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Reimagining Telecom Industry pt.3 - Network Transformation with Mallikarjuna Rao, Telefonica

Capgemini

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[00:00:00] Sounds very beautiful, Praveen. And you, what you might want to do is, you know, where you can get one of those books made up, like a hardcover book, so you can get one of those, you know, like telecom masts in scenic situations.

Welcome to Cloud Realities, an original podcast from Capgemini. And this week it is part three of our re imagining telecoms mini series. And we're going to talk about the thing that hangs the whole industry together, the network. and transforming the network. What are the challenges? What does the future hold for us?

And when might those services arrive in our living rooms? I'm Dave Chapman. I'm Esmee van de Giessen and I'm Rob Kernahan.

And I'm delighted to say that we have our co presenter for the Reimagining Telecoms with us, Praveen. Hello, how are you [00:01:00] doing? Very well. Thank you, Dave. You having a good dry January so far? Oh, here he goes, virtue signaling again. Right? Is anyone doing, is there, is anybody else doing dry January? I started, but it, it stopped this week itself.

And it is not going to show. Just on the first, you started on the first of January, and by the second you'd decided it was no good. I tried. That's well done. I'm still, I'm still going. You know, how about you Robert, did you ever? It's just, January, it was Blue Monday recently, January is the worst month. Why would you just bring it down further David?

I mean, it's true, it's true. Es, how about you? Well, I stopped by when I was thinking about execution, so. Nope. So you didn't get very far then? No. It's that idea that might swell round your head after the 31st and then it should be a Yeah. Should I? Should I? Nah. Nah. Disappointing, isn't it Marcel? I assume you, of all people, Marcel Virtuous Marcel van der Burg.

Where are you up to? Never [00:02:00] stop drinking. Well. That was my dry January. And later today, uh, I have a drink with friends, so. Have you seen the latest trends where people are now borrowing days from February to be dry, and then they're bringing the, I'm out with friends in January, so I'll trade a day. And basically the horse trading.

And I think when you get into that level, you've kind of missed the point. Yeah, it's broken, isn't it? It is broken. Absolutely, absolutely hopeless thing. So look, we are back with the second part of our series on the telecoms industry, looking forward to digging into. the next part. And I'm delighted to say that joining us is Mallik Rao.

He's the chief technology and enterprise business officer at Telefonica in Deutschland. Mallik, how are you doing? Pretty good. I love your conversation of your dry days, dry weeks, or dry hours. Is that because of the terrible disappointment that you have with the rest of the team? [00:03:00] I wouldn't blame you. I wouldn't blame you.

I, you know, got to persevere through these things, don't you? I think it's a sign of like resilience. No, no. Absolutely. Maybe, maybe somewhere between resilience and foolhardiness, I don't know. I just think you like, you just like telling people that, Dave, so you can feel morally superior to the rest of us, which is a position you often adopt, so.

Rarely, rarely you actually have it, though. This goes with your MO. This is, this is, this is Chapman Peak. Solidly on trend. Yeah, there's a whole other conversation, but actually virtue signal is one of my literally least favorite things. But that's a whole other conversation. Praveen, bring us back on track.

Remind us about the five themes that we're exploring in the world of telecoms. Sure, sure, Dave. Let me start with a usual drill, a quick recap of reimagining the telecom industry podcast series. As you started with, this is a five-episode series that dives into the five key

areas that need. this [00:04:00] reimagination by telcos.

So, so far we have explored simplification and regulation. Today, we will discuss network transformation and then data and AI and growth are lined up for the episodes ahead. So, today's focus network transformation. It is at the heart of every telco and it impacts all of us, right? And this is because you know, telcom Networks are the backbone of the digital economy and a fundamental element of the critical national infrastructure.

Its coverage is crucial for promoting digital inclusion and leveling the playing field, ensuring everyone has equal access to technology. Its performance is key to driving productivity, enabling innovation, and enriching every day digital experiences and most importantly, it's resilience is vital for maintaining economic stability, safeguarding critical services and ensuring public safety.

In fact, I couldn't be more delighted to have Mallik with us to explore this critical topic over to you Dave. All [00:05:00] right, let's get going then with understanding the world of technological transformation in Intel Co and just what a massive challenger it is. So, Mallik, can you just maybe start with, when we say network transformation, if you're talking about a network transformation for most organizations, that means some form of probably in building, wiring, maybe something to do with WAN or virtual WANs or something to do with the cloud.

