Bloomberg Technology Summit

Special Lunch Session: Redefining Business Opportunities With Limitless Connectivity

Lauren Kiel: Hi, everyone. Good afternoon. Thank you so much for joining us for this think tank lunch. My name's Lauren Kiel. I'm the general manager for Bloomberg Green, which is the climate sustainability section of Bloomberg News. Excited to be with all of you. Thanks again for joining us. I'd like to give a big thank you to Ericsson for sponsoring our lunch today and helping to make this conversation possible. Look forward to hearing from Katherine in just a little bit.

We're going to be talking a bunch today about connectivity, both how it can improve business outcomes, but also how it can make companies more sustainable. I'm so excited to share that with you with some great speakers. Before I introduce our first speaker and bring him up here, I want to remind you to eat. This is a lunch, so please eat. We know it's going to be a little noisy. There's going to be cutlery. It's totally fine. We're used to it. We're going to project. You'll hear us fine.

Please, the food's going to be coming in and the courses are going to be coming through as they go through this, so make yourselves at home. With that, I'm going to introduce our first speaker. Sandeep, you want to come and join me up on the stage here? We're going to jump up into these chairs. You guys get to enjoy how short I am trying to get into this tall chair and now I'm stuck. Okay. [laughs] Now I'm swaying the other way. This is hilarious. Okay.

Sandeep Raithatha: Should have got these adjustments.

Lauren: We should have gotten these adjusted sooner. I know, exactly. Sandeep, thank you so much for joining me. You're joining us from Virgin Media. I'm sure many people are very, very familiar with you guys in the room today. We want to talk about the IoT, and really just give us a state of the union. Where are we with IoT right now? Where have we evolved and where do you think we're going?

Sandeep: Yes, definitely. Really good meet and thanks for the opportunity. As I said, we're part of Virgin Media O2. Virgin Media and O2 have really come together combining mobile and fixed. As you said, IoT and connectivity like 5G is really on a bit of a journey. IoT has been around for many, many years connecting a number of things and devices that we work and live around but what's really exciting is we're at the point where we're starting to see some real scale and scale with IoT with new low-power wide-area network technologies. Then with the introduction of 5G, we're going to start to see IoT scale. What that will mean is really helping businesses start to unlock their digital transformation.That's why it's really exciting for me in thinking about some of those products and capabilities, those innovations. As you unlock the digital transformation, we'll start to see that change and impact people's lives, our communities, then make places much more sustainable as well.

Lauren: To bring it to life for us, can you give us an example of how you've worked at a customer on this?

Sandeep: I think that's a good question. Thinking about IoT and 5G, one great example from earlier this year, some of the work we've been doing on a topic called private networks and British Sugar. Private networks are these dedicated ultra secure mini mobile networks that we put onto our customer sites, really thinking about how they can use connectivity to start and begin their journey of transformation. Working with British Sugar, one of the largest sugar manufacturers here in the UK, making about 1.2 million tons of sugar.

Really, they had a challenge of how do they provide the connectivity to get to know their things, their systems, their tools, their people, and then really begin a journey of how do they start to automate, improve, reduce waste. We deployed this amazing private network. That was running across four sites in the UK, so one of the first, which runs across all their operations that produce the sugar.

Then really working with them on a bit of a transformation journey, thinking about what are the things that this connectivity can enable by monitoring their factory and their automation line to monitoring their people with maybe cameras and artificial intelligence. What's really important is thinking about how can this technology really enable a change or an improvement in their production to produce more sugar, ideally, reduce waste, and then from a sustainability perspective, reducing energy and the impact they're having on the environment as well.

It's a great example of going from a small trial and a proof of concept and explaining about what the benefits of the technology to then really rolling it out at scale as well.

Lauren: That's a very cool example. You mentioned both of these, and I know I mentioned in the intro too, we're thinking about both business value here and environmental value and sustainability. Do you think is one of those leading and the other one following?

