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ROUNDTABLE ON SDG 9 AND 17: PARTNERSHIPS FOR INCLUSIVE AND
SUSTAINABLE DIGITAL DEVELOPMENT

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>> JAROSLAW PONDER: Dear, ladies and gentlemen, it's 10
past 3:00. We are almost reaching the academic quarter, and so we
would like to invite all of you to take your seats. So, we would
like to invite you to take your seats, and then we will be starting.
Of course, today, we are benefiting from the different services
provided and offered by the Regional Forum on Sustainable
Development, including the interpretation, so I encourage all of
those who are speaking in different languages to make this meeting
even more exciting by hearing different languages and using those
services. Also, we have the sign language, also with a warm thanks
to the sponsor of those services, and we hope that they will be a
benefit for our discussion.

Before we start, let me invite the Regional Director of the
WMO, Radics Kornelia to say a few words.

RADICS KORNELIA: Thank you so much. Dear Chair,
moderators, speakers, dear participants, ladies and gentlemen, it
is my pleasure to welcome you here at the WMO headquarters and
roundtabling on SDG 9 and 17, partnership for inclusive and

sustainable digital development of the regional Forum for sustainable development of the UNECE Region. We are delighted to welcome all of you today joining us in person here at the WMO Headquarters online or just following us in the WMO YouTube Channel. We're gathered here to discuss the importance of digital cooperation and the link that this notion holds to reach the 2030 Agenda. We have esteemed speakers to share their perspective and policy recommendations to support an inclusive and green digital transformation. We look forward to engaging in these insightful interventions and to an engaging discussion among all participants. Thank you. Thank you for the floor. Thank you for being part of this meaningful event. Back to you.

>> JAROSLAW PONDER: Great. Thank you very much. Just a reminder that this meeting is co-organized by many UN agencies, a joint effort of the United Nations Group, Digital Transformation Group for Europe and Central Asia. This is an important platform to coordinate our activities on the digital, providing support to the UN Country Teams in the way of how they are rolling out the political visions and the policy advice on the ground in supporting the countries. This is the reason why today we are also joined by our distinguished High-Level representatives of WMO, ITU and Co-chair of the Regional Forum on Sustainable Development to take a little bit of the moment of reflection on how to ensure that this marriage between the digital and sustainable development can be made real.

And just not to prolong, I would like to invite first our distinguished colleagues and representative of Switzerland, Co-chair of the Forum.

>> MARKUS REUBI: Thank you very much, Mr. Chair. It's a pleasure for me to speak at this marriage. Distinguished participants, esteemed guest speakers, Mr. Zavazava, Mr. Lucio, it's my pleasure as Co-chair of the Regional I Forum for sustainable Development to launch the roundtable on SDG 9 and 17. The SDGs discuss the importance of partnerships for inclusive and sustainable digital transformation. Digital transformation as well as Information and Communication Technologies in general are critical to accomplishing the Sustainable Development Goals. Of the 17 SDGs, and 169 targets, hardly any are detached or completely detached from the impact and from the potential of digital technology. Digital technologies foster economies world-wide, she shape global societies. In particular, collection, processing, and visualization of data are key in measuring the progress made in implementing the SDGs. They are key to promote evidence-based political decisions. My own country, Switzerland, for example, has taken such an approach in digitalizing its voluntary national review, VNR process, through a tailor-made tool called SDG 2030.

In a more general comment, I would say that the COVID-19 pandemic has stressed the potential of digitalization in the health

sector and in general. We should build on the learnings, we should carry success forward as we continue to build our societies back better.

However, while digital transformation offers a hand in simplifying processes, facilitating the national and international comparability of data and accelerating important developments; however, we need to drastically improve availability of SDG data world-wide. We need to continue investing in data and statistic systems, and we need to find common ground in regulating the use of data. Furthermore, we need to ensure that digitalization does not further widen the already-existing gaps and aggravate inequalities. The RFSD, the Regional Forum on Sustainable Development provides a opportunity to jointly reflect on the status of achievements of SDGs and their targets. With only about 7 years left to meet these goals, the RFSD is a moment for decision -- makers and others to exchange ideas and best practices and forward-looking policy actions that we need to accelerate progress and close any remaining gaps.

Not only does the RFSD serve as a convening platform, but it will also provide a regional contribution to the High-Level Political Forum on Sustainable Development coming up in July. This year's RFSD is a particular significance of the Agenda 2030 as it provides an opportunity to contribute to the SDG Summit which will take place in September 2023.

This will be the halfway mark of the 2030 Agenda implementation. Looking ahead, the Summit of the Future that will be held in 2024 will build on the SDG Summit to reaffirm our commitment to the 2030 Agenda and sustainable development as a much needed priority in today's world.

The summit, we hope, will bolster partnerships to access global challenges, and I'm thrilled to witness this roundtable which emphasizes on taking a coordinated and systematic approach in bridging digital development gaps and challenges.

Even the indispensability of digital technologies in every domain of our life.

This roundtable will thus provide very relevant proof, very relevant to those different processes leading towards the summits that I mentioned. I look forward to the discussions which I'm sure will provide important insights on how to accelerate the implementation of the 2030 Agenda. We need to give this agenda another push, and I thank you in advance for sharing your views and for the fruitful exchange that we will witness. Thank you so much. Back to you, Chair.

>> JAROSLAW PONDER: Thank you very much for the statement. We are looking forward to the SDG Summit, an also reinforce the message on the digital, and hopefully we will have a Digital Day at the SDG Summit which will definitely reenergize the efforts which

we are also discussing today.

So dear, ladies and gentlemen, now it's my great pleasure to introduce Dr. Cosmas Zavazava, Director of the Telecommunication Development Bureau of the International Telecommunication Union.

>> COSMAS ZAVAZAVA: Good afternoon, ladies and gentlemen. Thank you very much for inviting us to be part of this discussion. I was at LDC35 two week's ago, and speaker of the speaker reinforced the statement of the UN Secretary-General that it is digital that is likely to rescue the SDGs. We will agree that in terms of the least-developed countries, and also the international community, we are lagging behind in terms of our targets to achieve the 2030 Development Agenda. And with this, I would say, Mr. Reubi and Mr. Lucio, it is a pleasure to share the panel with you, and good afternoon. It is my great pleasure to join you here at this peer learning roundtable on behalf of ITU, the UN Specialized Agency for Communication Technologies of the I want to thank UNECE for putting together this Forum and the commitment for sustainable development.

ITU is strongly committed to accelerating the world and digital transformation globally to help achieve the SDGs in this decade of action. And our work evolves around these two SDGs, SDG 9, 17, and of course, the rest of the other SDGs.

Over the past decade, the connectivity challenges become more complex and demanding. Bringing everyone online is no longer enough. Meaningful connectivity is now essential for everyone, everywhere, to achieve their full potential in the digital age. Our goal is to see everyone enjoy a safe, satisfying, enriching, productive and affordable online experience.

Development of the digital economy is inextricably linked to the achievement of the SDGs. Digital transformation has to take place across the whole society, from digitalizing economic sectors, digital public infrastructure, building innovation ecosystems, creating digital government, developing digital platforms, just to name a few.

ITU's Telecommunication Development Bureau, among others, impactful partnerships actively develop programs that help countries, knew chur enabling policy and regulatory frameworks, build their capabilities in innovation and entrepreneurship, accelerate the impact of their digital ecosystems to ultimately help unlock their digital potential.

Let's look at connectivity in the regions in this light.

ITU studies show that in the CIS region an increase of 10% in fixed broadband penetration would yield an increase in .63% in GDP per capita. An increase of 10% in mobile broadband penetration in the European region would yield increase in 2.1% GDP per capita. But some gaps impacting SDG 9 and SDG 17 targets are evident.

Based on our research, Eastern Europe even and central Asian countries still have a 10% gap in 4G coverage. Last week I was in

India, and the Prime Minister launched the 6G vision. While the other countries are still struggling, some are stuck in 2G, others in 3G, and as we can see here, we're discussing about the 4G coverage.

About 2% of the population is not covered by mobile networks. 13% and 18% usage gaps in the Western and Eastern parts of the region, respectively, also exist. How do we close these regional gaps? We need new thinking.

The focus on SDG 9 and SDG 17 reflects ITU's core mandate. In this region, we need connectivity to power digital transformation for sustainable economic development, job creation, and world-class educational outcomes. But we also need to develop ecosystems that knew chur innovation and entrepreneurship. This is one of the motivations behind the innovation and entrepreneurship alliance for digital development, which I launched in 25th of January this year. The alliance focuses on both demands, the alliance helps countries use digital transformation to spur national development agendas, and build sustainable human and institutional capabilities nationally.

The alliance provides support through a system of Digital Transformation Labs, Acceleration Center networks and Digital innovation board.

It aims to assemble all the pieces needed to kickstart effective and sustainable digital transformation here and globally.

What about investment in partnerships?

ITU in close cooperation with the UN Tech Envoy Office established what is popularly known as P2C, Partner2Connect Digital Coalition which aims to implement digital development all over the world, spicial in the least-developed countries through mobilization of pledges, and Partner 2 Connect as of today we have received 600 pledges with a value of \$30 billion. These come from about 118 countries out of our 193 countries, and we are still receiving and counting the pledges. We will be sharing the Partner 2 Connect journey at the Regional Development Forums which we are going to be holding in all of the regions. The European Regional Development Forum for your interest, will kick off a series -- will kick off in the second largest City of Romania, Timisoara, from 22 to 23 May and you are cordaly invited. We can harness from strengthened UN partnerships, members of the UN Digital Transformation Group for Europe and Central Asia developed the Digital Development Toolbox highlighting in a digital development. I'm convinced that the tool box together with the UN Digital Development profiles will provide digital diagnostics on countries such as the recently launched one in Bosnia Herzegovina.

Digital transformation matters, and I think we all agree. The Co-chair of the 2023 Regional Forum on Sustainable Development, Mr. Reubi indicated that in 2023, the mid-point of the SDG process is pivotal. As we reaffirm our commitment to the SDGs, engagement

is key to help us map how we can move forward. A digital society is fundamental to achievement of the Sustainable Development Goals, and with these words, I thank you.

>> JAROSLAW PONDER: Thank you very much, Dr. Zavazava, and now let us invite Director of the Member Services Development digital development, the World Meteorological Organization, the floor is yours.

>> FILIPE DOMINGOS FREIRES LUCIO: Thank you.

Dr. Zavazava, s who I haven't seen for some time, Dr. Reubi, the Co-chair of the Regional Forum on Sustainable Development, colleagues, distinguished guests, ladies and gentlemen. On behalf of the World Meteorological Organization, I'd like to extend our warmest greetings to you all attending this meeting. First of all, having chosen WMO as the venue for this event,; but secondly, for being part of a very important agenda item, which is digital transformation.

As we're going to look at opportunities and challenges in achieving digital transformation and eventually sustainable development, I'd really like to link the topic of sustainable development, the topic of digital transformation to what WMO does, WMO being the World Meteorological Organization.

In his statement, Dr. Zavazava clearly indicated the importance of digital transformation and the actions which have been undertaken to achieve this digital transformation.

On the part of WMO, you all know that the Secretary-General of the United Nations, Mr. Gutierrez on the 23 of March, 2022, launched a major initiative, the Early Warning for All Initiative in which it is expected in the next five years, all citizens on the planet will have access to early-WARNING Systems and this undertaking will not be possible unless we achieve digital transformation. So to a certain extent, we look very much forward to what you as a group are going to come up with to accelerate the targets or the activities towards digital transformation because that will enable us try and achieve what we set out to do in the Early Warning for All initiative which is expected to reach the summit so we have very little time to reach the initiative.

But more specifically, I would like to link SDG 9 to the capabilities of exploiting weather, water, and climate observations, monitoring data, collection and processing of data, exchange and service delivery infrastructure. The development of that capability is fundamental to ensure supporting climate resilient decision-making, sustainable development, and early-warning systems for extreme weather and climate events.

SDG 17, on the other hand, can bring together stakeholders with complementary skills and resources to tackle the challenges of climate change. Partnerships can support the development of infrastructure by facilitating knowledging-sharing and helping

mobilizing resources for sustainable development to support capacity development.

Therefore, the interlinkage between these two SDGs is quite relevant and important for the work of the World Meteorological Organization, without which our efforts to modernize the infrastructure of our National Meteorological Services but as provide them with the needed capability to reach every citizen who is vulnerable to the impact of extreme weather and climate events is realized.

