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     Beyond Smart Cities.
     >> ROXANA WIDMER-ILIESCU: Good morning, good
afternoon, good evening to all distinguished speakers and
participants. Thank you for joining us today at the WSIS
Forum 2022 session Beyond Smart Cities smart for all for
building inclusive, ding tally accessible environments and
communities to meet the needs of present and future
generations.
     My name is Roxana Widmer-Iliescu. I'm the senior
coordinator for digital inclusion and focal point for
accessibility and jointly with my colleague Cristina Bueti
focal point for Smart City we'll have the honor to be your
ITU moderators and facilitator force today's dialogue.
     Inclusiveness is one of the five strategic goals of
the ITU. ITU members also set an ambition target for
this -- ambitious target, 2.9, which calls to ensure
digitally accessible environments for all people, including
those with disabilities, in all countries, by 2023. The
clock is ticking! ITU works hand in hand with our members
and stakeholders to support their effort in implementing

this target goal. We do so in many way, including by leveraging capacities through making available trainings, guidelines or toolkits and by offering platforms to facilitate, sharing our experiences, challenges and good practices like this session today.

With exceptional participation of leaders and experts in the topic coming from different parts of the world, this interactive dialogue also aims to contribute towards ensuring digitally accessible environment, cities and societies for all of us present and future generation.

To kickoff this session, I have the privilege to welcome Mr. Stephen Bereaux, our deputy to the Director of the International Telecommunication Union Development Sector to give as you few remarks on the crucial importance of building smart, inclusive cities for all and to launch a concrete resource that ITU has developed to support this global effort. Mr. Bereaux, the floor is yours.

>> STEPHEN BEREAUX: Thank you, good afternoon, good afternoon, good morning, it is a great pleasure to be here this afternoon to kickoff this session of the world Summit on the Information Society.

Information and community technology, ICTs, have revolutionized our societies. For many of us, it is difficult for us to imagine our lives without technology. ITU's goal is to connect everyone everywhere and without discrimination. We aim to harness the power of technology to meet the needs of of and enpoem oriole people, regardless of gender, location, age, ability or the context of their use. To ensure that no one is left behind in our increasingly Digital World, ICTs should be available, affordable, accessible to everyone which means that they must be designed to meet the needs and abilities of as many people as possible.

Given that ICTs have become particularly since COVID the primary medium for communications, information, transactions, education, entertainment, ICT accessibility is key to ensuring that everybody is digitally included in society and thus, is a part of Smart Cities, environments and communities.

To successfully implement digital accessibility, it is essential to ensure that everyone's right to communicate in the Digital World is respected and met.

Therefore, to Mr. Smart ICT accessibility principles requirements and standards should be considered from the design stage to its implementation. During crisis and emergency situations, digital accessibility is vital for means of communication, information and resources to those

impacted.

The COVID-19 pandemic demonstrated how digital technologies and ICTs can respond to a global crisis but can also risk deepening the digital divide if these technologies are not designed and delivered in an accessible format.

The common language of our increasingly Digital World is digital accessibility.

If we want to create inclusive, Smart Cities and societies, we all need to be knowledgeable in ICT digital accessibility and we need to implement that in our work.

Only if technologies are accessible to all can cities truly be smart and sustainable.

Thus, ITU's mission is to foster smart societies that are digitally inclusive and accessible for all people.

The term smart reflects not only the technological advances, but also equal and equitable standards and sustainable, environmentally friendly practices. In order to Mr. Smart City, all stakeholders including those here today must be involved in the design and implementation processes to ensure that every potential and user can access and benefit from the smart technology dally savvy environment we create.

ITU is advocating to ensure that technology is also human centred, we promote the use of ICT accessibility implementation as a catalytic driver to achieve digital inclusion worldwide.

ITU-D, the Development Sector has made valuable contributions to support global efforts in digital inclusion through the design and development of numerous resources that have been made available for all relevant parties and stakeholders free of charge in multiple U.N. languages and in a digitally accessible format.

I think the link has been posted in the chat to some of our resources.

Through our work, we support policymakers and relevant stakeholders from both the private and the public sector to build digitally inclusive smart societies and environments. Now, to foster implementation of these smart and inclusive societies I have the pleasure to launch today ITU's first online self-paced training source, beyond Smart City, smart for all towards building inclusive, digitally accessible environments to meet the needs of present and future generations. This online training course will be presented free of charge in English, French and Spanish. The key information, jointly with best practices will enable interested stakeholders to leverage their knowledge on how

to build smart and inclusive cities and societies and thus help to reduce the digital divide and inequalities worldwide.

