#WeAreOnlyGettingStarted

WORLD VR FORUM

Mr. Salar Shahna,
President, World VR Forum

EQUALS GLOBAL PARTNERSHIP- INTERNET SOCIETY

Ms. Joyce Dogniez, Chair (EQUALS)
Vice President of Community Engagement and Development

[Q1] What do you believe EQUALS, the global partnership to close the gender digital divide, is doing well to the closure of the gender divide and what should be doing differently to accelerate it?

• The EQUALS Global Partnership for Gender Equality in the Digital Age, created in 2016, is a global movement, a multi-stakeholder partnership bringing together international organizations, private sector companies, governments, civil society organizations, regulatory agencies and academic institutions with a common goal: to bridge the gender digital divide. **This network ensures that women and girls are given access, equipped with skills, and offered tools to develop the leadership potential to work and succeed in the ICT sector.**

• As you follow the news and track development projects across the globe, you see that never before has there been such commitment to gender equality. **We are seizing the moment to implement some of our ideas with a diverse range of stakeholders, and to coordinate multiple efforts towards closing the gender digital divide.**

• Today, **more than 90 partners from every region of the world have responded to the EQUALS call to action.** We have set out a collaborative and coordinated framework for stakeholders to make specific, measurable pledges across three focus area coalitions (Access, Skills and Leadership) and one research group that contributes evidence-based findings to address the multiple facets of the gender divide in technology.

• The EQUALS Global Partnership for Gender Equality in the Digital Age creates a **platform representing organizations across multiple sectors** to ensure women are given access, equipped with skills, and develop the leadership potential of girls and women to work in ICT

• **EQUALS is a successful example of cooperation** among more than 90 partners from every region of the world combining resources, expertise, and ideas, to help bridge the gender digital divide and pursuing several innovative and impactful initiatives.

• One example, with my Internet Society hat on, is that we are working with the Association for Progressive Communications (APC), also an EQUALS partner, to increase women involvement in community networks and to enhance policy to allow community networks access to other spectrum (like GSM/LTE networks) to ensure more widespread internet access for women in local communities.

• The partnership **leverages the expertise of members and provides a collaborative platform** for them to take stock of existing initiatives and build on them to effect change.

• The partnership has also brought the issue of bridging the gender-digital divide to the world stage through the **UN General Assembly adopting by consensus the resolution Information and Communications Technologies for Sustainable Development** (A/RES/72/200).

[Q2] What are the main learnings that you would share with others working to address the gender gap?

• **Take action!** To accelerate digital inclusion and advance on the SDGs, further cooperation is needed globally to speed up and increase efficiency. Everyone has a role to play!

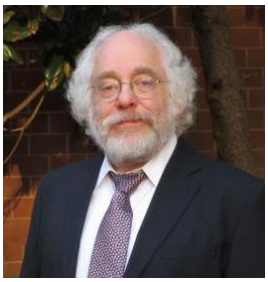
• **Find ways to recognize innovative initiatives, projects and leaders in your own organizations** addressing the digital gender divide, in the areas of leadership, skills and access.

To name some examples of the work the partnership has done:

- The Skills Coalition has a Digital Skills Funds, managed by the World Wide Web Foundation and supported by the German Federal Ministry for Economic Cooperation and Development, that provides small grants to EQUALS partners in developing countries to implement digital skills training and it has recently launched a policy paper on closing gender divides in digital skills through education.
- The Leadership Coalition runs a course on "Business and Leadership for Women in the Technology Sector" which aims to develop the leadership, knowledge and skills of women entrepreneurs and women working in the technology sector so that they can increase the competitiveness of their companies. So far, 350 women have registered to participate.
- The EQUALS Research group has recently published a report that highlights the implications of persistent gaps across different facets of digital technologies. Including compelling case studies on how technology impacts women and girls in various contexts, including jobs and wages, security and privacy, cyber threats, and new technologies such as artificial intelligence (AI).

• **Information is power! Share your best practices and what you are doing with the rest of the ecosystem.** When stakeholders are well informed about the ecosystem of actions and initiatives towards bridging the gender digital divide and understand how to work together, they will leverage the support provided, maximize results, strength the ecosystem and therefore, accelerate the closure of the gender digital divide.

ASPIRE ARTEMIS FOUNDATION



Mr. Kenneth Herman,
Director of Technology Programming

Thank you for the introduction and we are most grateful for the invitation to speak on this important topic. The lack of visible female representation in STEM fields, especially in popular culture, make it difficult for girls and young women to envision themselves taking on the sorts of roles that will shape future technologies.

At the Aspire Artemis Foundation, our answer to these questions is a three-pronged approach we call EMI (or "Emmie"). We believe that supplementary education, organized in person mentorship, and internship experiences will help bridge the gap and help young women shape their own paths for a STEM centered future.
The Aspire Artemis Foundation is an organization that is thoroughly committed to improving the lives of girls and women from vulnerable and disadvantaged backgrounds through innovative early interventions, education, information sharing, research, and training by working to create an inclusive environment. The activities of the Foundation strive to bridge the gaps between theory, policy, and practice.
Women and girls have for so long been told that STEM is not for them; society continues to associate science and innovation fields with boys. This problem is even more amplified in developing societies and rural communities. It is incredibly important that we engage and rebuke false narratives as the first step in breaking the glass ceiling in STEM related fields. Women and girls need to be reminded that all career options are available to them.

"How can I be something that I do not see?" These were the words of a young participant at the Aspire Artemis Foundation's recent International Women's Day (IWD) event at the UN Headquarters. We brought together several UN delegations, UN organizations like UNICEF, UNESCO, UNCTAD, along with young leaders, industry leaders, directors and CEOs from private sector companies like Microsoft and Fiscal Note in an interactive panel discussion. The purpose of this event was to give a platform to underrepresented voices to share lessons learnt and speak on the challenges that women and young girls face globally in STEM fields. Panelists discussed topics centred around the Inclusion of Arts and Culture in STEM education and Programming through Reuniting Game Changers, Road Shapers, and Trailblazers

from Across the Globe, a true reflection of the United Nations theme of "Think Equal, Build Smart, Innovate for Change."

