

Can AI help improve access to the labour market for people with disabilities?

Session transcript

Stephanie Ifayemi

Hi everyone, welcome back to our next session. This session is titled *Can AI improve access to the labour market for people with disabilities?* Well, I hope you've had a fantastic day so far. This is our last session of the day and it's my pleasure to welcome you to this panel. More specifically our guests for today who will aim to answer the question "Can AI help to improve access to the labour market for disabilities", which is also the subject of an ongoing research project with results to be published in the fall. So as mentioned at the outset of the day, this is such an important discussion on AI inclusion and equity, which was a theme we actually heard in a few of the earlier sessions today.

So, I'm really, really glad that this has been having some focus throughout today. This session will be introduced and moderated by Chloe Touzet. She's an economist at the OECD and the author of this forthcoming OECD report, so thank you so much for sharing this work with us today, Chloe and bringing together this panel. She will be joined by 5 speakers who are experts on accessibility, AI innovators and policymakers to discuss what needs to be done to ensure that AI systems are a force for good in this space. So, thank you guys for joining us virtually today.

With us, we have Donal Fitzpatrick, a researcher at the Centre for Excellence in Universal Design at the Irish National Disability Authority. Thank you for joining us today, Donal. Immaculada Placencio Porrero is a senior expert in the Unit for Inclusion of Persons with Disabilities at the European Commission and the main architect of the European Accessibility Act. Next, we have John Robinson, the CEO and Founder of *Our Ability* an AI-powered inclusive job matching platform. Dorodi Sharma is a Senior Advisor at the International Disability Alliance. Thank you for joining us today, Dorodi. And then last but not least, we have Yonah Welker from Yonah.ai who is an explorer and board member in the field of neurodiverse, inclusive and accessible AI. So, so fantastic to have such a multi-stakeholder panel with us this afternoon. So, with that, let's hear from them. Over to you, Chloe. Thank you.

Chloé Touzet

Thank you so much, Stephanie and welcome everyone. I'm really delighted to be moderating this panel today. I'd like to thank our great speakers for being here and to thank everyone in the audience as well, who is joining us this afternoon. And I think to give a bit of context to this panel, I'd like to start by reminding people of a statistic which is that in 2019 people with disabilities in OECD countries were still 2.3 times more likely to be unemployed than people without disabilities. And so, in this context, the question that we are asking today which is, "can AI help, can AI help improve access to the labour market for people with disabilities?" is particularly relevant. So as Stephanie mentioned, we at the OECD have been researching this very question for the past few months. We've been asking people for their insights, from AI developers to technology users, accessibility specialists, and policymakers.

And I'm very happy that some of them are with us today. And while this research is still ongoing, we'll have a report published in the fall, one thing has already become quite clear, and it is that there is really no shortage of examples when it comes to AI-powered solutions in the field of accessibility. And these AI-powered solutions can be broadly classified into four big groups. The first, which is also the largest one of these groups is made of what could be called disability-centred inventions or innovations and that includes examples of inventions that are directly aimed at addressing individual impairments.

For instance, the company Solar Ears, which is based between Brazil and Canada, is developing an AI-powered app that sits on your phone and it helps to diagnose hearing loss and to also acts as a personalized hearing aid based on that diagnosis.

Another example is a company called Voiceltt which is based in Israel that provides a solution to people with dysarthric speech who can train their own voice recognition algorithm which allows them to communicate more easily via speech-to-text but also to activate the intelligent device using voice-activation control.

There are other solutions in these categories that provide more workarounds for particular impairments. So, for example, the French company Roger Voice allows deaf users to read phone calls through an automated captioning system that is powered by AI.

Several applications allow people with vision impairments to hear a description of the world around them. For those of you who tuned in yesterday, we heard Mark Chen from Open AI talk about their recent partnership with Be My Eyes, and this is exactly what they're trying to do.

You can even think about more generalist applications. So take for example Grammarly or even ChatGPT again as being part of that category, because the natural language processing solutions behind those applications provide concrete workarounds for, for instance, neurodiverse individuals who might struggle with writing and or reading long texts.

Then we go to the second group of solutions, where examples are not focused on the disability itself, but they aim to adapt the environment to make it accessible. So, for instance, the chatbot developed by the American company Zammo is designed to make job boards so you can think about LinkedIn or Indeed, accessible to people with vision impairments and two neurodiverse individuals.

The French startup Andyamo is using AI to improve the integration of accessibility-relevant information into existing GPS options. And then an example that most people in the audience would have heard of is Microsoft Accessibility Checker which is inbuilt into many of the tools that we use on a daily basis and that uses AI to check documents for accessibility in much the same way that people check for grammar or for spelling.

This category also includes a series of what we could call alternative job-matching solutions that use AI to compensate for the limitations of mainstream job-matching systems. We'll talk about those limitations further in the session, and those mainstream systems often end up discriminating against people with disabilities whose resumes might not be average. And one example of this alternative job matching solution is Jobs Ability, which is an AI-powered matching

mechanism developed by Our Ability, the startup, founded and led by one of our speakers today, John Robinson.

Solutions in the third category improve accessibility at a meta-level. So, for example, companies like one called Microlink PC in the UK or Advisor in Israel develop recommendation algorithms which match employees with assistive technology solutions based on their self-declared ability profiles, on historical data, on workplace adaptation and on user feedback data as well.

And finally, the 4th category of examples is made of those AI-powered solutions that create new job opportunities for people with disabilities. So I'll give you just one example here, which is a US based company called Phantom which is currently developing a solution for the remote operation of forklifts, opening up these jobs to people who would have been physically unable to operate these in the past.

So those are just a few examples, there are many more. In most examples, the solution was developed to help people with disabilities as a first intent. But in other cases, accessibility application kind of come as a byproduct after the AI innovation. Some of the solutions are already in use, but it must be said that for some others there are still prototypes and the question of whether they will, in fact, be able to improve access to the labour market for people with disabilities at scale is still to be answered.