Dear colleagues, this session will raise awareness on the topic, and on the relevant tools and resources that are needed to build these smart sustainable, inclusive cities, environment, communities.

We will highlight today not only the importance of digital accessibilities in the digital environment building process but also the benefits that come along with its implementation as well as the predicted challenges and solutions to those.

We will share our commitment to address WSIS action lines as well as the Sustainable Development Goals and in particular SDGs 10, 11, 17 relating to the overarching goal of digital inclusion. We will shine the light on the importance of a universal design approach and the four main building blocks to building smart, sustainable cities. Access, analysis, affordability, accessibility.

Although it may not be that simple as those four steps, today with your participation, collaboration and expertise, we will highlight how digital technologies and ICTs can be harnessed to foster development towards smarter cities today and in the future.

By joining forces to solve the global challenges of today we can create societies that are smart for all. In doing so, we will ensure that we continuously meet the needs of present and future generations. I commend you all for your ongoing support, dedication and collaboration to achieve a more inclusive world.

With that, thank you and back over to you.

>> ROXANA WIDMER-ILIESCU: Thank you very much, Mr. Bereaux for the powerful remarks on the ITU commitment on inclusion regardless of age, disability, location and in building digital inclusive environments and cities for all.

I have the pleasure now to sharing the video now on the training on beyond Smart City, smart for all. The video, please.

>> ROXANA WIDMER-ILIESCU: Thank you. Thank you for the video.

I'm please to welcome all participants for today's session (Cristina Bueti) Digital Transformation is certainly having far reaching impacts on cities and citizens from the efficiency and resource management in cities to new opportunities in giving better access to public services for citizens. Our session we'll look at the importance of inclusion and accessibility and we will

also look at some of the tools that are available today that could help cities to build an inclusive environment for Digital Transformation.

Please welcome our first speaker, Dr. Achraf Othman is working head of innovation and research section at Mada Centre in Qatar working on complex ITU industry challenges and projects to empower Persons with Disabilities and elderly using emerging technologies such as AI in alignment with the SDGs.

Mr. Othman. Based on your experience in the IT industry and in other projects with addressing a Persons with Disabilities needs, how can a country contribute to the Smart City projects and what is the impact of such work in ensuring a smart inclusive city for all, especially the inhabitants?

>> ACHRAF OTHMAN: Thank you. Hello, everyone. Thank you for the invitation to join this panel about Smart Cities.

For sure, this topic now, it becomes a need, a must, a need for Persons with Disabilities to be included in the society, within the new Smart City concept now around the world and alignment and with this appearance of new technologies and technologies that are -- most of the people are using, if they're not from technical background. Up for this topic, I'll share a brief video, with this, I'll try to talk about the experience and how to make this accessible for everyone.

In March, 2022, during the Smart City here, we tried to share our full journey and Smart City that we have here in Qatar and where persons with all kinds of disabilities are involved to see and practice how we can define the term inclusive Smart City for everyone.

As you see, this was the Mada booth and what we tried to do in each one, the inclusive journey for person with disability and we try to do it, to experience it very quickly within the six minutes so to give the mic also to my colleagues here and all the panelists.

Here is an example, as we see here this photo, we have an announcement inside of the Mada session and this will be helpful in Qatar and we'll try to include the technology translating in the sign language or the audio announcement in the metro and it gives more information accessible for deaf communities in Qatar and for sure we can provide such kind of information and sign language or international sign language.

Also, during the journey, as you can see also, what we try to make sure that all mobile application and also the

website, it must be fully accessible and following the WCAG guidelines from the W3GC and every person can use the application without issues or problems.

Also, during the accessible transportation we try to provide accessible maps for everyone in braille and sign language and we can also refer to other technology to make all information accessible for everyone.

One of the main components that we can find in the Smart City, the museum, and in collaboration with the modern Art Museum in Qatar, we tried to make the full journey accessible for everyone and during his visit, for example, to a Smart City and here we try to use the latest technologies from the fourth industrial revolution and we try to make a replica of all piece of arts, artifacts, the 3D printing and people can try to feel the size and the volume of the object and even to get more information about the small details of all these pieces of art.

Here, during the exhibition towards an opportunity to see an action, how to proceed with the 3D printing and how to provide the full experience in particular for blind people.

Moreover, we can ice a QR code to provide sign language interpretation of all of the content and in addition to this, because the COVID-19 we try to provide a full, accessible virtual tour online so this is in particular for students with disability and they cannot go and visit the museum.

Also we try to present the hologram technology for real human-sized sign language interpreter in realtime that can be embedded in airports and metro station and in malls. This will give more information more accessible for everyone. Not only was it limited to this, a Smart City, we try to make the retail, the coffee shops accessible for everyone and in addition to provide this programme for ATM, automatic telecommunication machine that are accessible for everyone as you can see.

