

Transcript: A Conversation with Hans Vestberg.

Welcome to Up to Speed, a Verizon podcast where we share stories about technology and the media. In today's episode, Marie McGehee sat down with Hans Vestberg, the Executive Vice President and President of Global Networks and the Chief Technology Officer at Verizon. They discussed the state of the tech industry today and where things are going in the future.

MARIE McGEHEE: Hi, what's up, everyone, it's Marie welcome to Up to Speed a Verizon podcast. We're here with a very special guest, Mr. Hans Vestberg. Hans joined Verizon in April as Executive Vice President of Global Networks. He's also Verizon's Chief Technology Officer. Hans, thanks for being with us here today how are you doing?

HANS VESTBERG: I'm doing great.

MARIE McGEHEE: Great, well we have a lot to talk about. First let's talk about your incredible background. So before Verizon, you were CEO of Ericsson, which is the world's leading provider of telecommunications technology and services. And you continue to be involved in a number of different things. For example, you're a member of the Board of Directors for the Whitaker Peace & Development Initiative. You're on the Board of Directors at the UN Foundation. Additionally, you are President of the Swedish Olympic Committee. You're an avid runner. I just saw on Twitter that you tweeted that you were running a half marathon in Lisbon. You're -- you were also the Chairman of the Swedish handball federation. I think you speak five languages. Is there anything that you don't do? (Chuckles).

HANS VESTBERG: It sounds better than it is probably. No, I think that I've had a fantastic experience through my career. I had very much a focus on sports in my youth. I never became as good as I wanted. I wanted to be a professional. I wanted to play on a national team in team handball in Sweden. I never made it. But it gained a lot of other things. My leadership skills I got from this sport. It was a team sport. Also how to work with diversity. It came a lot from my sport. And suddenly, I realized I started working and, yeah, then I decided to work and that took me on a fantastic journey across the globe. I worked for one company basically for 28 years. Verizon is my second one. When I came to a certain level of my work experience, I also felt I wanted to give back. I mean there are two areas I really want to give back to and that was the sports and then I went into administration and the other was of course also the impact on technology and that's why I've been working with the UN and for Whitaker's foundation and many other initiatives on how technology can impact our society in a positive way.

MARIE McGEHEE: That's great. And your career has literally taken you all around the world. You've worked in several countries including Brazil, Mexico, Chile, China, Sweden and of course the U.S. to say a few countries. From an industry perspective, how do you see network and technology evolving globally? And where do you see the biggest opportunities?

HANS VESTBERG: I think that the journey I've had in living in some many countries, you have seen different regions of the world having different pace of technology change. Certain regions have been in the lead on certain technology revolutions and others have been stronger than others. You saw in the early 2000s of course European very early on 3G pushing that. We saw North America together with all of the West Coast here coming extremely early on 4G and using that. We see sort of the fifth technology revolution happening right now where we're going to see impact across the globe. So of course that's been great experience to see how technologies are embraced. And why different regions of the world are acting differently in different times.

MARIE McGEHEE: Great. And when you talk about a fifth technology revolution what are some of the top trends that we'll be talking about five or ten years from now?

HANS VESTBERG: I think that what we don't realize that we see it here today and we think that technology has been extremely -- developing extremely fast. And we have seen the last 15, 20 years a lot of people are getting connected to Internet. And we're still -- we have roughly 3 billion people today having access to Internet and that took us some 20 years. What we don't realize is it will take us only 5 years more and we will have 3 billion more

Just the pace of change of technology is so fast. And there will be no difference between if you actually have a 4G network in let's say in Nigeria or in New York City. It will have the same capabilities. That will give people on this earth having the same chances to actually get the information, access to education, and whatever it can be.

And I don't think that we really understand how that will impact our globe. We're actually -- where actually real-time information will be equal for everyone basically in five years from now.

MARIE McGEHEE: So since joining Verizon give our listeners some insight around your role and how has your transition been? How have you made the shift?

HANS VESTBERG: I think that always changing a company is exciting. You're motivated and energized and I think for me being working in one part of the chain or supply chain of technology and telecommunications and I.T. of course working on another partner chain right now it's fantastic. Just I've been going around the world during probably 15 years talking to operators and telling them what to do and how to use technology and now I'm sitting on the other side and I actually need to implement it. And of course it seems a little bit easier maybe to give a consultant advice than basically do it yourself. But on the other hand I have to say it's been a great experience to come into Verizon. Good values. Also enormously important focus on the performance on technology and the quality of technology and quality of networks and IT., which is of course great for a guy like me that has worked with technology basically all my life

MARIE McGEHEE: Yeah, I mean you're certainly no stranger to Verizon. You've worked with the company for many years now, including interacting with many of our leaders. Is there anything that surprised you since joining the company -- surprised you since joining the company?

