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ICTS AND ACCESSIBILITY FOR PERSONS WITH DISABILITIES AND SPECIFIC  
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(captioner standing by).

MODERATOR: It's almost 2:00 Geneva time, so we're going to start shortly. A quick reminder to all of the panelists, please keep your microphones muted when you're not speaking and please remember to unmute yourself when you're taking the floor. So it's 2:00, so if you're ready we're going to go live in 3, 2, 1.

>> MORTEN MEYERHOFF NIELSEN: Good morning, good afternoon, good evening to our global audience. My name is Morten Meyerhoff Nielsen the Moderator of the Session on ICT and Accessibility for Persons with Disabilities and Special Needs. While we allow the global audience to join we'll show a short video, and then I'll do some housekeeping rules.

>> The world summit on the information society 2021 has begun. It's off to an exciting start hosting several workshops and sessions since the Forum launch in January. As well as receiving a record number of submissions for the WSIS prizes of 1, 270 projects nominated. As the Forum progresses, we encourage stakeholders to keep an eye out on the interactive agenda for announcements about exciting workshops and various ICT for development-related special

tracks such as the opening of the ICT and gender mainstreaming track on March 8, the opening of the ICT for well-being and happiness track on March 15th, the opening of the ICTs and accessibility for persons with disabilities and specific needs track, also opening on March 15th, the high-level track will open March 22nd with high-level policy sessions. The cybersecurity track opening the 12th of April, and many more, such as the ICTs and youth track, emerging technologies for sustainable development track, as well as extended reality for SDGs track, all of which you can find more information for on our website.

In addition to these exciting tracks, building on the title of this year's Forum, ICTs for Inclusive Resilient and Sustainable Societies and Economies, we're hosting a series of related workshops, including a series of biweekly workshops where stakeholders from around the world will be presenting innovative projects and activities, use ICTs to respond to the coronavirus pandemic, which will take place until the end of March.

The work of our stakeholders will also be displayed in our virtual exhibition space, that will be inaugurated on March 15, 2021.

Various other networking and social events will also be integrated into the Forum with meet-and-greet opportunities, frequent social media posts and engagements, as well as engagement during internationally recognized UN days and weeks. Participation in the WSIS photo contest is also encouraged for stakeholders. Submit your best photo highlighting the use of ICTs for development. In addition, registration for the aging better with ICTs hackathon is now open with more than 120 registrants already, we urge you not to miss the opportunity to share your ideas, create or join a team, and contribute to building a better future for older persons around the world. We look forward to your participation, and thank stakeholders for their contribution in shaping this year's WSIS Forum through an open and consultative process. We would also like to extend a warm thank you to our partners, without whom this Forum would not be possible. Thank you. And we look forward to a successful 2021 WSIS Forum.

>> MORTEN MEYERHOFF NIELSEN: Once again, welcome to our session on ICT and accessibility for persons with disabilities and special needs. Today we have a packed panel of six practitioners and we will focus particularly on the need to promote the accessibility profession, including how we develop assistive technologies and tools to include more people, particularly those with special needs.

In a few minutes we'll start this session, and for the smooth running of it, I kindly ask you to address any comments or queries to the panelists in the Q&A sessions or the chat function. At the end of the session, we'll raise a number of those that have been

proposed, so I hope you will contribute that way.

The session will be recorded, and it will be made available at the WSIS website, specifically on the page where you also registered for this session. Human captions are also being provided during this session, so please keep an eye on that.

Our panel today, as I said, is six practitioners. We will start shortly with Axel Leblois President of G3ict, but we will also have contributions from Dr. Piyush Cannana from raising lines foundation. And chief and founder of hawk and Ms. Aoyang is joining from Mongolia and responsible for English translation and translators. And the last but is Mr. Arsalan Somjee.

Let's start with you Axel, you're deeply involved with the promotion through the international accessibility professionals or IAAP, so why is this an person element of the work that you do as when the NG3 and advocacy work that you do there.

>> AXEL LEBLOIS: Thank you, Morten. Good afternoon, and good morning to everyone. Thank you for your question. The accessibility is very important today in that on the one hand we have a number of obligations that state parties to the CRPD have committed to implement. We also have the SDGs that actually push for for inclusion of persons with disabilities in many different ways in work, social life, and at the same time we have a number of new technologies that allow to digital content and services to be accessible and yet in many ways as we measure what's going on, we see that the youth of the solution, the implementation of the solution is not happening, that is not happening to allow that at all.