So here was our experience about implementing a real cases of Smart Cities through different kinds of scenario and here as you see, this is another way to recognize this for blind people.

It was a very brief tour about what we are doing here and this is how we can talk about the frameworks and ensure accessibility for everyone.

>> ROXANA WIDMER-ILIESCU: Thank you very much for this inspirational insight and for sharing with us concrete action and examples to ensure that we build smart, inclusive for all as you have done in Doha with the

provision of sign language interpretation with hologram
technology and ATM, transportation accessible, with
accessible marks and even with 3D printing to facilitate
blind people to perceive the art experience, I really think
these are valuable, inspirational examples of how to build
smart, inclusive.

Now I have the privilege and the pleasure to introduce
to you the head of the global economic intelligence unit in
the Ministry of economy in Mexico. Dr. Monica Duhem
Delgado, Dr. Monica Duhem Delgado, you are a worldwide
recognized advocate for the need of implementing ICT
digital accessibility as a key element to achieving digital
inclusion of all people. Based on your experience and
expertise in digital inclusion, do you believe that the
rates of ICTs in cities is widening the digital divide? If
so, which are the most affected groups? Affected group
that could be left behind because of this lack of digital
accessibility of products and services? Finally, how can
we reverse this situation to build smart for all?

>> MONICA DUHEM DELGADO: Thank you very much.

Hello to all. Thank you.

It is a pleasure to be here with you.

From my experience, what I have seen in government, of
course we know of the impact of the use of technology to
really make a better service and scale the services that we
provide as governments in a city. The problem is, the
people that are buying those technologies, we do
not -- we're not articulate with some of the standards that
we need to cover frameworks one side, we do have the
service that we need to provide. So IT -- the departments
in city, they're more focused on the service that they need
to provide and on the scalability of the service and
sometimes they forget about the inclusion of the experts
but because we do not have inclusion experts in the IT
department. This is the worst part of that, once we're
going to buy a service, a product, it is not the IT
service, but it is the procurement department, within the
cities, that's also -- they're not experts on that
accessibility. So when we describe the service, then we
pass the procurement requirements to the procurement Bureau
at the cities, they are more focused on variables like
affordability, price, than universality of the service.

So the result is that since we do not have
accessibility experts either in the IT services or in the
procurement services of the city people, like indigenous
people, elderly, Persons with Disabilities, the need are
not taken into account when we're buying or developing a

service. More and more city DOS have developing sectors and development areas of services within the government, but do not have experts on the accessibility.

My recommendation, it is we are aware of cybersecurity and security issues with our service, because we do have privacy information from our citizens. So we do have experts on security and we need to push to also have universal and accessibility experts within our teams in the government, within the development team, within the IT department and procurement.

If we do not have that, the result is we do have services that are providing crucial services to the citizenship but variables of accessibility are not included, elderly, People with Disabilities, they're not able to use the services with the same Rights of anybody else.

Technology is changing. I know that tenders, Smart Cities solutions are very good vendors. They're selling us very good solutions. In their selling speech they're not including accessibility and inclusion part. We're buying solutions that are very good, but are widening the digital divide.

>> ROXANA WIDMER-ILIESCU: Thank you so much, Monica, you raised some crucial points, especially, you know, in providing, you know, services, but not really taking into consideration about all users (Cristina Bueti) there is really a lot of work to do and I'm very pleased actually to welcome our next speaker, Mr. James Thurston, the Vice President of global strategy and development in G3ict. The design and implementation of worldwide advocacy strategies and programmes to scale up G3 ICT impact. James, well, I think -- you're an international in technology policy leader. Is it possible really to define what we mean exactly by an inclusive, accessible Smart City? Are there any first steps you recommend to cities that would lake to make sure that technologies and smart solutions that are deployed really work for everyone? You know, as Monica mentioned, are we really, you know, including everyone regardless of the age, gender, ability to use technology.

>> JAMES THURSTON: Thank you for inviting me to be a part of the important part of this conversation and your leadership as well.

Building on what what was said, we have to start with the unfortunate reality, today, Smart Cities are making the digital divide worse, not better for people with disability, we know that based on how we define, measure what is an inclusive Smart City.

So G3ict, an international non-profit, we run Smart Cities for all, a global initiative, we work with cities around the world, partners, and as part that have work, we actually did a global study over a period of more than a year that included focus groups in Smart Cities around the world in a survey of hundreds of experts around the world.

60% of those experts told us that today Smart Cities are failing People with Disabilities.