Very different ballgame in the world of telco. Yeah, absolutely. In the world of telco, definitely. I mean, if you take any transformation in telco, unless you touch the core of the telco business, Right. You can't scale the edges. Right. Because we are a industry particularly depending on scale. Every country we operate, if you don't have a scale, you can't do anything in the telco.

So I mean, I'm a strong believer that if you, but because transformation is also a term which is used or even abused in a lot of [00:06:00] senses. Right. When we started off, uh, transformation world, we said, guys, let's try to use this world itself with a very specific, you know, don't, don't look, don't use it as a loose phase of transformation because everything you touch everybody right from my security, when you're coming inside the building, uh, to technology, to finance, to legal, everybody says I'm running transformation.

So, and that is why 80 percent of transformation do fail. Because we really don't define what do you mean by transformation. It's generally entered into without thinking holistically enough, in my mind. And also, people generally low ball the business cases and high ball the scope. So you end up in a situation where you're trying to do too much for too little, and you haven't really aligned around what you're actually trying to do.

Is that something that you see? more broadly in your industry then? Because some of, you know, the legacy challenges are [00:07:00] huge, the actual technology implementations are on a vast scale, but do you see the same sort of root cause issues of transformation then? Absolutely. I see it every day in day out in our industry, right?

And that's the reason I say Intel cores, we are very good in adopting. Yeah, right. Very bad in disrupting. Disrupting means you need to have a discontinuity. Yeah. So that's how I see, I feel it. And I know for us in technology. In every, I mean, this is my seventh country of operation when I see in different countries, different cultures, different contexts plays a significant role than the content itself.

And a lot of us possibly put too much work around the content. And but miss the context of the setting in terms of people, culture, the business, and that's where I guess a lot of

times we do miss some of these major transformations by, [00:08:00] you know, I don't say by meters, by kilometers, possibly. Yeah, I very much recognize that, particularly the over indexing towards the technology aspect of it because it feels robust and easy to get your arms around and you're swapping.

Boxes out and commercial contracts, the mind shift aspect of it, the cultural aspect of it, and the human aspect of it are often left to the side or an afterthought. It's very easy to be transactional with technology, isn't it? You buy it, you configure it, you press go, it does something. Yeah, it might not be what you expected, but it does do what you tell it to do if you configure it correctly.

And that's where humans will naturally lurch. because it's the easy place to go, isn't it? Right. And what we're actually talking about is the things that you've just discussed there. So it's, it's just an easy place to go and be and feel a bit warm because when you're in these types of transformation situations and you are properly disrupting and changing and discontinuing, it can feel quite uncomfortable.

And I think there's that, you need the mindset to keep going, even though you might be out your comfort zone quite [00:09:00] significantly, especially when you're changing everything at the core of what you understand it to be. Yeah, absolutely. Absolutely. I think the more and more I think through the commitment of transformation, you have two ways to do it.

One is bottoms up, top down, right? Business led, technology led, but these are the four different quadrants. However, I start feeling the importance of. A strong, consistent commitment on transformations, because the moment we say transformation, people will look at short term. What can I do? Because without short term, there's no long term, but of course, you've got to deliver short term.

But at the same time, transformations do take a lot of bandwidth of the organization, not just technology. Are you, are you in a phase in the organization that you're able to consume the bandwidth of the organization, which is non technology colleagues? What is the driver for them to participate in the transformation, [00:10:00] right?

So that, that's how, that's how I observe in a lot of times when we run a large. Multi-functional, multi-departmental, uh, transformations. So maybe then let's take that as a bit of a framework and, and by the way, I absolutely love a four quadrant grid. Oh, he is a box of matrix. He gets excited. I drew one on a whiteboard the other day with Dave and he got very excited.

You had me at Quadrant . Let's, but let's take the model you were setting out and let's talk about telco network transformation. Then I would say kind of in three layers there is the. The core, the edge, and then the wider organizational transformation. So using those three layers, maybe set out a model for us in terms of what you think good looks like.

And perhaps for those listeners who, when they're thinking about telco networks, don't really understand what core and edge is. Maybe you could define those terms for us. Yeah. So in a telco landscape, if we look at it, you have access network where customers get connected. I will talk [00:11:00] specifically of mobile network.

Even the fixed, of course, you have the copper cable access network where people are accessing, uh, an experience of connected experience. So that's the access side of it. Then how do you transport from these? Distant endpoints into the core of network, and that's the transport network, right? Transport had, of course, different layers of the network.