So we realized a few years ago that one of the key issues that was missing or was blocking was the lack of expertise about ICT accessibility in most organizations around the world, and in addition to that when we, as you probably saw in the presentation earlier this week, 36% of countries do not have any training or education resource on accessibility, be it universities or within official organizations so that leaves a very big vacuum here.

And that's where a group of companies, international companies, people from all over the world joined forces about six or seven years ago to create the International Institution of Accessibility Professionals to fill that gap, and in 2016, that group came to this ICT and became part of this ICT so that we could invest in the certification process systems and membership development and so on and so forth.

So today, 2021, we have about 2, 500 members in 70 countries and all in 42 organizations from both the public and private sector supporting the G3ict organization, so it has gotten some good momentum and we're very happy about it. What I would like to share with you today is what are the main features of this and how do we see it evolving over time?

So, I think that a very key point to understand is that for a profession to be born which is really what's happening right now, you need a couple of different things. You need a strong definition of what people are doing in their daily lives, what they need to know to exercise their profession in full competency, and you need to sort of networking among the members of the profession, and most importantly you need to have some kind of blessing or certification process that tells people, okay, this person is certified professional, like you would certify a doctor or any professional in the world so that you know that that person knows the basics.

So what are those basics? Number one, people need to understand the very wide area of disabilities that exist today. It's just not only that particular disability physical impairment or hearing impairment which I think is easy to understand. There are also many, many various types of disabilities that most people aren't aware of and that are invisible in most cases. The knowledge of disabilities is really crucial for anyone who is responsible in an organization to implement accessibility.

The second thing is people need to know, okay, what are the barriers in the digital world that those types of disabilities will actually experience, and that also is a very critical aspect of the knowledge that people need to have to run an accessibility Forum.

The third thing is, okay, what about the solutions? We're going to find them, how can we implement them, and how in the organization should I deploy them and make sure people understand how to use them? So it's a program and what we did for that whole process was to develop a number of educational resources that are mostly web-based. Some online courses, we partnered with Princeton University in the United States to develop the basic course on co-competency for accessibility and then also developed a whole series of webinars that are covered and archived that are accessible and are actually meant to focus on specific critical issues that accessibility officials meet every day in their job.

We also launched some core connections which allows our 2, 500 members to ask questions to each other, exchange trick of the trade, and ask for help when you don't know what to do about something. And some days we have peaks of about 200 to 300, and sometimes 400 a day which shows how big a need it is for people to actually share experience and find new ways of doing things.

I think the one thing I want to emphasize is the very critical aspect of the certification process. It's just not a little online thing that you go out and you get a certificate because you took the course. It is a very, very elaborate process defined by ISO. First, you need to actually have a group of experts explore what topics should be appropriate for the job or what the job profile entail, and then you send a survey to hundreds of people around the world that are within that profile. They provide feedback, and then

they develop a budget of knowledge that is the bible, if it you will, of that certification track that defines point-by-point what you need to know and why. And then from there, you develop an exam with all kinds of expressions and processes and firewalls between the people who authorize and they examine so and and so forth. It's a lengthy process. Each certification is in the tune of a thousand to develop so not easily to do.

Then if you look at the diversity of languages, we need to address that as to tremendous requirement that's involved. However, it has taken off and at this time we run five certifications. One is the Certified Professional of ICT Competency for people that manage accessibility in an organization. We then developed the Web Accessibility Specialist Certificate for developers of websites who are very technical people, who are in need of knowing how to make a website accessibility. We have a combination of those two as Certified Professional Web Accessibility that incorporates both certifications, and we just launched a certificate for the Accessible Document Specialist, and that is in high demand in most organizations, and is that is actually a first to allow many more people get involved in producing accessible services.

Finally, at the request of many of our members, we also developed a certification for accessibility built environment specialist who actually most of the time, not this is centered around the topic, they need to know about it, because in most organizations you do have a lot of physical environment issues, so those are the certifications that we now have in place, and we have about close to 3,000 folks who are certified. That's a quick snapshot of that.