And to answer that question among others, we are very lucky today to have a great and knowledgeable panel of experts. And together we will focus on four questions. The first one is about the potential of AI. We'll try to answer the question, what is the potential of AI to help people with disabilities access jobs? Can we measure this potential? Second, we'll ask what might be hindering that potential from being fully used. 3rd, we'll also spend some time looking at the risks that we also need to watch out for. And finally, we'll ask how governments can help both avoid the risks and seize the opportunities of AI to reduce that disability employment gap that I told you about at the beginning.

So, I will now give the floor to our panellists. We will start by exploring the question of the potential of AI and I will ask each one of you to start with your one-minute answer to the same question. And that question is, is there anything different about AI compared to pre-existing technologies that makes it more likely to help improve accessibility? Why or why not and to start I'd like to ask Yonah perhaps to go first with your one-minute answer. Thank you very much.

Yonah Welker

Yes, thank you so much. There are a few main differences. First of all, AI is a one of the first type of technologies which try to imitate human activities. Second AI is the first type of technologies which actually raises the question of a human decision-making and the level of human involvement since AI is more about automation and autonomous agents. The companies working on AI, they're not just developers, they're educational companies which create curriculums and skill sets how to use it properly and finally, due to the autonomous nature, is able to amplify existing biases, social biases.

Chloé Touzet

Thanks very much Yonah, that was a great answer. Dorodi, would you give us your one-minute answer to that same question?

Dorodi Sharma

Thank you Chloe, and hello everyone, especially to the participants for joining in today. It's great to be joining this panel. As Yonah mentioned that AI technology is closer to human behaviour, which also means that AI is becoming more and more ubiquitous than previously existing technologies. So, there are features that are used by almost everyone, not just persons with disabilities because they're almost inbuilt in these technologies. So, I would say that AI helps reduce the stigma or the othering that we often see in the use of assistive technology. So, it becomes more commonplace for everybody to see people using AI-based technology in different spheres of their lives so that it becomes more commonplace and familiar. So, there is no othering or it is not seen as something that only persons with disabilities would be using. And it has also equalised the playing field for persons with disabilities to a great extent. We use AI everywhere in our daily lives. Now it has the potential rather if it has not done so already, to make independent living for persons with disabilities and a much more seamless experience than before, of course, with the caveat that all of this technology is available, affordable and accessible to persons with disabilities. So, I would say that yeah, it has, it has made assistive technology, the use of technology more ubiquitous and more commonplace and has enhanced the independent living experience of persons with disabilities.

Chloé Touzet

Thank you Dorodi. John, what about you? What would you say?

John Robinson:

Yeah, we've seen some great advancements because of the AI work that we're doing. You know, we've dealt with employment for individuals with disabilities for a long time. And what we've noticed is that individuals with disabilities are assisted in lots of cases either by family members or by job coaches, job developers, to professionals in the job world. What we can do with AI is handle a lot of information. At one time we're able to read 80,000 jobs in real time. We're able to process numerous candidates at the same time. A good professional job coach has a portfolio of 100, 200 people that they're helping at any given time. With what we're doing with AI, we're able to handle a large quantitative amount of information and process that so that we can help multiple people. This sort of a virtual job coach and AI has allowed us to do that both in capturing and meeting lots of people as well as providing it in an accessible environment. And so that's what we've seen and we're excited about what the potential moving forward is.

Chloé Touzet

Thanks John. So AI being actually able to enable things that were just not possible to do before at all. Ima, what about you, what would you answer to that question?

Inmaculada Placencia-Porrero

OK, so very interesting question I think that as with technology itself, there are many differences because as technology itself, the way in which AI is constructed, the way it operates, it's different from previous technology. But one of the key results of that technology being the power that that technology has to take decisions and provide support in decision-making is what makes AI so different from previous technology. Because once the technology is being programmed and operational then there is autonomous decision-making and also a learning and self-learning process of that technology and that makes it different from the previous technologies.

Chloé Touzet

Thanks, Ima, and let's go to Donald to hear his answer.

Donal Fitzpatrick

Thank you, Chloe. It's great to be with you this afternoon. Yes, I think there are some significant differences and I think firstly the growth of AI-based solutions has the real potential to empower people with disabilities in all in many, many different fields. And I think what we see in older-based systems for example, particularly assistive technology is that they were designed to do a specific task, they were programmed to do specific tasks and weren't really able to adapt. Modern systems can actually in some ways and I'm using the word in quotes to learn and thus adapt to changing circumstances. And so that actually affords a huge amount of opportunity both in assistive technology generally but also in terms of the labour market. You know, you can actually adapt the capabilities of systems to to cater for different scenarios, different types of disabilities, et cetera, but it all hinges on how good the training and how good the actual models actually are.

Chloé Touzet

Absolutely, a great point and we'll come back to that later on. Thanks very much. Now let's repeat that same exercise and I will ask you a question and ask for your one-minute answer to that second question. And I'd like to ask you about how much hope you have if we bring this back closer to the issue of employment, how much hope you have in AI's ability to reduce that disability employment gap. So, I'd like for you to tell me if you think of the various barriers that stand on the road to employment for people with disabilities. What share of those do you think AI can help tear down and perhaps which ones in particular? And let's reverse the order, let's give Donal the floor first.

Donal Fitzpatrick

Thank you again. Thank you very much. I think it affords a lot of hope and I would say I break this into two constituencies. First is actually obtaining a job and secondly doing the job. In actually getting the job I think again based on the work that John and others are actually doing, we can actually see that AI has the potential to actually help match people with jobs, has the potential to actually really encourage people with disabilities into the labour market. Once you're in the job I think again, if AI-powered technology for example, you mentioned image recognition, you mentioned things like the capacity to filter data to display data in different ways to really run algorithms and run the rule over vast amounts of data and present that in a way that's very, very, very accessible. That has the potential to open up new labour markets and new areas of work for people with disabilities which might not have been previously available.