Sandeep: Yes. Obviously, I think with sustainability, and we're all seeing the impact of climate change in our day-to-day lives, you're seeing, as that then flows into businesses thinking about it, that's becoming more and more prevalent as well. I'd say, still, it's really important to have some business outcome and business benefit, and then in turn also in parallel show the benefits from a climate perspective as most organizations will start to have really ambitious climate goals, so like Virgin Media O2 where we have a challenge to have zero net carbon emmissions by 2040 across our supply chain products and operations.

All organizations are looking to do the same, but then also need to invest in these solutions with benefits. They need to see benefits in their operations as well as sustainability.

Lauren: Can you give us some examples, on this environmental focus, what are some of the things that IoT and connected technologies can help with?

Sandeep: Yes. I think a great example of deployment we're doing for one of our partners the other day was really in this current climates we're in now, it's twofold. One is, obviously, we're seeing the price of energy, and especially for businesses who don't have some of the restrictions on energy costs. We are hearing from

customers and partners looking at how can they monitor and understand their energy usage in building and environments.

We've been deploying an IoT solution for them and this really helps them understand energy across their floor, their building state. Then really rather than just gathering the data, which is the first step with the Internet of things, you really need to then monitor, and then analyze using artificial intelligence, and then really act on it. Then as you can start to act on that data, you can then decide, are certain windows open? Is the air conditioning running too much? Is there enough footfall to have this level of heating? And so on. Then make those changes, which then will have a reduction in energy usage, a better operational experience which is great from a satisfaction perspective, but then have the sustainability impact as well.

Lauren: Are you seeing your customers ask you for more data or different types of data with this kind of sustainability lens? Knowing that they're reporting on this, you're probably trying to think about their scope 1, 2, 3 emissions. Are they asking you for a different data than they had been asking you from before?

Sandeep: Yes, definitely. We're seeing that maturity and understanding of the data that, well, first of all understanding where data is really important, and then we've been working with partners to feed in data from our IoT platforms into the right carbon calculators then give our customers the right inputs as well. Yes, definitely seeing much more maturity, you compare where we are today to maybe a few years back where it's just much more around let's do a demo or proof of concept to really measuring benefit now as well.

Lauren: How much are you seeing the evolution within your customers of them having the knowledge base around this already? Are you guys helping them understand those sustainability pieces more? Are they coming to you like, "Help us," or more like, "We've got the smart people inside now. That's who we're asking for"?

Sandeep: Definitely. It's a bit of a mix. With Virgin Media, we have a whole base of customers from really small, medium businesses, obviously the consumers but then the enterprises, large enterprises, and public sector. Each of those organizations, as you said, are investing in sustainability and their skills and their teams. In some cases, we can learn from them where they've done so much investment and have so many plans.

In other cases where we're using ESG initiatives and plans to share best practices case studies and examples and then helping them define what to do as well. It's definitely a bit of two-way. It's definitely not a one-way street. That's a great collaboration where you can share your sustainability plans and goals and then learn from each other as well.

Lauren: That's interesting. What business benefits are you seeing for Virgin O2 from this?

Sandeep: Even thinking about the idea of e-waste as well. E-waste being the largest stream of electronic waste at the moment, we're seeing that as a big challenge even for our divisions where we're selling so many handsets and devices. How do you start to work through creating a circular motion where you are bringing those devices

back through solutions like O2 Recycle? We're really setting challenging targets, having 10 million e-waste or circular transactions by 2025, which will of course see then a upside in improvement in waste but then also benefits providing the right handsets to customers that want it and then recycled handsets as well.

Lauren: Is that also requiring you to work with people up and down the supply chain to make sure that you're actually able to recycle those if you get them back or?

Sandeep: Oh, yes, definitely. That's where we've been thinking about when we looked at our ESG strategy and sustainability plans. It's not just about our operations and our network and making sure our network's running well, it's talking to our partners and really asking our partners to work with us and understand their supply chains to see how they're sustainable but then actually making sure they can support us with that level of volume as we get there as well for sure.

Lauren: What would you look for in a good partner in this way?

Sandeep: We often as we work with our partners through initial meetings to contracting, have requirements around ESG and sustainability and then rankings. We use tools to benchmark and score partners in a clear and transparent way as well. We can understand where our partners are. Often we're working with them to drive their sustainability goals and measures, which will then, in turn, meet and help meet our 2040 target as well. I think it's really important to have the collaborative relationship, use the right tools to do the measurements, and then work towards fixing and supporting them on their journey to be sustainable so that our overall solutions and products are completely sustainable as well.