>> MORTEN MEYERHOFF NIELSEN: Very interesting work, Axel. I'd love to ask more follow-up questions but we have a tight agenda. It brings us actually to Martin. Martin, as a developer and -- at Cboard you use a lot of technologies and what is the relation between children using technologies particularly between friends and family members? What's your experience here?

>> MARTIN BEDOURET: First of all, I would like to thank to the World Summit on the Information Society Team for the invitation and for all of the support that you do to promote our projects.

So, thank you very much. In order to answer this question, let me tell you the story of Serna. Serna is one of the children that has received the communicator thanks to UNICEF for every child, a voice project. Sena's mother, Ivana says that in addition to overcoming her communication inhibitions, Serna is now leaving behind emotional inhibitions as well. She is so happy when she's able to say something, when she expresses any emotion. There are very few of those instances now when she screams or is anxious because she doesn't know how to express some things she wants to say.

Natasha, a speech therapist working with Serna and her family says that Serna keeps saying new words every day, and that she is able to communicate with her parents about her wishes and needs as well as to play with her parents and participate in all family routines.

She believes Sena's speech development progress was greatly influenced by the fact that her parents made an effort to use the communicator in all situations, but also by the fact that they started using it at an early age.

Using assistive technology can be very useful and important for children at an early age. Serna's parents were very successful in using the communicator because they used it, not only when working with experts during their sessions but at home everyday, all day. They used the communicator when they were engaged in daily routines, during meals, when playing, or reading stories. Ultimately, that's what helped this girl to develop verbal communication skills. It can also be used by adults who have speech impairments in order to ask for help, express their feelings, or even to give a presentation on the WSIS Forum 2021 as I am myself doing right now.

Let me quickly show you the board that I'm using for my speech now. I am Cboard, thanks for watching. Thank you. I can't speak so I use the computer voice to talk. Thank you.

>> MORTEN MEYERHOFF NIELSEN: Super interesting work you're doing, Martin. But as a person with a disability, what do you think, personally in your experience is the ability that is most important for you to have for everyday and independent living, what makes your life easier?

>> MARTIN BEDOURET: I like to answer this question since it enforces the mission of the project we work for. Due to my disease, I have to face multiple disabilities. Anyway, I think that communication is the most important capability for humans. Language shapes your mind. When I started to lose my ability to speak, I started to think differently. I found myself being less social. That was something that I could handle as I was conscious of my socialability loss, but what about children with Autism or cerebral palsy who are prevented to talk from the very beginning of life?

I think that technology, and ICT it's play a major role in helping them and collaborating on language development. Latest developments and emerging technologies like artificial intelligence should improve the lives of people who can't speak. No speaking doesn't mean no thinking, and I'm sure that soon we will have interfaces between the computer and brain that will give a voice to people who have lost their speech.

Okay. That would be all I got for my presentation, and I will be sharing the links of the project in the chatting channel. Please feel free to contact us if you have any questions or comments about

Cboard, and of course we are always welcoming collaboration on our Open Source repositories.

You don't have to be a programmer, the Cboard community is made up of translator, caregivers, speech therapists, parents, and people who are facing speech difficulties. Let me highlight the fact that we are looking for investors and to apply for programs that can help us to strengthen the solution, most especially in developing countries. Thank you very much. Thank you.

>> MORTEN MEYERHOFF NIELSEN: Thank you, Martin. Now, Martin presented some of the work that's been done in the Western Balkans, so turning to you Dr., in addition to middle and low-income countries what is in retle about making it available for persons with disabilities and how does that work for the Raised Lines Foundation in India? Please unmute.

>> PIYUSH CHANANA: Thanks, Morten. Thanks. Thanks WSIS for this opportunity, and good afternoon, everyone. So I'll start -- I'll just share my presentation.

Okay. Okay. When it comes to low-income and middle-income group countries, our challenges are a bit different from the developed countries because in our countries, the situation is quite different in terms of environment and the languages, so as you can see in the slide, on one side the environments are really structured in developing countries once we go to like India, the environments are quite unstructured and even boarding a bus by person with a disability or walking with a normal white cane can be a huge challenge in our situations.