Many people continue to address STEM and Arts as disparate areas of enquiry even though it has been proven that an integrative approach spurs creativity and more effective application of both fields.

The discussions that went on during our event also highlighted the importance men and young boys play in the #STEMinist movement. While women and girls are a formidable force for global change, more voices make the movement stronger while allowing empowerment to start within the home as fathers, brothers, and other male family members support and encourage the girls and women in their lives. It is important to also recognize that getting women into STEM related fields' needs to be coupled with efforts that address the reasons why they leave those careers.

Our IWD event is just one example of the kind of holistic events conducted by AAF. We are also holding other types of events, for example our next one is an artificial intelligence inspired water and food insecurity leadership game simulation for vulnerable populations within New York City.
In addition to introducing girls and young women to the traditional topics that comprise the STEM curriculum AAF recognizes the importance of integrating arts education and culture into these programs. This shift from STEM to STEAM is gaining traction as a way to stimulate creativity in order to encourage the innovation necessary to tackle real-world problems.

Thanks to the efforts of many stakeholders, technology skills development opportunities that introduce young women and girls appears to be growing in many locations. A centerpiece of the Foundation's contribution to these activities is our 2-year plan, to create regional technology training centres, starting with a facility located in the Caribbean region.

Working with existing partners, regional public and private-sector actors, and using proven models such as the Nairobi-Based Engineering-Lab Africa, the Caribbean STEAM Center seeks to increase the local innovation capacity of the region through Aspire Artemis Foundation's EMI approach.

We envision the center will serve as a locus for girls and women to come together to meet and learn from their peers in their region as well as from internationally-recognized experts. To share lessons learned, experiences, and skills in order to drive innovation and creativity in STEM fields. The Center will not only serve as a forum for capacity development and training, but also as a platform for cultural exchange and social interaction with individuals from across the region.

AAF recognizes the importance of visibility in encouraging women and girls' involvement in STEM. We believe that when young women and girls have role models, they have the opportunity to see someone like themselves working in a field they may not have otherwise considered. That is the concept behind our "Journeys in STEAM" social media campaign. This campaign highlights the achievements of accomplished women from their region and these change-makers help a younger generation to see the

Potential in people from their own environment. By highlighting success stories of women and girls in STEM...girls get to SEE just what they can BE!

A further component of the Aspire Artemis Foundation's approach is to connect these role models with participants in foundation-led events, thereby establishing a mentoring relationship. We work with partners to seek out internship placements for program participants and provide them with the skills to operate in the business world.

Through all of our programming, our goal is to show how girls and women can learn from each other while sharing their experiences. At the end of their time with the Aspire Artemis Foundation we hope that they will have successfully learned how to forge and build lasting relationships and partnerships, and build their advocacy and communication, all while developing empathy and social skills. We promote positive mentorships in order to provide young women with a support system for growth and opportunities for advancement in their future careers.

Thank you.

Session Thirteen: ICT Applications and services

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/183#

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

Executive Summary by High Level Track Facilitator

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.
- 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 panellists 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.
- 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.

KENYA

Mr. Samuel Mutungi, Member of the Universal Service Advisory Council, Communications Authority of Kenya

PIERRE MIRLESSE CONSULTING

Mr. Pierre Mirlesse, CEO

SAMENA COUNCIL

Bocar Ba, CEO

Your Excellences! Dear colleagues and participants!

It is an honor and a pleasure to be here today.

We are living in an era, which has created enormous opportunity and potential for economic- and socio-economic development and growth, for wealth-creation and prosperity and human development. At the end of 2018, we passed the critical 50/50 milestone for Internet use: now, more than 50% of the world's population uses the Internet. Yet, digital divides persist, and inequalities continue to affect progress towards the economic and social development of different regions, countries, households and individuals. Therefore, more efforts are required based on bold, new and different approaches than those used to bring the first 51% online, to connect the remaining 49 per cent of the world's population. Such approaches may include sharing approaches (network infrastructure, expertise, data…), partnerships (governments, private industry, investment agencies, academia…) and innovative financing models to support both network roll-out and service uptake, with a particular focus on demand-side barriers including capability, affordability and relevance in terms of content and services.

In this context, governments as well as the industry have been quick to recognize the opportunity that digital services represent towards addressing demand-side Internet adoption barriers by providing relevant local content and services. Last year's WSIS High Level Track on ICT Applications and Services acknowledged that ICT applications and services are fundamental to the advancement of a countries' progress in contributing to the achievement of the SDGs and must derive from a cohesive ICT policy. Participants concluded that in order to foster ICT applications and services to emerge, appropriate enablers need to be in place, including the provision of access to connectivity and the facilitation of ease of public services engagement and doing business through introducing targeted ICT Policies that are based on country priorities. In this regard SAMENA Council stressed that a reference framework for digital services was needed, which sets out key digital services use cases across different verticals alongside their key policy, legal and regulatory enablers. During the UN Broadband Commission's Thematic Workshop "Trusted universal connectivity and innovative partnerships to drive inclusive digital transformation" at UNCTAD's 2019 eCommerce Week in Geneva, SAMENA Council emphasized on the importance that such

a framework should reflect a broader than national scope and should include key elements such as (1) an overall digital strategy; (2) an enabling approach to the use and protection of data; and (3) an enabling mechanism for cross-border data- and content flow.

