The Optimistic Outlook
with Barbara Humpton

Transcript: Optimistic Outlook Podcast Episode “Platform Revolution”

Host: Siemens USA CEO Barbara Humpton

Guests: Marshall Van Alstyne, co-author of international bestseller “Platform Revolution,” and Peter Koerte, Chief Technology and Strategy Officer, Siemens

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Note: This transcript begins with Barbara Humpton's opening comments.

Barbara Humpton: Hello everyone. This is Barbara Humpton, CEO of Siemens USA. And thanks for listening to the Optimistic Outlook podcast. On this show, we explore the power of optimism and the potential for change through the lens of America's infrastructure. And one thing we've been exploring in recent episodes has been the power of infrastructure investment coming from the federal government, say fully funding the Chips for America Act to ramp up domestic production of semiconductors or the Bipartisan Infrastructure Law now providing historic investments in the grid, in EV charging stations, in buildings, and in rail.

What we're going to explore in this episode is a bigger overarching trend that promises to change everything, and that's a platform revolution. We're joined today by one of the world's top experts on this topic, Marshall Van Alstyne; he's the co-author of an international bestselling book Platform Revolution. We also have with us Peter Koerte, the chief technology and strategy officer at Siemens.

So let me just tee up this conversation for you. A decade ago, you might have read a famous Wall Street Journal article proclaiming that software was eating the world. Well in Platform Revolution, published in 2016, Marshall provided us with an update. Yes, software is eating the world, but actually platforms are eating pipelines. The pipeline approach describes the longstanding way that companies have been successful. You focus on economies of scale and getting more efficient on the supply side to win in the marketplace. Well, the platform economy involves a very different approach. What it does is leverage powerful digital technologies to tap into demand side economies of scale in order to generate valuable interactions between producers and consumers.

Think Uber and Airbnb and Amazon. Think about the rise of a technology industry that has completely upended the global economy. But how does this apply to the world of infrastructure and industry? That's what we'll learn today. And in fact, this is why it's exciting to also have Peter joining us. You're going to hear Peter share the news that Siemens today is introducing our new open digital business platform, Xcelerator. And what I hope you'll understand better after this episode is the potential for applying the platform model's focus on ecosystems. You'll hear more on this shortly. Take a listen.

Humpton: Marshall and Peter, thank you so much for joining the podcast.

Marshall Van Alstyne: It's a pleasure to be here. Thanks Barbara.
Peter Koerte: It's great to be here.

Humpton: Marshall, something I often say is that some of the greatest ideas begin with a couple of people and a drawing on a napkin. In fact, one of the concepts you introduce in your book, this concept of network effects, began as just that. So, I want to start here because I think that network effects are central to what we're aiming for at Siemens as a technology company, working to take the digital transformation of industry and infrastructure to world-changing scale. So, help us understand: what are network effects? And give us an example of a company that's already leveraged the platform model to benefit from them.

Van Alstyne: Well, thanks Barbara. The original napkin sketch you mentioned, I think was the one drawn for Uber riders for tracking drivers to track rider and track drivers. But the concept of a network effect is pretty straightforward in its basic incarnation. It's simply a product or service that becomes more valuable to the existing user base as more people use it. Classic examples are things like operating systems, search, social networks, but there are also some good industrial examples. So, if we take, for example, Amazon Web Services, the more developers there are that work on that, then there are more merchants that are going to want to use Amazon Web Services. So, more developers want to be skilled in that, so more merchants take it. Or if we take even a wonderful Siemens example, Healthineers. They have device neutralities that attract third parties, which then with best degree attracts hospitals, which attracts more device parties. So really think of it as a product or service that becomes more valuable as more folks use it.

Humpton: So let me pull this thread a little further. In the history of the platform revolution so far, we've seen massive disruption of established industries, we've seen technology giants upend the global economy. But as we think about the platform model changing business to business, or even business to government interactions, yes, this is about competition, but it's really more about coopetition. The digital transformation of industry and infrastructure is a very complex process; we're typically starting as ecosystems of innovators to create these network effects and accelerate the transformation that we know is possible. What's your reaction to this view? And what advice do you have for large established companies, as well as innovative, small and medium enterprises who want to be part of the ecosystem and influence the future of industry and infrastructure?

Van Alstyne: So I think you've hit it right on the head. It's really an interesting question of coopetition, cooperation and competition. As you build these large ecosystems, it's really not possible to go it alone. Matter of fact, there's wonderful data and econometric evidence as well as I think even the market valuations of corporations, those that externalize value creation, that is bringing third parties to create value, have higher rates of innovation, have higher and faster trajectories than the standard firms, so the market values increase. To put it simply, tapping third parties helps you to get ideas you don't have from people you don't know. So the cooperation and the competition comes in a couple of different forms. So one, it is platform versus platform, whether this is for example, Google versus Apple or Schneider versus Siemens. Sometimes there's also some friction between the platform and the partners themselves, and we have to manage that very carefully.