Lauren: Are you seeing more new requirements like the RFPs that you're getting from potential customers around sustainability?

Sandeep: Yes. I think that's a great question as well. I think, definitely, if you reflect back in a period of time, if you think back over five or six years, you'll probably see that mentioned once or twice so it's a bit of a token, but definitely now, in more cases than so, it's definitely much more of a weighted factor, making sure that we have our own sustainable plans, we have our own policies, and then really providing much more detail than would ever have to do before. It's great to see because that keeps us really clear on our ambitions, the goals, and then we can align and make sure we're supporting our customers as well.

Lauren: Are you thinking of it as a bit of a competitive differentiator for you?

Sandeep: Yes, I think so. I think definitely if you're looking across the landscape and the industry, is always a challenge for all the industry and operators to get towards this net zero emission for both their network, their supply chain, and then the products they own as well. I think definitely, we see this as a differentiating factor where making that commitment for 2025 for our operations network and the 2040, which is 10 years before the Paris Agreement, gives us a really key talking point and an advantage at this point in time anyway.

Lauren: For people who aren't quite where you guys are in this process, where would you recommend to start? What's step one?

Sandeep: I think in general, as we've seen with the pilots with British Sugar or the work we were doing recently where we connected a hospital with the South London and Maudsley Trust with the NHS, where we set up a private network of 5G-connected hospital, I think it's already starting with understanding the business outcomes that their customers are looking to achieve, be it linked to sustainability or operational improvements, and really thinking about the outcome. Then not thinking, because all this amazing technology is great to play with, can create lots of fun news stories or PR opportunities, but it's really thinking what's the business outcome and then how can you make the first small step to show the benefit for then the organization to help create?

Because all these innovative technologies and solutions require investments, and to create the investment and the need internally, it's to show the benefit in one simple way with one example, often a trial or proof of concept, and then working with customers to then scale it out so they can see clear KPIs with benefits of operational efficiencies or sustainability. That's what we're doing as an example with the South London and Maudsley Trust where we're connecting up their teams with 5G-enabled connected tablets so they can actually perform and run more efficiently and then measure before and after, does that really make a difference or not as well?

Lauren: With those examples or any other ones that you've worked for, do they have to see immediate returns? Are they willing to give you a couple years to say, "We'll pay it more for two or three years knowing that we're going to be on this path towards 2030, 2040," or is that just too hard to get people to accept?

Sandeep: Yes, I think it depends on the organizations and their investment profiles and what they're looking for. I think definitely most in the current climate and the challenges many organizations have, they really want to only invest in these connected technologies like IoT and 5G, where they can see a clear benefit. Some will give a 12 or 18-month window knowing that these new technologies take time to adapt and they want to be at the forefront of those and really want to innovate as well. We see when we worked with British Sugar, we work on our journey with them together with 15 or 16 different use cases, and then look at what those could mean. I think there is a bit of a window, but it's not open-ended. I think people will not make the investment if they can't see the value in one year or two years.

Lauren: You mentioned this, and I know Brad Stone opened it up at the beginning of the day today, we're in a really tough time in the UK, in the world in general. Do you have any positive lights coming out of this? Is there anything you think that this tough time in the UK is going to push you guys in a positive direction?

Sandeep: Yes, definitely. Obviously, we all relate it's been a challenging couple of years and many events have happened that we've never planned for as an organization. Thinking about the pandemic or the current crisis where we have today, really thinking about each one as it comes to think, how do you react and support the environment or our customers now? With the COVID-19 here and at the time of the pandemic is really looking at how do we support the NHS with the vaccine program providing with IoT connected devices or tablets. Then as we came out from the pandemic, thinking about how can 5G and IoT help with improving the healthcare industry by remote healthcare consultations or the transport industry with alternative transport or hybrid working with 5G.

It's thinking, having a plan of how to solve the crisis here and now with innovative technology, but also starting to plant the seeds of what you could do as you come out of the pandemic or the challenge as well. Then making sure you have good control of your supply chain is a key one as well.