To this effect, SAMENA's Working Group on Digital Services is in the process of creating a high-level policy-, legal-, and regulatory ("PLR") reference framework for digital services to (1) provide a clear overview of key policy / regulatory blocks needed with the ultimate aim to achieve a level playing field for all ICT stakeholders to provide digital services, and (2) identify the best governance model, i.e. at what level, within what type of structure, and which body can drive, implement and monitor the proposals. This framework, once finalized, can provide high-level guidance to governments and regulatory authorities across the SAMENA region (and beyond) in creating a thriving and supportive digital ecosystem that drives the development and emergence of innovative and meaningful digital services. It can support national gap analyses against a set of possible enablers that need to be evaluated in the national or regional context. Given that digital services can span across different jurisdictions, sectors and value-chain stakeholders and essentially hinge on scale, the challenge lies in creating a governance and reference framework that is built on horizontal principles and converged and harmonized standards, policies and regulations, and that can extend across borders, but that also fosters local value creation.

In its draft format, the SAMENA PLR digital services reference framework comprises four levels, including (1) a National Digital Agenda informed by National Transformation Plans / Economic Visions; (2) key policies and frameworks that constitute the National Digital Agenda and provide the structure for transformation, (3) laws that enforce the policies and frameworks, and (4) regulations and guidelines that implement the laws, policies and frameworks. The key enabling blocks at the policy level, together with their supporting laws, regulations and guidelines, are proposed to cover a framework on overall digital services provisioning, comprising frameworks on cross-sector licensing, harmonized spectrum, management of cross-border data flows, cyber-security and penalties for cybercrimes, and legitimizing online transactions through electronic authentication and corresponding internationally recognized standards (personal ID, documents and sources). Also, such a framework should include horizontal policies in the areas including competition, taxation, and data- and consumer protection, and an allocation-based licensing mechanism with conditions and obligations. Such obligations should not be stringent or prescriptive as regards, for example, quality of service or national coverage, to ensure that innovative uses are not curbed.

The right governance structure and mechanisms are also key to ensuring that policies and their implementing laws and regulations are executed, and that qualitative evaluation of progress in the proliferation of services is possible. Given the - in part - often global nature of deployment models of digital services, the framework proposes that such a governance structure should extend across borders and sectors and may entail the setting up of digital commissions or public online platforms as key governance elements.

From a policy perspective, SAMENA countries, especially in the GCC region, are largely on track, having adopted Economic Visions and Digital Agendas with horizons up to 2040, that set out key objectives and steps to be taken to further digital transformation toward building Digital Economies. These include, for example, Saudi Arabia's Vision 2030, UAE 2021-2030 Vision, Oman Vision 2040, Jordan 2025[5], and others. Moreover, efforts are being made in reviewing and adapting current regulatory frameworks, including on topics such as general competition law, consumer protection and data privacy, and introducing new regulatory frameworks with regards to e.g. cloud services or IoT.

However, more needs to be done in order to allow and facilitate, e.g., telecommunications operators to lay the groundwork for digital services provision, including upgrading their networks and rolling out 5G capabilities, transforming and scaling their operations beyond national boundaries through virtualizing their networks to offer digital services with the help of remote service provisioning, which may, for example, include the storing and processing of personal data outside the home country. While digital services can constitute bespoke local solutions, their underlying deployment models can have global dimensions, where elements of the value chain can be spread across different countries and regions, as otherwise service provision in smaller, local markets can be uneconomical. These global dimensions need to be reflected in a digital services governance and regulatory framework to facilitate a thriving digital services ecosystem that can support the achievement of national transformation plans and economic visions. As one key agenda item, key commercial and regulatory enablers to advance connectivity will be discussed during this year's private sector Chief Regulatory Officers' ("CRO") meeting held at the ITU's Global Symposium for Regulators ("GSR") in Port Vila, Vanuatu in July 2019.

SAMENA Council hopes that the creation of a reference framework for digital services can help focus efforts better in terms of country priorities, and enhance or accelerate co-operation building efforts not only between the private and the public sectors, but also shift the focus to adopting a broader than national view when it comes to digital services ecosystems, that do not stop at national borders for most countries. As highlighted above, digital services deployment models hinge on scale and may therefore be broader in scope. Governance and policy frameworks in the digital age need to reflect this too.
Thank you for your attention!

[55] See: http://www.jordanembassyus.org/blog/jordan-2025-national-vision-and-strategy

UNIVERSITY OF APPLIED SCIENCES
Western Switzerland (HES-SO)

Prof. Nabil Abdennadher,
Head of IT research institute /Head of LSDS research group

Question related to e-science

How can we provide specialized Research IT support to the research sector. Concretely speaking, how to federate Research IT specialist at various academic institutions (EnhanceR, a Swiss national e-strategy project) ?

Answer

1. eScience is not only reliable high-speed Internet connection, electronic publishing and peer-to-peer technology to share scientific knowledge. eScience is also High performance computing and programming, data analysis and data Science, simulation of scientific processes, etc.
2. In this context, researchers who previously could concentrate only on their topic-specific skills now find themselves confronted with complex IT issues which are outside the scope of their expertise.
3. Today, computing and IT has an impact on everything from materials science to drug design and digital cultural heritage. Even when the research is not based on computer calculations, it still needs to extract information and knowledge from dataset and big data. This is frequent in almost all fields, and pushes the researcher to develop advanced expertise in computer science.
4. This reminds us what happened two centuries ago after the invention of electricity power and before the rise of electric utility (the grid): businesses and individuals had to generate their own power to run their machines: In other words, to make business, you need to be expert in electricity.
5. The same idea was evoked two decades back when we started talking about the cloud. With the cloud: to do our business, we do not need to be IT expert anymore. In the near future eScience will be for the researcher what cloud is for computing today and what grid was for the business two centuries ago.
6. To return to our researcher who must do computer science to develop his research, he has two choices: be expert in computer science in addition to his main expertise or ask for help from the IT support of his university.