HANS VESTBERG: I think always you find things differently. Usually what surprised me, things like how do you operate? I worked in one company for 28 years. Of course you have certain set of ways of working. And you come into another company that has been for existing for a long time. And have a lot of their processes You see wow we can do it in this way, as well So it's been more of that that maybe being surprised -- than maybe being surprised in the challenge or something like that. I think that had a fairly good thing I think it's more how to work and think about doing things differential I think that's been a -- differently that's been a great experience for me.

MARIE McGEHEE: Many still see Verizon as a telco but we insist we're a technology company in your view what's the inflection of when that perception of Verizon as telco starts to shift into something that's more disruptive and at a global scale?

HANS VESTBERG: I think what we see right now is an inflection point for the whole industry. I think connectivity is of course an enormously important piece of

anything you want to do.

But we also see that carriers all around the world are taking very different routes. What they are going to do with the connectivity I mean you can stay in only connectivity and of course having a focus on that. You can have connectivity and then you start building platforms to go into new industries and helping them. And ultimately you can do connectivity platforms and doing application all the way out to the end user it can be a consumer, it could be in industry, it could be in device or whatever.

And I think that we don't see one pattern of carriers in the world how they do. They all will do different. Verizon has taken their decision and we have decided we're not owning connectivity, we're doing platforms. And in certain areas we go all the way into new areas like telematics together with Oath for example we are going into the media space fully fledged so I think you're going to see these iterations of carriers all around the world where they want to play in the next iteration where the inflection point is coming. And you're competing totally different. And opportunities arise in basically in there. Because connectivity is needed for anything, anything that benefits from being connected in the future will be connected and that arises opportunity then a company like Verizon needs to decide where do we find our competitive advantages to go the whole way and have platforms or application services for new areas.

And I think we are on a journey, we have started with a couple of very exciting areas where we think we want to play and where we will have a good sort of strategy

MARIE McGEHEE: And what are some of the obstacles to staying competitive, especially when you think about a lot of the comparisons are being made against some of the big companies in Silicon Valley and even some of the companies that we haven't even heard about yet?

HANS VESTBERG: What you need to realize when you embark on that journey that we at Verizon have done and you go into different industries and different segments or markets you'll face different competitors. Some of them will only work in that area. Some might be similar to some extent to Verizon.

What you need to understand, you need to compete in every segment against the best in that segment. And I think that's a little bit different from if you back wind some 15 years I mean all of us carriers we looked fairly the same. We had the same assets. We worked in the same markets. You can pinpoint that is my competitor. And I know them by heart. That's much more different today. As we said, we're in so many different segments and we need to be best in all of them and meeting the competition with the best way of competing in that area. And that's very different from where we were 15 years ago where you're basically it was much more homogenous market and the opportunity that's been created with the legalization and all of that is now opening up new arrays where we can go into.

MARIE McGEHEE: I've heard you define technology leadership as being about

quality performance and thought leadership. Talk about what that means. And how you and your team are making each of these things a reality.

HANS VESTBERG: I think when I look at technology leadership, I usually divide it in three pieces. The quality of everything you do in the networks you have, in the I.T. you have, how good they are really -- how good they are hanging together. The performance of the networks in IT. Meaning how well it's performing, what speeds you have and what throughputs you have and all of that. And ultimately then the thought leadership is of course how you create sort of the leadership or thought in the technology. Things like we're doing massive on the 5G or we're doing let's say the fixed wireless access on 5G right now that's thought leadership we're leading the industry we're leading sort of the world in those type of attempts. That combination is creating sort of the technology leadership that we want to keep and we want to extend as a leader in this market. It's very competitive. We need to work hard every day to keep it.

MARIE McGEHEE: Speaking of 5G, Verizon is doing some really ground-breaking things when it comes to 5G One Fiber and Software Defined Networking. How does the company plan to win in those areas? And overall what's the end goal?