Building off of a little bit of what Monica said, 18% of the experts were aware of any Smart City that today is using very robust, global ICT accessibility standards. Those standard exist but cities are not using them, they're not aware of them.

So we do have enough information today, I think, to define in a really actionable way what is an inclusive Smart City.

Maybe before we define what that is, it is important to think about how we define what Smart City is.

There is lots of definitions of what a Smart City is, and I sometimes say there is as many definitions of Smart Cities as there are of Smart Cities. I think for us, at the core of a Smart City, it is using technology, using data.

Supporting the broad range of really important services and activities that every city in the world provides to millions of people around the world.

When we're thinking about technology, we're thinking about not just leading-edge technologies and mainstream technologies that are really a part of this significant, global transformation of cities.

For us, we let cities opt in and find themselves as a mart city. If they have a mobile app, a website, they want to call themselves smart, that's great. We just want to make sure that mobile app and website are accessible to People with Disabilities.

Really, every city in the world, Global North and Global South is undergoing some level of digital transformation making accessibilitiabley important as part of that. They're all becoming smarter as part of that transition.

In our Smart Cities for all initiative, we have developed a set of tools, they're available in ten, 11 languages at this point.   one of the tools, Cristina, specific to this question of defining an inclusive, Smart City, a tool is a maturity model assessment tool.

In that tool, we have 27 different variables that define across the board what it means for a city using

technology, using data, what it means for it to be inclusive in the use of that technology.

For each of these 27 variables, there is five different levels of maturity, level one, meaning on that variable that the city is not doing much, not very good at that variable, level 5, being world class.

We have grouped these variables into sort of five pillar, thematic groups, that allow us to work with cities and to understand their approach to using technology and data and how inclusive they are.

It really does become about the backbone afro bust definition of what an inclusive, Smart City is, the 27 variables.

For us, I'll just mention a few briefly.

One of the pillar, groups of variables we look at for cities, there is strategic intent, what is the role of the leadership in the city, are they engaged, aware of disability, accessibility, we look at does the city have a digital inclusion strategy, specifically that references People with Disabilities, do they include disability and accessibility as part of the other important city strategies, economic development, tourism, transportation strategies, all need to reference accessibility as well.

Does the city have a business case for inclusion and accessibility? Do they see accessibility and inclusion as a competitive advantage for the city? We look at a range of variables around culture, how the city has a culture of community engagement, are there communication channels themselves accessible, do they make particular efforts to do outreach to communities of Persons with Disabilities, do they have a culture of diversity? Is the city hiring, making efforts to hire Persons with Disabilities as part of their workforce? Which is important.

We look at a range of variables around governance and process that really defines an inclusive Smart City, does the city have KPIs and matrix specifically on accessibility, is it managed to that matrix? Does the city have an organizational structure supporting the progress on inclusion and accessibility. As part of the IT department S there a department for Persons with Disabilities and then, of course, the other pillar, groups of variables we look at, around technology, data. The backbone, the life blood of Smart Cities. There we're looking at does the city even know that the technology that it is deploying is accessible? How does it know? What does it do when not accessible, what's the remediation process?

With data, we really work with cities to understand

whether or not they know if the key datasets that they use to manage their city services are those datasets reflective of people with disabilities in the city.

Too often we know Persons with Disabilities are data desserts, they're not included and contributing to the really critical datasets that are used for all kinds of important city policy and problematic sessions.

That's how we define what a -- what an inclusive, Smart City is.

In terms of first steps, the ITU believes as a first step, partners in this session, I call it the low hanging fruit of, it is procurement. Cities are enormous consumers for technology, the solutions worldwide, it is in the trillions of U.S. dollars. What if those investments in technology, in those deployments of technology were all accessible technology? Too often today they're not. Cities are investing in technology without asking the question of whether or not that technology is accessible. We have partnered with the 320 Smart City alliance, World Economic Forum, other partners around the world to help cities adopt a model policy for procurement as a way to make sure that as they're spending money on technology that they're asking specifically in those RFPs and tenders whether or not that technology is accessible.

We know this kind of policy works because governments like the U.S. federal government have been doing this for decades.

We just finished working with the City of Los Angeles. We're about to announce a new city next week we'll work with and we're actually -- we have four more opening in this programme to work with cities to adopt this 320 procurement technology and that's a relatively easy step for cities to get started in making progress on being more inclusive.

>> ROXANA WIDMER-ILIESCU: Thank you very much, Mr. James Thurston for this clear remarks on the crucial situation that actually Smart Cities are facing today.