7. The problem is that these IT supports are often not equipped to answers these needs. They are able to configure a printer, to connect a computer to the network, to configure and Email address, a backup storage space …. not to deploy an eScience application on a Cloud, to optimize and adapt a program code to a specific high performance computer.
8. And even if it is technically doable, it is not effective, not efficient, very expensive and hence not sustainable. Thus, there is a need for a national support of eScience.
9. And here where the EnhanceR (www.enhancer.com) project come in …
10. EnhanceR is funded by SwissUniversities and aims to address these issues by establishing a "Swiss National eScience Support Team" that makes these local eScience supports work together within a formal framework and with a sustainable business model.
11. So far, EnhanceR involves 2 swiss research centres and 6 universities (out of 20).
12. For research groups, our key offer is to find a way to resolve their issue, whether ourselves or through redirection to other services. In all cases this begins with consultancy, working together with customers to decipher their real needs. We then commit to finding solutions by employing our own resources, applying for new resources or finding other appropriate services.

RICHARD KERBY LLC

Richard Kerby, President

The Digital Economy is changing the world view on Value Creation. It will not only transform the way we convert our resources into economic value-added outcomes, but it will redefine our view of the available resources and how to utilize them to solve the existing economic and social challenges.
The main resource that drives the Digital Economy is the People, and this is where the Arab World can have a real chance to join this New Age Economic Revolution. With a Youth Population that represents more than 60% and a future focus on innovation and digital augmentation of the way we live and the way we work, we will be able to change the way the Arab World will create value and leave a mark.

Embracing the Digital Economy will not only help us address our pressing problem today (such as, depleting natural resources dependency, unemployment, government inefficiency, etc.) but will also improve our ability to achieve the Sustainable Development Goals (SDGs). We will accelerate the economic growth, create job opportunities for our growing youth population, improve our productivity, and achieve transparency while ensuring security and privacy. Our vision is to transform the Arab world into a digitally enabled economy and advance the region towards a sustainable, inclusive and secure digital future in order to enable an innovative, empowered and integrated Arab community.

ARAB DIGITAL ECONOMY STRATEGY
The digital economy is estimated to contribute to around 1.2 trillion USD to the USA economy and around 3.8 trillion USD to China. The digital economy in Asia pacific will be worth $1.16tn by 2021 accounting for 60% of the gross domestic product (GDP) up from about 6% from last year, an IDC study has found. Similarly, Europe Digital Single Market creates opportunities for new startups and allows existing companies to reach a market of over 500 million people. Completing a Digital Single Market will contribute EUR 415 billion per year to Europe's economy, create jobs and transform its public services.
Compared to a global average of 22%, the digital economy contributes to around only 4% of the Arab world GDP. The impact of digital Economy on fostering economic growth is five times higher compared to other traditional methods. This is why it is of optimal importance for the Arab states to adopt a digital transformation strategy. The following report demonstrates a concise description about the developed Arab Digital Economy Strategy.

The strategy is reviewed by around 75 distinguished experts representing many global organizations and entities such as European Commission, OECD, The World Bank, UNDP, UNDESA, Harvard University and others. Three separate studies are provided as the input to the developed strategy; The International Benchmark study, The Sectoral benchmark study and The Arab world current situation study. 9 high performing countries are benchmarked, and several relevant lessons are learnt from their digitization journey.

Best practices are also presented from 6 selected economic sectors that have shown notable potential to be digitized in the Arab Countries. These sectors are Healthcare, Manufacturing, Financial Services, Education, Agriculture and Commerce. Then, the Arab countries digital readiness and performance are examined, and the countries are placed into three clusters accordingly.

The strategy is built on five dimensions: Digital foundation, Digital Innovation, Digital Government, Digital Business and Digital Citizen.

20 objectives, 15 themes and 50 programs are developed for the five dimensions. The programs are then directed to their target clusters.

The impact of the digital transformation on the Arab world economy is significant. By 2030, The Arab Countries GDP Can grow due to Digital economy from 2.6 Trillion USD Up to 4.15 Trillion USD.

The cost to implement the strategy is estimated at 60 billion USD per year. Total digital growth effect at full maturity could reach up to 333 Billion per year creating around 60 million new jobs in the coming two decades.

Furthermore, selected lessons are taken from a variety of countries that have pioneered in their digital transformation. The Selection of Benchmark countries was based on the state and the rate of digital evolution.

The chosen countries/region are EU, China, USA, Singapore, Malaysia and South Africa.

The following describes the main lessons learnt from the international benchmark study.

DIGITAL FOUNDATIONS: Responsible Authorities, Infrastructure, Policies and regulations act as key pillars for achieving digital innovation. Digital foundations are required to activate the process of digital transformation and ensure its effectiveness

NATIONAL DIGITAL GOVERNMENT STRATEGY is the key enabler for the development of digital economy agenda. Improving the digital adoption by government, business and individual in order to achieve significant socioeconomic impact by using national capabilities.

SECTORIAL INNOVATION plays a crucial role in digital transformation by disrupting traditional business models and creating new one. Incorporation of technology at sectoral level have added value to traditional practices and enhanced the productivity and operations to a great extent

DIGITAL SKILLS form the basis and the steppingstone for wide scale adoption of digital technologies. Effective use of digital technologies requires ICT specialist skills, generic ICT skills and complementary skills, such as information processing, self-direction, problem solving and communication

DIGITAL ECOSYSTEM OF DISRUPTING TECHNOLOGIES act as a catalyst for digital economy. Comprehensive ICT ecosystem enables ICT environment, foster innovation within the sub-sectors and bring significant benefits to Entrepreneurs, youth and SMEs

FINANCING AND CAPITAL are considered as main pillars in the framework of digitization. Funding is extremely crucial for the realization of any digital strategies and agendas.