So in concluding, I would like to seize this opportunity to, first of all, thank ITU, who is one of the leaders of the pillars, of one of the pillars of the Early Warning for All initiative, for the collaboration you've been extending to us in trying to realize this major challenge, but as raise a challenge to you in your work by calling for more accessible use of technology of not only the communicating weather in climate exchange, but for enabling -- for creating enabling environments where people can use these digitalization or digital technology development to promote innovation and possibly transformation.

So, with that, I greatly wish you success in your activities, your deliberations today. I look forward to continuing engaging, and I have my colleague Kornilia engaging with work of the Regional Forum for Sustainable Development, because as I said your development and your achievements are going to contribute considerably to what we do here at the World Meteorological Organization. Thank you.

>> JAROSLAW PONDER: Thank you very much, and please let me thank to all of you for the messages. I think we got a lot of inspiration for all of our discussions and services of different interventions. We understand that your agendas are very busy, so please feel free whenever the time comes to go to your obligations, and we will be going into our work. The agenda for today is very busy; however, before we are going into the next block, which is very special, because before discussing some things on the infrastructure and innovation, first to focus on the digital inclusivity. This brings us to the two keynote speakers who have kindly agreed to bring us the good news from the recent developments in New York from the Commission on the Status of Women which was focusing on the technology and inclusiveness and how digital development can be further driven by also those approaches. Before we are starting the keynotes, I would like to invite you to use the earphones, so next to the microphones, you have also the headsets. So, please feel free to be ready to deploy them as we'll be using different languages during the interventions. Thank you very much, colleagues, for being with us.

So, without further delay, I would like to invite first, Alia El-Yassier, Regional Director of the UN Women Regional Office for

Europe and Central Asia. The floor is yours.

>> ALIA EL-YASSIR: Okay. Great. Thank you very much. Thanks to all the co-organizers for this roundtable, and UN Women is a happy contributor here. We are here to focus within the context of the Regional Forum for Sustainable Development for look at the progress in relation to the Sustainable Development Goals and it is of concern that according to current estimate if we continue to current rate of progress, it will take us 300 years to close gender gaps.

And as been mentioned in the opening, in digitalization can be an accelerator or savior of Sustainable Development Goals, but I think it's also very important to note that it can, if we don't pay attention, entrench existing inequalities and leave many women and girls behind.

And that is why this Commission on the Status of Women the 67th Session that was held this year, did focus on innovation, technological change in education. It included for the first time in three years, in-person attendance, so we were really excited to see 7,000 people come to New York. This included four Heads of State or Head of Government and 116 Ministers so it really gives a global vision to the issues.

And just to say that also in light of what else is being discussed here, the 2022 Commission on the Status of Women did cover issues related to climate change, environment, and disaster risk reduction, so I would just -- I think but this year what is happening is we're making a much firmer kind of connection between what is happening in the global meeting and having a conversation about what needs to be done in the region to implement, because it's all pushing in the direction of implementation of the 2030 Agenda.

So, the agreed conclusions, and it was very difficult, and I was there in the room. It was until 4:00 a.m. that they came to the agreed conclusions. There were tough negotiations.

But here is what has been emphasized, and that is what I would like to present to you for reflection here. That we must develop digital tools and services to address the needs of all women and girls across sectors and geographies throughout their life course. We need to mainstream gender in digital policies to remove barriers to equal access for all women and girls in all their diversity.

We need to foster a policy of zero tolerance for gender-based violence that occurs through or is amplified by the use of technology, and we must ensure that both public and private sector entities prioritize prevention and elimination.

We need to main stream a gender perspective in the design of emerging technologies and adopt regulations, and this includes a lot of discussion around artificial intelligence, to make sure that there are adequate safeguards to combat new risks, gender stereotypes, and negative social norms, data privacy breaches, and

improve transparency and accountability. We need to promote policies and programs to achieve gender parity in emerging scientific and technological fields and create supportive workplaces and education settings. There was a lot of discussion about how hostile it can be for women and girls. We need to develop gender responsive innovation that challenges those gender stereotypes and negative social norms.

So this is in a nutshell what the agreed conclusions emphasized for us all. As the UN Women Executive Director highlighted at 4:00 in the morning at the end of the Commission on the Status of Women 67th Session that, you know, these agreed conclusions do present a vision of a more equal world, but now the challenge is to translate that vision. So we have to transform these recommendations into practical actions at the regional and national and local levels. As part of development agendas that include developments, government shows private sector, importantly young people.

The spirit of partnership is key, and on this note I would like to say the Commission on the Status of Women happens every year but we also have a global multistakeholder initiative which is called Generation Equal ITU, an also Government of Armenia are action leaders on the topic of innovation and technology for gender equality and this is an action coalition that brings together all of these multiple stakeholders and international organizations, governments, private sector, Civil Society, regional organizations to really push the agenda forward so I think it creates wonderful opportunities to carry these agreed conclusions from the CSW into the work of this action coalition and to bring more partners on board. And I just want to stop here because I know that the time is tight, but happy to answer any questions that may come up on the CSW or this Generation Equality Initiative and to really address also, you know because why Generation Equality is important because it tackles the important topic of financing and investments and some almost 250-million-dollars were committed under this Action Coalition and I think that that is where we need to start on these existing commitments that have been made, and they are global in nature, but the ECE Region is very well represented in this initiative across the different Action Coalitions but particularly in this area. Now is the movement to move into action. Thank you very much.

>> JAROSLAW PONDER: Great. Thanks, a lot for providing us this not only vision but as this what we have to do next, and it's our great pleasure also today to be joined by the Deputy Minister of High Tech Industry of Armenia Excellency Gevorg Mantashyan and now I invite him to take the floor. I understand that you'll be speaking in Russian. Please feel free to use the headset. GEVORG MANTASHYAN: Actually based on the agenda I thought I was going to

speak before, I will speak in English as I am using this to speak with ITU. My speech is prepared in English. Thank you very much for the invitation, and by the way my position is First Deputy Minister and another thing to please also improve to use if future correspondence.

Thank you very much for invitation. We put a lot of importance on. I hope you can see me right now on the screen. We really put importance and really appreciate the efforts and our colleagues and Ms. Alia El-Yassier fairly mentioned the engagement of the Armenia. Historically, Armenia was showing, trying to be role model on getting more opportunity for the all members of society. I will start with the importance of today's meeting and start with my speech.

Ladies and gentlemen, it is my great pleasure to participate in the partnership for the inclusive and sustainable digital development roundtable discussion on sustainable development for UNECE Region. On July 1, 2020, Armenia joined the global leaders in the technology and innovation for gender equality Action Coalition of the UN program and culminating in the Generation Equality Program and Armenia leadership in technology and innovations is a testament to the priorities of the Government of Armenia for advancing gender equality, particularly for the empowerment of women as well as progress attributes to the ICT industry. The Action Coalition on Technology and Innovation is led by Armenia, Finland, Tunisia Rwanda and Chile. Five countries that have been selected to steer global action in cooperation with different international partners. During the generation Equality Forum in next E.me Cox the Action Coalition acceleration plan for Generation Equality was launched that consists of the blueprints for six of the Action Coalition themes. Including technology for gender equality. This is an important step for achieving gender equality globally. In the framework of this initiative, Armenia has made two commitments, policy and programmatic, to further advance gender equality in our country, we believe that these commitments will have a significant impact on protecting the rights of the woman and girls in Armenia and will contribute to the broader goal of achieving gender equality worldwide. Basically, this is an example to act as a role model. The policy commitment will promote technology innovation development and decrease the involvement of girls and women in the tech industry through the collaboration of the high-tech strategy and national progress. The programmatic commitment consists of the three initiatives, girls in tech, non-formal training programs, and technovation which will have digital skills of girls and women in Armenia and facilitate access and use of technology and innovation.

Together with the UN, we implement various programs to enhance entrepreneurial skills of girls and young women and promote

activities in the ICT industry. One of the initiatives introduced by the UN to achieve this goal was the acceleration 5, which provided training in the programming, business marketing, and business English to over 300 girls and young women across Armenia. The program resulted in the development of the 10 new startup ideas and kickstarting of three Armenia startups. In addition to this, the UN introduced agricultural infrastructure in 41 schools across Armenia, which acted as an important learning gate for 3118 children and members of the school communities.

The Ministry of High Tech Industry of Armenia developed different initiatives for promotion of gender equality and increasing women participation in the high-tech industry. In addition to the 50% of employees being women, the Ministry has initiated several programs and been empowering women in this sector as well. In 2025, the Digitalization Strategy of Armenia also engaged measures and organized educational program to development of digital and technical skills of women and girls.

From ID to Business initiative which is another program of the coin Ministry of High Tech Industry, the support and development of the industry in Armenia is program initiatives specifically targeted at women in tech.

In the framework of the higher education institution private sector cooperation program, which is another program of the ministry, IT specialization courses are empowered for the citizens of Armenia. In 2021, a total of 2896 participants applied in which 1531 were women. In 2022, out of 791 graduates, 300 were women, and out of the 779 applicants, 568 were women. The program is being revised to increase the context of the women participation. The program is unique in the form of the target specialists who went to scale at their knowledge and advance to seniority level, as well as toes who went to enter the high-tech market. By empowering women in the tech sector, the Ministry aims to increase the number of women in leadership positions and as such, entrepreneurs in Armenia. We believe this will open up new opportunities for the all the members of society. The Ministry also supports startup technology companies with female managers. In 2021, the share of such companies among the beneficiaries of the grant program were 16%. Furthermore, the ministry supports the participants of women in tech entrepreneurship competitions such as technovation girls in power program which aims to empower young girls to become leaders in solving problems through communities through technology and entrepreneurial skills. Since 2017, 2552 school girls with 510 teams and 511 mentors from all regions of Armenia have participated in the program. According to data from the first semester of 2022, the involvement of women in the field of information technologies in Armenia was 43% compared to 40% in 2021.

We prioritize the role of women in advancing high-tech

ecosystem in Armenia and implement various programs to unleash their potential in the country. We appreciate all the partners in the region who supported our initiatives to reach these targets. We wish you good luck and we are happy to contribute for the next achievements.

>> JAROSLAW PONDER: Thank you for your statement and thank you very much for updating us on success stories from your country and also the contribution to the other setting. Thank you very much also for your leadership in the international coordination, which we were just mentioning.

So, dear ladies and gentlemen, let me thank to our keynotes, and I think we've heard those messages we heard a little bit already and had a good introduction into our introduction and session which will in the first block focus on the universal access to the Internet connectivity where we are focusing on the meaningful connectivity, as it is not only about connecting people but as making sure that this connectivity is universal, affordable, and safe, as well as used in the appropriate way in order to ensure the impact.

We have four distinguished speakers representing different institutions coming from Kazakhstan, Poland, Moldova, and also representative of the Civil Society, so let me dive into the first question, which we wanted to ask to all of our stakeholders on what are the critical solutions for developing boost and ICT infrastructure to provide universal and safe connectivity. I would like to direct maybe the first question to our colleagues from Kazakhstan, Ms., representative of ministry of digital aerospace industry of Kazakhstan. Over to you.

>> KAZAKHSTAN: Good afternoon, ladies and gentlemen, thank you very much for giving me the floor. I would like to share with you the experience of Kazakhstan. We have had a number of successful projects where we have selected a number of frequencies by way of auction. As you know, high-speed Internet seems to be a very important problem for digitalization in general, so we believe that our project is trying to solve this problem. Since we have limited resources in 2022 in December we had an auction in order to distribute a number of frequencies. There were two lots. The first lot was 3600-3700. The second lot included frequencies 3700 to 3800. The initial action price was 5 times the annual subscription, the annual fee with a total of 1.7-million, tenge and in order to make it clear for you this is approximately 3.8-million-dollars. At the end of the auction, the final price was offered by a consortium of two of our mobile operators, national mobile operators. They offered \$137 U.S. dollars for the first lot. As to the second lot, the same consortium wanted to buy it, and the final price for the secretary lot was \$203-million-dollars, so the grand total for the two lots we received \$340-million-dollars. This open and transparent auction made it possible to ensure

participation of different companies and all of these companies had equal access to the auction.

Now, the operators receive their licenses, they can now use the frequencies and they have taken upon themselves a number of obligations. By 2027, each big city in the Republic of Kazakhstan will be covered by the -- by either Internet connections, 75% in large cities and 65% in small cities. In case the operators do not meet these requirements, the Government will be able to revoke their licenses.