Lauren: We have a great group with us in the room today. What would you want to see your peers who are here in the room doing to push this forward more?

Sandeep: Yes, great. I think with 5G IoT and then sustainability, definitely, beyond technology for technology's sake or doing things that will generate PR, but think about the business outcome and then start small. We've always had these challenges where you have a big grand vision, try to create and overengineer complex solutions, which then never materialize. I think our recipe for success is really keeping customer-focused, focuse on the business outcomes or problems, and then start really small, create the benefits in the case, and then step up from there. Take that step-by-step approach and that pragmatic approach rather than thinking big bang, this is going to transform your organization in a day.

Lauren: Last, last question. Anything else that they could do to help you?

Sandeep: Definitely. I think it's having those conversations. We like to always hear about your business problems, your business challenges. I think what we found is it's just not one organization that can create that solution. You need a partnership, you need to create the environments where organizations in this room can come together.

I think it's really having those informally or formally through partnerships and collaborations, hearing about your problems, thinking about how we can all help work on those, and then creating projects and opportunities to showcase what we can do together. I think that would be key, coming forward with your challenges and let's work through them.

Lauren: Sounds great. Thank you.

Sandeep: Good. It's been like a quick-fire interview.

Lauren: There you go. I know. We did it. Sandeep, thank you so much.

Sandeep: No worries. Thank you.

Lauren: Everyone, join me in thanking Sandeep Raithatha.

[applause]

Lauren: Fantastic. Now, for our next two joining us on the stage, Katherine Ainley is the CEO of Ericsson UK and Ireland. Peter Vincent is Head of Connected Systems for Scania R&D. Join them both on stage. Good luck with getting on the seats.

[laughter]

[applause]

Lauren: Well done. Very graceful. Thank you both so much for joining us. I want to continue the themes that Sandeep and I were just talking about. Katherine, to you first. Where do you see the biggest and most exciting opportunities for 5G right now with dealing with these challenges around business outcomes and sustainability?

Katherine Ainley: It's interesting listening to Sandeep because obviously there's quite a big overlap with what we do. There's probably two things to think about. The first is how you can use the 5G network as a whole. That's getting rolled out across Europe, but across the world, but across the UK as well. Then also some specific examples which Sandeep talked about really well around private networks.

I think they give us so many opportunities. It's quite hard to know where to start there. To your point about what's driving it, I think that business efficiency and how we can reduce energy. We're aiming to be 10 times more efficient with 5G versus 4G by the end of the year. It's hugely more energy efficient, but it also gives you so much in terms of speed, the latency, and the things you can do with that from a business perspective whilst also helping the sustainability agenda are just enormous.

Lauren: Peter, what do you think about that? Do you think the business value is driving and the sustainability value is following or where's the lead here?

Peter Vincent: I think it's a hard question because as said here, we need to start small, but we also need to have the scaling option. We need to have the products available for scaling. I think for Scania, electric trucks are the next step. That is a step where we need to provide a product and scale up, but also provide the efficiency of the actual transport happening and understand how to make that efficient and how to make the step to electric vehicles. I think it's the combination of both that gives the big impact rather than just one or.

Lauren: Let's continue that example of the electric and connected trucks. Where do you see the opportunities coming from there? Where is the energy, where is the growth, and where are the challenges?

Peter: I think the challenges are many. One is clean energy. That's a lots of talk about that. The other one is to understand which customer can actually electrify what transport in what timeframe. Helping out with data from existing networks can help on that. Using the existing transport that they're running and using the measurements from that, and then transforming that into, let's take these routes and make them electrified, it's both money in that, and it's sustainable, and go from there.

Lauren: Katherine, what about you? Any good examples that come to mind?

Katherine: Yes. Actually, just to follow on from that and Ericsson's part of it, the CEO Alliance. One of the things we've been looking at as part of that is it's going to need to be 800,000 electrified trucks across Europe. To enable that, you're going to need about 400,000 charging points. They're all going to need to be connected. They're all going to need to work together. You start to get a sense of how central that connectivity is going to be to solving this problem but also to just the opportunity that it gives us. I think my, and one of the big themes that I bang on about is that it isn't about you build 5G and you build some connectivity and then you've got the answers. It needs to be part of all our-- integrated into all our thinking, into our

innovation. I think that's how you get the biggest impact, both from a business perspective and from a sustainability perspective. It all goes hand in hand.