CREATION OF SPECIAL ECONOMY ZONE to encourage economic activity. Special Economic zone creates a link to the world intelligent cities, infuses technology across all sectors and drives innovation and productivity

DIGITAL SINGLE MARKET BREAK DOWN BARRIERS TO CROSS-BORDER ONLINE ACTIVITY: Digital Single market improves access to digital goods and services, creates an environment where digital networks and services can prosper and maximize the growth potential

Likewise, through the conducted sectoral benchmark study, each of the selected six sectors are analyzed in-depth, providing the reasons why it is selected, the impact it will make, the best practices globally, and finally the key lessons learnt out of each one.

For example, Financial Services sector comprises about 15% of the global GDP and around 12% of the Arab world GDP.

"Financial inclusion" stimulated by Financial Technology or "FinTech" clearly illustrates the positive relationship between the finance sector and the economy. In this manner, FinTech is expected to contribute to the Arab region economic development.

People could have smooth access to financial services and businesses could utilize the more accessible payment services. Governments, as well, could also benefit from blockchain's transparency and security, and their relation to cost savings. It can come from auditing and enforcing smart contracts and avoiding fees that can be associated with other payment methods.

Similarly, Manufacturing comprises about 16% of the global GDP and about 11% of the Arab World GDP. The application of "Smart Manufacturing" is expected to create $1.2 to $3.7 trillion of value worldwide by 2025. This comes in many forms, such as operational efficiency, Predictive and preventative maintenance, Supply chain management and Inventories and logistics management.

Digital technologies can bring dramatic changes to the world of manufacturing and offer opportunities to innovate and increase output. They can create new production technologies, new materials and new ways of storing, processing and sharing data. New manufacturing devices, such as 3D printers, speed up product development cycles and make new collaboration processes possible by supporting rapid prototyping and customization, with fewer errors, and enable a faster time to market.

Additionally, Healthcare comprises about 10.4% of the global GDP and is considered as the third major contributor to the global GDP. In 2017, the E-Health industry (digital health) was amounted as a worth of 80 billion USD globally, with the potential to cut healthcare costs by an estimated 7 billion USD a year in the US alone.

The Arab region healthcare digital transformation can create value for all stakeholders, whether governments, healthcare providers, professionals, or patients.

The primary benefits of digital transformation for the Arab citizen are likely to be improvements in healthcare access, quality and affordability. For industry players, digitization can add value through enhanced revenue generation, capital efficiency, cost optimization and productivity.

Besides, the role of educational technology in teaching and education system is of utmost significance due to the advent of information and communication technology (ICT) in our daily lives. One cannot deny the importance of education for any community development and its considerable 5% contribution in the global GDP expenditure.

Education technology is the systematic and organized process of applying information and communication technology to improve the quality and efficiency of education.

For instance, E-learning is one of the key aspects of e-education which is rapidly changing the education landscape. E-learning industry was estimated at 107 billion USD in 2015 according to Global Industry Analysts and is expected to grow to 325 USD Billion by 2025.
Agriculture plays an important role in the economies of most of the countries in the Arab region. The contribution of the agricultural sector to the overall economy differs significantly among countries in the region, ranging, for instance, from about 3.2 percent in Saudi Arabia to 13.4 percent in Egypt.
However, many countries in the region, especially those around the Mediterranean Sea, are highly dependent on agriculture such as Egypt, Morocco, Sudan, Syria, Algeria and Mauritania

Our analysis of the Arab Countries' current situation revealed that formulating and effectively implementing an "Arab Digital Agenda", must consider the heterogeneity among Arab countries in terms of income, competitiveness, infrastructure, innovation, e-government development and digital readiness. The status of the Arab world digital performance is analyzed according to several published digital indices such as The Global Competitiveness Index (GCI), The UN E-Government Development Index (EGDI), The ICT Development Index (IDI) and The UN Telecommunication Infrastructure Index (TII).

UN HABITAT

Dr. Graham Alabaster,
Chief, Waste Management and Sanitation, Urban Basic Services Branch

FAO

Mr. Samuel Varas,
Director of IT Division

UNIVERSITY OF ILORIN, NIGERIA/ UNIVERSITY OF YORK UK

Dr. Abdulkarim Oloyede,
Senior Lecturer in Wireless Telecommunications

Dr Abdulkarim Oloyede.

Let me start by saying a big thank you to the organisers of WISIS 2019 for putting together such a wonderful event this week. I am glad that I would be talking about three areas that I am passionate about ICT, Education and Disaster management.

There is no doubt that we have made tremendous progress in the use of ICT in the educational sector across the globe, more especially in developing countries around the world. The use of ICT is playing a pivotal role in aiding quality education across developing countries especially in the African continent. Most countries in Africa agree that ICT has the potential to make teaching and learning more effective and accessible. However, a number of challenges that must be overcome. The educational sector in Africa is becoming more dynamic with lots of innovation, and this is the same for the ICT sector. The challenge here is we have two variables and as we all know solving an equation with two variables is never an easy task. Solving these variables is more complicated with the fact that there is a significant barrier in Africa to the adoption of technology because of the digital divide among other issues.
The four main challenges to the use of ICT and bridging the digital divide in Africa are cost, marginalisation of indigenous knowledge, corruption and lack of trust in the ICT sector.

The cost of accruing ICT infrastructure is enormous and beyond the reach for most Africans and often in the hand of foreign companies. These foreign companies are regarded as rich companies, and often the African government would want to make a significant amount of money from them via taxation. However, the ordinary consumer on the street ends up bearing the brunt.

Most ICT infrastructure is often not localised to embrace the African culture and heritage and realities; hence it sometimes difficult for Africans to welcome them.