Chloé Touzet

Great point. Thanks, Donal. Ima?

Inmaculada Placencia-Porrero

The barriers that persons with disabilities experience towards employment are very, very diverse and some of them can be removed with technology in practical terms, but some others require also other types of solutions. Many of the barriers are attitudinal barriers. People might have prejudice and think that persons with disabilities, by definition, would not be able to carry out the job for those. It's very difficult to use technology unless it would be used as a way of selecting in

an anonymous way using more objective criteria. However, what we see is that there is a danger that this type of prejudice is included into the essence of artificial intelligence tools. So, this remains a problem.

We see also a problem in the process of accessing information. Training for the process of applying, having the interviews and in all those situations: in principle artificial intelligence, provided that it gets the right data, provided that the algorithms are correct, provided that the decision-making processes is properly used, then it can help.

It can also help for example in the provision of reasonable accommodation when a person in a job acquires a disability. Adapting the workplace, and providing these reasonable accommodations is challenging because it requires experience. Until now, many of the decisions on how to adapt they were placed involved individuals with disabilities but also involve expertise and ideally pulling together knowledge and experiences before on cases that have some commonalities would help, and that is a role that artificial intelligence could help with.

In addition, I mean when you look at the barriers that persons with disabilities having the right of employment, you see that general lack of accessibility or limited accessibility, it's really an important barrier and AI can help to improve that accessibility and linking with what the previous speaker has said, also in the realisation of the day-to-day work, AI can help some applications like you know you're a person with a visual impairment, you enter into a room and AI will describe you who is sitting in front of you, the setting up of the room for example to give you an example. Or tools that allowed you to orientate yourself in the immobility in a building. There are many ways in which AI can help in the day-to-day work and the tasks that we that we do.

Chloé Touzet

Thanks Ima, John, let's hear from you on this one.

John Robinson

I think our biggest thing is that we, to both Donal's point and Ima's point, we want to remove the unconscious bias. We understand intellectually that there is bias built into artificial intelligence, but we also understand from individuals with disabilities when they look for a position, they think at times they cannot do the job or that their skills do not match. And we've heard for years and years from the business community "can so and so do a job if they're disabled". In our system, we're able to remove some of that bias both from the individual level as well as the internal AI bias that there may be. When you focus on skills and interests from job descriptions and skills and ability from the individual and make the match regardless of pre-existing biases, you know, then we can start working towards outcomes. We've coded our own system, so we've gotten away from past AI experiences and built our own so that we can remove that unconscious bias and that's our goal with this and we believe it can help employment outcomes by doing that.

Chloé Touzet

Absolutely. Thanks, John. Dorodi, what about you? Do you think AI can help tear down some of the barriers?

Dorodi Sharma

Most definitely. Some of the points have already been mentioned by Donal, Ima and John. But I think I'll go back to something that you said Chloe in your opening remarks when you spoke

about two different kinds of AI-based technology, one being disability-centred innovations and the other being more geared towards adapting the outside environment. I think both of these work in tandem when you talk about tearing down barriers.

As I mentioned already, AI has played a huge role in enhancing the personal mobility and independence of persons with disabilities and Ima has already spoken to that and given examples of how some of this technology can support that independence. And I think that in turn has an impact on people being able to get out of their homes, go to offices and access jobs. That confidence that AI allows you to do that is important. It leads to a lot of these stigma being reduced. I also said that AI is becoming more and more ubiquitous. So it is not just only a specific segment of the population using it. It's also used by persons without disabilities. And so that stigma of not doing a particular job in a traditional way is also reduced. So there are more than one way of getting a job done which is more accepted these days. I think that leads to creating a more equitable, comfortable, safe working space for persons with disabilities.

Ima also spoke about reasonable accommodations. I think it's important to highlight that we have seen technologies such as automated captions or voice to text being increasingly used by individuals in their work. It supports, you know, the individual needs that a person might have and even if the entire work system is accessible, so accessibility and reasonable accommodation sometimes have to work in tandem as well. It also has, you know, led to more underrepresented groups coming out into the workforce. So, you know people who might not be, who may be non-verbal for example, who might communicate in different ways, can use AI to be more included in the workspace.

And just looking at the remote working practises as well, I think with AI remote working is becoming more I guess intimate, so it's not like it's something which is completely detached from the workspace, so that also works with the benefit of persons with disabilities, the workspace. So again, just drawing from what you said in the initial in your initial remarks, it's not just disability specific AI, but also AI that works for the general population and that makes the larger environment for inclusive.

Chloé Touzet

Absolutely, thanks Dorodi. Yonah, sorry you have the hard job of going last on that question. Anything you want to add on this point?

Yonah Welker

Yes, I would love to analyse how involved the portfolio of projects and investments and accessibility technology is in our field and our work. So, on one hand, technology for workplaces become more modular, it's much more aligned with sensory diversity and with different type of disabilities including cognitive ones. And also, it's much more involved in aspects of an underlying condition, comorbidity and other disabilities, intersectionality in terms of how it helps today. On the one hand, it helps with the social interaction including smart glasses, apps, platforms, social robotics and conversational AI. It helps with microlearning and continuous education. It helps with a completely new type of platforms including data science platforms, which are focused on autistic individuals. It helps with the hybrid inclusion technologies. Disabled people can be involved in control of a semi autonomous robots for some functions, or it's used for job alignment and more personalised job search and accommodation. So, it's truly evolving

into the whole ecosystem, aligned with the different senses, different types of abilities and it truly helped to become a part of a different workplaces, remote one or physical one.

Chloé Touzet

Thanks very much, Yonah, all great points. At this point we will turn to the audience to ask them a question so people in the audience should see a poll appear in the online chat in the interactivity tab. Please take it. We would like to know whether you see the most potential for AI in improving access to the labour market for people with disabilities. You have four options. Do you think that AI will help primarily with job search and job matching? Do you think AI will help mostly with workplace accommodations? Is it about creating new job opportunities, that's the third option? Or, fourth option is it about overcoming attitudinal barriers? We will announce the result at the end of the session. Please do vote.