And when it comes to language, a solution is developed to work in a more particular language, it will serve only a few states in our country, so more than 20 languages are spoken all over across the country. And even the biggest challenges when it comes to persons with disabilities and especially persons with visual disabilities, sensors, there are more than 5 million people with blindness, but where are they? They're located all over the country and the distributions are quite spars and how would we reach them? If even we develop a solution, how would they even know that such of a solution even exists, so these are the kind of challenges where we are working.

So when it comes to solutions from the international manufacturers, one, because of this environmental and language compatibility issues, they have limited compatibility and utility, and as a result they partly address the unmet user needs. Moreover, the cost remains high, which makes it unaffordable and unavailable for the majority of the people in the country.

And similarly when we talk about the Indian manufacturers who develop such solutions, so identifying and solving the correct problem is the first challenge, like how would I actually be connected with the community with persons or any community, and the

customer acquisition cost is too high, and there is no way to reach out to the people and as a result awareness remains low, so even if you develop something very meaningful, the demand is not there.

So it's very difficult even for like established manufacturers and entrepreneurs so actually sustain their operations. So, in this -- with this background, the journey of our lab started way back in 2005 when a simple problem was posed to us, like on the left side you see a picture of a person, Mr. Manocha who is a visually impaired person. He, himself, works with White Cane but often it results on injuries on the upper body because cane cannot detect things above knee, such things like sign boards or even the glass windows, these things are quite common.

So he approached my mentor and my professor, Balakrishnan and along with Professor Rao, this is to solve a problem and it can be solved very easily. And this group of students just said, okay, we'll do it and solve this problem.

So within like, of course, a period of six months, they were able to do a basic prototype which worked very well and was very encouraging for -- for everyone that it was working very well, and it solved the problem like you put a small attachment on the top of your cane, and it has sensors that can detect presence of object in advance and helps you get information about the such obstacles and you don't need to collide with them.

Then the real challenge came. This is where most of the student projects end, and the journey stops here. But it was very important for us to take and convert this prototype into a solution, and that's where translational research started. It took allot of time from 2006 to finally the product was released in 2014, so the journey was quite long and can you see how products -- how prototypes evolved from one stage to the other over this period.

To solve this problem, it was not possible for academia alone to address all the aspects, so we went for collaborations like the original research development innovation part was handled by the our lab AssisTech and then engagement for the user community, understanding user needs, validation, user studies, usability studies, partnership with the community organization section was created, and then obviously it's very important for these products that they -- we wanted affordability but with high quality, and that's where the role of industry partner is very important and that's where Phoenix medical systems helped us, and despite all of this arrangement, still the challenge was how would we sustain this translational research phase, and that's where the funding support of Wellcome Trust, and this finally resulted, this completed the cycle and finally we were able to develop a product which reached people of India and abroad equally.

And so in 2014, we launched this product and in for three years it was like doing capacity building, community outreach at regional



and international level, and then finally today we can see that at least there are a hundred thousand people that are using it in India and 12 other countries.

>> MORTEN MEYERHOFF NIELSEN: We are almost out of time, but is there any sort of final thing you would like to say about the role in academia and how you're promoting it to reach more than the hundred thousand? What's your next target?

>> PIYUSH CHANANA: So we are still expanding and we are now working on the next versions because we have this linkage and we have organized the market, and this has actually helped us in developing more products in a much shorter period of time. And like at Raised Lines Foundation, we're solving this problem where we, ourselves, started this facility of developing tactile diagrams, which are like -- which are important piece of information which is completely, completely missing for the persons with blindness. And today we develop tactile books which ensures that students get access to text and Braille or audio, plus the entire content of making the complete experience of the students, and that's you who this collaboration model and how simple student project became a product, an international product, and at the same time this is group of students for the other project, they started their own thing to take this initiative further.

>> MORTEN MEYERHOFF NIELSEN: Excellent work. Very exciting to hear how it's organically grown from the academic environment to become a viable innovation in the private sector with a real impact and value for its uses.

Talking about languages and the multitude of languages, Thadeu you're the chief IAA and Hand Talk and you work with Brazilian Sign Language and American Sign Language, how does that impact your life at work and how many sign languages are there currently in the world today.