Corruption is a significant problem in Africa; discussing this would take forever as it has eaten deep into most sectors.

The world is not doing enough to gain the confidence of Africans especially concerning ICT data privacy and security. A lot of people still believe the adoption and use of ICT is a way of spying on us and invading our privacy.

However, we in the Africa continent have been doing something fantastic things to breach this divide. We have this Graduate ICT Research and Education Summit (GIRES) which has been hosted by the Carnegie Mellon University Rwanda Campus. So far we have had three summits in 2014, 2016 and late 2018. This summit aims to bring lecturers and researchers together from across African Universities to help develop what we call the African style and method of teaching. The aim is to change the African narrative by attempting to establish our benchmark for the use of ICT and other teaching methods in our classrooms. For example, the reality is that traditionally we have bigger classroom size in most African Universities compared to that of the developed worlds. Hence we are developing or out benchmark and tools that can aid in teaching large class sixes while exchanges best practices. So far about 20 Universities across Africa was involved in the three summits covering about 14 African countries.

The way forward is to challenge the policymakers to do away from initiatives seeking purely to provide internet access or equipment, and instead to begin addressing the needs of Africans based on the reality on the ground. Researchers also need to investigate the nature and impact of ICT support currently being deployed in African and how to make them more affordable while embracing the African culture.

Developing countries are not immune to disasters, ICT also has a significant role to play when it comes to response and recovery from disasters. This is in addition to the role of ICT in prevention and mitigation against disasters. In Africa, there is a huge connection between disasters management and Education because most times natural disasters wipe out the basic educational facilities available in affected communities. The use of ICT for Disasters management is another area which we need to improve upon in developing countries. The challenge for Africa is whenever there is a disaster the inadequate ICT infrastructure already in place is destroyed. Especially the all-important telecommunication infrastructure. Currently, The Kwara State University, University of Ilorin, Nigeria in partnership with other Universities in Nigeria and the University of York, UK with the help of the likes of the commonwealth scholarship, ITU-D study question 5/2, Internet Society are seeking to examining the role that High Altitude Platforms (HAP) and community networks can play in providing telecommunication coverage for rural Africa. We are also in active collaboration with the Nigeria Communication's commission (NCC) who are the regulators in Nigeria. This is because the technology around HAPs is improving day by day especially after the likes of Google invested in the technology, and it was successfully used after the hurricane Maria in Puerto Rico. We believe that this technology can help in developing better community networks across Africa. We are working with experts in HAPS from the University of York in looking at business models from HAPs that can be adapted for the African continent and also looking at the effects consolidation of internet service providers in African.

Session Fourteen: Knowledge societies, capacity building and e-learning / Media

Webcast: https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/184#

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. Sungnam 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

Executive Summary by High Level Track Facilitator

Introduction

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

AISEC-

- 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.
- 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*.
- 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 linguistic 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 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.

AIESEC

Mr. David Scicluna, President

BANGLADESH NGOS NETWORK FOR RADIO & COMMUNICATION

Mr. AHM Bazlur Rahman, CEO

CEABAD

Mr. Sungnam Choi,
Program Director

1) **CEABAD has successfully provided capacity building program on broadband and telecommunication in the Central American region since June 2014. Could you share us your experience about challenges and achievements while developing and managing capacity building program?**

Thank you Chair. It is honored to have the chance to talk about our experience. Our Center is located at Managua, Nicaragua. We are a regional telecommunication and broadband training center for public officials, experts and people who are interested in covering recent ICT related topics. Since June 2014. We have provided online & offline programs over 3,500 people for the last four years. Regarding our online programs, In Feb. 2016, we launched the first online program, National Broadband Plan Course in Spanish. Until now as of April 2019, we have 16 online courses in Spanish, we have been developing more 6 courses until the end of this year.

The biggest challenge that I have worked for the Center was finding right person to create e-learning platform and its content in Nicaragua. Thus, we had to spend almost one year to educate our staffs. Regarding the staff education, I can say that there are two part; managing e-learning platform and designing online contents. Mostly, we have focused on the design of contents. In fact, online course depends on how to deliver contents more efficiently and effectively. In order to do this, design is the key for online course.

For a better design, you should understand learning environment in your country and region. In Latin and Caribbean region, mostly school teacher communicate with their students more interactively. It means that they are talking each other to understand some concepts or topics during class. There is a philosophy. If you know something, you can explain it. In other words, if you do not speak of it, you do not know it. We applied for this lesson to our online programs. Relatively, our online program is shorter than any other MOOC (Massive Open Online Courses) platform like Coursera, Edx, etc. Instead of lots of reading, we encourage learners to participate courses through webinar, forum (question on your study and get answer from your instructor), quiz. Also, most online courses are so boring and uninteresting. Thus, we pretty much focused on fun study experience in terms of design. For instance, we used world famous movie story "mission impossible" to one of our programs. In this course, you should complete your mission like main character of the film that you know. You should change impossible mission into possible mission through the course.

2) **Regarding e-learning development, what kind of measures would be needed to facilitate e-learning in the Central American Region?**

In the Region, it is not easy to facilitate people to join e-learning programs. First, there is language barrier. Most of MOOC provide courses in English but in Spanish. Recently, numbers of programs in Spanish are increasing but still not enough.

Secondly, HR department of an institution or company in the Region should make a plan how to increase their capacity through many training programs. Usually, when we contact to our partner institutions in the Central American Region, they are likely not to have any preparation or plan for capacity building programs. Basically, finding a learning opportunity is not only individual responsibility. An institution or company should give them more opportunity to learn. I believe that encouraging people to learn something is the key to keep capacity buildingprogram. So, if you have an incentive system for people who want promotion or better career in your institution, capacity building program including e-learning program would be more interested for your employees.