As the technology is evolving, you start becoming much more simpler on the transport.

When earlier you had multiple technologies, now possible you've got one single technology supporting multiple access networks. So that's the transport. The moment it comes into the core network, that's where you start delivering the actual services.

Right? Whether you authenticate a customer, whether you control of the customer, the billing, the charging, the integrity of service delivery happens in the core, right? And then you transfer either towards the [00:12:00] internet if it is a any internet based traffic or towards a service endpoint, whichever, let's say, if you take any example of Netflix or any of the streaming services, you hand over the service to that area.

So, it's basically access. a core transport and then beyond the access and core, that's the network portion of it. Beyond that, we have a business support systems, that's where the provisioning of a customer happens. That's where you policies of different price plans, everything that happens in the BSS, which we call it as.

And then to operate the entire network and IT portions, we call it as operation support system. That's the OSS. So these are the five elements of a technology landscape in telecom networks. That's very helpful. And in say a switch from 4G to 5G or 5G to 6G, what would that mean across those categories that you just sent out?

Yeah, I think the biggest change of any of GE, first [00:13:00] of all, is spectrum. What spectrum are you able to access? And spectrum anyway is licensed. Spectrum is auctioned most of the places. Right? There's a different mechanism of allocating spectrum to people like us. So that is essential portion of a commodity or essential portion of, you know, for us to deliver a service.

So that's number one. So once you have a spectrum, different technologies, like for example, 5G or 4G. 4G has been traditionally been deployed with 20 megahertz of spectrum. 5G is deployed with at least 100 megahertz of spectrum. God, does it feel like it some days, I have to say. Exactly. The more and more bandwidth you throw, the better experience for the customer.

Right. That's where we say from in 4G, we, we call, we used to call it as megabits per second. As we move to 5G, we talk, we start about how many gigabits per second. If we go to, uh, six G it'll be tens of megabits of, uh, uh, spectrum. [00:14:00] So that's how we, we term it. And that's, that is the primary, primary vehicle for us to transmit these signals.

4G, 3G, 5G. I mean, if I look at our network at this point of time, in most mature markets. we are going to move all the traffic towards 5G. Because 5G is a technology which allows us to be much more simple across access core and transport networks. Oh, I see. I see. And what's the actual physical transformation that needs to go on?

Is it like the deployment of new kit to access those bands? Or is it the kit that's there is able to transmit on those bands, they just won't open at that point or something along those lines? A much more physical deployment. Yeah, so physical deployments, primarily in a mobile network, uh, it happens on the rooftop.

Every rooftop, what you see, you've got to put a, an equipment which radiates, that basically which transmits and receives a signal, and that's the big, [00:15:00] basic kit for us whenever we put on the rooftop. If I want to put a 5G, I need to bring in a 5G based transmitter and receiver. We call it a radios. So we deploy the radios in multiple rooftops across the country.

I mean, in Germany, we have about 32, 000 locations where we go and deploy. And all these 32, 000 locations, we connect it on a transport network to bring the traffic towards, let's say, five, six endpoints where we move towards internet. That is a huge logistical challenge.

Absolutely. There's a, there's a high number of numerous points, everyone needs access from somebody completely different, I'm sure there's a load of paperwork involved in that and a massive field force.

I mean, whilst you're getting on with it, just managing such a country wide scale introduces like what I would class as just faff, a quiet faff, but it's faff. Absolutely. And transformational expertise by Robert Koerner. With excess FAF. Yeah. [00:16:00] You know, I think that what, what, what is really underlying, say, in terms of, uh, us as an industry, uh, you know, a lot of times, yes, we are, we may not be considered as an internet industry kind of valuations, but every rooftop, every day in, day out, every microsecond.

We are touching the customer every microsecond. We are touching the customer and every transaction customer makes or he or she is making are now machines who are much more from a volume perspective. It's machines. They're trusting our network. It has to be there. And when it's not there, people get frustrated.

It is, it is critical to us and daily life, isn't it? It's one of those things that people forget that when that network, mobile network goes away. Chaos can break out. I mean, people would literally notice that disappearing faster than they would their water supply disappearing. So tells you something about where it's psychologically places in people's heads, doesn't it?

So yeah, one blip and it's a problem. [00:17:00] Now, one of the things Rob touched on there was Notions of interoperation because obviously there are multiple providers all working in this space and I think there's an initiative. Is it Camara that is that is that is working on interoperation? Just wanted. How does that fit into the picture and why is it?