>> THADEU LUZ: All right. Let me do a quick presentation here to talk a little bit more about this issue. Good afternoon, everyone. Or good morning if you're in the West like I am. Let me just present my screen.

So Hand Talk was founded in 2012. These are the three founders, me and my two partners, and we created a company that now currently has 50 people. Everyone is not in this picture because this is from 2019, of course, it feels like a decade ago but it was just a couple of years ago.

We were based in a smaller city on the Coast of Brazil on the beach, as you can see, and the reason why we're all together is to try to knock down a few bricks of the communication barrier between people that use sign language as a primary language, mainly deaf people, or people that use oral spoken languages as their first language.

So there are 466 million people in the world that have disabling

hearing loss, and this is a quote by the UN. 80% of Deaf people lack education or undereducated or illiterate or semi-literate. It's harder everyone for someone born Deaf to learn an oral language, the spoken language, because the symbolic system is different.

As Martin mentioned, exceptionally, beautifully, there are great problems when you lack the communication, especially when you take too long to develop your first language before the age of 5, so it starts having impacts on the way of the development that you have.

So this was a great concern for us, and let me tell you the story of Laura. Laura had a son, and her son was deaf, and she heard about the products that we were making. One of them is a application that you can use to learn sign language, so the way it works is really simple. You can type what you want on the app. The app is free. And a character will sign it to you. So she saw this on a TV commercial. She works as a hairdresser. She saw that on TV at her work, and on the way home on the bus, she was learning sign languages, and when she got home for the first time in 30 years, she was able to tell her son that she loved him, and he was welcome to stay at her home for as long as he needed.

So, when we get messages like this, it makes it all worth it, like it sets us like -- it resets the mindset that while we're working so hard at what we do everyday.

So the technology behind all of that couldn't have been possible without the use of artificial intelligence for machine translation, natural language processing for the translation that we do, and also image processing or computer vision as it is called, and we use that to recognize movement and poses on interpreters that we have on a collaboration platform for sign language data, and we use that to create better models that translate more accurately, and they're able to help people learn sign language anywhere, wherever they are for free.

So, the reason why the next steps are going to be so important for us is that we intend to, one, to open this platform so that anyone can contribute with their local sign language. And to answer the question, there are over 200 different sign languages in use in the world today. We only have two translation pairs because all the development we have been doing is not open to the public to contribute with those signs yet, but it will be soon. We aim to do this by the end of the year.

The second thing is we want to release a very special feature, which is the recognition of sign language, and the hope with that is that in the near future, Laura's son can use the app to sign and tell his mother that, you know, he loves her back in his mother's first language, and this is possibly going to give him a voice to speak in the spoken language, the language of his mother. I guess this is it for today, so thank you for the invitation.

>> MORTEN MEYERHOFF NIELSEN: Thank you very much, and right on the five-minute timeslot as well, so congratulations on that one as well. Interesting comment you had at the end about the official recognition of sign languages. I remember back as a student in the mid-90s, South Africa was one if not the first country in the world that actually made sign language an officially recognized language under the Constitution.

So, there is a precedence for doing so, and that is almost three decades old now, so that's one way to go.

Now, several of our panelists so far have mentioned the importance of collaborating with the private sector, but also to ensure that there is certification. So our next speaker, Ms. Oyuntugs Bayaraa is working with the organization of people with disabilities in Mongolia, so I would like to ask you how you are effectively collaborating with employers to ease and facilitate the process of hiring people with disabilities, and what is working and what is not working in your experience?

>> OYUNTUGS BAYARAA: Hello all, and I am very much delighted to be working for this WSIS 2021, and yes that's all right. My short time in Oyunt, it's much easier for you to call me that. And I am from Mongolia. I decided to pursue my degree in rehabilitation field as rehabilitation counselor given the opportunity given to me as full-ride scholarship and I return home two years ago now and I graduated and returned home and started job hunting, of course.