Finally, in order to provide better e-learning environment, definitely we need to put more investment on broadband infrastructure in our Region. Recently, e-learning programs have lots of multimedia materials like video clips, animation film, etc. In fact, without a better Internet facility, we could not guarantee any good quality e-learning contents and users' satisfactory experience.

THE WOMANITY FOUNDATION

Mrs. Valentina Di Felice,
Head of Impact and Learning

What is the Girls Can Code Program? Girls Can Code (GCC) is a three-year vocational training program for girls that the Womanity Foundation runs in Public High Schools for Girls in Kabul city. The program enrols students when they are in grade 10th offering an English course. In grade 11th, students move to attend a course in Basic Computer Literacy (ICT) and finally in grade 12th they enrol in the course called Introduction to Coding and Web Development that include basic languages such us HTML, SQL, CSS, Laravel etc.

While providing a positive and qualitative learning opportunity, the Girls Can Code program aims also to encourage girls to undertake professional or academic careers in STEM fields and in particular in the Tech sector.

The extracurricular path in grade 12th is enhanced with workshops such as CV writing and preparation for job interviews. Students also meet roles models and to have a first-hand account of the challenges and opportunities for women in the Tech sector in Afghanistan.

To facilitate the access to the job market, Womanity brokers relationships with the industry and offers internship opportunities to the interested students. From this year we will also set up a scholarship program to support students enrolling in computer science.

Since 2016, the program has graduated 355 students; 25 internships or job positions were offered to our students and 32 students of the cohort 2016-2017 enrolling in STEM faculties (among them 18 in IT/computer science).

What are the challenges and the opportunities to teach coding to girls in Afghanistan? Let's start with the opportunities. According to the Afghan Ministry of Communication and Information[6], the ICT sector grew substantially in past years in term of infrastructure building and in terms of users: from 50,000 telephone subscribers in 2002, the country counted 23.65 million subscriptions in 2018 and from almost no internet users, to 5.23 million.
The Ministry, who cites a World Bank study, reports that there are now about 88,000 ICT professionals in the country and the number is expected to triple in the next years.
There are ambitious plans to develop m-government and e-government services as well as to ensure clinics and health centres deliver services using e-health and telemedicine.
Kabul has also seen in past years the growth of several companies (550[7]) offering IT services from basic ones like web hosting and design, to more sophisticated tailored services to company (i.e. design a digital HR management system).
All of this requires a skilled and young workforce who is prepared to meet the demand of these programs and who is simultaneously the driver for further growth of the sector.
As Womanity, we would like to ensure that women do not miss the opportunity to be part of this revolution. We are aware that women are less likely to undertake professions in STEM fields, it is imperative for us to nurture their interest and confidence in high school to influence their professional choices so that they can also be part of this transformation.
Furthermore, IT related jobs enable remote working which is a tremendous opportunity for women to balance family expectation and the ambition to work and it is especially important in a country where only 19% of women are estimated to be part of the labour market.

However, opportunities do not come without challenges. First and foremost, the security is still fragile and might affect the ability of the government to deliver the promise of building infrastructure that can guarantee universal access to technology.
Security affects also the ability of people, women in particular, to venture out their home, reach their work place and contribute productively to their society.
In a so fast changing sector, Education needs to keep the right pace and constantly align with the needs of the industry and equip students with soft skills that enable them to navigate the job market and with business skill to become successful entrepreneurs.
Finally, it is imperative to ensure cultural acceptability, within companies, of young women doing internships (and later work) in the tech sector. This requires creating such an environment in which families feel confident send their daughters, wides, sisters to work.

---

[6] Afghanistan, G. (2018), ICT Policy for Afghanistan: A digital agenda for development and social change 2018-2022, Ministry of Communications and Information Technology.

[7] Altai Consulting (2014), ICT in Afghanistan: Economic Impact Assessment

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).

Madam Chair:

Mr Vice Chancellor for Iran University of Science and Technology, could you share with us the current status of e-learning in your university and in Iran; and also how do you see the role of universities and academia in capacity building for Knowledge Societies?

Dr Shahhoseini:

Thank you Madam Chair,

It is my pleasure to attend in WSIS Forum 2019 and have opportunity to address about e-learning and capacity building in the field of ICTs by universities.

My university, Iran University of science and technology (IUST), with more than fourteen thousand students and 414

faculty members, is one of the top 5 Technical Universities in Iran, and ranked in QS and Times Higher Education Ranking systems in top 650 universities in the world. IUST succeed to be ranked as the first university in Iran in 2015, 2016 according to Times Higher Education Raking system.

In IUST all of our faculties and departments, use information technology based facilities. Also we have a specific center which is called IUST E-learning Center that is in charge of the students how have been educated through LMS and a fully online learning system. More than 10% of our students are studied in this system.

In Iran, with about 4 million students in total and near one million in governmental universities, all major universities are equipped to e-learning facilities and enroll part of their students in fully online systems.

By this type of learning system, courses and services of top Iranian universities have been provided to students in entire the country especially in remote area. Also since many courses are offers in Farsi, students from Farsi speaking countries can enroll and use long distance learning which results in preserving local culture in the region and developing local contents, which are emphasized in WSIS Action Line C8.

We are interested to develop Open Educational Resource and utilize Open Science in a mutual way since we think science is global matter and should be inclusive and with equitable access i.e. essential properties of Knowledge Societies.

On the other hand now a day emerging technologies, such as AI and Big Data, as well as Mass-Adopted Technologies like mobiles are new platforms which play a central role in the future of knowledge societies. Conducting related research for preparing innovative solutions to tackle new challenges as well as providing skills and professional abilities for using new emerged applications in digital era, are the main contribution of universities in building strong knowledge societies.

In this regards, I would like to raise two important issues that we need to provide necessary capacities.