Why is it key? Absolutely. I think where, where it fits in, it's a, it's a pretty new development because we as operators, like for example, take Germany or any place, right? We are hundreds of them across the world. We are not one Google or one Amazon or one Microsoft. We're a collection of, or a federation of, multiple thousand operations across the planet.

Now, what we have started looking at is, as the service layers are getting more and more demanding, we said we need to work as an industry. It's not that, okay, I work as a Deutsche Telekom, Vodafone, or Telefonica. We got to work and present it as a easy [00:18:00] layer for us to talk to any other services. And that's where we came up with something called Open Gateway.

That's the approach which we have taken and Open Gateway is defined with the standards APIs using Kamara. So Kamara is a standard and Kamara, based on Kamara, we write our code for an application developer not really understand telecom. Without understanding telecom, people can write a single line of code and they can interact our telecom world, which was not the case earlier.

If somebody wants to touch telecom, because we are kind of a world garden. Because we need to, we need to really assure that there is a security, sovereignty is respected because people are trusting us. So we were a kind of networks which are essentially a kind of wall garden. And now with the cloud, with enablers technology which are coming up, so we said we can, we can open our networks with a very secured APIs and that APIs are defined by [00:19:00] Camara.

And that, I know, I know when roaming first came around and you might go to a different country. There's a huge amounts of complexity in configuring that. It sounds like this will just make that network interoperation maybe in country and when you go to another country an awful lot easier and more reliable.

Is that, is that? Absolutely, absolutely. Camara enables, you can write the same line of code in, in, in any part of the world, you can touch the telecom networks. Okay. That's the adoption which we are expected to start picking up pretty much. You know, we have roughly about 60, 70 operators have already signed up as a part of the GSMA Open Gateway Initiative.

And more and more operators will come on, come on. And that's where any application developer sitting anywhere in the world should be able to talk to telecom networks across the globe. So how, how as a user or a consumer, will I feel that developmental architectural difference? How will it show up to me as a, as a, as a typical network user?

There, there was one example which I [00:20:00] can give you as a consumer today, let's say you're consuming a service, you're consuming a payment as a service from PayPal or anybody. Yeah. What happens is. There is definitely a lot of fraud, cyber security incidents which are happening in the market. Now, if I'm able to authenticate, even as a consumer, say, okay, you have gone to a point of sale.

You are, you are basically paying that transaction. If I can link the location and the payments incident at that point of time, or payment transaction at that point of time, your susceptibility to fraud is, is narrowed down to a very, very much. Because today, because of the digital payments, possibly you're paying here and your transaction could also happen some other country.

But at that point of time, if I know exactly, This is the location I am consuming a [00:21:00] service. I am paying a service, and that could, if I, if I just authenticate both of these two things, then you can prevent the fraud across the world. Now look at credit card fraud, right? You're, you're swiping a card in, in Germany, possibly that the information could have been available some other country where people, I mean, you look at the credit card, credit card fraud, which you have today, because you're unable to do real time checking is the location and the transaction is authenticated or not.

Yeah, I see. So that's one, that's one of the use case, which you say, uh, you can look at location and the point of the transaction timestamp and the company which is providing the service is able to assure. Okay, I have this user on this point of time in this place. I have it because otherwise you can do in multiple transaction in a city.

Yeah, one, one, one moment on one side of the city, other moment or the other side of the city. Okay. By the time you come to know today, if you don't have a location, if these [00:22:00] payment or any, any service company would want to have that kind of exposure to limit the exposure, you could, you could work through Camara and assure these services.

So fraud prevention, leakage of credentials, I mean, these things could be big. Very good. And the other, the other theme that you mentioned in some of the transformational conversation earlier was the cloud, the cloud itself. So clearly the cloud has had meaningful impacts on most industries. And you would think an industry that is, that is so network and physical heavy would have a good lean on the cloud.

How does the cloud come into the picture and how does it change strategy? Yeah, absolutely. I think it's a very good question. If I look at cloud, cloud started for us specifically in IT side of it, right? IT was easy, so if it is an app which I was, which I'm, I'm developing to my customers, I could, I could build on the cloud.

It was easy. So all the IT side of the workload, that's when the cloud started coming into our telecom industry. [00:23:00] All RBSS, the business support systems, charging, not even

charging, I would say, any of the offline business process systems were moved into cloud, right? About two years back, we said, cloud definitely changes.