But let me now turn back to the panel to look at the next question, which is we've established the potential of AI. How do we ensure that stakeholders actually seize that potential? I will ask John first to look at that question. And John, I'm sorry I said you will have five whole minutes to talk about this, but we're quite late on schedule. So if you could perhaps, do that quicker that would that would be great. But I would like to ask you, you are the CEO, you are the founder of a startup that is using AI to create an inclusive job matching platform. And in your experience, what were the challenges to overcome in doing this both in the research and development phase but also in the go to market phase? Thank you.

John Robinson

The biggest challenge that we have is in listening to the community. As was pointed out, as is obvious, the disability community is diverse within itself. And so, because we have preconceived notions about disability and accessibility as we build our AI products doesn't mean that we're always right, right. And so, we have to listen to the disability community in general as we put our system together. So, we've lived this experience personally.

Both in our lived experience as being people with disabilities as well as developing products, we developed the product and then we heard from the community and we redeveloped the product so that it is accessible. And so we almost had a 2 tiered approach to the build out because of accessibility needs and interests. Our Chief Technology Officer is blind, we have neurodiverse people on our staff. I'm physically disabled. So there's a varied approach to this and we listened to everybody including the consumer as we put this out.

So accessibility was really important in the build and then as far as go to market, it's it's also extremely important that we continue to listen to the community as they interact with us. We listen to the business community as far as usability, but then we also have to think about the growth of the organisation. And so, it's really important to talk to investors, talk to corporations, talk to venture capitalists that we're building a product that takes accessibility first. It's an AI product that removes the bias and that we're not a charity, we're a business and we're a business to try to harness the capitalism within individuals with disabilities as well as businesses that need consumers who are individuals with disabilities, either consumers or the workforce or consumers to the product. So, accessibility is at the forefront and then we continue to message around disability and ability within the investment space. These are the biggest issues that we have, both in the build out as well as in the go to market phase.

Chloé Touzet

Thanks very much John and building on this I will straight away turn to Donal. Donal, we've heard about the obstacle, some of the obstacles in developing the solution. Next up in the process is user adoption. So once you have a solution, you need people to use that solution for it to be useful and as a researcher in universal design, specialised in universal design, you are well placed to know about that so let me ask you, what obstacles do you think stand in the way of people with disabilities adopting AI-powered solutions?

Donal Fitzpatrick

I think that's a really great question and I think the obstacles have been very much mentioned previously. I think there's a perception out there of bias and I'd like to take a step don't say backwards but sideways if I may. And before I actually answer this, I'd like to introduce your participants to what we call in Ireland, uh, universal design, which essentially means the design and composition such that it is usable by individuals irrespective of age, size, ability or disability and this has a very definite relevance to systems based on artificial intelligence. Because in many cases, and what is often perceived to be the case and frequently is, is that you know for disability if you recognise it. Certainly, in legacy type systems and older type systems, we have a saying in the Centre for Excellence and universal design, which is to oversample the extremes. In AI-based systems, the extreme sometimes can tend to be removed. So, what we believe should actually happen to eliminate some of these obstacles is to look at the principles of universal design to see how they can actually assist with this.

Let's take one of the principles in particular, and I'm aware you're short on time, so I'll just take one of these and that is the notion of equitable use.

What we would say about this is that the design is useful and marketable to people with diverse abilities. Now, that's very, very important in the context of overcoming perceived obstacles here. Because if there's a perception of bias, if there's a perception that, for example, if you're applying for a job, that disclosing a disability will actually be detrimental to actually getting that particular job, then all of a sudden the use of this particular system, an AI based system, will be considered harmful and detrimental, et cetera. Equally when doing the job, if the interface, for example, let's hypothetically say that we're doing some kind of a system which has a lot of infographics. If that particular system is not carefully designed, if the infographic is not perceivable operable, usable and robust for all users, you've got a problem. Because then users with disabilities can't necessarily use it. An example might be, for example, if somebody who is blind is using a system which relies heavily on data representations, data visualization, and those data visualizations are not accessible, you've got a problem. So I think that the real key is this notion of equity of use and equitable use and that systems are very much designed and implemented with that uppermost in mind.

Chloé Touzet

Thanks, Donald, it was perfectly put. And I'll turn now to Dorodi because we've arrived at the point where we're going to talk about risks. And Dorodi, same thing, apologies, but if you could be mindful of time, that would be great. Nonetheless, I would like to ask you from your standpoint as an advisor in the International Disability Alliance, what do you think are some of the risks for people with disabilities linked to the development of AI? And coming back to your point earlier, I think we're talking both about specialized AI and mainstream AI and also about general AI, general purpose AI and employment related AI. Thank you.

Dorodi Sharma

Thank you, Chloe. And I'll definitely keep my remarks short and brief, given that we're running over time. I just want to build on what Donal spoke about, I think, equity of use. And I think that basically is something that we really need to keep in mind. The risks of AI are well documented. So I won't go into detail, but just building on Donal's point, as the disability movement, we often do when we look at services and how to analyse and assess services, we look at what we call the four A's and one Q. So the four A's are availability, affordability, accessibility and adaptability. And the Q is quality. So I think even for AI, we have to look at it from this lens. So when you talk about availability, are these technologies even available to everyone? Are they affordable for everybody? And of course, are they accessible? Building on the universal design principles that Donald referred to? Acceptability is also a key concern here. And I know that sometimes, and as something that John also spoke about, AI is developed without consulting persons with disabilities. So sometimes they might not be really conducive to the cultural context.

