Statement by Dr. Maike Luiken, IEEE Head of Delegation
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"ICT Applications and Services"
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"Your Excellencies, Honorable Ministers and Distinguished Guests and Attendees, I am honored to be here today and speak on behalf of IEEE as a Specific Activity Partner of the 2020 WSIS Forum.

Today, ICTs, digital technologies, and associated services are recognized as fundamental enablers of economic and social development, that is the growth of smart connected societies, and, of course, for achieving the SDGs.

Although great strides have been made in the development of technology, applications and services and access to technology, - a range of challenges remain; one of them being the lack of 'access' for many people around the globe. Let us consider access to the Internet: over 40% of the world's population does not have access to the Internet. In some countries, less than 5 percent of the population has access; for instance, the Central African Republic, Eritrea, Guinea-Bissau, Madagascar, Niger, and Somalia, to name a few. And of course, internet-based business, education, healthcare, government services and other services are not available directly to the unconnected.

It will be challenging to meet the goal of universal access by 2030.

*To get there - to realize **affordable, resilient and safe ICT services for all** - we need to take a systems, or better yet, a system of systems view of the current status, look at the gaps and determine which building blocks are not in place. There are many and, among others, they include technical, societal, financial and governance related building blocks.*

Building Blocks include:

- *Infrastructure: e.g. ICT, Power*
- *Standards*
- *Interoperable Devices*

- *Accessible Services, Applications and Content (language, user-interface …)*
- *Safe Use including Data Protection, Privacy & preventing Cyber Crime, Identity Theft*
- *User-Appropriateness of Services, Devices and Content; e.g. for Children*
- *Training for Users, Operators, Developers, Content Providers etc.*
- *Others like Financing*

I will briefly address three building blocks: a strong infrastructure base, accessibility, and interoperability.

*By **infrastructure**, I mean not only affordable, accessible, safe and resilient ICT infrastructure but also ubiquitous power infrastructure. Electrical power is a prerequisite. We need electricity to run the ICT systems. We need affordable, accessible, preferably clean energy available to everybody. Today, almost 1 billion people do not have access to electricity. Without electricity, we cannot operate a communications tower, computer, cell phone, many health care devices and so on. Without reliable, ubiquitous access to electricity we cannot realize the deployment and use of effective, scalable information and communication technology infrastructure and realize the benefit from related ICT–based services.*

While the number of people with access to electricity has been increasing significantly, two thirds of the world's population without electricity lives in Sub-Saharan Africa, making the problem especially formidable in that region.

*The next building block is the ubiquitous **accessibility** of ICT services and applications. It is not helpful if people have access to a computing device, have energy to power the device, but no way of understanding how to set it up and use various applications on the device, if there is no training available and/or if instructions in the local language are weak, poorly translated, not user-appropriate or not available, let alone training and/or accessible instructions/communications for special needs users.*

Similarly, there must be timely, locally relevant content developed or locally needed services offered; otherwise, even if connectivity infrastructure improves, ICT adoption will lag.

Accessibility includes safety. ICT systems need to be safe, reliable and secure to use. Device labeling, for example, should call out risks, including, for instance, health risks. The user needs to know how to safely operate a system / device; how to safely use internet-based services. And we need to ensure people's data are protected and that the users have agency over their data.

Setting and using standards help. IEEE continues to contribute not only to the technology development itself but also to developing standards that aid in ensuring ICT systems are secure. IEEE has [standardization activities in the network and information security space](), as well as a [Standard for an Architectural Framework for the Internet of Things (IoT) (P2413)](). IEEE is also working on a series of standards addressing data and its use, including, IEEE P7002 for Data Privacy Process. IEEE P7002 essentially specifies how to manage privacy issues for systems or software that collect personal data.

Which brings me to the third building block: the importance of **interoperability**. All of these ICT systems need to work together, they need to work across borders, boundaries; safely and reliably. We are a connected world. Global adoption of standards for ICT enables the interoperability of systems. In the IEEE open standards building process anyone from around the world can contribute: industry representatives, academics, associations, non-profits, or other organizations and individuals. It is a process to work together, to collaborate, to create multi-stakeholder-owned solutions; and we know that multi-stakeholder-owned solutions have a much better rate of success for adoption.

This kind of collective engagement makes it possible to build "best in class standards" and lay the groundwork for interoperability. We have all become so interconnected that no solution can live within a single silo or a single nation. Governments, international organizations, the private sector, NGOs, and civil society need to work together to create multi-stakeholder owned solutions.

To summarize; success, that is, whether or not we can reach universal connectivity, and see the benefits of that achievement reflected in greater progress toward the SDGs depends on how well we work together to address and implement the building blocks: Power and ICT infrastructure deployment, including financing, interoperability, standards, accessibility to the user, training for digital literacy, policies and regulations to name a few.

I'd like to conclude with UN Secretary-General Antonio Guterres' recent statements:

'Digital technology is shaping history. But there is also the sense that it is running away with us. Where will it take us? Will our dignity and rights be enhanced or diminished? Will our societies become more equal or less equal? Will we become more, or less, secure and safe? The

answers to these questions depend on our ability to work together across disciplines and actors, across nations and political divides.'

'We have a collective responsibility to give direction to these technologies so that we maximize benefits and curtail unintended consequences and malicious use.'

I fully agree, we have a collective responsibility to give direction to these technologies and their uses.

Thank you very much for the opportunity to share my thoughts with you."

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