>> JAROSLAW PONDER: Thank you very much. Thank you very much and congratulations for this excellent move. I'm sure that many countries will be seeking also your reporting on what you have achieved so far. But now let me turn to our colleague from Moldova, Olga Tumuruc, and as you maybe know, Moldova won best digital solution prize at WSIS Forum, so congratulations one more time. Could you tell us the key factor of the success of how the public digital services rollout could be ensured from your side, indeed to transform the connectivity into the meaningful one? Over to you.

>> OLGA TUMURUC: Hello, everyone. Thank you, first of all, for inviting me to speak in this roundtable and to be present at the Forum. It's a big pleasure for us to share the experience of Moldova because, indeed now days, it is very important to act smart and to leverage maximum of their potential of the technologies. In Moldova, when we started, e-governance agency started our activity towards the digitalization of the country, we had pretty good context. We had and still have very good connectivities of the Internet. We still have very good penetration rate of the Internet. At the same time, we have a functional and operational important state registries. Nevertheless, back in time, we had really small amount of public services that were digitized.

That is why we were thinking, what needs to be changed in order to boost and to accelerate the number of the digitalization process of the public services.

Well, we started with some concrete actions that in time proved to be really successful factors that now allow us to have really good results.

First of all, we invested a lot of efforts for developing resilient e-governance ecosystem. We worked on it almost for 10 years, so we have developed at a centralized level all the important e-governance services, such as digital identity, authentaiton, payment gateway, Cloud infrastructure, private Cloud infrastructure for all information system, governmental information system to be hosted in the governmental Cloud, and we dedicated all of this time and effort to have all of these services available and to be integrated and used by all public institutions that need to be -- that need to get involved in the digitalization process.

The second factor -- well I'm afraid you don't hear me well?
Yes?

>> JAROSLAW PONDER: We hear you very well.

>> OLGA TUMURUC: Okay.

>> JAROSLAW PONDER: Just reminding about three minutes limit for the intervention.

>> OLGA TUMURUC: I'll try to be as short as possible. The second cluster was regulatory services and the main part of this law was that it stayed for the first time in the history of our country that all public services need and must be provided digitally by default and digitally first. So this somehow accelerated and gave us a new speed in activities on the digitalization agenda.

Tame, we are applying the engineering methodology that helped us to simplify the services before digitalizing them, so we are now before digitizing, we are rethinking simplifying, including documents and designing the services from the perspective of the one that is the user. In this way we have more inclusive, accessible services, and more user friendly.

Last but not least, we decided to provide digitization as a service for our service providers through front-office digitalization platform that is very good instrument for quick and standardized way to digitize public services.

Briefly, this is our experience. We are still working on looking for new ideas and country experiences that we can implement in Moldova in order to be more efficient, and to implement in our services the needs of our citizens. Thank you.

>> JAROSLAW PONDER: Thank you very much for this. Congratulations to this great achievement. After hearing this experience of how you made the transformative change at the country level, we can ask ourselves if what to do in order to make sure that the human is in the center of our efforts, to make sure that digital transformation is really prioritizing the human-centric approach and therefore it is my great pleasure to introduce Excellency Lukasz Rozycki Permanent Representative of Poland to United Nations in Geneva and asking today what are barriers to human-centered digital development from your point of view in.

>> LUKASZ ROZYCKI: Good afternoon. Also, I would like to warmly thank the organizers for the invitation and allowing me to bring to this Honorable Panel the Polish perspectives and rather perspective of diplomat and not technical expert. There are a number of barriers to human-centered digital development and due to time constraints I will focus only on the four most prominent ones. The first is it's not enough to multistakeholder cooperation, the different stakeholders, governments, private sector, Civil Society, academia, should cooperate more effectively and to ensure that the interests of everyone is heard and interests are met.

In that perspective, the building of partnership needs to take place between sectors but as across borders so the cooperation on the regional and global and international level are a key importance. We believe that the discussion on the Global Digital Compact gives us a perfect opportunity to ensure that this human-centric approach is properly taken into account.

And in this context, I would also like to stress the importance of breaking silos and building bridges within the UN System, and I think that this gathering today is a great example of that kind of activity. So, that kind of action is very important for Poland, and we are trying to promote them. So in this context, I would like to pay your attention to our recent initiative at the Human Rights Council when Poland presented the Resolution on the Good Governance which were focused on the nexus between human rights, good governance and new technologies. This resolution stressed the importance of addressing the problem of different forms of digital divide, and recognize the new tech followings can play a pivotal role in strengthening democratic institutions as well as Civil Society.

And also, quite recently in the New York, Poland led the work in the UNGA Resolution on building global resilience through regional and inter-regional infrastructure connectivity, which focused on the importance of the digital cooperation that was a significant element of this resolution.

The second barrier I would like to mention is the Digital divide, so addressing different kinds of digital divide is crucial if you want to ensure the human-centric and digital development. And it is important to note that there are more than one digital divide, and we can observe different levels of actors to the Internet between women and men. We heard from the representative from UN Women how the women empowerment is important in the investment in the connectivity and digital development.

And the division line of cause are visible not only within the countries but of course between them depending on the level of the development, so that is why to address those digital divides, it's important to take several steps, so one of them is investment in digital infrastructure, of course to bring and allow the access to speed up the Internet data centers and so on. The second one is, of course, to allow the citizens access to the devices, to the hardware.

At the same time, infrastructure and devices are not enough if the people have not enough skills, so digital literacy is important and to allow those cities to then enjoy both advantages of the new technologies, but as at the same time minimizing the negative impact of the misuse as such as disinformation.

In closing, the digital divide is one of the key priorities for Poland, and we have been working hard to ensure digital

development and address digital divides, and thanks to the various programs which have been implemented and focusing on by the government and focusing on the development of the infrastructure, digital services and digital skills, we really achieved before the outbreak of COVID. The common actors to the digital education, which was especially -- yeah, it was very important during the COVID outbreak. So all schools were provided with free-of-charge access to the Internet and access to digital curriculum and so on.

And now by the 2024, we are planning to invest more than 2-billion Euros in broadband to further expand connectivity and access to the Internet in rural areas and so on.

And very briefly, I would like to -- I know that the time is running, so touch upon to further, I found most prominent, so first is the lack of understanding of the new technologies and this is related to the positive potential but as to threats or negative consequences. And in that context, I would like to underline that in some cases, it's very often that normative frameworks cannot grasp let alone provide safety against impacts of new emerging technologies, and also that the normative efforts at the international level are in general slower than on the international -- on the national one. So this poses quite often the challenges for international community.

And the last but not least, the barrier also is in balancing power when it comes to the knowledge and the use of the new technologies.

And to conclude, I would like to stress that the digital development must focus on the people and the technology should only be a tool to achieve it, and technologies should be not a goal itself. Thank you very much.

>> JAROSLAW PONDER: Thank you very much. Ladies and gentlemen, indeed, the time is running, but thank you for bringing these success stories. We hear about investment and big impact expected and we're looking forward and hope that many other countries will be able also to generate this level of investment in the connectivity, but investment comes also with enabling environment, and let me turn to our speakers on the really 60-second intervention pointing straight to the point, so let me turn first to Kazakhstan, so what are the regulatory measures that could be critical to facilitate universal Internet access development?

>> KAZAKHSTAN: Thank you very much. Big cities in Kazakhstan, big towns are enough connected. The problems in this digital divide is present mostly in the rural areas. The market and rural interesting and the rural operators don't want to go there, that's why Kazakhstan gives subsidies for telecom operators who want to provide a minimum package of services with a minimum standard quality and prices. We started this work in 2004, thanks to the subsidies in rural areas, so the rates are lower in rural areas in

cities by 40%, so the subsidies cover the difference for telecom operators. The amount of subsidies is the thinks between what operators gain and lose when they provide their services. Starting from 2022, we have a bigger list of services, and of course it's individual access to Internet to 8 megabyte per second -- and other technologies have more than 8 megabytes per second, and also the other service is the landline. We also have a mechanism for the operators where they can be reimbursed. The telecom operators return us the money if they haven't used everything. For the landline and mobile use, and we're talking about 1.39% from what the telecom operators gain they pay to the budget, and thanks to this, so we can cover subsidies of other services. Thank you very much.

>> JAROSLAW PONDER: Thank you very much for this. Let me now move to our colleague from Moldova, so in your view, what are practical actions which you would foresee and rec recommend to the others to make really this meaningful connectivity truly human centered?

>> OLGA TUMURUC: Well, we are suggesting to have developed and implemented methodology in our case, and these worked very well because as mentioned before we are kij advertising public service only after engineering them, and in this context we're really looking for a more human-centric approach, so we're trying to get rid of the practices that are usually implemented by service providers based on some practices that they are used to implement and to take the processes from the perspective of the users.

As I said, in our case it worked well and it's a very good argument in the process of the digitalization. Nevertheless, it is a very good possibility to modernize the service and to make it more flexible and make it appropriate to the needs of the current time and of the direct users of the services.

At the same time, it is very important to have the national level and authority that will overview all of this process. In Moldova, it is the role of the governance agency together with the State Chancell, ry and we're seeing and operating with the service providers and helping them and consulting them in the process of the modernization of their services and making their services more inclusive and more adapted to the needs of the users. Thank you.

>> JAROSLAW PONDER: Thank you very much. We would like to thank very much all the Representative of Kazakhstan, Poland, Moldova for bringing those together from the point of view of those creating this inclusive digital access for all with the human-centric approach. But of course for us it's also important for us to hear the voice of those representing in society, and this is the reason why we are today joined by Representative from Action for Sustainable Development, so we would like to hear your standpoint of what do you see as needed to foster this inclusion

and ensure the needs of the population are met online. Over to you.

>> Representative from Action for Sustainable Development: Okay. Thank you very much. Thank you so much for this opportunity. We really appreciate it. I'm speaking on behalf of the Regional Civil Society Engagement Mechanism and we've had some discussions already yesterday as you know as a group of Civil Society organizations, and I think this issue is very, very important to many of us, and I very much appreciate some of what's been said from the different Member States we've heard from, particularly some of the comments from Poland in terms of how different groups are being left behind and where those digital divides are still excluding many people. So our first -- so we have two observations and two recommendations. The first one is indeed the importance of leaving no one behind, and digital technology, we believe, has great potential for participation and decentralization, and it has the power to lower barriers and potentially reduce inequality. But there is a need to provide stronger opportunities for digital inclusion at the national level as we've been hearing, and to ensure direct support to those who are most marginalized, to bridge the digital divide we need to ensure affordable infrastructure is available, but infrastructure is not the only barrier as you know to participation. We recommend provision of training for digital literacy, capacity development, particularly for older people and vulnerable groups.

Secondly, in terms of digital civic space, we see that there has been in a number of countries digital restrictions placed on the actions of individuals and Civil Society groups, and there is a practice of blocking and restricting access to independent and human rights information resources in a number of countries in the region, and in addition we feel that technology is being used to limit activism and put pressure on activists, and this online intimidation would prevent partnerships across borders.

Online harassment and bullying also takes place in a private setting, in the private sphere, and we know that during the COVID pandemic, women in particular have suffered disproportionately from online violence. At the same time, many countries lack sufficient regulation to prevent such practices, so adopting a scope of protective measures also updating some of the existing legislation against harassment and bullying would be necessary to eliminate online abuses.

Finally, the last two recommendation, one may be thinking ahead and thinking along the lines of some of what's been described. Using the power of technology to really share frontline stories and to really bring forward the experiences of those who are so often left behind can be really, really powerful and that's something that we as an organization have developed a new platform that we call ZOVU which is precisely to bring forward frontline voices and

potentially to bring funding also directly to those groups.

Finally, the idea of a digital charter of some kind because we know that the human rights that we all depend upon are not always brought up to date into the digital world, and so we think that there is space for looking at how a digital Bill of Rights, could be brought together perhaps at the UN and that would be drafted with input from Civil Society to ensure that those rights are also protected globally. Thank you very much.

>> JAROSLAW PONDER: Great. Thank you very much for this perspective. It's extremely important for us to combine these approaches with those who are really doing the work on the ground and those who are supporting to introduce also the corrective measures to represent and to make sure the human-centric approach really means what we expect as humans.