Lauren: Talk to us more about the integration of that rollout. How are you dealing with getting the companies and the leaderships on board? How are you thinking about the changes with jobs and the trainings that are needed for people as these technologies develop?

Katherine: Fantastic question. From a 5G perspective?

Lauren: Yes.

Katherine: It's, I think, a bit of a snowball. I think there are so many different organizations in this infrastructure plus, of course, government and regulators also playing a really key part in it, that you need it all to build on each other. Ericsson, we see that we've got a really key role to drive some of the idea and the thought leadership, a bit like Sandeep's talked about in terms of some of these pilots, and we've got lots of examples of those but then the whole piece needs to snowball on. You need companies like Scania who are really embracing it to go, "Actually, this is how it can work."

You also need the infrastructure but the infrastructure won't get built if it's not getting used. It's sort of--

Lauren: Rolls and rolls.

Katherine: We saw with 4G, if you rewind and you look at 4G, actually the thing that really got 4G going was those applications and the usage, more from a consumer perspective. You look at things like Uber, that's when everybody went, "Oh, I really get it now." 5G will be the same but I think enterprise is much bigger for 5G. Consumer's still important, but the opportunity for business is huge.

Lauren: Any learnings from 4G that you're applying to 5G, especially as you think about enterprise?

Katherine: Yes. I think the main ones are around actually that energy efficiency and how we can make it more sustainable. Say our target by the end of the year is that 5G will be 10 times more efficient than 4G, and we're at 9.3% more efficient at the moment, so we're well on our way. I think we need to go faster. I think what we saw with 4G is actually the countries that embraced 4G quickly and got the rollout out got ahead. You look at Asia and the countries which really got ahead with 4G got the benefit from it. Europe is at risk of lagging behind Asia. Well, it is lagging behind Asia and America on 5G rollout.

Lauren: Peter, to you, I would love to hear more about how you guys are thinking about the implementation of this. Maybe a bit to my earlier question about the jobs and how you guys are thinking about reskilling and retraining and what might need to be done or enthusing people about this shift.

Peter: Well, the shift from diesel to biofuel or electric, that's happening. We are investing heavily into that on both parts because both parts will be needed. Electric vehicles will be in the future or that type of vehicle will be very important. Also in the

transition period, we need to have biofuel. That is also happening. Looking at it from the perspective of data connectivity, of course, that is also going to happen. That's a fact at Scania R&D today, we have more software engineers than hardware engineers.

The shift has already happened and we are more embracing, making sure that our customers can take on the shift and that they can be sustainable, efficient, and profitable. Transport industry is a low-margin industry, so it is in the margin that you will have to fight and ensure that you can bring customer value all the way through. This will incorporate a larger portion of the workforce, not just R&D. This will be all the way out to the workshops, to the salesperson, and all of that. Enabling them with the tools of persuading customers to go electric, that is one of the things that we are working with now. There, we use connectivity data and tools to bring the sales cycle down for electric vehicles.

Lauren: That's interesting that the shift from more hardware engineers to software engineers. Do you feel like that is changing a little bit of the culture of the company? Are you feeling like a little bit more of a tech company rather than a transportation company?

Peter: I have had the idea for marketing to say that we are a sustainable tech company right now. They haven't took that bait yet, but I think we actually are. The fact is that we are coming into more of the tech company's discussions from a point of view rather than to just be a provider of hardware. That comes in also when we are working with autonomous vehicles. We will be in another part of the value chain because we will have to integrate the autonomous vehicles into the customer's IT system on a total different scale than we are today.

Lauren: We're talking a bit about vehicles, but Katherine, what other examples have you guys been working on? Any other cool ones that you think bring this to life for people?

Katherine: Yes, some really good ones. Just to finish because I guess I didn't quite answer your question on skills and that's what prompted me as well. I think the software piece is really key and also cloud. What we're also seeing is what connectivity enables you to do is to move a lot of your activity further towards the edge, and that changes that skillset as well, and cloud and software rather than it just being a fixed hardware which maybe 15 years ago would've been.