HANS VESTBERG: I think first of all you need to define 5G which is so very different from 2G, 3G and 4G predominantly 2G, 3G, 4G was defined by consumers, better throughput and speeds that was basically the two different currencies as I said you had it was always better 2G to 3G to 4G and 5G was defined for some many other currencies everything from low latency can be in currency. Long battery lifetime can be another. Throughput of course. Speed could be. Security. So suddenly your 5G will have slices in the network meaning you can slice a network where you give away a very low latency. Maybe down to a couple of milliseconds. Where you actually can do a transaction or maybe autonomous car because of the network. Or you can do a slice with enormous throughput where you're basically you'll send a lot of data. But you don't need much latency. So then you need to orchestrate and define the network very differently in order to make those slices. The first slice that we are now testing is sort of a fixed wireless access slice. Where you basically can have an in-home sort of experience with the TV, video, whatever you have at-home Internet by doing that wireless. Because the speeds are so high and if you define it with a certain spectrum and technology you can do that. So there are many others slices that we are going to work with in the future. Right now we're very early on in the process of 5G standardization. We have worked with the fixed wireless access slice. And we are both learning how the spectrums are

working and working with a millimeter wave spectrum, extremely high up, fairly short distance but very good throughput learning a lot about that how equipment should work, et cetera.

So that's important for us. The standardization of 5G is progressing. It's going to take one or a couple of years more before it's commercial. And we are also going to be part of that work. And be very early on in the mobility of 5G so to say

MARIE McGEHEE: And what about One Fiber?

HANS VESTBERG: I think that in the future, I mean, the data will just only go up The data usage and as I said, we're not only going to have 6 billion people in the world being connected to Internet. Or a couple hundred millions of mobile subscribers in the US. We're going to have millions or billions of connected devices, as well. All that is going to create even more data.

So of course the best way to transport that data efficiently is fiber and for that reason fiber is an important piece for us when we build our Intelligent Edge Network that the fiber is a key and vital element of that.

MARIE McGEHEE: And in Software Defined Networking we're also seen as an industry leader. What's the opportunity there?

HANS VESTBERG: That's also another element of the Intelligent Edge Network where you ultimately might be able to orchestrate where data loads are sitting you are much more agile, you can move sort of experience for customers or consumers or devices dramatically by moving loads, et cetera.

So it gives you flexibility and you define things much quicker and simpler. I think that you combine that with different type of accesses or 5G it could be fixed access, as well and then you have software defined networks and you have a fiber enabled sort of -- then you can actually orchestrate totally different type of use cases for different consumers and customers.

MARIE McGEHEE: So with 5G there comes a lot of challenges. What are some of the barriers?

HANS VESTBERG: I think one of the questions that is of course standardization. Coming from what I have done in my previous life, standardization is one of the most important things that actually happen in our industry. It's the reason why today there's more than 5 billion people having mobile phones. That's standardization. Because the mobile phone works in any network in any country in the world.

And the same goes now for 5G where basically all of the industry sort of companies are coming together to standardize and take the best technologies together to make a standard. And then you build on that standard. So everybody can enjoy the scale of it. And I think that's a very different from any other industry.

I mean, you usually keep your innovation for yourself and you do your own standard and you don't share it. This industry actually defines the 2G to 3G to 4G standard and

now we're doing the 5G standard. That has a certain set of planning functions, meaning -- and time schedules. And that time schedule is ticking according to plan. They are even advanced at making it coming earlier because the market wants 5G earlier. So I think that the scheduling right now is saying that somewhere in 2020 or 2019 sort of the commercialization could be happening on 5G mobility.

But I said, Verizon is trialing out one of the slices by ourself already right now. And that's a 5G fixed wireless access.

MARIE McGEHEE: You've talked a lot about 5G in terms of the industry business case. What about the consumer; how will 5G sort of manifest for them in a way that they can wrap their head around it?

HANS VESTBERG: In the new next generation mobile technology it's going to be higher speeds and better throughputs and I think that -- I remember being part of 3G development once and everybody what's going to be the killer application nobody is going to use all of these speeds and all of these throughputs. I can tell you with so many people innovating around us in the networks and in the ecosystem there will be things. Just imagine something like virtual reality, how much bandwidth that is going to need. And the latency that is needed if you do that mobile.

There's going to be innovation. And new business sort of cases or business opportunities that ultimately will benefit consumers, as well, for sure.

MARIE McGEHEE: And speaking of advanced technologies, everyone is talking about artificial intelligence. What's our position on -- or what's Verizon's position on artificial intelligence and how are you thinking about that?