During my experience of job hunting, let me share two different cases with you. Okay. I was asked and invited by a youth hospital LLC to give information regarding employment of persons with disabilities because they were willing to hire persons with disabilities but and they gathered around 60 to 70 human resource staff and marketing staff of all the contracted mining companies in Mongolia, so I was invited as a guest speaker and shared just like not personal story, but I shared a professional knowledge and information, for example, where they can find an idea of a reasonable workplace accommodations, and which resource or which website they can use, and also I kindly asked them not to determine someone's disability because the methodology used in Mongolia determined if a person has any capability or not, they say a very fixed percentage. For example, I have a 90% loss of labor capability because of blindness, but still I am working as a translator from home and I'm participating like in social events here and there, and so it doesn't mean like I am almost totally unable to work, so I give them such information and provided them the resources and like websites, of course in the English language because in Mongolia our government is not developing such very useful information.

And as a result, one human resource director of one mining company offered me a position of translator, and also later on she informed me back telling me that we opened five more vacancies to

hire persons with disabilities in our company, and we have got them approved by our senior management team. It was really encouraging, so what I meant to say is like, we have to really approach the employers giving them the very productive and professional information that they don't know how to find, where to find.

So, this is one example of attitude of employers, and then one other case, the negative one. I submitted my application and CV resume to one commercial bank for the position of translator. They called me because they liked my experience of translating and interpreting, and when they called me for the written test, I explained that I am blind and can you please give me your test as digital in Word format so that I can easily fulfill the task.

I couldn't really convince the human resource lady, and that way I lost the chance to take the written test, and so like what I meant to say is, however the persons with disabilities are qualified with experience and expertise, they are going to fail in the second phase of recruitment and selection of employment, which is not fair, which is not legally fair.

So, and even though I was allowed to take the written test, I would not know where to send the paper-based test for conversion, I would not know, because here in our country there is no such center for conversion into accessible formats. This is what's going on in employment setting in the relation to the ICTs, and, yes. Also, if -- uh-huh?

>> MORTEN MEYERHOFF NIELSEN: Yeah, so what do you think needs to be done with respect to accessibility? Is it education for -- like educational type thing for employers, or is it education in general? And how does that relate to getting more people with various forms of disabilities the equal opportunity for jobs that they are qualified and capable of doing? What is working and what's not working, and how would you do that?

>> OYUNTUGS BAYARAA: Yes, for bigger companies and bigger state and non-governmental and private sectors, I think it would be possible to train their IT department person, to train one of the specialized -- one of the IT people teaching them to convert any paper or anything into accessible format for persons with disabilities. We can train them. But as I know, we don't have any such human resources -- any such work for who can train, who can coach them. So that's why I'm saying that I would not know where to send that written test for conversion. And the educational setting, at primary education, higher education, and preschool education, there is none of such disability resource center for the students and pupils with disabilities.

We are still discussing about education of special needs or inclusive education. The representatives and non-governmental organizations, state officials, we are still discussing and debating which way we should take in the future. In my opinion,

we should take the combined way, but we need to prepare the physical, the physical provision at school settings and university settings. I am collaborating with the University of Mongolia, which is the state university, and because of the pandemic our project has stopped, and they have initiated to wait to open up a disability resource center for their students with disabilities, and I encouraged people, and we decided to invite specialists from -- because in order to raise awareness the officials at university practitioners and students with disabilities. Yeah. The project is stuck for a moment, but it was initiate and we hope it will continue in the future.

>> MORTEN MEYERHOFF NIELSEN: Yeah. It sounds like you have similar experience about the positive impact that academia can have on addressing the challenges and helping to address the challenges of people or persons with disabilities and special needs.

I, unfortunately, have to move on, not unfortunately move on, but due to time we have to move on as we have one panelist left. Mr. Arsalan Somjee, you're the Director of project strategy and business outreach at WonderTree, and sort of in light of the pandemic and COVID, has that had an impact on your organization's ability to influence the way that assistive technologies are being applied? Or how are you seeing this? Has the fact that a lot of us are working from home actually been -- had a positive impact in this regard with the challenges that we're discussing?

>> ARSALAN SOMJEE: Yep. Thanks, Martin. This is a pleasure to be here, good morning, good afternoon, people. I saw some of the most enlightening work that is happening all over the globe and I'm very happy to see this. Especially in terms of what people are doing in terms of accessibility and becoming a driver force. And to answer your question, yes, definitely COVID had an impact.

So what we essentially do is we make augmented reality games for children with special needs, which focus on their motor movement, cognitive learning and now academia as well, we're moving into that direction post COVID.