Other industries. I think Sandeep's points around the pandemic are really interesting because I think it's made all of us think really differently about how we work. As a result, it's really inspired quite a lot of big fundamental changes for some companies. That's where you can see the benefits. If I look at some of the factories that we're working with, ther's Hyperbat, which is an electric car battery manufacturer in the UK we work with. One of the things they've done is they've introduced a private network, which means that they can work in a virtual reality world on a battery from hundreds of miles apart.

They can go, my non-engineering, go, "Left a bit, right a bit. Can you change this?" They can work on that virtual reality world without having to travel. In reality, what was happening was sending lots of emails. The pandemic's forced people to rethink

what they do, but it's also made people go, "Actually, do I need to travel or can I use the technology to change that?"

Lauren: Then that has environmental impacts as well.

Katherine: Massive. It makes the company more efficient. The other thing Hyperbat are doing is they're looking to remove the wires from their production lines so they can move that around more easily. It makes it loads more efficient and effective and the environmental benefit's huge.

Lauren: That's interesting. Are you seeing an increase desire from companies post-pandemic to be like, "We're open to, how can we do this more virtually? How can we do this in a different way?"

Katherine: I think so. I think it's still a little bit niche. Again, to what Sandeep said, I think there's definitely these trailblazers who have got it, are embracing it and transforming their business and starting with the business problem. How can we be more efficient? There's still lots of organizations who haven't quite got the head around it. I guess that's the ask is, this is coming and the benefits are huge.

Lauren: For those trailblazers, why do they got it? That was a weird funny way of saying it, but you know what I'm saying, Is there a trait? Is it the CEO? Is it the industry? What is the thing that you think is catalyzing the people who are actually jumping on this?

Katherine: It's really interesting. I think for some, you've got someone who's particularly does get it from a techie perspective. I think also the pandemic did make some companies go, "Oh gosh, we just can't do it." Another really good example from within Ericsson is when we're doing rollout of 5G masts in general, we'll send out drones now to create a digital twin of that mast and that tower, and then we can have different people work on it without having to travel. While we could travel, it was much harder, so actually, that came much quicker as a result. I think it can be external triggers, but also some people are just embracing it more quickly. Would you agree with that?

Lauren: What do you think, Peter?

Peter: Who are the trailblazers and who are the followers? I think that's a trick question because I assume that people in this room are the trailblazers. The question is how do we scale up the trailblazers and how do we create the fight for sustainability as we will have to fight, not just about sustainability, but operational benefits and revenue, because if we don't chase the revenue and we get the sustainability, there will be a lot of these events that we are seeing now.

The COVID is maybe not a sustainability event, but for sure the war in Ukraine or the crisis in Bangladesh as it is right now. Those kind of events are coming to an extent that will be more events, they will be higher. The resiliences we build in by using more data and understanding the real situation, chasing the revenues, chasing the operation efficiency, not just for the small scale, but for the big scale. The bigger question is how do we go from 5G IoT data into small scale experiment, into the big scale experiments that are one plus one is actually three, or at least 1.1 for each of

the involvements. I'm not sure that there is some easy answer to it. I think it's a super complex problem.

Lauren: Katherine, do you have an answer?

Katherine: I think it's back to that snowball. I think once people see those trailblazers and get inspired, you have to keep up. That's the joy of the competitive world that we live in. You'll get left behind if you don't. There's a carrot, which is you can do all this fantastic stuff and you can be more efficient and effective and the sustainability benefit, but the stick is if you don't, you're going to get left behind and both your customers will question it, but also from a business perspective, you're going to have a higher cost base, so yes, it pays off.

Lauren: Is it really the businesses now having to build that case to say, "We have to make this change, we have to invest in this or 5 years, 10 years, 30 years, we're not going to be in business anymore or business is going to fall," or do you think there's going to be more external pressures? Are there going to be policy changes? Are there going to be customer changes? Either of you, take it away.