So thank you very much for this intervention, and ladies and gentlemen, this brings us to the end of the first part of this panel. Because the second panel will allow us to dive into the two particular cases of the concrete action on the ground coming from the two countries from Bosnia Herzegovina and please let me welcome with us Melina Kovacevic from Regulation Authority of Bosnia Herzegovina to provide us the establishment of broadband mapping system. For many of those dealing with the cables on a daily basis, it's something normal. For the others, it sounds like exciting project to build upon and to see how these can generate also additional value added for policy making, for the digital inclusion, and for many policy-making to make sure that inclusiveness really means something to everyone. So, let me hand it over to you. I was reminded that we are really running late with the agenda, so that's why I would like to invite you to not take longer than 5 minutes. Thank you. Over to you.

>> MELIHA KOVACEVIC: Dear excellents, dear ladies and gentlemen, my name is Meliha, thank you for having me and it's my honor to speak of telecommunications industry of Bosnia Herzegovina. I have prepared some slides. Oh, yes.

>> JAROSLAW PONDER: We can see the slides.

>> MELIHA KOVACEVIC: Great. So I come from the Communications Regulatory Agency, a national regulatory body established back in 2000 and responsible for the regulation of telecommunications and broadcasting sector. So we have been invited today to share experiences and measures taking on improving Internet connectivity and particularly we should speak today about our activities on establishment of broadband mapping system.

So, I would like briefly to give some background, explain the background of broadband mapping, what it actually is, and why it is so important. I would like to share information on ITU technical assistance projecting that was implemented for us, and to conclude with some lessons learned. So we are all aware that digital

transformation can be fully realized if high-quality access to communication network and services is available, so affordable prices for all. We need to ensure that all policies and investments in digital infrastructure should aim to ensure connectivity accessible to all and everywhere to close the digital divide. So, in achieving this goal, it is necessary to establish collaboration between all stakeholders, including policymakers and regulatory bodies.

Speaking about state of broadband access in Bosnia Herzegovina, so we are aware that we are still lagging behind, so for example in 2021, 69% of the households had broadband access. Speaking about representation of speeds, we may see that the majority of connections are still between 2 megabytes and 10 megabytes, so therefore by joining Partner2 connect Digital Coalition, commune kaigs regulatory agency made a pledge to develop and improve regulatory framework that would provide incentives to invest in high-capacity broadband to promote competition and to ensure secure access to high-quality communication networks and services for all.

So, to achieve this goal, we have identified three measures, Measure 1 is to identify data on networks and services. Measure 2, second, to develop new and updated existing regulatory framework. And measure 3, to monitor the implementation of regulatory obligations.

So, we have recognized the importance of establishing broadband mapping as a prerequisite for such an effective regulation. Broadband mapping can actually broadly be defined as digitized information systems that gather structures and represents GFS data about the reach or quality of networks and services. Such data support, decision-making process for regulators to assess market competition, to assess gaps in coverage, experience, it's necessary for governments to allocate funds, it's necessary for operators for investments, and of course for citizens to decide and to choose the best service provider.

So, within this regulatory framework, European Union has years ago also defined the obligations and proposed measures on broadband map, so being aware of the importance of broadband mapping in order to overcome some shortcomings in our country we have applied for technical assistance from ITU, so in 2021, the project under the title of Enabling Environment for Broadband Mapping in Bosnia Herzegovina was launched, and so in 2022, we have received two reports developed by ITU and experts from the regulatory agency of Slovenia, the first report gave us a recommendation ranging from policy and regulatory matters, proposals for collaboration with relevant institutions. The second report gave us some technical specifications, covering areas including like IT resource, compliance with technical standards, and all other let's say

technical duties.

So within the project, a number of meetings with different stakeholders have an organized. It's very important to receive institutional support. Once when you have it, it's easy to project and to define all technical specifications. We have been warn, we have learned throughout the project that it is very important to follow the roadmap on establishing broadband mapping there are a lot of decisions that need to be taken about technical specifications that is not just a set of a project but you need to perform successful management of the project.

So we can conclude and we are very thankful for the information that we have gathered through the project, so really recommendations given by ITU experts provide significant support towards implementing this broadband mapping project. We are currently in the process of implementation of our negotiate model, so we still have a lot of work to do ahead of us. And just to conclude, no back -- it's gone.

>> JAROSLAW PONDER: It was not us. I think this was planned, so --

>> To conclude, this project may really serve as a very positive example of knowledge sharing between all stakeholders.

>> JAROSLAW PONDER: Great. Thank you very much and greetings to Bosnia Herzegovina and congratulations on the progress made and a lot of inspiration for the other countries because these data maps, of course, are providing as I mentioned, a lot of opportunities for the policymaking, not specifically related to only the infrastructure development but as to the public policies, education, health system, and many, many others.

Now, let us move to Internet Society, Talant Sultanov is with us today and will share the experience of building community networks to connect, remote mountains, villages and other locations such as schools, as well as provide examples to how innovative ICT-based solutions and emerging technologies can be leveraged to support the governments in mitigating environmental risks and the challenges, but will be in fact a transition to the next session already, and we have the moderator and the Chair of the next session already with us. Welcome, Vanessa, to be with us. Now, I'll hand it over to Talant.

>> TALANT SULTANOV: Thank you so much, Chair, it's a pleasure to be here and I prepared some slides and my presentation will be in Russian. Let me try to share my screen. I hope it's visible. Yes?

>> JAROSLAW PONDER: We still don't see the screen. I'm just taking the time to remind about the five-minute limit.

>> TALANT SULTANOV: Maybe the PowerPoint version instead of the PDF, maybe that will be more convenient.

>> JAROSLAW PONDER: Whatever works for you.

>> TALANT SULTANOV: Can you see now?

>> JAROSLAW PONDER: We can see.

>> TALANT SULTANOV: Good afternoon, colleagues, I'm pleased to join you in this Forum today. I would like to share the experience of Kyrgyzstan, let me move to the main body of the presentation. I think we don't have to explain why Central Asia is so important at the global level, so I would like to move to this slide that you see right now, Central Asia is considered a landlocked region, and we have mountainous countries, we have double landlocked countries like Uzbekistan, so this makes digital development more difficult in our countries. Moreover, our experts also mentioned that we have sanctions-locked countries so we have neighboring countries that are currently under sanctions, so receiving access to the Internet is significantly more complicated than other regions of the world.

What can we do in order to overcome these challenges? I want to give you a few examples here. As our roundtable is focused on partnership, I wanted to tell you about how in partnership with other stakeholders we are developing digital access in our region. This is a very acute issue. We have an initiative called GIGA which is a joint ITU/UNICEF initiative and the framework of this initiative, we have drawn a map on which we have marked Internet access throughout Kyrgyzstan. We've also indicated areas that do not have Internet access at all, and this is a very useful map for us because we've selected those schools that don't have Internet access and we have visited them to see what the issue on the ground is.

So, these are beautiful regions with snow leopards and mountains, but when it comes to Internet access, these children have to move to other towns that have Internet access, so we visited this area in order to meet with the Director of these schools and they're in a very difficult situation. We've also attempted to do the following to improve the situation. We visited all the schools that do not have Internet access. We brought them devices called Ilim Box. This is Internet in a box in partnership with the EU and U.S. embassy. We have provided Internet to these schools, these devices work without Internet access. It's hard drives that contain this information. Then we realized that that's not enough. We picked the most remote settlement where we attempted to connect them to the Internet. These are schools that didn't even have electricity so we provided them with solar panels, for example like this settlement, this was in partnership with the ITU and UNICEF through the GIGA initiative. On these images that you see, the places that we visited, these are very remote areas. We had to sometimes not only go by car, but by horse or even on donkeys in order to reach these areas. Here you can see us connecting these schools using plastic water bottles. These are very remote areas that also have link lament weather so this was with local partners,

international partners, partners visiting from Georgia, India who shared their experience. In a number of situations, we even had to work with border patrols, border forces in order to install these solar panels and connect these schools.

Even if these schools have been connected to the Internet, they don't always have the necessary devices in a number of households. They don't have sufficient devices and they use smart phones to connect. So, we asked people to donate their unused smart phones. Here, this is an example. We worked with the Academy of Sciences and you can see this little girl here holding one of these devices that we provided her, and we hope this little girl named Arianna, we hope she will grow up to part of the Academy of Sciences with she has access. We also have a educational platform for school children in local language there, and we launched it and called Ilim Box 2.0, an online platform that provides free access and it is available on smart phones, and these children have access to knowledge for free, they can use it to study at their schools, and even for example if they're in quarantine for COVID-related reasons.

So, we have Internet, we have devices, we've got content, but digital skills are the next step that's very important. We launched a project called Sanarip Insan and traveled throughout Kyrgyzstan with the support of the European Union and we have been teaching girls, women, young people digital skills so they can use digital platforms to build their economic opportunities.

The next thing that I wanted to share with you is the more people have access to Internet, the more vulnerable they are. There are threats on the Internet as well, so in order to protect the population from any such threats, we have been teaching them cybersecurity skills as well as privacy and personal data protection with a tech force society. The next thing I want to tell you that I think will lead to the next session is climate resilience. Technology is helping us mitigate climate threats using smart devices, sensors to overcome difficult climate conditions, and this is with the support of the Internet Society Foundation, the EU, and the Snow Leopard Trust.

My last slide here, I just wanted to use to describe the principles that we use to work when we work to improve Internet access. So first of all, it's girls first. Girls are at the center of this. Second, this has to be useful for rural areas. In cities, citizens have access to a lot of opportunities, but that's not the case for rural areas. Next, we are adapting everything for use on mobile devices. Next, content has to be available in local languages, and finally, green first. This technology should not negatively impact the environment. Thank you very much, colleagues. I did try to fit that into 5 minutes.

>> JAROSLAW PONDER: Great. Thank you very much. I was taking a look at all colleagues taking a look at your presentation

and starting to dream big, how to support this type of the initiatives in the future and to ensure the impact on the frowned. So thank you very much for a lot of inspirations and also introduction into the next session. And it's my great pleasure to introduce our colleague, Vanessa Grey who is leading Green and Digital Work of the ITU. Over to you.

>> VANESSA GRAY: Thank you very much, Jaroslaw. I was going to say, that was a perfect transition. So, I would like to welcome you to the second part of this event with the topic now on green and digital and we're going to talk about sustainable digital transformation and digital transformation for sustainability.

Maybe first before I introduce the roundtable discussion, we have a keynote speaker video, I believe, that is Sally Golestan who is the Chief Digital Officer of the United Nations Environment Program, if we could have that video, please. Thank you.

>> SALLY GOLESTAN: Good evening, good afternoon, good morning, everyone. Thank you very much for the opportunity to speak to you today. As UNEP Chief Digital Officer I'm involved in many of the conversations around harnessing technology for good. I would like to focus today on two dimensions that I think are missing from most of these conversations. The first one is the need for digital transformation to be sustainable by design. It's essential to minimize the environmental impact and footprint of the technology, including energy use, greenhouse gas emissions, but as water consumption, toxic chemical, and e-waste.

To put this into context, the global carbon footprint of the IT industry is around 2.4% of global greenhouse gas emissions and that's roughly equivalent to the aviation industry of carbon footprint before the pandemic.

In 2019, the record 53.6 million metric tons of e-waste was produced globally and the equivalent weight of 125,000.747 jumbo jets. Only a small amount is e-waste is collected and recycles. Looking at key metals including gray earth metals are critical for digital future and demand is rising rapidly. Graphite, lithium and could he cobalt is expected to increase dramatically. We need standard digitalization and we need to invest in tools to measure and disclose the environmental and carbon footprint of tech.

Also ones that can support better supply chain management, tracking and tracing key minerals across the economy to improve recovery, reuse and circularity. The second dimension is the need for digital transformation to be guided by incentives, standards, and safeguards and that enable global environmental sustainability outcomes. The UN has already taken the leap on developing global recommendation on A I ethics by UNESCO but more work is needed at the country level and link directly to the environmental sustainability values and goals.

For example, using technologies such as satellite imagery and

Internet of Things to monitor global carbon emissions in realtime and feeding this data into markets to drive investment decisions. We're using e-commerce platforms to help empower people to compare products on their environmental performance, and by letting sustainability goals into our digital applications we can make significant strides toward a sustainable future.

To address the critical gaps, UNEP is working on four global initiatives. First UNEP co-founded the coalition for digital environmental sustainability and opened multistakeholder forum that aims to address sustainability dimensions through a series of coordinated impact investment by private/public partnerships. We're also investing in the development of global environmental data strategy and platform to aggregate the best available environmental data so it can be used to monitor trends, commitments, and solutions at the global and national levels.