Again, cloud doesn't mean that One or two, right? It's basically what technology I'm not talking about an AWS or a Google or I mean, these are the cloud providers, of course, but the technology is something which underlying that's basically you're able to take the software dependency and hardware dependency apart, you're able to disaggregate these two things.

That is what most interesting for us, right? I. T. We adopted it. We started also looking at the resiliency. I mean, telecom is basically we designed based on redundancy. Right. We have a redundancy, one is to two or one is to three. That's how we, we, we have achieved a 99. 999, which we call it as carrier grade of telecom.

However, when we start talking about cloud, the biggest change [00:24:00] for us or biggest or nicest change for us moving from redundancy kind of designs to resiliency kind of designs. Right. It's a, it's a big difference for us when we do the engineering of these, of these networks. We are used to a redundancy kind of approach, but from redundancy going to resilience, it needed a lot of rethinking for ourselves.

How do we bring these workloads into a cloud technology? So about three years back, we started off, uh, work, uh, and we, we got, you got to pick up, I mean, what is the compelling event I was able to create, right? For us, unless you, you have a compelling event, you can't disrupt. So we said, okay, guys, we've done great in IT, but now let's touch the network side of it.

A network is the most real time workload because every microsecond counts in networks. The number of transactions which we process in the networks are, you know, millions per second. In a telecom network, but that's when we started about three years back with a collaboration with [00:25:00] Nokia, AWS, we had also worked with Ericsson, Google.

So all these pilots, which we started running. And as we start bringing telecom workload into the cloud technologies, all three of us. I mean, telecom industry, that is, I think we were one of the first guys who really went into this exercise about three years back. So you have three stakeholders. One is us as operator, the second is infrastructure providers like AWS, and you have application provider like Ericsson, Nokia, the telecom application providers.

All of us have our own apprehensions in the beginning apprehensions in the sense that from an Ericsson, Nokia, telecom provider perspective, is it that are these cloud providers able to eat our lunch, dinner or breakfast? So that is first apprehension. Second apprehension was the cloud providers thought that IT workload we have managed [00:26:00] billions of workloads sitting in this one or telecom is a piece of cake.

I would not hesitate to say you can talk to the top guys in AWS, top guys in Google. They realize wow, this is a high voltage electricity, you cannot match with bare hands. I'm trying to get a mental picture of the, of the workload shift. So was it that Initially, the network, wherever you had like some sort of network base station or installation, it was all running on local hardware, local equipment, local servers.

Is it the shift of all of that that's going into the cloud, or is it some of the network transmission itself leveraging, say, You know, cloud provider WAN backbones and things like that. So cloud has typically used for an IT workload, right? As I mentioned earlier, that is basically you have a hardware, you define a hardware, and then you have an IT workload which is sitting on that [00:27:00] hardware through a hypervisor in between whatever.

Now, the hardware will define how the software should be built. Because this is constant.

Once I bring, bring in a let's say a Google or anybody say, okay, this is my hardware, this is what I'm bringing in. Now you write applications which are suiting to this one, but telecom is completely different. Telecom will demand telecom workload.

IT workload can adapt to hardware, but telecom workload will define how the hardware should behave. Because the traffic which you see millions of people are moving from one place to another place, it means your transaction workload, the network, the transaction on the network intensity workload is significantly higher on telecom.

So, IT essentially comes from Compute and storage, right? You should have a storage. You have a good computer. You can run the workload, right? But in telecom, first you should have the network, which [00:28:00] is connecting the storage and the compute. So that becomes critical component. And that is where, that is where everybody struggled.

At least the cloud providers struggled or even struggling today. I would not underestimate that struggle. They've gone through I mean, I, I also appreciate that industry and specifically the AWS guys. They learned along with us. They have been willing to change every month, every quarter. I think that that's an impressive, you know, a journey what we've had and same thing happens from when we have now a million customers working on a public cloud in Germany.

So it means that we have something called confidential computing. We realized on the way on the journey, we realized, okay, now if you want to get the cloud workload or telecom workload into public cloud, you cannot, you have to assure the security, the Integrity and also [00:29:00] sovereignty question, right? And then we designed when we about three years back, we, we, as, as we were working through, we realized, okay, confidential compute could be one of the golden key for us.

And that's what we started developing with Google about three years back, we worked on it. What is confidential computing means that when a data is in rest, when a data is in motion or when a data is in transit, so all of it is encrypted and the encryption keys are sitting with me as an owner of that particular service.