Dorodi Sharma

For example, there's a lot of conversation around AI-based sign language interpretation, which is something that the deaf community, for example, is really currently in discussions on, because for them, sign language is about their culture and it's not just about an accessibility. So how do you bridge those gaps in terms of acceptability? Adaptability, of course, how it adapts to the needs of different users and quality of technology because across geographic and socioeconomic barriers. So again, the principle of equity and I think this 4 As and one Q really draw attention to the fact that any technology that is developed must have human rights principles at its core and must have the principle of nondiscrimination at its core. And at the beginning of the panel, we spoke about how AI works based on the data that is fed into it. So it works a lot on profiling, and it's increasingly being used for screening purposes, not just for employment, but many other services, including health and education opportunities, for example. And if that data that is fed into AI system which is for screening is not reflective of the diversity within the human population, including the diversity within persons with disabilities, it will lead to discrimination.

Dorodi Sharma

For example, not all AI may be equipped to analyze or may not be programmed to analyze the variety of facial constructions. It may not be programmed to analyze different ways of communication, including the pace of speaking, clarity or pronunciations, or may not be equipped to deal with nonverbal communications. It might not be equipped to deal with social interactions or inhibitions and social interactions that some persons may face, including the not making eye contact, for example. And these biases need to be documented in the algorithm that is used for screening. And I think it's important that we recognize that diversity of the information that is fed into during the development of AI is important. We also spoke about how it can be used for reasonable accommodation, just more individualised. But there are also risks to using AI as an alternative for reasonable accommodation, which may not be appropriate for everybody, because whether or not AI is equipped to handle individualised requests against is something that depends on how it was constructed. Another problem that we see is that AI

technology is fast advancing the learning curve is very steep, so this may not really work for a lot of person disabilities who may not have the learning opportunities.

Dorodi Sharma

I also want to draw attention to the global north and south divide if systems that are designed based on data collected from the global north and high income countries may not perform well for people in low-income and middle-income settings. So I'll stop at that.

Chloé Touzet

Thanks very much Dorodi, and that's a great segue. We've just learned about those risks and now we're going to run a quick second poll. So you should see it for people in the audience appear in the chat. And that question is very simple. We've just heard from Dorodi and from all of the other speakers about some of the risks associated with non inclusive AI. Do you think that these risks can be credibly addressed? It's a yes or no question. It's a bit manichean, but that's the way that online poll go. So please do vote and we will report the results at the end of the session. But now I would like to turn to Yonah. Yonah, you're a very active advocate in the field of inclusive and nondiscriminatory AI, particularly when it comes to neurodiversity inclusion. And so I want to ask you the same as the poll question. Based on your experience, what do you think? Do you think that these risks can be mitigated? Can they be credibly addressed? And if so, please tell us how. Thank you.

Yonah Welker

Yes, so first of all, it's a very complex question and it's impossible to mitigate it just on the level of auditing. And I believe there are at least several steps which you should bring to the ecosystem. So first of all is representation. You can't develop technologies which address neurodivergent individuals without such individuals in your team, in your board, in your resource group. The second is vocabulary. So for instance, we work with the UK disability group and we created vocabulary related to neurodiversity where we try to use appropriate language terminology and create a common language between technologists and researchers. Another thing is modularity in how we research technology. So everyone who is involved in the field should understand it's not about only one app or platform, it's about the whole ecosystem. So for instance, I work with a startup called BeMe.AI and I'm a board member of this company. It's focused on the analysis of data from autistic children, but it also works with other devices, and wearables, and this ecosystem becomes more and more complex and we should take it into account.

Yonah Welker

Also, we should take into account the diversity of stakeholders. For instance, as a neurodivergent individual, probably I have a caregiver, family, professionals, or educators who use this technology, for instance, social robotics or conversational AI is introduced with the professionals and educators, I, the neurodivergent individual, do not use it as a final user.

Yonah Welker

Also, we need more specialized policies. Just a few days ago we worked with the EU Disability forum on AI for children with disabilities and until today there were just a few frameworks addressing children.

Yonah Welker

Also the roles should evolve. So now we see we can't just bring technology to classrooms, we should adapt the curriculum. So that's why companies like RoboKind focus on social robotics. They position themselves as educational companies, they need to educate teachers. The same is true with workplaces. So you adapt the workplace and people who work on it, and you adapt the competence framework. And by the way, just recently World Health Organization created a public call for redevelopment improvement of a digital health competence framework.

Yonah Welker

And finally we should create a balanced ecosystem where we have a clear line between human involvement and technology. AI is just a tool, it doesn't replace teachers, it doesn't replace actual social communication and family. You should create scenarios of a positive use and potential misuse. We should avoid situations where AI is used for harassment, creating isolated silos for safety or privacy violations. So for instance, recently one neurotechnology companies sold the data for advertising purposes so they monetize neuro data.

Yonah Welker

So we should create the policies in cases which limit such situation. And finally is a bias audit. So once you've created all of this ecosystem, you need a smart audit process to make sure your AI is a fair and accountable. There is no black box situation, it's transparent, you can explain what's happening behind the algorithm so nobody is excluded.

Chloé Touzet

Thanks Yonah. So really, AI audits, which is what one might think immediately when we're talking about mitigating risks, you're saying is actually the last piece of the puzzle but there's a whole ecosystem to create before that, through policies. So thanks for the transition because we have now arrived at the part where we will be talking about policies. This is the last question on our agenda today and on this issue I'd like to ask Ima for her thoughts on the state of existing regulations. So, Ima, you're a computer scientist. By training. You are no stranger to AI or the way that it's developed in the last few years. But you've also been an architect of the EU regulation on accessibility, including digital accessibility. And that's a conversation that started before the comparatively recent AI boom. And so I wanted to ask you, in your opinion, to what extent the regulations that are already in place, do you think they're fit for the purpose of avoiding the risks that we've discussed so far? Thank you.