So who gets to take lead in this? Is it going to be the platform itself or is it going to be a partner to give the product? And then of course there are partner and partners that might be selling the same devices or the same services, so how do you manage those? One of the best tricks is to use fair governance. What you do is just governance. So in some ways, platforms themselves have to make sure they're not taking all the value themselves. They have to make sure they're treating their partners fairly and equitably to invite those partners in as another way to do that. You also have to invest in the smaller partners in particular, to help the smaller partners win and for them to actually develop new ideas in products and innovation. And when they do, you reward them, you don't simply take them, you also reward them for those things. So there are a couple of steps that you can do. And if you're having trouble establishing as a platform, if you're having trouble establishing it, sometimes you might even move toward a federated platform. By that, I would mean one in which you start to

share some of the voting rights to bring others in, so that's another step that one can take in actually trying to build these larger ecosystems.

Humpton: I love to say to our employees, trust me, there is no such thing as a win-lose, there is lose-lose, but what we're trying to create is the win-win through that value generation. Now I want us to get some commentary from Peter. Peter in his book, Marshall writes that platforms are not easy to make, describing them as daunting challenges. So, share with us how we got here and tell us about the ecosystem we're building with Xcelerator and its partnership model.

Koerte: Yeah, look, this journey actually started many years ago. It started together as Marshall and his co-author Sangeet. At Healthineers, we've been starting to build a healthcare platform where we are connecting healthcare professionals together with metric companies, because we saw that there was an incredible amount of new technology coming exactly as Marshall just said, where you externalize some of the innovations. And there's a lot of AI companies nowadays, but they're lacking the access; they're lacking, of course, the means to get to those healthcare professionals – and Healthineers was right in between. And this is precisely what we mean by building a successful platform.

Now fast forward to Siemens. And Siemens, we are serving a lot of different customers. So we are doing this in industry, we are doing this in buildings and infrastructure, and we're doing this in mobility. And we saw that there is an incredible amount of work that goes into digital transformation and that many customers are coming to us and asking, please, can you help us?

And it's a complex task. You need to have hardware, you need to have software, you need services. So nobody holds the key, nobody. So, there you go. You need to have an ecosystem that actually is orchestrated where you have created a portfolio being delivered to our customers or to the customer in order to solve their problem. And that's where we realized that Siemens very often already held the key with regards to having some of the critical components already, but not all of them. And so we clearly said, okay, if we can bring them all together: so the service providers, the software partners and the hardware – and this is very important, including the hardware – then we really can make a big difference.

Humpton: Yeah, there's another aspect to this as well that I want to pick up on Peter. And you wrote about it in a LinkedIn article. And by the way, we'll share a link in our show notes. This is about the need to act now and act fast to achieve the Paris agreement climate action targets. You wrote that the technology we need is already available and it really is up to us to turn the first tentative steps toward de-carbonization into a sprint. This is core to what we're driving at Siemens right now. Being able to do things faster, more cost efficiently, and yes, more sustainably than ever before. Share with us your optimistic outlook of how Xcelerator can help us make that sprint.

Koerte: Yeah, absolutely. Now, look, what we want to bring to our customers is solutions that are easy, that are fast and that are scalable. And this is what we hear over and over again: you have a bespoke solution that doesn't work for me. Because, we know B2B environments, they are very heterogeneous, so it's complex. In order to solve that, what Xcelerator does is it brings a set of technical governance, so design criteria that we've defined, and these are

pretty much where you deliver these services as a service. So they're very easy to implement. As a matter of fact, you don't have to implement them at all because they simply work and they scale as you grow. It does grow with our customers.

Koerte: The second one is being flexible because, as I said, every environment is different. So you need to be able to personalize and to customize, you need to have interoperable solutions so that they clearly work with each other, where you have these digital threads, where data is flowing in between, and it needs to be open because no customer wants to be locked in. So when you follow these design principles and providing these solutions, it's like Lego blocks where you very easily assemble and disassemble, and you just pick what you need. You really can get to this easy, fast and scalable solutions for our customers.

And in particular, the LinkedIn article that you were referring to goes to the de-carbonization aspect of it. And clearly the technology is there; it's just not being implemented in the most efficient way today at our customers. And this is precisely why Xcelerator's here: it solves this problem by scaling it.

Van Alstyne: I know Barbara, if I can do something with two thoughts on there: some really interesting things I've heard being done with the Accelerator program. So one was implementing technical governance. So there's compatibility in your operability, but also there's kind of an economic governance. So the folks are rewarded for participation, which I think is a fantastic addition to that. Again, what it does: it lets the customers choose best-to-breed parts, but it's integrated. So that's a nice set of solutions that actually brings things together.