That's the confidential computing. Yeah, so Mallik, network uses huge amount of energy, right? How network transformation, you think, can enable sustainability? I think, Praveen, for me, the biggest learning is, I keep saying in my own mind, in my own people, you need a compelling event for you to really transform.

For example, for me on energy side of it, I mean, we have been incrementally doing a good job in terms of [00:30:00] consumption. That is a gigabit per watt, right? How many gigabits we're generating per watt. But the Ukraine war really opened our eyes that we cannot think linear, right? When this happened, the energy cost in, uh, in Germany has at least has gone up by close to 50 to 60 times than normal purchase of energy, what we had.

And that created a compelling event for us to really re look at the whole way we design, deploy, and also optimize our networks, right? Because that, that's really, was actually, was a, was a compelling event for us. We used AI significantly in that area, energy management. We do spend roughly about 200, 220 million euros, just the energy consumption in our network.

And we had an exposure roughly about 75 million euros, just because of one event which happened. And that forced us to really disrupt our thinking in terms of going into how do [00:31:00] you use AI to go and Not just reduce the consumption, but also the way we design the frequency plans. We use launch frequency plans, let's say every one month.

Now we launch frequency plans every day. And that really optimizes the energy. I mean, the

outcome of that triggering event is roughly 14 percent energy reduction, which we were able to achieve. Right. And so that, that you should have a compelling event, right? Sustainability is a great word, but at the same time, if you don't have a compelling event, if you don't have a sense of urgency, nothing moves.

And for me, that was a big eye opener about two years back. And that we keep on looking at optimizing ourselves in terms of going, because operational cost and, uh, cost is on one side. The, because we are sitting on the rooftop, the responsibility of, uh, CO2 emissions. And that's where we have accelerated in terms of carbon neutrality at a global level at Telefonica.

Taking a step back and taking a macro view, [00:32:00] telecom is a very capex intensive industry and there's a huge amount of money that has been spent in upgrading the network, 5G, full fiber and, and. And, uh, and so on. But growth has been elusive for the sector. Any perspective on why? Because if you really look at the return on investment on that huge CapEx investment, it has not been the best.

Can you get your views? I think it's, it's true. It's true because we were unable to claim the value chain beyond connectivity, right? And that is, that's a big challenge from a consumer perspective. I think, uh, you know, it's, it's a, it's a. A little challenging, but as you see all the telcos in the last couple of years, the focus on, on enterprise solutions, the focus on B2B side of it, with 5G coming in now, we see that the growth element will happen in the enterprise side.

Consumer will continue to grow, which is organically, it could be 3, 4, 5 percent [00:33:00] depending on the market. Matured market will grow at that kind of rate, but enterprise is the area where it grows. And that is where as we decomplify or as we simplify our networks, that's where I say all of us are moving towards 5G because we were spending enormous amount of time in managing 2G, 3G, 4G, 5G.

So we, it's an industry where we were spending enormous amount of time. And cloud is one of the reason also for us to get attracted. Essentially, I don't need to build, I don't need to spend time in building the infrastructure. Rather, I would build services on top of the infrastructure which is available.

And that's where I see it in the next couple of years. Oh, right. Again, if you see telcos, right, probably, I mean, you have US telcos, you have Far East telcos, you have European telcos. I think Europe is in a, in a, definitely in a bad shape. In terms of even telcos is concerned because it is not one European telcos, right?

We are hundreds across [00:34:00] hundreds literally. And that has prevented us to bring the scale. And as I originally said, telecom is about scale business. And we have subscale in every country, every country of five operators. Um, and rather three or four networks, multiple of operators. Well, that's a challenge which we face.

I hope the new Draghi report really helps us and Europe really says, yeah, we need to have a decent competition, of course, right? I would, I would not hesitate in saying without competition, you can never create innovation. You need competition, but you need a healthy competition in Europe. Well, I was going to, maybe that's a great way to bridge into.

Perhaps bringing the conversation today to a bit of a close for now, I was going to talk about the challenges ahead, and you sort of got onto it a little bit anyway, but when you look out the next five years, you've got interoperability challenges, you've got a constant rate of innovation, you've got 6G coming along.

You've got legacy to deal with. What do the next six years look like for you? Is it, is it

[00:35:00] in your head, well actually that's what the last five years have felt like? Or are you feeling a sense of acceleration and an increasing challenge, particularly when you bring in some of the growth challenges that Praveen's been talking about?