Inmaculada Placencia Porrero

Okay, well, as you can imagine, I'm not in a position to tell you, to criticize EU legislation or to provide an overview of what limits they have. But I would rather go into describing the complexity of regulating in this area and because to a certain extent, at a large extent, it is uncharted territory. We have talked here, previous speakers and myself, we have talked here about many elements that are to be considered from the technology point of view, the data that you put, how do you regulate that? The data that you put into the interface intelligence systems is representative enough of the population so that it is at the end not producing bias. How do you regulate that? The algorithms that are taking the decisions or the rules in order to handle the data are disability-inclusive and non-discriminatory. You can regulate the principles, you can say, okay, the AI legislation should not be discriminatory. Well, that's what we have already. At the European level, there is a regulation on artificial intelligence proposed by the European Commission that already contains this type of nondiscriminatory clauses. But when you come into the level of detail, how do you do that?

Inmaculada Placencia Porrero

What do you do exactly? Well, in this case, the legislation is referring to codes of conduct that can be developed by the industries involved. I address one of the elements, that is the data and the algorithm. But we also have other elements like the user interface and how do you interact with those tools. Previous speakers talk about universal design. In my view, universal design is a great strategy to develop more inclusive technologies. But when it comes to the user interface and checking the situation of the interfacing and the usability by persons with disabilities, you need to have clear accessibility requirements and that is for the user interface. That is where, for example, the European Accessibility Act enters into the picture because we are dealing with computers, operating systems, and applications in many different areas in the area of banking. And just to give you some examples, in addition, we cannot see, in my view and my personal view, artificial intelligence being regulated just because it's artificial intelligence. Indeed, there is a need, as I said, to regulate some of the elements, the data, algorithms, the interfaces, but also we need to keep in mind the environment in which that technology is being used and make sure that there are also certain principles, legislative principles apply.

Inmaculada Placencia Porrero

For example, in the case of Europe, we have got a directive which is dealing with equal treatment in employment that forbids discrimination associated to disability. So not only two persons with disabilities, but associated to disability so much wider. This directive also requires the provision of reasonable accommodation. Again, that involves also AI-based tools, jobs related tools used artefacts in the workplace. And this element of, let's say, regulating the environment in which the AI is used is really very important. So in summary, in my view, it is a complex matter. It is a matter that we will need still to learn by doing. I think very few countries around the world have got legislation on artificial intelligence and let's say experienced legislation that they have managed to evaluate. We are in that process. And this legislation on the artifacts that artificial intelligence might produce and the usage that it will have will need to be complemented and be seen in an ecosystem that regulates also the accessibility for persons with disabilities and as well the equality element in the application. So I hope that answers your question.

Chloé Touzet

Absolutely and thanks for that. That question was about existing regulations and I also wanted to give you the opportunity, if you want to add something, on looking into the future and asking you, we talked about regulations to avoid risks. Now if we try to think about regulations to seize the opportunities which exists, as we've said, in 30 seconds, what kind of policies would you like to see in the future that would help to kind of seize that AI potential to reduce the disability employment gap?

Inmaculada Placencia Porrero

Well, that's a very wide question. What I would like to see policies that take account of the needs of persons with disabilities, that when are being designed, it looks at to what are the needs, what are the rights and how do we can make sure that the rights impacted by that possible legislation or policies are respecting the equal enjoyment of persons with disabilities. I think to start with, it is the most critical point when you are doing developing policies, to ask yourself how this can impact persons with disabilities, how it can benefit persons with disabilities. What are the specificities that these policies need to have in order to address those rights of persons with disabilities and depending on the typology of the policy, the application of the policy, the purpose of the policy? Yeah, basically mainstreaming disability and if necessary, put a specific requirement related for persons with disabilities. This twin track approach that we always talk about requiring, for example, this accessibility or requiring the provisions of personal assistance or is something also that needs to be contemplated to complement the, let's say, inherent limitations that a universal design or mainstreaming disability in the design of policies have.

Inmaculada Placencia Porrero

Because you can go so far to cater for everybody, but in reality is you will cater for more people, but it would be difficult to reach everybody. So in order to reach everybody, then at a certain moment, one needs to look to the particular in a particular moment, in a particular case for a particular person, what is it missing? And then have targeted measures in terms of either reasonable accommodations support being provided, or assistant or assistive technology, for example, which are very targeted measures. This twin track approach to be seen in policy is really essential. Thank you.

Chloé Touzet

Thanks, Ima. John, what about you? In 1 minute, what policies would you like to see implemented in the future?

John Robinson

I think what we have seen in the United States with Section 503 and 508 of the Rehabilitation Act, we've seen 503 talks about 7% of the employment base at federal contractors need to be people with disabilities who need to be working towards that. 508 talks about digital

accessibility. What we have seen since these have been enacted is more requests to us to work towards those numbers. What we would like to see is those types of policies continue to grow because they do have a positive effect. And what it really boils down to is equal opportunity, equal opportunity employment outcomes, which provides us equal opportunity in financial outcomes, equal opportunity and digital accessibility provides us again, equal opportunity and outcomes. And so we would like to see these policies remain and grow and expand, which will open up the opportunities for individuals with disabilities.

Chloé Touzet

Thank you, John. Donal? What about you? How do we seize the potential of AI? And what policies do you want to see?

Donal Fitzpatrick

I think we seize the potential of AI by encouraging developers, as with all developers, as with all systems, design, any kind of design to really reach out to the users they're designing for, and that has to include people with disabilities. I think an awareness of the needs of people with disabilities is really going to influence the design of AI and indeed other systems. And I think policies in terms of policy, I think the policies been very well summed up with the previous two speakers. Both policies people first, and those people have to actually include people with disabilities.

Chloé Touzet

Thanks very much, Donal. Great point. Dorodi, what about you? What policies do you want to see?