HANS VESTBERG: I think you need to define artificial intelligence also in different buckets. I mean machine learning is one thing about artificial intelligence that I think is going to be even more important for a company like us. Meaning learning better in order to give even better service to our customers. The network responding, learning from it.

And that's a piece of artificial intelligence of course. There are other use cases when it comes to data. So we are getting better as a company. I think you start there how can we be better for our customers by using it and then of course you can see use cases that also is benefitting ultimately customer experience or consumer experience.

And that's going to come, as well. So I think we see it as a good way of working of course. Thinking about we have inside our company Yahoo for example had great experience in this area, had worked for many, many years in data analytics et cetera. So we have great experience. And we're going to use that in a smart way to actually give services to our customers and our consumers.

MARIE McGEHEE: You mentioned Yahoo just now. So Verizon has obviously made a lot of acquisitions in recent years including AOL and Yahoo. How do you see from a technology standpoint that this translates into a seamless user experience whether you're a consumer, a small business or a large enterprise?

HANS VESTBERG: Of course we have different sort of customer segments that we're addressing with our portfolio. I think from my point of view in my work, for me it's to tie together all of the competencies we have in technology in the company. Leveraging the skill we suddenly have in this company. I mean there is going to be skills coming from network team that sort of the Yahoo team needs. There are a lot of skills from the Yahoo teams that we need on the technology side. I think that's how I see I need to work to see the bridge over between our different technology units and take the best competencies that we have and creating the best experience in any of the segments we're acting at the moment.

MARIE McGEHEE: So around the world there are a number of global issues keeping us up at night and you're a leading advocate for many of them, including sustainability, poverty, climate change, health care and education  
What role does technology play in tackling some of these issues?

HANS VESTBERG: So I started for many, many years ago to work with something called the Millennium Development Goals. They were the goals that was agreed about -- among all of the nations in the UN. To achieve by 2015. And I already then saw that many of these sort of goals that were eradicating poverty, improving health care, education for all, what I learned very much in that process that technology is the only -- or one of the few infrastructures that can actually scale globally and to support and enable those goals. And then ultimately the last five years or four years I worked with the Sustainable Development Goals it was the next generation of goals that was set between 2015 to 2030. Where all of the UN nations membership -- member countries aligned around them. I fought for a long time actually to have 17 goals I thought for the 18th goal it should be ICT meaning Internet communication technology.  
But as you can see I didn't get the 18th goal but what I learned is that all 17 goals if it's sustainability or climate change or if it's eradicating poverty or improving education, all of them have a component of technology. And I think we have a great responsibility people like me and leaders of the technology companies to actually advocate for that. Having a debate about it. Taking our part in that social sort of contribution.  
And it's our strategy. I mean, we build technology that can enable much more than you and I can speak over the phone which basically was sort of the start of everything we needed in -- we did in telecommunications Now that technology can actually see that a child, wherever they are, can actually get the education that's equally good wherever you are in the world which is just an enormous thing to think about. And I think that's why I've been very much in those discussions and still are. I mean -- I'm on the UN Foundation's Board and all of them are working and seeing the scalability of technology. And technology is going to be all around. As I said in the beginning, we will soon have more than 6 billion people on this earth having access to Internet.  
But that still means that 1.7 billion has not the Internet by 2021



MARIE McGEHEE: Right.

HANS VESTBERG: And then the 1.7, I would say almost 80% of them have mobile coverage. But they cannot afford it. Or they don't know how to use it.

So I think for us as technology companies, we need to work with this and see that that enabler is there. And then we can also support with certain applications. Verizon we work a lot with education. And you can pick what area you feel is the best.

But I think that a company like us have that great fortune and should do it.

MARIE McGEHEE: You were on a panel recently and you talked about the decided and how because -- the Digital Divide because technology and Internet connectivity is going to be so prevalent in the Western World we're not only going to be competing with ourselves but globally.

Talk a little bit more about that.

HANS VESTBERG: I think it comes and I think I come from Sweden which is of course the Western World. And we have been gaining a lot of real-time information. We have always been ahead because we have always good infrastructure, good education.

I mean as the world develops right now with utilization, I mean that's going to be tougher to keep that real-time advantage that we created business on. Because everyone can actually create a business wherever they are. There are certain physical limitations. But in general, you can start a business wherever you are. You can get information wherever you are.