I think we see a much more positive momentum honestly because if I look back five years versus what is coming five years. Right. It is right time for us to have a right technology. For example, let's say if I take back 4G, right, 15 years back, the technology was there, but devices were not. So it's a bit of a five year lag.

If you take 5G, original 5G, which we launched in the markets roughly about six years back, device penetration was not there. There were no customers who were having the devices. But right now, as I see device ecosystem is moving fast, it is catching up to technology. Let's say if you [00:36:00] extrapolate 5G standalone, um, and that's a technology which we are betting because it's, it's a completely IP based, very simple technology.

It doesn't have super complexity, like what was 3G, what was 4G. Fortunately, at this point of time, at least 30 to 40 percent of devices which are there in the market have, are already capable of 5G standalone. So this has never happened in the last five years. Right. If you look forward, maybe in another six years with 6G, if we talk about it, I think the device ecosystem will catch up much faster than in 4G or even 5G.

So the devices, it's basically consumption, consumption points of devices, whether you're with people, whether you're in the industries. Right. Uh, uh, uh, uh, things, uh, internet of things as the device ecosystem develops, then the networks are also developing. Earlier, the case was every time it's at [00:37:00] least five years, you have the network ready, but no devices.

But today that is changing. Number one. Second thing is there is a lot of realization that post COVID world telecoms gets a little bit of much more respectable position because everybody realizes this is a critical service. Uh, you can have your electricity go off for one hour or two hours, depending on the location where you live.

Your water, your tap can stop for one hour, but telecoms, you cannot stop it for even a second. I think people start realizing it. If you look at any customer, you ask them, okay, what if, if economic downturn, which is there, which one do you want to leave? The last will be the mobile or connectivity the last I think importance people do realize the importance and second also people start realizing that okay, it can add a value people trust when we do the survey with with enterprise side of it at [00:38:00] least 60 to 70 percent of the SMEs.

says they trust telecommunication provider, then rest of the industries, right? I think that is where I see a much more positive outlook, but specifically Europe, if we don't really get together in terms of using the opportunity of Draghi report and, and the current geopolitics. Right. I think consolidation, bringing a bigger scale helps us to manage the cost side of it.

Because the more scale you have, the better you can manage the cost. You can procure in a better way. You can deploy in a better way. You can optimize in a better way. Right. And then you have from it. From a market perspective, you can start putting money on AI, putting investments, because this is an investment game.

If you don't invest in telecom, I mean, you can't, if you don't invest on services, you can't really make any difference.[00:39:00]

All right. So I have had my own very recent experience of feeling frustrated while I was setting up my own mesh network at home. And I think a lot of people relate actually that that are listening, at least I hope so, because I, I feel a bit stupid when I try to. One of the

most embarrassing things about my professional.

career as I had to give up on my shonky home network that I'd attempted to put together and I got a professional in to do it. Disappointed in both of you. I'm disappointed in both of you. The challenge is you as end users do not trust telecom providers can solve your problem. We have a smart solution, by the way, Telefonica has a smart solution.

We can just fix it. You know, you don't, you couldn't have teed up Esme's thought here any better. Go on Esme. Well, that was actually the, so I was, of course, the thing is you start to Google, at least, you know, we're [00:40:00] working in tech. So the first thing we think is, okay, we can figure this out by ourselves.

You know, I could. I should be able to do this. So I've, I've bought like the, the, the best stack that's out there. So I've thought, okay, that's not going to be an issue. But then you start to enter like communities with lines of code with all types of, you know, settings that you need to get things working.

And I, and, and I still don't get it right. So I love that we're talking about transformation and network transformation, but how. You know, am I gonna experience a better consumer life at home with Wi Fi? So I'll just before we get into the what's the solution. The thing I found out very early on in my career is networking is a bit of a dark art when it comes to things like configuration around how it works.

how it has to work. And it's like right at the bottom of the stack for many. And it's like this clean, happy place above where we write code and it kind of works. Then you get down [00:41:00] into that. And I think for most home networking is where you experience a different style of complexity. In networks, you have to think differently about how it works, how things need to be configured.

It's all logical. But if your mind isn't geared up for that, then it can be like this incredible mind blowing experience where it's just, I don't get it, I'm technically savvy, I don't understand this. I think a lot of people who venture there caught out by network's a different way of thinking about technology.

So yeah, there's that point, that dawning realization, I thought I was good with technology, however I've never tackled a network. Can we get an agent for that then? Is the industry going to come along and save our home networks at any point, Mala? Yeah, look, I think the Best answer, I mean, on one side, I'm really happy, Esme, you were mentioning about the experience.