The first one is building collaborative networks of networks in which different types of networks such as network of universities will cooperate with other networks in making Knowledge Societies. So Network of Universities should be improved and be more responsive than before in cooperating with the other networks.

The second one is agility in providing digital skills in the digital age and the role of academic institutions as providers of these skills. We need to link ICT policies and education policies, in order to address the institutional reforms necessary for ensuring the availability of the skills required in the digital era.
In this regards partnership of academic institutions and industries play a crucial role in the learning process. Currently some of the courses offered are too general and therefore will not equip the students with specific skills required. These means like many other areas that we produce customized products; we should provide skills in customized manner.

In this context, the collaborative approach taken by network of industries and network of universities has facilitated the work of capacity building in Knowledge Societies; and I believe that the combined efforts and initiatives by these two networks will accelerate the implementation of knowledge Societies.

Thank you for your attention.

INTERNATIONAL ORGANIZATION FOR MIGRATION (IOM)

Leonard Doyle,
Head of Media and Communications, Chief Spokesperson

INDIA

Dr. Subrata Roy Gupta, Principal Scientist,
National Informatics Center WBSC, Ministry of Electronics & Information Technology

Q1: How knowledge societies can facilitate achieving SDGs?

Madam Chair, distinguished speakers & co-panelists, ladies & gentlemen, very good morning! It is a proud moment for us to attend WSIS 2019 & to participate in this important session! My sincere gratitude to the organisers for providing me this platform to share our experiences in ICT driven initiatives to achieve SDGs. 2019 is a remarkable year as we are celebrating 10th anniversary of WSIS & 15 years of implementation of Geneva Plan of Action.

Knowledge & information societies now play an important role in improving people's lives. Their association, particularly, through ICTs has the power to transform economies & societies. The Knowledge societies are built on 4 pillars:

a) Freedom of expression
b) Universal access to information & knowledge
c) Respect for cultural & linguistic diversity
d) Quality education for all

So, essentially, inclusive knowledge societies, empowered local communities having increased access to preservation & sharing of information & knowledge in all walks of life are the cornerstones for achieving SDGs.

Q2: How ICTs can play an important role in building information & knowledge societies?

This year, 2 of our initiatives- "Utkarh Bangla" *("Utkarsh Bangla" means "Excellence through Skilling in Bengal")* & "SaboojSathi' (the Green companion) have been recognized in WSIS Prizes as Winner & Champion project in C4 (Capacity Building) & C7 (eGovernance), respectively. Both are implemented by Government of West Bengal, India, with technical support from National Informatics Centre, Ministry of Information Technology, Government of India. I would like to share our experiences with all of you.

The movement towards creation of 'knowledge society' has been marked by shifting of emphasis from ICTs as the 'tools/drivers of change' to a perspective which empowers people in various social, economic & technological contexts.

I would like to state that there are **6 Cs** related to ICTs which are the building blocks of Information & knowledge societies:

a) **C**reation of digital infrastructure
b) **C**onnectivity
c) **C**onvenience
d) **C**ontent for knowledge societies
e) **C**onversion of information into knowledge
f) **C**apacity building

We must ensure that digital infrastructure is created and made available to everyone! The accessibility issue including access to digital contents by differently abled persons must be addressed adequately. The digital content must be developed in local languages as far as practicable. Unless, we design our ICT solutions to convert data into information & information into knowledge through appropriate technologies, including AI, it will be difficult to create the Knowledge societies. Lastly, we must emphasise the need of capacity building so that everyone gathers the knowledge to use the ICT tools appropriately!

It is heartening to note from Secretary General's comment yesterday that currently the access to internet is available to more than half of the global population! So we have made another step forward to obliterate the **"Digital Poverty Line"** in the Globe!

I do sincerely hope that the concerted efforts of all of us would help building information & knowledge societies where no one will be left behind which in turn help achieving the SDGs in a timely & efficient manner!

Thank you very much!

JUST NET COALITION

Mr. Norbert Bollow,
Co-convenor

Q1- How can information societies be made trustworthy from perspectives of social and economic justice?

Well first of all, there is a need for political will to treat the matters of social and economic justice as politically important. Everyone claims to have such political will, but those claims often lack credibility. This political will must become a reality. For example we must be strongly critical in regard to everything that threatens to lead to digital colonialism. That includes the current trade negotiation proposals on e-commerce.

Secondly, the governance challenges for information societies are more complex than they were for previous types of societies. We must develop a good capability for understanding how big, complex socioeconomic systems can be shaped to be trustworthy in relation to concerns of social and economic justice. We need a better capability to reason about these matters, and to have constructive discourse.

These two aspects are very much related. Without good capability for reasoning and discourse, of a kind that truly supports pursuit of what is really the global public interest, also the necessary political will cannot really exist. In the absence of political capability to understand what is a good and right course of action, it is inevitable that instead lobbyists of greedy corporations will succeed in shaping the world according to what is profitable to them, at the expense of everyone else.

Q2-How to build capacity for handling this complexity?

First of all, we need to understand that “information society” means not only that society is shaped more and more by digital information technologies. It also means that society has a responsibility to shape these developments, and to collect information and develop knowledge that empowers us to do so. In fact the same capability of shaping our future is also essential for other global challenges such as climate change. Information society is not only a problem, it is also potentially a much greater solution.

Concretely, I'm proposing to develop what I'm calling “trustworthiness frameworks”. That is, systems thinking based frameworks for achieving trustworthiness from multiple stakeholder perspectives, including in particular the perspective of global social and economic justice.

The knowledge and capability for this will have to be developed collaboratively. E-learning will play a major role. In fact *capacity building* by means of *innovation* through *learning by doing* in the form of *e-leaning*.

If you're interested in maybe collaborating, please speak to me.

TECHLabs

Mr Joel Radvanyi,
Founder