On the importance that ICT projects and services provided within this Digital Transformation such as simple mobile app should be designed and built to be digitally accessible for all its intended users, which is not always what industry manufacturers keep in mind. We also retain the importance, that from leadership such as policy and decision makers to operational staff, we all should be committed to build inclusive, to develop inclusive products and services by implementing ICT digital accessibility requirements principles and standards.

Bypassing to standard, I have the pleasure to introduce to you Mr. Yong-Jick Lee, President of centre for accessible ICT in Korea. Mr. Lee, based on your extensive work in ICT accessibility within the Korea centre of accessible ICT, as well as with us in ITU-T in the development of accessibility standards, what is the role of the typeders when we refer to Smart Cities or related services, could you highlight why, first of all, we need to implement such standards and indicate which are their role to secure accessibility for Persons with Specific Needs which can be a person with disability, person with age-related disabilities in the building process of the Smart Cities and environments.

>> YONG-JICK LEE: Thank you.

Thank you for this wonderful opportunity today.

I have been developing Io Texas and accessibility city standards through Study Group 20 of ITU-T over the past several years. Today I'm going to talk about the importance of accessibility standards based on my experience in developing standards the Smart Cities provide as more convenient needs for people without disabilities but a tool for Persons with Disabilities to use city services that they have never used before. This means that it can be used as an important tool for Persons with Disabilities to change the paradigm, it means that it is an important tool to dramatically improve the quality of life, this means a lot to Persons with Disabilities . the role of ITU-T can be considered in two way, the first is the development of accessibility standards that reflect the need of Persons with Disabilities . since 2016 we have been developing the accessibility standards of Smart City services and Io Texas through IoT's 2020, a Study Group for IoT and Smart Cities and Communities.

The development of the accessibility standards can reflect the needs that Persons with Disabilities, an important stakeholder for Smart City services.

The ITU-T recommendation Y.4204, the accessibility requirements for Io Texas applications and services is a first accessibility standard in this area of all international standards and organizations and is an important standard for reference in the development of IoT and Smart City services.

Starting with the standards, we're continuously developing various IoT and Smart Cities accessibility standards. The second role is to look at many different standards, those developed in Study Group 20, those such as requirement, capabilities, use cases, et cetera, should be

developed in considerations of the accessibility of Persons with Disabilities . in the last five years, I personally have witnessed many cases where accessibility for Persons with Disabilities is not taken into account in the development of various Smart City related standards developed in ITU-T Study Group 20. Those with technical backgrounds involved in developing standards can easily ignore the needs of Persons with Disabilities even though they are developing standards with good intentions. Even if they recognize the need to consider Persons with Disabilities and they often consider the easiest way within the range of understanding whether finding a solution through a whole listing understanding of accessibility issue, we believe that considering accessibility for people with disabilities in the development of the standards, it will help develop the Smart City services.

If you will, I believe accessibility should be considered as much as the level of security or privacy is considered in the development of many standards within the ITU.

While the role of standards may vary, but from an accessibility perspective, standards are significant in that they define minimum requirements for the level of accessibility to be considered by Smart City service developers. Accessibility standards for Persons with Disabilities are required to provide the development guidelines to Smart City developers and to understand accessibility considerations for Persons with Disabilities in developing their services.

The two accessibility standards that we developed through the ITU-T Study Group 20, and the stot recommendation Y204 that I mentioned before and the accessibility developments for smart public transport, both standards all take a significantly different approach than conventional standards. Existing standards are written as concisely as possible about technical contents and are focused on definitions rather than explanations or accessibility standards, however, they are focused on providing normative text along with explaining why they're needed. This way of writing is where technicians that do not understand accessibility. In addition, we try to put as many educational use cases as possible in the appendix to improve the understanding of accessibility. Some people may wonder is it better to write a technical report rather than a standard for this type of writing, developers in the papers, the technical report to understand the accessibility, however, we have not seen many cases of

improved accessible understanding despite the presence of numerous technical reports in the past.

I think this is a problem caused by the different interests. When developers refer to techni dal report, they already know what they need and look for the technical reports to learn them in detail. However many technicians are not aware of the needs of accessibility in the first place and therefore technicians are not looking for disability related technical report and they often think it is not their job and therefore it is necessary to integrate one, the reasons why accessibility is needed and second, the application methods of this into one document. I think that the standards are more effective than in the technical reports. If standards exist, Persons with Disabilities may more effectively be able to ask to comply with specific standards beyond vague requirements for accessibility, this should improve the Smart City services and it is not just a question of whether or not standards are needed or more technical reports are needed but the development of both specific sustained and various reports help developer who is have less understanding of accessibility to develop accessible Smart City services.

Thank you.

>> ROXANA WIDMER-ILIESCU: Thank you so much.