This will go hand in hand with developing data standards that enable sharing and interoperability of quality control. UNEP is also exploring a partnership with the ITU to jointly focus on the development of standards for measuring and monitoring e-waste and greenhouse gas emissions from the digital sector as well as advising countries on green digital transformation policies and programs.

Finally, UNEP is establishing a tech for planet of entities interested in driving forward our data-driven solutions to environmental problems and promoting environmental behaviors within their platforms. In conclusion, it's imperative that we prioritize environmental sustainability in our digital transformation efforts. We cannot achieve a sustainable future without addressing both the risks and opportunities of digital technologies for our planet. This requires a concerted effort from all stakeholders, including government, private sector, Civil Society, and individuals. As digital technologies continue to shape our world, we must ensure that they serve the collective goals of all humanity and drive a sustainable future for all. We must harness the power of innovation to create a earth environmental sound, socially trust, and economically prosperous. Thank you for your attention and let us all work together toward a sustainable digital future.

>> VANESSA GRAY: Thank you. Excellent overview, of course, also highlighting the importance of different stakeholders working together, and we've also already heard ITU and UNEP are working very closely on this topic because when you talk about green and digital, these are of course two of the key UN organizations that will be involved. Here today we've brought together a great panel of experts today to discuss how what we often call the mega trends of green transformation and digital transformation, and how they are linked, how they reinforce each other, but as a little bit to talk about the steps that need to be taken and the opportunities

that we have to ensure that this trend transition is successful.

So before I introduce the panel, I would just like to highlight a little bit on this urgency of this topic. We know that more and more people are joining the global information society, we've already heard a lot about that today, and benefit from the opportunities. We have more and faster networks, new applications and services, and these are delivered at increasingly high speeds and bringing new opportunities to many people.

But people, but as they help reduce emissions through, for example, video conferencing, smart metering and transfer systems to name just a few, and I think we'll hear more examples in just a few minutes. At the same time, the data show that Europe generated 12-million tons of e-waste every year and that is 16 kilograms for every person and we already heard in the video that the global figure, and less of this in Europe is recycled and only 17% globally is recycled, and this also means that billions are lost, and our digital society is, of course, also increasing the amounts of energy and contributing to GHG emission so it's clear to address today's environmental crisis, the ICT sector must continue to become more circular and sustainable.

Effective policies and actions by governments are key here. Also to address the critical raw material crisis, we just also heard about this, which is often -- which is often strategic and political importance given that although they exist in abundance, rare, and difficult to extract and EU passed the critical raw material's act to help the region be better prepared.

So we are today looking back at over a century worth of environmental impact from our global dependence on coal, oil, and gas. As we struggle to limit global warming to below 1.5 degree, we need to look at the precious resources at play today and how these determine our future.

But unlike coal, oil, and gas, we have an opportunity to get back precious resources after using them, and for this we of course need the ICT regulatory community and industry to act together to make digital responsible.

And with this, I would like to pass to the experts, panelists. We have today with us the Director of Economy, Markets and Digital, the French Telecommunication Regulatory Authority and we have with us Hugo Andra Costa the Executive Director of the Portuguese Space Agency and we also have with us Ilias Lakovidis Advisor of Digital Free transition at CNECT, known as DG CNECT and finally Umberto Madigliani, Deputy Director for Forecasts and so a very diverse panel for us to help address not just greening with ICTs but as greening of ICTs. And my first question I would like to address to you, Ilias, given you know the topic of our panel here today maybe if you could just say a little bit more about what we're actually talking about, what is the green digital transformation all about?

Ilias?

>> ILIAS LAKOVIDIS: Thank you, Vanessa, for having me. I would like to congratulate the previous example from Kyrgyzstan but it was the only one that mentioned actually a green transition with further than digitalization. I would like to recall the previous panel speakers if they're still around, to rethink when they talk about human-centered ICT, because what we have been doing for many decades is to apply digitalization to improve economic dimension of sustainability. Recently, we also discovered that there is a social dimension and that's why the human-centered is very much to bring the social dimension in front. But we have been doing nothing on the environmental dimension, and if human-centered would represent the three dimensions, fine. But we need to maybe redefine what human-centered means. Otherwise, we actually are focusing only on two dimensions of sustainability and that is the economic and social. Many times we at DG CNECT we have a index, digital economy and scale, name says it all, so far what we manage to grasp is digitalization by design is the economic and some parts of social dimension. So what is green and digital transition, the twin transition as we talk about it? First of all, what it is not. Because many people abuse this term to say green transition and digital transition are more equal than the other transitions, political, demographic, health, energy, whatever. So it is not that those two are more equal than or more important than the others. It is all about their synergies, and when we look at synergies, what people mostly see and what journalists mostly see is their conflict. It's actually the pollution aspect that was being talked about. It's the e-waste for me that's more important than the energy consumption, which is 8% of electricity today and that will only grow, and our projections are like 14% by 2030. The carbon aspect will maybe plateau because mostly of the electricity most will be renewables, but it's the materials that are not stopping to grow and they are for the recyclable. So what we need to do is to make sure that -- and I'll talk about it later, that we need to make it more circular.

So what I would like to say is, can we think about again about digital compact? Is it really by design three dimensional, or are we just throwing green here and there while the two dimensions prevail in the digital compact? So this is a call to say, green and digital transition is about the synergies, it's about bringing the third forgotten dimension of sustainability, and that is the environmental one, into the design of digitalization and to make digitalization in the service of sustainability in all full scope. Because we have missed that so far, so that is what the green digital transition is about. Now, I can go into a level lower, but I don't think we have time because we're already late. Yes, it is about making the digital world more green, that is the footprint, and there

we do a lot of -- there are a lot of actions that we work with UNEP and ITU, and ITU is very well aware and is producing a lot of standards on how to reduce and how to measure. But more importantly, that's where we have much better leverage, is to use smartly the digital for all of these three dimensions.

But we do not have science-based, agreed target methodology yet. There was the first ITU standard that was adopted in December of 2022. We are working on methods and guidelines and how to interpret and use it correctly. So, soon there will be very concrete guidelines on how you can use digital and have also positive environmental effects. Because at the moment, we only talk about potentials, about estimates, about what could be done. We are not realizing that potential because we don't know what to measure and how to keep digital within the positive space of contribution. Because very quickly digitalization can turn into a nightmare through rebound effects and through too many gadgets around that do not actually serve a purpose. So, I stop here. Just to say one thing that if I had to choose one area where digital can make the biggest difference, is it energy, is it mobility, is it buildings, is it agriculture? I would select circular economy. The silver bullet for digital is to enable the circular economy. The non-circular economy is the biggest driver of climate change and biodiversity loss and natural resources. Thank you.

>> VANESSA GRAY: Thank you very much, Ilias. Turning now to Hugo Andra Costa, my question is what specific advantages does satellite data bring to the green digital transition? Thank you.

>> HUGO ANDRA COSTA: Good afternoon, everyone. Thank you very much, Vanessa, for inviting the Portuguese Space Agency to join today's event. Well, I'll thank the previous speaker because you just gave me the point to start bringing space to the green transition. If you think about one of the main aspects for having a greener world is related to transportation, and now days we need to move towards vehicles that don't use fossil fuels. We are moving towards the automobile that will be in our streets and these will help us to reduce energy consumption, but they can only be autonomous, and we can only have these benefits in terms of energy and spending if we have two conditions. One, is they know exactly each vehicle where is their position and timing, so we need satellite installations for like in GPS, like Galileo from Europe. Second, they need to be interconnected. You can only have vehicles interconnected if we have a sustainable network, and we need satellites to do that.

So we need satellites for the positioning and timing, and we need satellites for connecting all the vehicles and also Internet of Things because in cities, yes, we have ground infrastructure that allows us connectivity, but in the moment that you may run out of signal, we have an issue. And so what we need is, in fact, to have

a mobile phone that can connect independently of the network if it's ground infrastructure or space infrastructure. Of course, this will pose a challenge for ITU, but if we think about the future, this is where we should aim at.

And therefore, it's important constellations like what the European Commission is now proposing with IRIS the Internet connectivity satellite constellation. Also we see in the private sector that there are many companies providing satellite connectivity throughout the world, and this is what will change in the near future for transportation.

Now, if you think about also the green transformation, looking on earth using earth observation satellites, we have forks the satellites from European Commission where they're providing crucial information or data that can be transformed into information. Better planning for cities, regarding for example management of risk of floods. When you go to rural areas, managing the forest fires, managing the forests. And so we need to -- we are using space information, space data, even though normally we don't recognize because it's vehicles first, but space is crucial for this transformation of green and digital transition. Thank you.

>> VANESSA GRAY: I'm sorry. There we go. Yes. Thank you very much. We actually had a meeting this morning with some satellite industries, and they, you know, they mentioned and we were talking also about the ubiquity and interconnectedness of, you know, space and mobile and terrestrial network, so I think that's the future.

So, my next question is to Umberto Madigliani, and I would like to know from you what other type of ICT-based solutions there are and how can these solutions help improve weather forecasting, accuracy and resilience in the face of environmental risk, and here talking in particular about climate adaptation applications. Thank you.

>> UMBERTO MODIGLIANI: Thank you. First, I would like to say that the National Meteorological Service is already using information and communication technology based solutions and emergency technologies to mitigate environmental risk and challenges. As some of you, the early-warning system that was developed by National Meteorological Services already use a combination of radar, satellite, weather station data that observes the earth and deliver early-warnings to extreme weather events to help advance a ITU solution like super computer and forecast models that are making use of the latest scientific advances.

This system in general has been widely credited with helping to save lives and property by giving people enough time to prepare for potential floods, for example. Additionally, NMHS is also playing a key role in collecting and storing data to form and decision-making related to environmental risk management.

Having said that, in the more recent regional conference on the future role of national services that was held last November, this serves as important platform for the national meteorological services to collaborate and discuss how these ICT-based solutions can be used to support government in mitigating environmental risks.

But I think it's important to realize that this can only be achieved if governments play an important role in supporting and help them to leverage the ICT-based solution and emerging technologies by providing financial resources and technical expertise, and by investing in research and facilitating collaborations between the private sector, public sector, and research organizations, and in general creating awareness campaigns to promote sustainable development.

As mentioned just by the previous speaker, there are also programs by the European Commission such as Capernacus program that pays part but as the service part and destination initiative which ECMWF plays an important role and quite important to the future for sustainable development.

As another example of activity that has been quite successful recently, is prevention and preparedness and response to disaster in the east of the European civil protection mechanism was an example of how government can support in leveraging ICT-based solutions and emerging technologies to mitigate environmental risk. As part of this program, the National Meteorological Service in Ukraine and Moldova are being supported at the moment to issue impact-based forecast, a daily bullet that plies situational awareness to humanitarian actors and other organizations responsible for managing crisis caused by the conflict in the region, and this can be used to protect the citizens to mitigate the effect of environmental risk.

What is important is that managing emergency during conflict by putting science and humanitarian aid together can be a game changer because this is a very effective and coordinated use of all the available resources, both ICT based, science based, and so on. Thank you.

>> VANESSA GRAY: Thank you very much. We're here of course in the WMO building and WMO is in charge of the Early Warning for All initiative and you mention add number of ICTs being used but as on the pillar on warning and communication and dissemination which ITU is leading on, and that's to bring messages and alerts to people at risk. Of course, ICTs and networks and services also play a critical role.

Thank you very much. The next expert is Anne Yvrande-Billon and I think you have to leave after your intervention, so very quickly, two questions to you. This is on the role that ICT, the ICT regulatory community can play, and of course from the point of ARCEP in protecting the environment and that the regulatory agencies

on the environment can play themselves, but as maybe if you can say a little bit about the kind of data that regulators can collect to monitor and manage, for example, we were talking about e-waste but as environmental issues also. Thank you.