It's not a limitation of that infrastructure. And I think that's going to change, also, the competitive landscape between countries going forward. And you just need to think about that. Because everyone will have the same chance.

Which it should be in the world. Everybody should have the same chance. Which hasn't been the case before. And I think that will dramatically change our competitors between countries going forward.

MARIE McGEHEE: On that note of everybody having the same chance, in your view, is the industry doing enough when it comes to attracting and retaining diverse talent? We recently did a podcast about this when it comes to the -- about the gender divide in technology. And some in the industry have noted that the industry continues to underperform when it comes to recruiting women and people of color and they attribute that to the persistence of cultural stereotypes.

What's your response to that? And what's your team doing to attract and retain diverse talent at Verizon?

HANS VESTBERG: No, I think you're right I mean, just look at the stats and you see underrepresentation in the whole industry from different diverse groups that is needed. And I come -- if you look from my background, I've lived in seven countries I don't feel like Swedish -- I'm not sure. I feel like I've been in all and I've seen strength in diversity working with different minds in order to create good solutions. And so

there's no doubt it's -- the business really needs diversity. For me it's obvious. I've lived it all my life.

And -- but we also need to realize that we have not been equally successful in some groups. In technology we are underrepresented they are 50/50 on the earth we are not 50/50 in any company nor is Verizon we just need to see much better recruiting and I think it's also starting in the beginning that everyone should feel that you have an equal chance to get into a company like Verizon or a technology company. And I don't think that's felt. And somewhere it should start that hey if I go into this field of work, I have the same chance regardless of who I am and where I come from. And I think of course the next generations they will think more about it than maybe previous generations have done. But we as leaders have a huge responsibility in seeing that we think -- we think diversity -- we want groups -- I say I always want to recruit people that are opposite of me because I always say it would be a disaster to have 10 of me in the same group because ultimately it will be the same decision going in the wrong directions and somehow you need that counterpart in the discussions. And different views on things. And backgrounds.

MARIE McGEHEE: Shifting gears for a minute, it seems like you can't look at any industry where investors and the leadership at different companies are talking about growth, both how to achieve it and how to sustain it. And recently some investments have talked about the -- investors have talked about the emergence of what they are calling the new alternative paradigm noting growth isn't defined only by revenue but also by a company's ability to be disruptive, to drive social change and advance new technologies. So is Verizon one of those companies? Are we all of the above? Or are we focused on one specific area?

HANS VESTBERG: No, I think, again, what we see -- right now we have our strategy in the areas we are now acting in But what you see with the platform of connectivity that we are creating, there are opportunities in many areas that's going to be digitalized and there you can innovate and disrupt.

I mean, certain areas we have been in forever. That's our home market. Some of the markets we are into we of course we are the newcomers. And you need to think differently and I think technology will play a vital role how you need to get your technology in there and leverage your business there and how you put it together so yes I think we have a great opportunity. We have seen some of those cases already being launched and rolled out in Verizon right now. There might be more to come. But I think, again, I mean, the technology team that I'm heading up have a huge responsibility to actually provide that for our teams and basically say, hey, what can you do with this technology which can change this and this? And I think that collaboration will be even more important in our company going forward

MARIE McGEHEE: Looking out into the future, what's going to be the first thing that gets deployed where people will say, wow, I can't believe Verizon did that?  
(Chuckles).

HANS VESTBERG: If I would tell you, it wouldn't be a secret anymore.  
(Chuckles).

HANS VESTBERG: So I will not tell you but there are things that are cool and there are things that I think we will be very early on bringing out. And I have a high confidence of the technology and the competence that we have across the company. That we will create those type of ah-ha moments again which we have done in the history. And so yeah, we're working on that.

MARIE McGEHEE: Fair enough. So you've shared so many great insights with us today. 20 years from now, what do you want your legacy to be?

HANS VESTBERG: I haven't even thought about that. I'm not thinking about much legacy I think about what I'm going to do next week, you know So I think that ultimately I want to see that I've been a good leader and people actually flourished and been empowered in my area. And I think that's what I'm here to do. And I think it's a great opportunity to work in Verizon and have all of these great competencies and let's see where it takes us.

MARIE McGEHEE: Great. Thanks so much, Hans Vestberg, thanks for joining us today.

HANS VESTBERG: Thank you.

[Music].

Thanks for listening. Stay tuned to Up to Speed for more conversations about technology today.

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