Peter: I think that I said previously also in the big room, the policymakers, they will raise the bar on what's acceptable lowest level. I think that's what policymaker can do. It takes time, standardization, et cetera. The trailblazers are on top. The question is, how can we get the good innovations and the good things down as quickly as possible because that will drive our ability to save this planet as fast as possible. By using the trailblazers and getting it down, I think that is. I think that the area for business that are not either trailblazers or barely making it is going to be smaller. I think we are seeing that already now.

This pace of innovation is going faster and as software is eating the world, as somebody said a couple of years ago, the cycle for software is now maybe sometimes a limiting factor for the change. It is not 5G rollout. We have that. Electrical vehicles will come, but the question is how do we combine the different parts into values and who is going to do that, and how can we find the trailblazers, scale them up? Policymakers is coming from the bottom and the trailblazers from the top. How do we make that happen faster?

Lauren: One of-- Go ahead.

Katherine: I think the other thing is sometimes it can look huge but one of the other interesting pieces of analysis we were going through is actually if you look at the four sectors where you can make the biggest impact around energy, manufacturing, transport, you can see that technology can drive a 15% reduction in their emissions from those sectors but actually, if you add 5G on top of that, you get another 5%. You can be quite targeted that there are certain industries where you're going to have a disproportionate impact from a sustainability perspective and almost certainly from a business perspective. To put that into context, that is slightly more than the 33 million cars that are in the UK in terms of the impact that has on the environment and on sustainability. It's a massive difference you can make.

Lauren: It's a huge difference. One of the themes that's come out a bunch of times and the conversations around this is Europe's role with technology and whether

Europe is-- does it have this stuff that is needed to make big tech companies work here, and make big technological changes. I think there's been a little uncertainty about whether there are some things holding things back here. I would say it's the opposite for sustainability. If you were going to say anywhere in the world is a leader in sustainability, Europe is the leader by far, and then the rest. I'm here from New York. We're trying to catch up still. Many other places are trying to catch up.

What do you think about that combination of being a leader in sustainability but maybe being a step behind in technology? Peter, what do you think? Do you think that's a good combination or can one pull the other? What do you think?

Peter: I think that that is the edge. Have the sustainability edge and then be good enough on technology and combining those. That's what we're trying to achieve. I think that Europe has an advantage here. If we can get the use of that and get the partnership with the right people in the right room to take the right decisions, then we can speed it up. We will not get that from the policymakers. We should get that from us. We need to take that leap of faith of doing that. We part of a couple of alliances and I think that that is a good step. The next step is to get the people on the next level to actually see the benefits, see the revenue, see the combined roadmaps and take them together and not fight each other and not do that. I think that's super hard.

We are part of this journey and we are trying to do it. It gets to be very, very harder to see the North Star on those scientific-based targets. Super easy to see the North Star. What are the revenue targets that we want to do in these areas? Those are not too easy to see and not how the partnership form around that. I think we're seeing good examples like we are doing with our competition about charging network.

This is something we do together. This is for Europe. We put the money together and we just make it happen. More of those, I think, is going to see and then we can go sustainable technology sector maybe.

Lauren: Katherine, I know you're leading for UK and Ireland. What would you say are the competitive differentiators for the UK and Ireland in this?

Katherine: I think I'd probably disagree on one point, which is I don't think we are where we need to be on that 5G rollout. I think particularly if I take that European view and you compare it to the US and Asia, we are behind. We do need to get more because actually, while you might have it in certain urban areas and you've got the private networks, actually that Asia and the US are racing ahead and you do need it to underpin it.

I think that then also that network will drive the innovation and to some extent the market. Things like the cost of energy. What we're seeing is we're seeing quite a big focus at the moment of lots of organizations because the cost of energy goes up. They're suddenly like, "This is much higher on our agenda. Oh, it's costing a lot of money." As that happens, the innovation will kick in, and the network needs to be there behind it.

Lauren: Absolutely. I'm asking you the same question again because I don't think I totally got an answer. You answered Peter's. Thinking about the UK and Ireland specifically, what would you say are-- I know you're spinning the energy price in a

good way that that's forcing the renewables conversation here and forcing adaptation, but anything else you feel like?