>> ANNE YVRANDE-BILLON: Thank you very much. I will be speaking in French. First of all, thank you very much for this invitation. Which gives me the opportunity to present the approach of the French regulatory authority and what we've done for sustainable digital technologies. To answer your question, this was also mentioned in the previous interventions. We know that the digital technologies are important to make improvements in other areas as well, but it's good to recall and keep in mind the environmental impact of digital technologies, which is due to increase as well with increased usage and with increased use and with the impact that this will have on the environment. This seems little compatible with the goals of the Paris Agreement and that lends us to ARCEP and more globally in France, this led us to ask questions about how to measure the impact of the digital technologies and we could see that even though there are studies that help measure the impact of digital technologies, there is a lack of harmonization in the technologies used, a lack of transparency on the reliable data that is needed to measure the environmental impact of digital technologies. And those measurements also require technical knowledge in order to take into account the different x oan components of digital technologies, the different stages of the lifecycle of the digital devices, and this is for it and also for the digital context. To answer the first question, that's why there is a complimentary between environmental agencies, it's called Adem in France and sectoral authority and communications regulatory authorities and ARCEP in France. This complimentary is linked to the fact that environmental agencies have competency skills on the methods, they have skills on the different indicators, we talk about carbon emissions, but there are also many more aspects and criteria to take into account. We talked about waste, and of course we also need to mention rare earth, rare materials. There are different criteria that need to be taken into account beyond carbon emissions so environmental agencies have those competencies and skills, and in order to understand the impact of a sector, it's also important to have very precise technical knowledge on the different parts of digital technologies and not only focusing on devices but as on networks, data centers, the three components of digital technology and really well understanding their lifecycle. This complimentary is also necessary because when you have a list of the different components of the sector, when you're trying to measure the environmental impact in order to have precise measure of impact of each component on the environmental criteria, what's also interesting is in order to have leveraged

politically, we need to be able to make projections, so using the skills of a regulatory authority such as ARCEP and combining with the competencies of the environmental agency is very, very precious to make projections to assess the growth of usage, to assess or make hypothesis on how technologies will evolve, to make hypothesis on network coverage. So all of this are skills that are complementary and necessary. So to give you a concrete example in 2020, the French Government asked ADEM and ARCEP a joint mission in order to assess the environmental impact of digital technologies on a given year, and in order to also make projections by 2030 or by 2050, so that's what we did and there is a report that was published and that was submitted on the 6th of March, so that's very recent and this describes and talked about the importance of how having a harmonized method that is accessible and understandable because it needs to also be questioned. This is part of the game. So we measure the impact separating the different aspect, networks, data centers, terminals, so we're really focused on the production face of equipment all the way through the end of life and the recycling aspects, and we base ourselves on several criteria, so we look at the impact in terms of greenhouse gas emissions, but as in terms of electrical consumptions and resource exhaustion. So all of the results are in the report so that gives a bit of an overview. We try to look at the impact on greenhouse gases, so in terms that's 80% of impact in terms of greenhouse gas emissions, and data centers have impact of 50% and networks 5%, so if we do a projection, if nothing is done to improve efficiency or energy efficiency by 2030, greenhouse gas emissions should increase by 50% and could increase three fold by 2050 if there is no action taken.

>> VANESSA GRAY: Thank you. Thank you. We work a lot with ARCEP also because you have this expertise, and something very important, the importance of combining the expertise of the regulatory authority and the expertise of environmental agencies. Thank you.

We just heard about the environmental footprint and how this needs to be managed and measured, and of course reduced, so with this I would like to ask another question to you, Ilias, and that is what are the environmental policy measures that we need to better manage and reduce this footprint? Thank you. I'm sorry, two minutes please. You're muted. Yeah, two minutes please because we're running out of time. Thank you.

>> ILIAS LAKOVIDIS: Yes. First I will congratulate ARCEP for the work, this is a leading work world-wide. We're working with them. I will put in the chat, and I don't know who can see chat, but I'll be putting some links so that you can see that later. If I can rephrase a bit, I mean the best way to reduce footprint is not to do anything. I mean let's stop deploying 5G, data centers, everything. That's the way to reduce, but we can't. Recant for

what I said before, because we will miss our economic and societal dimension. So we can't do that. So the best way that we can do is to improve the net impact of digitalization. Let's grow the digitalization, but let's make sure every drop of digitalization, you have triple or ten times more sustainability benefits and that means avoided emissions, better social and economic progress. So I would say that's what we need policies for. We need policies for maximizing the net effect, positive minus the negative. So how do we get there?

First, we need to make sure that we use the minimum number of equipment for the goals we want to reach. So, we need to make sure digital infrastructures, data centers, telecoms are, we have measures to make places climate neutral and we are producing at the moment kind of a code of conduct and indicators for telecoms and we need targets for e-waste and one way to do it is to turn the business model of the telecom and the let's say the ICT industry to be everything as a service. Instead of incentivizing people to buy tons of material, new models, new equipment, new laptops, tablets, to turn it into a service provision. Same thing when you buy an organization ICT, it should be service organization, and not hardware buying. Then we need green public procurement, so the legislative measures should be to obligatory and that means with ITU and other organizations, we need to make sure that we describe very clear public procurement criteria, so anything digital is through a green public procurement. And at the end, what you don't measure you don't manage, and we feed very clear measurements of when ICT is producing positive effects, and for that you see the link that I just put in and we've worked and we have so called green Digital Coalition that takes the ITU latest recommendation L1480 to apply, validate, create guidelines for everybody to use down to the smallest SME. Thank you.

>> VANESSA GRAY: Thank you very much. Another question to Mr.-- can you please in two minutes tell us a bit more about stays agencies that partner with other organizations to ensure that this advantage is effectively used to promote greener connectivity and facilitate the implementation of climate change adaptation and mitigation measures? Thank you.

>> Andra Costa Hugo: Sure, one of the key aspects in space is that the agencies need to cooperate. Now days it's very difficult for a nation for one agency to have single space programs to tackle only their issues. Cooperation is one of the key aspects of space.

Also, when we started the Portuguese Space Agency, we started just in 2019, and one of the key elements that we wanted to achieve is to connect the space with non-space sectors because we the space geeks, we know what our data is capable of, we know what our satellites are doing. But we need to connect with those economic

sectors that are not using today the space data. This is one of the things that we wanted to enforce. Although it's not related to this in the first point, for example, the Ministry of Justice in Portugal had an issue for land register, and it was not possible to know which land belongs to whom. So through a platform and earth observation data, it was possible now -- it's now possible to have in one single spot, one single platform all of this information. And now if we grow this platform and we bring other sources of data over to this platform, that means we can have the Minister of Environment, for example, knowing exactly what type of forests or trees that exist so they can monitor biodiversity. If we bring them also data regarding the levers and aquaponds that exist we can mitigate floods and issues, and most of this data is now available again through Kapernacus3 and open data. And for example, the European space agency now with Austria has developed a platform to monitor, for example, which places of the City of the country are better to use solar panels, which areas are better to use wind farms. So all of these energy fruks are now looking to space data and how can benefit through this. One point just to finalize, it's very important that space infrastructure is threatened because of quantity of satellites and debris that we have. Now in Vienna we are put together Portugal Office of Space affairs a conference for next you're going to be the input of the summit next year another term of sustainability that we they'd to have in space and Portugal and are now working very hard on it. Thank you very much.

>> VANESSA GRAY: Thank you. Excellent examples on both sides. My last question is to Mr. Madigliani, how can government agencies and institutes like you represent support meteorological and hydro logical services mitigate and what are key factors that have been successful in this regard?

>> UMBERTO MODIGLIANI: It has been and continues to be a valuable resource for the National Meteorological Services in leveraging ICT-based solutions in emergency technologies to mitigate environmental risk and challenges. One of the purposes of it is to ply data and forecast of medium to long-term weather and other environmental conditions, and this can be used to inform decision-making related to environmental risk management.

In addition to that, ECMWF also supplies access to the latest technologies and data that can help national meteorological and other services available on their own and more accurate forecast of extreme weather events and improved decision-making related to environmental risk management.

Recently, for example, ECMWF started to provide a European based weather cloud, a Cloud-based services that you can use to do this type of work. Additionally ECMWF facilitates collaboration between private sector, public sector and research organizations to help national services better understand the implications of

these technologies and develop strategies to mitigate environmental risk.

Generally, by working together with ECMWF, you can use ICT-based solution and emergency technologies for a more resilient environment that is better prepared and to be even during conflicts, and it enables to prepare for the future and adopt to changing climate.

What I think is important that I would like to highlight is really the fact that the collaborative sort of aspect between ECMWF and National Meteorological Services and in general between them and other organizations that I think is what is quite important to achieve all of these goals. Thank you.

>> VANESSA GRAY: Thank you very much. And while we've heard a lot of great examples of how digital is supporting environmental transition, but as about the policies that are important and steps that we need to make to ensure that the digital transformation is green. We would now like to deep dive into a concrete initiative that has proven successful in the domain and that could serve as a valuable example to be possibly replicated, and I'm happy to welcome now online with us Andrii Hnap the CEO and Data Analyst at Waste Ukraine Analytics, WUA, a platform to accelerate the transition to a circular economy, a B2B marketplace for companies in the field of waste management based on open data as well as an aggregator of historical data on waste and a tool for creating mandatory data sets for local communities. Andrii is also a Smart City Digital Infrastructure Expert within the context of a project carried out by the -- (audio fluctuating) Andrii, you will be sharing insights from a pilot project on industrial waste mapping, conducted as part of the EU For Environment program and supported by UNEDO and for this you will see us the critical role that waste management data plays in achieving positive results. The floor is yours. Thank you.

>> ANDRII HNAP: Thank you, colleagues. Thank you to all the speakers and panelists. This was very interesting to hear all of that. Really, I want to share my thoughts and comments about the projecting on circular economy and new growth opportunity conducted by EU for Environment discussed with our colleagues back in September of last year on special circular economy regional assembly, which we discussed results of this industrial waste mapping, and I was not part of this project as implementation, and just see evidenced result about lack of data, inconsistency of data, readiness of data is incomplete and specifically for Ukraine because one of the communities for the pilot, is that there is no digital infrastructure for governing information on waste.

At the same time, I work as Civil Society activist, as part of my solidarity fellowship of 2022 on the project of Open Data on Waste, when we communicate with authorities, ministries, about open

data, about waste and the quality and how to increase that and how this is a bottleneck, and to accelerate transition to circular economy and all of these efforts, all of these signs end up in our joint project with Minister of Digital Transformation about creating 50 plus mandatory datasets on circular economy and low-carbon economy, and analyze the numbers of standards that can be used in Ukrainian transition, so together with my teammates, we are now analyzing like legal part and environmental part, and of course open data and this is like ongoing projecting. But we already see what things are stopping us to achieve results, and a couple of them are already we mentioned by my colleagues on this panel, but one of them I want to highlight is this level of analytical culture in authorities because this is a common thing that authorities on different level gather information as reports and disclosure, and things like that. But they're not using it with proper analytical tools to predict for cost and uses to this circle and low-carbon transition that we are looking for.

And part of this problem is that the nature of the transition. It's very often that we see this on linear economy, as like complicated problem. But in nature, it is complex. And I like very much comment from my colleague from Stanford who said that the opposite part for complicated is simple, so we can deassemble the problem and even how this mechanism, laptop or whatever, and engineer can combine. But circular economy is complex, and that opposite part is independent, so when we could take part that have economy or like other aspect, it is just very, very difficult to see a result of the whole system. And with our project, we see how it is struggling with authorities, with Ministry of Digital Transformation, Minister of Environment, Minister of Economics, to this joint vow and how hard it is on many levels for who is responsible on which part of this transition. We're trying to put it all together with all the initiative on open data and information systems and at the time was really glad to hear from our colleague, Ilias today mentioning that this is the core essence of all of this process, and we currently if this, on our project with open data and communication with authority, and of course with Civil Society actors because open data is more like disclosure, and material for action. Data-driven, action both for authorities and for Civil Society, and for some challenge as we all have and it is very important to have like proper data and informational standards and systems.

So, thank you very much. I know that we are like a little bit off schedule, so this is all for my part. I will be happy to answer come questions on the panel later on.

>> VANESSA GRAY: Thank you very much. And really glad that you also again highlighted the importance of information data, open data, monitoring for data-driven policymaking, and again for us to

be able to in the end have to maximize the net effect of the green digital transformation, as Ilias also mentioned.

I don't think that we have time for questions, but we do have time to thank all the excellent speakers, the experts, and I would like to thank you for your really good interventions and contributions.

If there are questions, I think people can put them in the chat and we will get -- we will direct them to the right people and get back to you.

As you say, we are running out of time and so I would like to now hand it over to my colleague, Natalia Mochu who is the Director of CIS, the Regional Director of CIS who has come to be here with us today for the next session. Thank you.