>> CRISTINA BUETI: You've line that had crucial important points related to, you know, how standards can make a difference and how we can reach the gap, you know, in educational gap, especially when solutions are provided and as it was mentioned by James before, you know, the fact that accessibility, as you also mentioned, like security, should be, you know, equally considered in the development of standards and in the implementations of solutions and most importantly, when cities and governments put in place new policies.

Indeed actually, I'm also pleased to show that very recently we launched Digital Transformation for people oriented cities and communities and this toolkit brings, you know, U.N. expertise to guide cities in planning and implementing the digital technology solutions, including a model that talks about accessibility and digital inclusion. We encourage you to look at that web toolkit and the module on accessibility, you know, and to suggest if there are any other resources that should be added.

With that, I would like also to ask our first two speakers, Achraf Othman and Monica Duhem Delgado, based on your experience, what are the challenges and opportunities for building smart for all.

Really, how we can build Smart Sustainable Cities that are truly inclusive for all.

>> ACHRAF OTHMAN: This is a good topic. Make it is not -- not to say a challenge of itself, a thing we take into consideration during the implementation and the designing frameworks for Smart Cities for all, it is the inclusion of people with disability within the process.

This is something very important for us to identify their needs, this is the first thing, and also to be sure that once they are part of the Smart City journey they can get benefit and that they're enabled within the cities.

This is one of the things that we can consider and one of the higher priority.

Second, which is one of the thanks you're working nowadays, which is to have an ecosystem that empowers the number of solutions for Smart Cities dedicated for Persons with Disabilities in terms of use.

Most of the ecosystems we find nowadays, they're not oriented business -- more oiented to it go to market software and solution without interest of inclusion and making the information accessible for everybody. This would increase the number of solutions and everybody would get the benefit tough. This will for sure accelerate the road to Smart Cities for all.

>> MONICA DUHEM DELGADO: As governments, we do have the leverage to create those ecosystems. If a government, if we only buy accessible design or accessible products and services, vendors will want to comply. For instance, some of the services that we're using on zoom right now in, the beginning of the pan, we did not have the closed captioning function, for instance, which is important for persons with a hearing disability, now we have that kind of function. Why do we have it? Because we as buyers, we do have the sort of power to create that ecosystem. For me, it is so important that mainstream products and services are accessible, not only because if we have specific products and services for a person with a disability, we're also creating a kind of device.

We as governments, my recommendation is to not only to have person with disability within the staff and also to have experts. When we're purchasing a product, a service, we make sure that in the requirements accessibility is included. We, we create an ecosystem of accessibility of products and services and also in the other hand, we are putting down the prices because everybody will want to tell us their accessible products and services. So if we include accessibility from the beginning, we're creating

the ecosystem and creating a competitive in price, in terms of price of accessible and universal solution.

I will close with what Dr. Lee just said, part of making it accessible, it needs to have those kinds of reports, the technician to be aware what are the requirements that we need as buyers of accessible, they write the report, they have to demonstrate that they're thinking about the universality and how the solution is complying with those kinds of -- with the needs of specific buyers or user, not only People with Disabilities but the importance of the elderly, we're getting old, and with age, we do need some enhancements in the service.

Let's make them realize what are the specific things we need when getting old in order to continue to use the products and services.

Thank you.

>> ROXANA WIDMER-ILIESCU: Thank you very much Mr. Achraf Othman and Dr. Monica Duhem Delgado for the insightful remarks.

Indeed, actually governments are the biggest buyers in the world, if they include accessibility requirement, automatically the industry will align and then we will all benefit from this.

Going from this question to some concrete key aspects that can support, accelerate this implementation, what do you think are key aspects to really go from why and how, we understood why, because we want to be inclusive and how, by implementing some concrete solutions mentioned before, bullets go in concrete, what really, really do we have to put in place, to implement, to accelerate all of this process.

James, perhaps, if you want to go first.

>> JAMES THURSTON: Sure. It is a great question and it is important to start with the -- I think a good realization, today where we are, when it comes to disability awareness, accessibility, it is dramatically different than it was even five years ago.

I have been doing accessibility work for nearly 20 years worldwide.

The kinds of questions that we get today, the kind of work we do today, it is qualitatively different than a few years ago even.

A colleague of mine likes to say that no city, no business sets out to make their technology deployments, the websites, the digital service, they don't set out to make them inaccessible. They want them to be accessible. They're not aware of the need to do that and how easy it

can be do to do that.

One of the concrete things in addition to procurement, we have talked about that, a concrete thing that we have talked about, working on with cities, it is moving to role-based training.