Katherine: I think that's a really long answer. Where are we? We are slightly ahead of Europe in terms of that, certainly on a par in terms of the connectivity piece. We're about 50% population coverage. I don't think we've really embraced how we're going to use it. I think from a sustainability perspective, there's other countries in Europe who've really got the head around it. Probably the sustainability side but maybe don't always have the connectivity to back it up.

I'm always impressed when I go to Sweden because you look at the connectivity and the whole infrastructure. They are really beginning to embrace it, but it'll be the innovation for me, that private sector innovation with a bit of help from government, that will really turbocharge it. That's probably, we've got help that along and that's our job collectively to do.

Lauren: Bring them together.

Katherine: Yes. UK, okay, but I don't know. Sort of middle of the road.

[laughter]

Lauren: Peter, imagine we're having this conversation in five years. What do you think is going to be the biggest difference?

Peter: First, I think that we will see the electric vehicles much more saturated especially in urban areas, and where we will probably see that we also start to shut down parts of the city because walking is better and we can actually see that transportation works. I think we also will start to see the autonomous vehicles taking off load and that we can have transportation happening on off-peak hours, especially in condensed cities like London. You don't need the transportation on the street because you can run it on night.

I think we'll actually be there. I'm an optimist. I don't think that will be as fast as everybody says, especially on the autonomous side it's going to take time, but for some parts, it will be there. I think we have solved the energy crisis. We have realized that we have to accelerate the investment in renewable energy significantly and we can't wait 10 years to build super big power plants. We will have changed that. I think that those are three technology investment areas that we will see totally different from now. Then maybe the life is better.

Lauren: Hope so. Fingers crossed for all of us. Katherine, what about you? What do you think in five years or so will have changed?

Katherine: I think we will be at a point where you'll take that connectivity for granted. I really hope that you'll go everywhere and that's super fast, super low latency connectivity will just happen. Then that just enables so much. I think where you'll see the biggest impact, the fastest, some of those areas you've talked about, but there're the slightly more dangerous jobs, the jobs people don't want to do, and the ones that are expensive and high-risk. You're looking at things like lorry driving, driving cranes, for example, visiting remote sites in bad weather. All of that stuff, we'll probably be

turning around and going, "Gosh, we used to send someone out in a storm to go to a remote location. Wow." I think it'll make a massive difference to quality of life and business efficiency and safety.

Lauren: Great. I want to ask the two of you the same last question that I asked Sandeep. What do you need from the rest of the people in the room here? You're thinking about other peers, other technology leaders, what would you love to see them doing? Peter first and then Katherine.

Peter: There to be a trailblazer there to experiment and find revenue faster so you can be faster in teaching others. I think take the opportunities to do cross-section and not stay just within your path and find those areas where you innovate faster than the rest of the world is innovating, and where sustainability-- If we aren't on this path on not hitting 1.5 degrees, we will see more dramatic effects in our society. The planet will survive, but will the humans survive? That's the question.

Take the opportunity to speed up this and don't do it on your own. Find the partner, find somebody in adjacent areas where you can combine your money, your talent, and your outcome, and help your customers to be sustainable and profitable.

Lauren: Great. Katherine, what about you?

Katherine: I think I'd probably come at it from two directions actually. I'd say one is, what are the things that you can test in trial, to Sandeep's Point, so ou can start doing it? What's the innovation you can feed in? I think my other challenge would be actually, I think we all need to take a step back and think of some of the problems we're trying to address in society. There could be a completely different answer to many of the problems with the connectivity that we have. They're the really interesting innovations where honestly, they'll make the biggest impact on sustainability, but also they'll be the business ideas of the future. Think creatively and carve out the space to think about how this massive change in connectivity and the future can work for you.

Lauren: That's great. It's an exciting opportunity.

Katherine: Really exciting.

Lauren: Thank you both so much for joining me. Everyone join me in thanking Katherine and Peter.

[applause]

Lauren: All right. Thank you all so much for being part of this think tank lunch. A huge thank you to Ericsson for sponsoring our conversation. Please continue to sit and enjoy. Eat a little bit longer. We're going to be back to the main stage at 1:40. Have a little cup of coffee and we'll see you back in the room very soon. Thank you all so much again.

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