>> NATALIA VICENTE: Thank you very much, Vanessa. Thank you for the co-moderation and for making all the effort to be on time. I would like to thank all of the participants here in the room and online for being patient, engaging, and sharing all of your experience. So the third block that we are now moving on to will be dedicated mostly to partnerships. You've all along in your deliberations have mentioned that partnerships are a key, be it between the government agencies, be it with the private partners, be it between the international organizations, NGOs and so on and so forth. And I'm thankful for all of the examples that were already shared. So based on this experience, I'm sure we'll have a fruitful discussion and more experiences coming from the speakers of this third part of our roundtable.

But, so recognizing all of the hard work that our interpreters are doing, I would like to pass to Russian language in this session, and I know that most of our speakers would be speaking in English, nevertheless. Let me then be the one including language in the CIS region into our discourse.

Dear colleagues, dear participants of the roundtable, let me first thank you, all of you. As to our third part of the roundtable, or segment which will be dedicated to the innovative partnerships toward inclusive and sustainable digital development, and as I have already said, there were a lot of examples that were heard during the previous two parts of the panel discussions. Based on these examples, I would like to say that we see that sustainable partnerships on regional, on global, on country level is something that will help us to obtain SDGs and inclusive digital development. All of the speaker said that.

A lot of countries need technical support, technical assistance. We have heard examples of that earlier today. And even though the needs are very high, we understand that since the needs are very high, we understand that new partnerships are needed and would it be PPP partnerships or be attracting private sector or working with NGOs and governmental sector, of course partnerships

between different international organizations are needed.

Based on all the experience we have heard during the previous sessions, our session will help us to hear this new experiences and to come to more consolidated outcomes. I would like to present our participants today, we have a Specialist of Innovation and development Agency of Azerbaijan. We also have online Mr. Avtandil Kasradze, the Georpeen Innovation and Technology Agency. Dear colleague, if you're online please turn your camera on so we can see you. We'll also have Maja Tomanie-Vidovic and Roar Skalin, and Orkhan Nabiyeu, City of Moscow, innovation of technology.

Before going to speeches, I would like to give the floor to Sarah who will make a short presentation on alliance on innovation and entrepreneurship that was announced today by Mr. Cosmas Zavazava, the Alliance that was launched in January of this year and would like to present it to you a bit more in detail. Sarah, please, the floor is yours.

>> SARAH DELPORTE: Thank you very much, Natalia. So indeed, as you mentioned, Dr. Cosmas Zavazava in his remarks pointed to the Innovation and Entrepreneurship Alliance for Digital Development, so I would like to give you a little bit more information. This alliance was established in direct response to -- I'm sorry, I'm just seeing there is a challenge with the sharing of the screen. I just want to ensure that you can see it correctly.

Okay. I think this should be fine. So the Alliance in fact has been established in direct response to the request of the Member States to receive more supports on building an innovation ecosystem. And what we see right now is that many countries aspires to become innovative economies but we can despite that, there are still many countries struggling to adapt to the digital environments, to become adapter of digital technologies, driver of digital innovation that creates social economic impact, innovate entrepreneurship digital innovation for job creation, gain access of like-minded and change-maker, and challenge to develop global partnership to accelerate digital development.

So what we are aiming to do with this alliance is to support countries to be ahead of the curve and make sense of the evolution of technology, policy, and innovation dynamics. The innovation also aimed to harness technological know-how into global goods through open innovation and multistakeholder mechanism accelerating access to emerging technology for all. Also aimed to accelerate uptick of entrepreneurship and opportunities for challenge to achieve circular communication in communities. Alliance also seeks to have agile place for safe space for experimentation and creating innovation and attracting investment in the digital ecosystem, and finally, it also aimed to promote collaboration and synergies that scale digital innovation and

achieve cross-cutting sectoral value for competitive digital economy.

But so how do we aim to do that concretely through the innovation alliance? So this would be done through three main vehicles. The first one being through a digital transformation lab that will support, design, and implementation of network of centers, and this lab will provide technical assistance to enable countries currently lacking key capabilities and sandboxing and developing initiatives to accelerate digital development, so the lab will be located in Geneva and accessible virtually. The second vehicle is the network of centers as I mentioned just previously and so the network will enhance global, regional, and national innovation capabilities for technology, policy, and flagship initiative developments, and the various centers will accelerate digital transformation through a unique ecosystem thinking approach that combines the best of three methodologies which are sense-making, system thinking, and design thinking. And centers also amplify capabilities to accelerate local innovation, entrepreneurship and digitalization of economies to improve -- to improve, I'm sorry, to improve the competitiveness of the economy.

Finally the digital innovation board, so this board will guide the work of the alliance and ensure its effectiveness, accountability, and sound decision-making, and so the board are will facilitate high-level coordination and engage in global advocacy at the UN level and engage with regional and international organizations as well, and so with this it will help to leverage the reach and help mobilize resources and partnerships, and share lessons learned and create global learning community.

And so I really invite you to learn more about this innovation alliance by following the link that I will also put in the chat, and thank you very much for your attention. Thank you.

>> NATALIA VICENTE: If you can take a look at the goals from this Alliance and become part of this Alliance and it's one of the examples of partnerships which are aimed to support sustainable development.

Dear participants, now we can go to our discussion and I would like to ask the first question, Orkhan, to you. You represent an agency which is very active with local entrepreneurs, with startups. We visited you last year, and you support the innovation and R&D and technology by giving grants, loans, venture capital. How can this kind of alliance help you in your work? How can this kind of alliance might help to create partnership in order to promote innovation and entrepreneurship?

>> ORKHAN NABIYEV: Thank you very much, Ms. Mochu. If you don't mind, I'll continue in English. Thank you very much. Thank you, everybody of the thank you, Sarah, for your presentation of the Alliance. I would like to answer the question in that way, that

the Alliance in that way can provide a platform of cooperation between companies, universities, and research institutions. Our agency, Innovation Digital Development Agency, is a new agency which is been approximately more than one year in Azerbaijan. We're really doing great. We're trying to do great, but at the same time we have specific lack of the research and development centers. For us it's a crucial R&D. R&D for us to crucial. Another significant role by providing platform ecosystem, it's to connect with a big company and create R&D centers by these big companies.

What we know from our own experience as Azerbaijan, in 1991 when we've become independent, we are petroleum and gas country, so we used to work in the old Soviet technologies, but when this transformation started, when BP came to Azerbaijan, when others came to Azerbaijan, Chevron came, they came to Azerbaijan and started cooperative change process in Azerbaijan and that now we can see the socar and have the basis in Switzerland, now it's oil and gas company. It means that the influence from abroad, experience from abroad, and the experience and the boost from the big companies, big investors can create good ecosystem and good research and development centers to enlarge and ensure our ecosystem.

We have very small market. Azerbaijan is a compact country. We don't like to say this small country, but we are compact country. We don't have such a big market, but we have good opportunities to go abroad from our country. For example, the geography is a destiny. We're between Russian and Iran. We are between Europe and China, and India, between Asia and Europe. So it means that we are in the middle of Eurasia, and this kind of the increasing of awareness of our country and what we do, and good cooperation and collaboration with Alliance can increase the awareness and also can really boost our innovation ecosystem.

As, yes, it was a little bit long answer to your question, but yes we are waiting from Alliance to come to visit our country. We are waiting to increase the awareness and to help us to build our many research and development centers. And if I have not made a mistake about the network of acceleration centers, you have a new acceleration center in new Delle, we would also like in Azerbaijan a acceleration center and become part of this network.

We have another big -- we have the six-year strategy for future as development agency, and now we are really impacting to the legislation process in Azerbaijan. We have zero tax policy for ICT companies. Zero, VAT, zero Social Security and easy simple resident permit for the ICT companies who want to transfer to Azerbaijan. We have too many from Russia because of the situation. We have from Turkiye, and now we are working with Israel and Israel University opened in Azerbaijan yesterday, but big cybersecurity center. It's R&D center for in Azerbaijan.

So as you see and we work on it very dense and we want to have

more and more awareness on what we do, and really this also will help to make a bridge between Asia and Europe. It will also help bridge regional development as you see that we are also between Europe as Georgia and also the bridge to Central Asia. And Europe, also about the green technology, we have the big investment that our main investors right now is BP, who totally changed and are making green tech and green energy, and we will be one of the green energy suppliers to Europe in the upcoming years.

So, what we need, we need more cater, human capital, exploration centers, more research and development centers. Resources, we have, we can find more. But what we need is more capacity building. Thank you very much.

>> NATALIA VICENTE: Thank you very much, Orkhan for inspiring and energetic response, and I would like to just remind us to keep short because we're still a bit lagging behind.

You've mentioned your neighbor country of Georgia, and I would like to raise my next question to Representative from Georgia Avtandil Kasradze. Avtandil, you're the head of an agency which is specialized in enhancing cooperation between science and business and you support innovative startups, and today we had keynote speakers who noted the importance of and including girls and women into this sector. From area experience, how can we attract more women? Through what kind of mechanisms or maybe something else? Maybe can you share your experience. The floor is yours.

>> AVTANDIL KASRADZE: Hello, everyone. First of all, thank you very much for inviting me for this amazing conference. And I would like to say hello to all the panelists, and all the Members of the audience. From our side, I would like to say that the Government of Georgia decided to support the knowledge and driven in the economy and we were established by Government of Georgia under Ministry of Economy and Sustainable Development in 2014 when there was like a lot of challenges when we wanted to establish the more to build innovation community in the country.

But right now, I would like to more focus on about the involvement of more girls and female involvement in the innovative businesses. We have a lot of programs in all around we are massively investing in Georgia startups and also investing to bring international accelerator programs and also supporting creation of the private VC funds because it is very important when you're talking about the VC fund, it must be private fund, and also when we are talking about the creations, the ecosystem, definitely of course that we would like to have as much possible -- as much as it's possible to have a gender-balanced in our programs.

Right now, we are -- so throughout the years -- I'm sorry, we didn't have any programs that was supporting specifically more involvement of the women. Only things that we started few years

ago is when we created the bootcamps and there it was a 50/50 participation. But not in the most important programs. We worked very much with the UN Women in Georgia where we created the Action Plan and it right now, this action plan including in all of our programs, including in the ICT trainings that we have a separate additional course for the female participants in order to be accepted into our IT trainings program. Also, in all of our you know like the bootcamps and et cetera, we have like the gender balance. We try to have a 50/50 balance in all of our programs. Most importantly, even in the access to finance program, from last month we actually did additional two score points for the businesses who -- who like more than 50% of the shares are owned by the females in Georgia. So in our granting programs, also like the female startups will have more and better chance in order to receive granting financing for us.

And this is just beginning, and when we are talking about the cooperation of the business sector and academia, this is without that, it is not possible actually to really create the ecosystem when we will have more female participants in the innovation ecosystem, and when we were talking about the digitalization and technology ecosystem, this is really the industry that there is no excuse not to be the gender balance, not to be the gender equality there. This is the industry where there is a full group of opportunities and all doors are open for all participants in all around the world.

So, it's not only the programs how we run, it's not only the quotations that we are giving to the females or extra points, et cetera, but what we are trying all together to really build is to build the community and ecosystem where people do not think that we have stereotypes, that this is something that is a man's job and this is a female's job, et cetera. This is the most important. Otherwise, all the programs, all the extra points, you know, it may give you like the small wins but overall you need more and more efforts together with academia in the private sector, otherwise it will not work. So we're also trying to work with big private sector, with small private sector representatives in order to work as much as it's possible to create the ecosystem where gender equality is present.

>> VANESSA GRAY: Thank you so much. This takes us to our next speaker, Maja Tomanie-Vidovic from the Slovene Enterprise Fund. Maja, could you kindly share with us on the work of your fund to stimulate innovation and help support and build innovative systems for small and medium enterprises. Maja, please, we would be delighted to hear your experience.

>> MAJA TOMANIE-VIDOVIC: Thank you. Thank you very much. Welcome from Slovenia enterprise fund from the Ministry on behalf of the ministry our responsible ministry for the economy, tourism,

and sport show and of course also of Slovenia and innovation ecosystem.

If we want to think of how to support future development of really very high-tech innovative companies, not only startups, but scale-ups and later SME, we really have to be focused on challenges of our time. We live in an era of completely a global instability, resources are becoming restrictive, problems with supply chains are growing, and we are facing bigger, bigger climate changes, risks are harder than ever before, costs are increasing, and so on.