And, yes, our model initially was to be where we would go to institutions and pitch them the idea that the institution should have these games, these series of games which people can use and the children can, you know, have a fun and engaging way to learn certain skill sets and eventually when the pandemic hit, the schools shut off and a lot of children were out of school, so that gave us a benchmark to focus on which was getting our platform across to the B-to-C audience, the households which do not have access to schools, like impacts over a million children and there are only 330 registered schools, so you see that there is a lot of gap in terms of accessibility and the public infrastructure that is available for them.

And I think what essentially we started doing, especially tech startups like Thadeu, I'm not sure if I pronounce your name correctly, but what was said, the kind of work we're doing is filling these loopholes which are into the policy framework for different organizations or different actors, and we are positively impacting and filling out these gaps for the government, and in the meantime also making an impact directly on the kids.

So, yeah, it was a positive impact, what COVID has done to digitize everything and, you know, make it accessible now. The next question remains, like how is our telecommunication sector, how they're going to move forward during that everything is now digital, so they have to -- like what startups can do is we can partner with them and make meaningful collaborations which could essentially bring all of these learning systems into force for the audience.

>> MORTEN MEYERHOFF NIELSEN: Okay, so how do you actually see a way forward in terms of both the profession working in the technologies and for instance the teleco-industry, so how are we going to make sure that solutions are basically more nondiscriminatory?

>> ARSALAN SOMJEE: Yeah, so I think essentially what we need to do is we first have to realize that there is not one solution that fits all, because there are a range of disabilities that are there, even with the like learning and motor difficulties that children face, and then there are several stages to what kind of therapeutic interventions they need. Sometimes children are mostly with learning delays, which is called global development delay, and these children, they just need accelerated pathways to learn so that they can be with the normal children and be in the classroom but they're delayed, a little bit delayed, for whatever reason.

So what we need to work is the ecosystem, the digital ecosystem especially with the tech solutions that are coming forward. They need to plug in and make meaningful partnerships, like we partnered with (?) to scale our solution to spaces where access to infrastructure was not available, and then what we did was we partnered with the government and started getting into policymaking, and now we are on the cusp of identifying the early-childhood education and development curriculum for the government and bringing it to schools which are in both spaces, you know, not just the public, but there are schools which are the community schools which are in rural areas and these sort of spaces.

And this is where the target market is, and it's the old focus on getting there, you know, bringing and like making meaningful collaboration, and getting our product to those places where it's inaccessible, then I think we're on the right track. We cannot expect the governments to do everything for us. It's these meaningful collaborations with startups and the teleco system which

could bring about the change that we all set out to do.

>> MORTEN MEYERHOFF NIELSEN: Excellent. It's nice to see that you've highlighted the role of the industry you represent, the gaming industry, and particularly sort of that it's more than just fun and games, but actually have educational purposes as well. And trying to help make education more accessible.

Now, we, unfortunately, are a little bit over time, but and I'm looking at the chat and we have no questions raised, so Suzie highlighted a couple of things in terms of the need of the employers to take on a responsibility (Susy) which we have also heard from a number of people, the world of academia seemed to be congratulated a few times in our chat as well, and kudos to all the panelists and attendees working in this area and actively trying to contribute to positive solutions.

So, if you may allow me, I will raise an issue, and whoever of the panelists wants to give it a shot with an answer, please raise your hand in the bar at the bottom and I'll hand over the microphone. How do we actually ensure an all-inclusive society through the profession of an accessibility profession? Is it just about innovation solutions from academia and the private sector? Is it about the individual taking the responsibility? Is it government emphasizing standards that will facilitate the work of the accessibility profession? So, Axel mentioned certification, an old classic, the W3C Consortium Web Web Accessibility Standards. What's the way forward here? Any takers?

>> AXEL LEBLOIS: If I may.

>> MORTEN MEYERHOFF NIELSEN: Of course. Achesle and then Dr. Chanana.

>> AXEL LEBLOIS: Thank you. A bit of all the standards you mention. It's a very important framework to promote accessibility and how things are being done today. There are WCAG from the W3C, and but you also have the public procurement struggle which is very, very powerful in the U.S. Section 508 and in Europe (?) also a number of things for communication in which ITU has been promoting for many years, and then there are industry-specific guidelines or like ATM for banks and now guidelines for mobile accessibility and so on and so forth. I think the key is to keep pushing the sovereignization exercise but at the same time nothing will happen in corporations or administrations, or universities unless there is some level of wellness and pressure.