We need to move the professionals whether they're procurement professionals, IT professionals, human resource professional, all need to have better training, more training on how accessibility means in our specific roles, we run the international sesty professional society and we need to start moving our professionals in cities, in different departments, to much more role specific and detailed level of technical competence. That's an area we can move into. I have seen some cities we're working on with now, hiring staff, IT staff, staff in different requirement, they're requiring a certification on accessibility as part of -- it is in the job description as they're hiring. Moving to a much more professional approach to accessibility in cities is an important first step.

>> Thank you so much.

Dr. Lee.

>> YONG-JICK LEE: Hearing today's conversation, I think I believe panelists made a lot of various good points.

I'll talk about it from the standpoint of developing standards.

I think it is important to increase the understanding of accessibility of developers and policymakers.

I think many people agree that accessible Smart City services are important.

It is also true that they don't know exactly what to do and how to do it.

Service development had been focused on making good use of services for the vast majority of people, therefore they have made great efforts to satisfy the centre of the normal distribution, however accessibility must satisfy the tail of the normal distribution so that the essential -- so that's the essential difference. Unlike centre was many common elements for details, everyone's needs are different and complex and there are at love factors we have not EPA experienced. The role of standard organizations like ITU is here. Developers need to be specific on what to do, how to do it.

The minimum level of accessibility should be considered and the directions in which the service should be designed should be indicated and needs to have a

standard that has actionable accessibility considerations used in common in all services. That's the key I think. Thank you.

>> CRISTINA BUETI: Thank you very much, Mr. Lee, thank you very much, Mr. Thurston for the excellent interventions. These are crucial aspects that will certainly support the implementation, and I believe in the fact that we have our own key role to play in ensuring that really accessibility become, you know, a key requirement, especially for cities.

>> ROXANA WIDMER-ILIESCU: I think both of us were bad timekeeper, with all of this passionate, interesting remarks, it is very difficult to keep the time as scheduled.

I would like to ask all speakers and panelists to make their -- you know, their one sentence or one word what is if you should choose one thing you would like to us take away from this conversation, what this would be.

First of all, I would like to ask our Deputy Director, Mr. Bereaux what do you think?

>> STEPHEN BEREAUX: thank you, it has been a great session!.

I unfortunately I won't say exactly one, I will say four!.

The building blocks, it is discussed earlier, we have to have -- to connect firstly to connect anyone, we need access and infrastructure to enable everyone to connect.

We need then when looking -- we need to ensure that that is secure and we need to protect our data, we need cybersecurity.

We need -- in that sense, analysis data protection in cybersecurity.

It needs to be affordable, affordability to ensure that all end users can afford Internet access and technological devices that are needed to communicate.

Then we need to as, of course, incorporate digital accessibility requirements, the standards, and the universal design principles of all stages of technological development.

Thank you.

>> ROXANA WIDMER-ILIESCU: And Dr. Achraf Othman, please.

>> ACHRAF OTHMAN: I agree with Mr. Bereaux and in one word, we can say joining efforts from all organization work together for the benefit of everyone.

>> ROXANA WIDMER-ILIESCU: Absolutely, only together we can make the change.

Dr. Monica Duhem Delgado.
>> MONICA DUHEM DELGADO: Thank you.
I mean one word is difficult. I would say two things,
one, it is our responsibility in the digital transportation
to understand and use technology and we use that for
interaction.
As a citizen, we need to use technology and to have
the knowledge of using it and as vendors, we need to make
sure that everybody is able to use it, to make it
accessible.
>> ROXANA WIDMER-ILIESCU: Thank you.
Technology should be human-centred and designed and
developed with all of the needs and requirements of all of
us in mind.
Mr. James Thurston.
>> JAMES THURSTON: Sure. I think I would end by just
saying pretty simply two cities, when cities get started,
there is no reason today that you can't be making
incredible progress on taking steps to improve
accessibility and inclusion as part of being a Smart City.
Several of us have mentioned lots of tools, I have
been putting some links in chat, the good practices, the
resources, they're there.
The partner ecosystem is there. Really just getting
the leadership in the city so we can see the CIO, the
disability commissioner, the mayor's office, getting them
to start it, I think it is really important and there is
nothing holding you back at this point.   including the
great resource you announced today.
>> ROXANA WIDMER-ILIESCU: Thank you.
We definitely have to ask our leaders within ITU and
globally to put accessibility among their priorities in
their political agenda.
Last but not least.
Mr. Lee.
>> YONG-JICK LEE: Thank you.
For the many developers, I think accessibility
enhancement is a time consuming, constantly monster. The
initial concern for accessibility started with improving
existing services. We could have -- we couldn't pick
everything so we patched everything up and down and the
complexity of the system increased f you make it from
scratch with accessibility considerations, you don't need
more time and you don't need more money. That's why we
emphasize the accessibility of emerging technologies like
Smart Cities.
Smart City services are still in the only stage, it

doesn't take much money or time to make it accessible from the beginning, as universal design emphasizes, if you make it right from the beginning, accessible service is not difficult. I would conclude with the word follow the standard, follow the accessibility.