On the other side, Praveen, you were asking, how can telcos increase their revenues? I mean, this is, this is the right opportunity. Bro, I'm just like, hey, this is the growth [00:42:00] thing. Bro, I was asking how, that was not my question. No, it's a, it's a music, it's a, it's a music to my ears. That people in the tech industry also struggle at home.

Right. And that is, that is where telcos are present at your doorstep, telcos are present in your living room. And that's where I think we, that's where, you know, from a customer trust, right? Uh, when you are allowing us to be radiating inside the home, uh, wherever you are, right? I think that's, that's the big statement.

And that's where we start seeing it. We call it as a home network, right? Because it is, it is extremely difficult. I mean today. If I look at it, every household has roughly about, on an average, 25 to 30 devices connected. And that's where we come and say, okay, you can do a smart home. I mean, gadgets are different, but connect just connections.

30, one is to 30, one home to 30. And that's where we have this home solution. [00:43:00]

That's where I mean, that's where I see the opportunity for telcos to climb the value chain and deliver a value, not just just the connectivity. And that's the opportunity. We see it as it coming. I mean, we have, wherever we have converged operations, a significant portion of the, uh, the incremental revenues are coming from these.

Problems we are able to solve because you have to, you have to be problem solving, not just providing connectivity. And it's definitely needed because like, I know a little bit about, I'm often, I always get the phone call that dreaded, I have a t shirt that says, no, I will not fix your computer. I need one that says, no, I will not fix your network either.

And, and you get dragged into it and it's just always like, oh no, not another one. That's kind of. that now don't tell people about what I do for a job. Isn't it your opportunity to come along and be our Judge Bentley and Superior though, Rob? Well, you know I like to be Judge Bentley and Superior when I can.

But then the fifth time your dad rings you up and says it's still not working. You're, you're 150 miles [00:44:00] away trying to, you know, remotely diagnose you. It's just easier just to say, why don't you buy a managed service to sort it all out and it'll just be better. Actually, to be honest, I don't, I don't professionalize it as a managed service.

It's basically, whoever have a problem, they should be able to consume. Yeah. Because see, Telcos, as we think, we try to make everything into a t shirt sizes. I think one site doesn't fit all that is that that is changing and possibly the AI is a significant enabler for us to really get in and provide a service where it is needed, not necessarily we're just showing through through the throat and throat and say, yeah, you buy a service, then only you get these things.

Look, Mallik, that's all well and good. I see where you're going with that. I see the growth opportunity, but you're going to take away from Rob the opportunity to go, Ooh, I wouldn't have done it like that. Yeah, oh, suck air through your teeth. It's like, well, fixing tech is [00:45:00] like the new car mechanic of the 80s.

You suck air through your teeth and go, That's not good. You did what? When you expected that to work? Why have you put your subnet mask on? Oh my God! Well look, on that note, thank you so much Malek for spending some time with us this afternoon and giving us some insights into what really big networks look like and the challenges of changing them in the industry in the future.

It was great to talk to you today. Thank you. Now, we end every episode of this podcast by asking our guests what they're excited about doing next. And that could be, you know, you've got a great restaurant booked at the weekend, or it could be something in your professional life. So Mallik, what are you excited about doing next?

Well, I've been a technologist for the last, uh, you know, uh, say, For the last 20, 25 years in, uh, seven different countries. But this is the first opportunity in the last few weeks. I've got a job of running the business, and I'm excited about taking technology and making a difference in the business. And that's where I'm spending most of my time, you know, as we speak.

I [00:46:00] mean, I'm not going to my restaurant or I'm not taking a weekend right now. The focus is basically learn as much as I can learn to be a effective businessman. to get the technology and make a difference for the people and industries. That's how I see it right now. We wish you all the very best in that new year, new role.

It's a nice, uh, confluence of things that, isn't it? And, uh, it is, it is an exciting thing to look forward to. Absolutely. Thank you very much. If you would like to discuss any of the issues on

this week's show and how they might impact you and your business, please get in touch with us at cloudrealities@capgemini.com. We're all on BlueSky and LinkedIn. We'd love to hear from you. So feel free to connect and DM if you have questions for the show to tackle. And of course, please rate and subscribe to our podcast. It really helps us improve the show. A huge thanks to Mallik, Praveen, our sound and editing wizards, Ben and Louis, our producer, Marcel, and of course to all our listeners.

See you in another reality next week. [00:47:00] Bye.

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