Dorodi Sharma

I don't want to repeat what others have already said about human rights and nondiscrimination and putting people at the center of policy making. So obviously close consultation with users, in this case, persons with disabilities. However, I do want to pick up on something that Ima had said. Policies and laws on AI will not exist in isolation. So unless your overall policy and legislative frameworks are not inclusive of persons with disabilities, it will be hard to expect that just the policies on AI will be inclusive of person with disabilities. So even today there are countries where the legal system either directly or indirectly discriminates against person with disabilities. So if that is the case, then a specific policy on AI may not really work, even if it's inclusive of people with disabilities universal design. For example, John mentioned section 508, there's also the EU standards on accessibility, but in many countries the standards either don't exist or when they do, are not really implemented. So unless your overall policy and legislative frameworks are not geared towards being nondiscriminatory towards everyone, then specific AI policies which may be inclusive and excellent in terms of their inclusion and nondiscriminatory nature may not work.

Dorodi Sharma

So, just wanted to signpost that.

Chloé Touzet

Yeah, thanks Dorodi, point well taken. Yonah, what about you?

Yonah Welker

Yes, so a few suggestions from my side. So first of all, the whole nature of policies should change from like a making a favor to co-creative economy because if we include these individuals with disabilities we are able to grow GDP by 7%, we can co create completely new type of economies with incredible talent in people around the world.

Yonah Welker

Second, we should go from just universal design to universal algorithms because exploring the portfolio of companies addressing autism, dyslexia, HdHD, neurodiversity, neurodisability, we can use conversational AI technologies which enhance vision or hearing ability both for disabled and nondisabled individuals, we can use it for smart cities and smart spaces. In this way we should change how we see innovation today. Accessible technology is still underdeveloped and under adopted, there's still issues related to budgeting system and how we can quickly bring technology from, let's say campus of university to actual workplace or school. Only 10% of people with disabilities actually have access to these technologies.

Yonah Welker

And also recently we had a meeting in Europe and Parliament where we discussed EU AI Act. And one of the issues I explored, there were just a few actual technologies. So policymakers live in some kind of a silo and they do not bring all of the stakeholders technologies, researchers, caregivers, patients, families. So we need to work together and identify all of the stakeholders who are involved.

Yonah Welker

And finally, we should make policies specialized. When we research technology for Hdhd, we need a particular guidance how to make it in correct way, because there are different ages, 8, 9, 10 years old kids, how we should make the research in appropriate way. Also we should make policies gender and intersectionality specifics. For instance, autism is manifested differently for girls and boys and that's why until today women were underdiagnosed or diagnosed in an incorrect way. So we need to change policies in this way.

Yonah Welker

And finally we need to change the whole culture, the whole historical vision. If we go to China or India, there are over 100 sub ethnicities, a huge historical background which currently not included into our statistic, our vision which is why we predominantly perpetuate existing biases

or exclude some groups. And until our policies take into account all of the historical and social backgrounds, we are not able to go forward, though I'm still very positive because we are trying to do our best in these areas.

Chloé Touzet

Thanks, Yonah. And thanks, everyone. I think this is great inspiration for policymakers who might be listening. So thank you for all of these. Let's now look at the results from the two polls that we launched earlier.

Chloé Touzet

You might remember the first poll was asking, where do you see the most potential for AI in improving access to the labor market? And it turns out that 40% of people in the audience said that they saw most potential and help with workplace accommodation, followed by 29% who said it would create new job opportunities, 21% who said it would help to overcome attitudinal barriers, and 10% who said help with job search or job matching.

Chloé Touzet

The second poll was, do you think that the risks associated with non-inclusive AI can be credibly addressed? And we have 85% of people who said yes versus 15% of people who said no. We will take questions from the audience in a sec, and I want to keep time for that. So I'll ask you to be really brief, but if you could, I want to give you guys the opportunity to react to those polls. So are you surprised by those results? Do you agree with them? Any quick reaction? John, for example, what do you think? Are you surprised with this 10%?

John Robinson

Yeah, I am surprised with the 10%, but I think that's a great opportunity for us. We firmly believe that the bias in skill assessment, interest and job descriptions is there, and we can show the bias. And so to me, the 10% means there's 90% that I can educate out there, and that's a good sign. I realize the math doesn't really work because people might have two opinions, but I'll take that 10% and work with everybody that disagrees and we can get into the task at hand of managing people to jobs.

Chloé Touzet

Sounds great. And actually, this was a one answer possible only, so your math was fine. Anybody else wants to react quickly? Otherwise we'll go to question from the audience. I don't see anyone. So we'll take the first question, which is from Kim from Japan, and I think this question is going probably to Donal, and it's "Is there any AI developed by people with disabilities?" I think we have examples in the room of some of them. But they're asking if we only have white, straight, male, no physical or mental disability, well-educated people developing AI, won't it just be as biased or unaware as the people who developed it? So I don't know if Donal, you want to take that question?

Donal Fitzpatrick

I think that there is diversity in the development of AI systems. I know of quite a few systems that I personally use as a blind person that actually have been developed by a combination of both blind and sighted people. So I think that there are quite a number of systems and popular systems as well, where the involvement of people with disabilities has really, really made a huge difference to the effectiveness of those particular systems.

Chloé Touzet

Yeah, absolutely. Thanks, Donal. Next up is a question from Henry from the American Association of People with Disabilities who's asking, "don't we need to ensure that AI hiring tools don't filter out disabled job seekers trying to find employment in established fields?" So I don't know if John, do you want to take that question? Sounds relevant.

John Robinson

Absolutely, Henry. That's why we do what we do. We know existing systems that are in place right now do filter out people with disabilities. And again, that's exactly why we're doing what we're doing. What we need, Henry, is more of you working in the institutions around disability around the United States to talk with us, because that's exactly why we exist and we want to continue to grow opportunities for individuals with disabilities. And it begins with the ability within all of us to do something that's truly where it begins. And if we don't start that conversation there, then there really is no purpose. Right? And so the whole point of our system is to remove the biases at the beginning, both from the individual standpoint and the business standpoint. That's exactly why we exist.