Especially our startups, our scale-ups are faced with a lack of skills, not only the lack of resources, financial skills, but as resources. Their contribution for sustainable development solutions, which could help us with some of this global challenges, are still too small and of course we would like to increase their contribution especially if we talk about green and digital transformation. So what we have to do, we have to be even more creative and shift. We must be focusing more on priority topics and greater development impacts, including of course digital technologies and what is very important future will demand even more innovative and collaborative solutions. Individual solutions are over. So we need collaborative solutions and it has been to show how essential innovations and destructive technologies based on science, deep tech and collaboration among different partners and not only on national level, but as in the international level together with entrepreneurial spirit really are.

So, it is also inevitable that these kind of companies research, innovation and deep tech ventures have important part for the global economic recovery or global stability, which we would like to reach. Therefore, the focused support of public institutions like Slovene Enterprise Fund feeds to be, of course, to foster the innovation in tech ecosystem among SMEs and especially among high-tech companies. Of course, first to provide access to finance to all stages of business development from startup to later stages with a different kind of solution, and we offer them different kinds, adaptive, venture capital, financial lines, also grants together with the ministry we develop some kind of grant, grant lines dedicated to the green transformation, dedicated to the digital transformation, and mainly this money is coming from European programs.

And so companies are prepared to invest in this kind of investment, connected with green or digital transformation, but at the end they still have problems with the skills. They need some additional support with the skills. So financial resources are not enough. It's not enough, so therefore we created some support through voucher system, and we have 15 different groups of vouchers, and vouchers as different kind of services from other partners in the ecosystem, and with these services, the companies can increase

their competitiveness, their ability about green or digital orientation, and also startups and high-tech companies have special programs designed for their competitiveness and for their competencies with mentoring, coaching support, with startup clinic, with scale-up investment workshops and so on and so on.

So a lot of things are going on, but at the end there are still not enough sustainable development-oriented projects, so therefore we started to create or started to support the creation of specific, very specific sustainable development pep where we would like to connect or we started already with this, and in some cases we already did it, connect really with research institutions, doctors, professors, researchers from specific fields together with companies and also with financial investors could be connected with the specific partnership and other support institutions. So this is very important, really, to create the strong partnership among all these partners, to connect them, to find the right persons and the right places to connect them and then they start to cooperate. But, of course, if we talk about global problems, then we need also the global projects. For these programs though, this kind of partnership should not stay on the national level and they could transfer on the multinational level, and therefore we try maybe together with some working groups of European Commission or some entities at the European Commission, or also to our very good partner UNIDO, we try to create this kind of partnership for specific fields also on the multinational level. Right now we have partnership for biotech industry, very specific on the biotech medicine and vaccines. And then we have special partnership for hydrogen industry, for smart factoring in digitalization in all of factoring sector, and this could be maybe additional steps.

>> VANESSA GRAY: Could you try to wrap up. Thank you.

>> MAJA TOMANIE-VIDOVIC: Yes. This is our main focus.

>> NATALIA VICENTE: Thank you very much, Maja. There is so much that you have to share and that you want to share to others, but then unfortunately, we can't go into very deep detail, but indeed I know about your engagement with UNIDO and that's an excellent example of a partnership with an international organization.

With this, let me move on and I would like to address high next question to our online participant, Roar Skalin from Norwegian Institute Meteorological Institute, if I'm not mistaken, hopefully not. I would like to ask your views on strengthening the partnership relations between the states, academia, and the private sector to support the sustainable development. Roar, what would be your perspective on this, or in this regard?

>> ROAR SKALIN: Thank you, Chair. Thank you for inviting me. You're indeed correct, I'm the Director General of the Norwegian Meteorological Institute, but today I will address you mainly if my capacity as Acting President of the European Regional

WMO. So the revitalization of public/private and also academic partnerships to develop research and services for sustainable, resilient and inclusive instruction is essential for the achievements of the SDGs. And weather, climate, water, and environmental services are essential for the development of such an infrastructure, and also the data and information provided by the partnerships are essential in helping governments, businesses, and citizens to make informed decisions.

Decisions that can help to promote the economic development, reduce poverty, and ensure access to food and water, and to promote sustainable and equitable development.

In addition the use of early-warning systems, which has already been mentioned by a few here today, can help to mitigate the impacts of extreme weather events and other environmental threats, and thereby helping to ensure that societies can continue to develop and prosper in a sustainable and equitable manner.

So by supporting public/private and economic partnerships in development of research and services for sustainable resilient and inclusive infrastructures, WMO is helping to ensure that the SDGs are achieved. And I will now present to you three WMO initiatives, and I will try to illustrate how partnerships can benefit from these initiatives and also how they can help realizing the initiatives.

The 2021 Extraordinarily World Meteorological Congress approved what we now call the WMO Unified Data Policy and that was done in order to dramatically strengthen the world's weather and climate services to a systematic increase in observational data and data products from across the globe. The WMO Unified Data Policy states that members shall provide a free and unrestricted basis the core data that are necessary for the provision of services in support of the protection of life and property and for the well-being of all nations.

This data policy will strengthen and better sustain monitoring and prediction of all earth system components, and that again, could have a massive socioeconomic benefit.

It will lead to additional exchange of all types of environmental data, which in turn will enable all WMO members to deliver better and more accurate and timely weather and climate-related services.

Free and unrestricted access to this data will also foster collaboration with the private sector and with academia. I think that further benefits will be obtained if the private sector and academia also share their environmental data with the public sector so that it can be used to improve the services within weather and climate.

That was the first example. Free and unrestricted access to data. The second one is about the earth system approach to the development of research and services. This approach recognized the

interconnectivity of the various components of the earth system and seeks to promote the integration of data and information from different sources to better understand the impact of climate change and other environmental threats.

Close collaboration between the national meteorological and hydro logical services and academia is a prerequisite for realizing the benefit of our system approach. We need enormous amounts of research that we cannot do ourselves and we have to do it together with academia.

My final example has been mentioned a few times already. Early-warning systems are a proven and effective and feasible climate adaptation measure. That saves lives and provides at least a 10-fold return on investment. And as we have heard, the United Nations Secretary-General Antonio Gutierrez announced in more 2022, the United Nations would spearhead a new action to ensure that every person on earth is protected by early-warning systems within five years, and he tasked the WMO to lead this effort.

Ensuring that every person on earth is protected by early warnings within a period of five years is a global challenge that will require the combined efforts of the public and private sectors and will not be possible without the vast and varied capacity of businesses. So, WMO recognized that the role of the private sector could go beyond a supporting role and that private technology sector could be a leading contributor to the five-year goal with public partnerships. So, overall, WMO is committed to supporting government, businesses, and citizens in the effort to create sustainable, resilient, and inclusive infrastructure.

And true the earth system approach, the unified data policy and early-warning initiative, WMO is committed to providing the necessary data and information to ensure that public, private, and academic partnerships can develop research and services which, again, will respond to the challenges of climate change, extreme weather events, and other environmental threats. Thank you very much.

>> NATALIA VICENTE: Thank you, Roar. We heard about the early warning system today earlier, and indeed thank you again for reiterating the importance. And this, many of you saw that we had a presentation from Kyrgyzstan about the early warning systems about how important the early warning systems are for those areas, and remote is not always well connected. But as the system might be as important for the large cities, right. Yeah, and indeed, as you were saying the partnership is indispensable to make such global programs or projects a success.

In this sense I would like to turn my question to a city representative. You know, we've heard about different governments and nations, and international and rural areas, but I think the cities face a challenge of their own as well. And my question will

go to our next speaker, I see Abgatarova, we would love to hear your perspective on the role of partnerships in the innovative and entrepreneurial development of large cities such as Moscow that you're representing, please.

>> Hello. Thank you so much, Natalia, for your question. Thank you so much to the speakers. My presentation will be a bit different. Yeah, according data presented department of investment and therefore policy, it's so pleasure for me to present how Moscow achieves SDGs in 9 and 17. It connects with some industrial experience and experience in cooperation of the first of all, I would like to mention that Moscow government is for SDG achievement and not everyone knows that from 2018 to 2021 Moscow participated and successfully finished the project to approach to SDGs, and launched the report. And OECD recommendations, Moscow carries out projects that could be best practices for all cities and regions in achieving SDGs, 9 and 17. First of all I would like to tell about the project that is named workplace creation. What does it mean? One investor during real estate implementation also creates the place of employment as business centers or industrial parks or shopping or support social or education facilities and he received -- he received a benefit for rent or benefit for payment for changing a type of permitted use for land plot. And this project will be useful for cities that have problem with commuting. Another project that's also connected with investments and industrial policy is (?) and public procurement was obligations and we use business instrument to cover social important directions as children in kindergarten or medicine provision or something similar. So in order to have proved and guarantee supplies Moscow conclude long-term contract. In this case the investor builds on the cities territory manufacturing plant and after launching, the investor will have learned to guarantee it and seal projection that is so important for establishing business processes, and coming for SDG 17, I would like to say that in this regard, Moscow is open for learning. Moscow is open for sharing the best practices that will help people to live better in their cities and regions, and in order to share our experience on our Russia national level, in 2020, we launched the project was a Russian single industry challenge, and it was very exciting for us to help them to achieve SDGs by learning with them, OECD methodology and create recommendation with them on how to develop toolkit, effective toolkit to improve their urban management and development. I'm glad to say that it helps them to improve the quality of life, to improve their economic development, and not only in order to broaden our partnership together with th Eurasian, we're developing cities and duration of economic union. Our aim here is not to find who is better or worse but to identify the problem area of SDGs in this region to search for new growth points in cities and to, of course, to have best practices exchange

in sustainable development. We believe that the result of ESG rating will accelerate and force implementation of the National Development Strategies of the Eurasian economic members. In conclusion I say that Moscow carries more than 95 projects across all the SDGs and we have so much to share with you. Today, much has been said about the digitalization, about how different regions solve this problem and to try to be the better, but according to the UN Report, e-government survey, Moscow was a city that reached the fourth place among all cities of the world in this rating, and it emphasizes the tremendous work done in digitalization of public services and integration of artificial intelligence. Why I'm telling you about it, we're open for cooperation in different ways, especially if it's connected with integration SDGs in some solutions in industry and investment skills. We believe that some measures and practices will be useful for you and help to improve policies in your regions, and as a result the people will live in a more comfortable area and be -- be even more a little more happier. Thank you so much.

>> NATALIA VICENTE: Thank you for sharing your experience as well. In that case, I know all of you would have much more to share, but I invite you to speak when we're finished with the event because we're short of time, we're over time, and I see that the interpreters are still working and I would kindly ask if you have another 3 or 5 minutes for us to conclude, to conclude our roundtable overall.

So, I would like to warmly thank the speakers of this session of our roundtable, and with these, accept my apologies for cutting you short or not letting you speak as much as you would love to.

Dear participants, let me now proceed to finalize our roundtable, and I would not like to go and you know in detail and remind us what we have discussed today. I think we have received and leveraged ourselves with experience that all of you have shared, the participants here in the room and the online participants, thank you so much to everyone for connecting and staying with us until this hour.

We've looked today into the importance and most of all stressed the importance of various partnerships, of openness, into sharing the experience, learning from each other's experiences, into achieving the SDGs as a whole, but as the SDG 9 that relates to the industry, innovation, and infrastructure at that we, the UN agencies present here are working towards in the achievement, and SDG 17 which is dedicated to the partnerships as a whole. And we see from the multiple examples that you've shared that through various partnerships, we can achieve much more in the work that we are all doing in our own organizations in the villages, in the cities, in the countries, in the regions, and at the international levels a whole. Of the.

I thank you warmly for sharing and being open to share your experiences. I would like, of course, to thank our host for having us here, for offering us a great venue. Kornilia, please pass a warm welcome toll your management for offering this room. Of course, I would like to extend our thanks to the technical moderation, to Sarah for putting it all together, for our interpreters, because you are bringing in a better and more inclusive experience of our meetings.

I don't know, I hope I didn't forget anyone in thanking, but truly a warm thanks to all of our speakers, keynote, host, co-moderators, organizers, and everyone who is present in the room, online, and watching us via webcast in the whole big world out there that we're trying to make better. Thank you so much and wishing you a lovely evening, and great success in all of your endeavors. Thank you so much.

(Applause).

(completed at 11:16 a.m. CST)

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