Thank you.

>> ROXANA WIDMER-ILIESCU: Thank you, Dr. Lee.

It is very, very timely to increase the awareness raising because we all want to be Smart Cities, we're all engaged in Digital Transformation and enabling environments. We forget if now we don't consider accessibility from the design stage of this Smart Cities, the environment, the communities, it will be much difficult afterwards.

So an encouragement, a final encouragement to consider accessibility requirements, principle, standards in all of our work.

With this, Chris the floor is yours.

>> CRISTINA BUETI: Thank you to Roxana Widmer-Iliescu and thank you very much to all of our panelists for sharing expertise and incredible knowledge. Thank you so much also to Stephen, that has been with us delivering opening remarks and participating in this panel.

I think if possible I would like now to conclude this event with a video with a few words that the Study Groups department would like to share with all of us on this important subject.

With that, I think we can conclude the event, probably with a few minutes behind the schedule. Once again, thank you very much and for all participants, in case you have any questions, please put them in the chat and we'll get back to you via email.

>> Thank you for the excellent moderation. I express my appreciation to the speakers and panelists for their contribution.

I'm also very pleased that we have had the opportunity to link forces with ITU telecommunication.

Thank you for the excellent moderation to both Cristina and Roxana. I express appreciation to the speakers and panelists for the contribution and I'm very pleased that we have had the opportunity to link forces with ITU Telecommunication Development Bureau, BDT to organize this workshop today. The workshop is an excellent example of how ITU-T and ITU-D are working together to accelerate Digital Transformation and make cities inclusive for all.

ITU is committed to building an inclusive Information

Society and supporting meaningful digital inclusion, particularly for underserved communities and population groups.

I think that the workshop has been very effective in highlighting the needs to adopt the universal design approach not only for physical environments but also for the adoption of technologies.

We have heard from our speakers and audience today that digital accessibility and inclusion are vital in successful Digital Transformation.

We must work toward creating and enabling an inclusive environment where the benefits of Digital Transformation are shared by all regardless of who they are.

The concept of Smart and Sustainable Cities has evolved as a means to leverage new and emerging technologies to solve growing urban problems and improve the quality of life for inhabitants. On this quest, we have to be cautious. While smart and sustainable cities have the potential to revolutionize the urban landscape for the better, it also made an unintention, reinforcing existing inequalities. In this scenario, it is essential that Smart Cities should adopt an inclusion area approach, one to ensure that all inhabitants have the right to benefit from the technologies implemented and two, to facilitate the delivery of services that support inclusion of vulnerable populations. Persons with Disabilities, and elderly individuals who may otherwise be faced by additional exclusion in communities.

These individuals should also have the opportunity to have a voice in deciding what Smart City strategies to overcome and how to do it to tackle risks associated with technology to bridge inequalities.

More recently, the U.N. led initiative, united for Smart Sustainable Cities has also established a thematic group on enabling people-centred cities through Digital Transformation. It will pave the way for formulating a series of policy-based recommendations and assessment frameworks for driving Digital Transformation in an urban context.

Why, improving smart and sustainable city governance.

This is an open platform for all interested stakeholders. Please feel free. Feel free to join the dialogue.

ITU has recently published a toolkit on Digital Transformation for people-oriented cities and communities. This toolkit is a one-stop guide that contains the latest U.N. resources on building and promoting accessibility,

inclusivity, sustainability and in cities and communities.

We worked with over 11 U.N. agencies and programmes to develop this toolkit and we are excited that the toolkit is finally available.

You can find it on the ITU website.

On top of that, the ITU self-training programme that was launched today, it is also already available on the ITU academy website free of charge.

It is available in English, French, Spanish.

I strongly encourage you to check it out.

I want to quickly mention that the standardization sector of the ITU has also developed the series of technical standards that are supporting Smart Cities and Communities to improve the accessibility of applications and services. The standards are particularly useful for supporting Persons with Disabilities and Specific Needs to use applications and services. You can learn more about the standards on the homepage of ITU-T's Study Group 20 on IoT, Smart Cities and Communities which is the lead technical standardization group on this topic.

Thank you again for all the speakers, the moderators and all of you for joining us today. Have a wonderful rest of your day. Thank you.

>> CRISTINA BUETI: Thank you so much. Thank you, everyone.

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