Chloé Touzet

Thanks, John. Next we have a question from Debrah from the Ontario Public Service. I think that question could go to both Dorodi and Yonah. So if you both want to chip in, Debrah is asking, do you think that for some people, depending on their disability, AI could actually further isolate people from society? I don't know. Who wants to go first? Dorodi, do you want to go first?

Dorodi Sharma

Yeah. I think we've all spoken about the various risks associated with AI and universal design. If that is not the underlying principle based on which AI is developed, then of course there would be groups which may not be included. We have seen a lot of I could give you the example from screening, or we see a lot of websites or job sites which have capture, or which has chat bots which are not accessible to people with visual impairment or people who are blind. And even as we speak, we have technology that is directly and actively excluding persons with disabilities. And that might be actually more pronounced in case of certain groups which are underrepresented in terms of their participation in society, because the data that we use to empower AI and machine learning comes from society. And if certain groups are not

part of those conversations for example, people who may use "easy read", who may not be verbal, who may not communicate in traditional ways that we are more familiar with, then those groups might be left out of AI. And that is a very obvious risk.

Chloé Touzet

Yonah, do you want to chip in on that one as well?

Chloé Touzet

Yes. So, on one hand, part of my work is the creation of frameworks which make AI safer and more human centric. And you can think that I believe it's dangerous, but actually there are two sides. On the one hand, I myself am a creature of AI. I never had a formal job, I never had a formal education. I was excluded by everything, by everyone. Society and humanity was very rude with me. It almost destroyed my life. And technology, adaptive platforms, gave me the opportunity to be represented, to educate myself, to create projects **in** different places in the world. So if we are able to make technology not biased, human-centric, not put in the worst pieces of our soul, but make it natural, it works, it helps, it assists completely, it gives opportunities you are not able to make through any other scenario. So I have a great hope for technology, but as we discussed during this session, it should be made in human centric way for ecosystems, provide bias audit, provide representation for eliminating any kind of negative influences and exclusive components. In this way it's really helped. It could change how we see in how our society exists. We will include so many amazing talent around the world who could become creators, artists, technologies, researchers, teachers and so on.

Chloé Touzet

Thanks Yonah, for this answer and also for sharing your lived experience, which is particularly valuable. I think there's a question for Ima from Jeremy who's asking whether health insurance systems currently reimburse AI products. Whether they could, whether they should? I mean, I think several people could answer, but since you're our local policymaker Ima, I'm turning to you. And then other people can chip in as well.

Inmaculada Placencia Porrero

Sorry, but the question is to be then clear to me whether health insurance systems can be reimbursed...

Chloé Touzet

Whether AI-powered solutions that we've discussed during the session, are they currently covered by reimbursement systems? And should they be? Is it one of the policies that we need to implement in the future?

Inmaculada Placencia Porrero

Well, that's something to look into it. We don't have any specific policy on that. So what I understand is whether if the question is whether instead of going to a doctor you would be consulting an artificial intelligence health consultant, whether that should be reimbursed. Well, I would say that if that becomes the norm, of course the question would be on the table, but I have not seen any policies about it.

Chloé Touzet

I think to clarify, the question was more about whether one of the solution, for example, that allows somebody who has a vision impairment to hear a description of the word around them, whether that should be reimbursed by the same systems that would reimburse a wheelchair, for example, Dorodi, on this point, if you want to come in.

Dorodi Sharma

Yeah, just quickly, and I think this is very related to the discourse that's happening on inclusive social protection. There are studies right now which are being conducted in different country contexts to look at what kind of disability extra costs are required for persons with disabilities to participate in society, from education to employment. And some of these AI may, if they are more disability centred, may actually become part of those assistive technology needs of persons with disabilities. There are studies right now, especially in global south countries, who show that to be able to access these very necessary and critical support systems, which include sensitive technology, income levels of families have to be in the top five percentile of the country. So of course, again, going back to the conversation on affordability and availability of these technologies, but yes, those conversations are happening around inclusive social protection and how this technology also becomes part of the provision.

Chloé Touzet

Thank you so much, Doherty and Ima, I see you have your hand up. I'm really sorry. We have 1 minute to wrap up.

Inmaculada Placencia Porrero

Okay, but just 1 minute to say because now I understand the question. There are two different things that we need to pay attention. When assistive technology, whether assistive technology should be reimbursed, it is being reimbursed. And the type of technology of assistive technology that is being reimbursed evolves also with time. It is not only about wheelchairs. And now we have, for example, a screen reader. Some of them have got artificial intelligence on it. This is one thing. The question comes whether what we see happening, also a trend that we see happening is that mainstream technology is getting embedded more and more accessibility features that were before in an assistive technology separated device. To give you a very simple example, to you, screen enlargement used to be a separate device that costed a lot of money. Now you get it for free almost in your computer. Now, should you the question comes, should then this mainstream accessible technology be reimbursed? This is a question that it is very complex, but in some cases it's also happening because the tandem of

accessible technology together with assistive technologies, the only thing that provides is equal access. So thanks for clarifying the question.

Chloé Touzet

No worries. Thanks Ima. And I have 3 seconds left to really thank everyone. Thank you all for joining. Clearly there were still some questions in the audience. Clearly we still want to talk about it. Hopefully today's session demonstrate that we need more discussions like this. But we have to wrap up for today, unfortunately. Hopefully we've inspired people in the audience to keep looking at this space, to keep thinking about it, perhaps to act in their respective capacity to make sure that we avoid the dangers of non inclusive AI, but also that we seize the potential of inclusive AI to close that disability employment gap. So let me thank very sincerely each and every one of the speakers today. I do look forward to continuing that conversation with you. Thank you to everyone online who's attended and who's been watching. That was great. The OECD AI Whips conference is still going on for two more days. There are very interesting sessions. So please do have a look at the program. Tune in for some of that. Thanks everyone, and have a great rest of your day. Bye.

Dorodi Sharma

Thank you, everyone. Thank you, pleasure being here.