Just to give you a sense in North America right now, the reason why companies implement accessibility programs is pretty much evenly distributed among companies who do it for compliance reasons, so they have a legal obligation to do it, and if they don't do it they have risks, financial risks of being fined, and also true for universities in North America.

But also, another group of companies does it because of their

corporate values, and corporate values including inclusion strategies and objectives, so they are realizing they can't be following their own objectives if they don't pay attention to accessibility for persons with disabilities. We cannot hire persons with disabilities if you don't have an accessible workplace.

And for consumers, if you don't practice accessibility in all the development of products, chances are you're missing a big chunk of the marketplace, and not only that but the perception of the organization may not be that great. Remember, one family out of three in the world has a person with a disability, so better be careful about paying attention to persons with disabilities with profound influence on your brand. That's for the private sector.

>> MORTEN MEYERHOFF NIELSEN: Thanks. Dr. Canana, you wanted to contribute and I also wanted to say that Xakirzat raised a question that maybe quotas for government jobs and there is a commitment to hire more persons with disabilities, but Dr. Canana, you wanted to contribute to the question I raised as well?

>> PIYUSH CHANANA: Yeah, so in India we're trying to do it at multiple levels, like Axel rightly said one is the compliance requirement. If compliance requirement is very good then people do it out of fear or loss of financial.

But in India another challenge is accessibility, people think it's something very different and can be done only or handled by very special set of people, and if we really want to like take an example of school students, on day-to-day basis, teachers who are teaching the students, they come -- they're using printed materials and hand in notes, but they don't know how to make these materials accessible just by using their technologies, which like their own smartphone and their own laptop which they're using for so many years but they just don't know that basic thing how with small considerations all of their documents can be digitized or can be made accessible, and so on one front we do -- we're trying to build skills among the parents, teachers, caregivers so it's a common thing and something very obvious that everybody can do.

Second is in terms of accessible books and it can be fiction or non-fiction or anything, so there the role of accessible book consortium and Marrakesh Treaty like in India, we have a library adopted by the Government of India and this repository has books that directly can be used by students so again this awareness is required. And on that front even if we make all of this information accessible, then the point is how with a child or person with blindness or person with disability consume these things? So that's where the development of indigenous assistive technology solutions is required, like on computer, like basic applications for reading and writing can be a game changer, even on mobile phone in India, we're trying a lot to use this as a basic reading and writing device for students, and similarly that the availability



of low-cost Braille displays, et cetera, which can handle multiple Indian languages, they're a game changer. And so if we put all these three different things together, this would bring in the awareness amongst the community as well as the other stakeholders, then I think we're in the like five years or ten years from now, the situation would be much, much better.

>> MORTEN MEYERHOFF NIELSEN: Thank you very much. There is actually an interesting bridge to what you're saying to also what Oyuntugs has highlighted in her presentation. The indirect of employers that hire colleagues in the organization, so HR, about their awareness of a disability and not necessarily being a barrier for doing a highly professional job and contributing.

So, I'd like to start closing this session by thanking all of the panelists for highlighting all the interesting elements and all the experiences that you've had, and all the contributions that you're making, either as stakeholders through your academic work, through your private-sector work, and innovative solutions that you're developing.

So thank you very much on behalf of the WSIS Forum for supporting WSIS with your time and your insights, and also thank you to all of the panelists -- no, attendees to be correct for joining. I'm happy to see that there is a bit of conversation going on between individual panelists and some of the attendees, so it shows that there is value to this activity.

Just hang on for a couple of minutes at the end of this session to see who are actually formally sponsoring and partnering. And otherwise, I wish you all a nice afternoon, nice evening, and good continuous morning, and I hope to see you again in some of the other sessions on this topic this week or on other relevant topics in the WSIS Forum. Please go to the Forum, check the agenda, feel free to register and join the conversation. Thank you once more, and thank you to our sponsors who you will see in the short video now.

(session completed at 9:01 a.m. CST).

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