Humpton: Great observation. And I think that bridged us well to a topic I was so excited about having the two of you together for, and that is the future of manufacturing. At Siemens, one of the big megatrends we've been addressing is increasing globalization, but what we've seen during the pandemic has really made us think differently that the future is actually "glocal." Think about tapping into global innovation while using additive manufacturing, to shorten supply chains. That means not only tapping into the ability to 3D print products, but taking advantage of things like digital twin software to enable us to create anything we can see on a computer screen. I really want to hear from both of you for this question, but I'll start with Marshall. How can the platform approach help us scale this concept?

Van Alstyne: So there are a couple of ways which you can actually facilitate the... I guess it's the global plus local. One of these is to tap efficiencies wherever they are. So they could be local, they could be remote and you can be able to use resources wherever they are in order to try to get them as quickly as possible. To give you an interesting metaphor, I heard that Alibaba is now trying to create an operating system for production so you can conceive of a product or an idea that has never been built before, and then it will find the closest supplier who will be able to produce it for you on demand. So it's a really interesting ability of trying to combine ideas, more sources at the same time. There is one interesting element of this. I would argue that you're going to, in order to do this properly, you're also going to need some preconditions for sharing the IP if you're going to be reusing these things. I understand some things that Siemens is working on, digital twin reels, NFTs, to actually give proper identification for who owns it, what's the provenance of a particular resource, and you're

going to recombine them, create new resources. Those are preconditions to making these aggregate things work from all these different locations. So, I think that's one other element.

The third thing I would mention is scale, to make these things work. One is going from internal to external resources, tapping things wherever they are, and then going from tangible to intangible resources also helps you get scale within these ecosystems. Particularly intangible resources, you can move the resources wherever you need them on demand, so there are a couple of different ways to make that happen.

Humpton: Peter, I'd love to have you chime in on this question as well.

Koerte: Yeah, absolutely. And both of you are making great points. In particular, Barbara, you mentioned the additive manufacturing and digital twins. And so, this goes back to what I said earlier with regard to that Siemens very often holds the key, right? So if you think about it, if you today want to produce a 3D designed element, we need to have the software because you really design in a very different way than you do design for 3D manufacturing. And as it turns out, Siemens does have that software, which actually is in place with many customers. ... So that's the demand side. Once you have these customers, of course creating all this demand for 3D printing parts, it was a very logical step actually then to connect them to all the operators of 3D printing machines. Because as it happens, Siemens does provide the automation equipment for these customers.

So we knew both sides of them. We knew the side, the machine manufacturers on 3D machines, and we knew those that were in strong demand. So if you take two and two together, it was very clear that we would build an additive manufacturing network where you bring supply and demand together. It's a great example for what Siemens really can do also by using of course the platform idea. By the way, I have to say that it's not just about platform; actually, it's also about autonomous factories where you truly have, of course, the next stage of automation where machines very autonomously communicate with each other and determine what to do next, so clearly that is the future. And here again, Siemens does hold the keys in order to bring this all together.

Humpton: Yeah, this does remind me of 2007 when the iPhone was introduced. The iPhone was only made possible because of so many enabling technologies being developed over decades. And this last decade we like to say was about the internet of people. The next decade will be about the internet of things. And here we are with the technologies now to connect them.

Now, there's one other topic I have in mind. And, Marshall, at Siemens we've been very supportive of the Bipartisan Infrastructure Law. This is putting forward the largest federal investments in our infrastructure in a century. And one thing we're hearing about is a need to rethink the traditional approach to developing and executing projects. The urgency to decarbonize emerging technologies, the potential for connectivity across all of these elements of infrastructure – all of these really reinforce how important it is to break silos and work across sectors. Have you seen the platform model apply to the infrastructure sector?

Van Alstyne: So it's nice to see the breaking silos in politics, or at least the Democrat and Republicans finally cooperating on something. I think infrastructure bills is a wonderful

example. We've seen this already in the digital infrastructure. Search, social networks, operating systems are already digital infrastructure and probably should be recognized as such. But we're absolutely moving into the physical infrastructure space, especially as you move into factor automation, smart grids, internet of things. One that I'm looking forward to seeing … I believe, a city platform is going to actually start to run operations, interactions, more like platforms for purposes of creating wealth.

Humpton: Wait, wait, wait, wait, city as a platform, tell us more.

Van Alstyne: I'm happy to go into a little bit more detail on that. In some ways too many people think of simply smart cities, which is the automation of things. But I think what we need to do is to mix the best of standard governance along with platform governance. So we're trying to do is to facilitate the healthiest interactions. Then the city platform manages healthy interactions among the population in the community. So we use it to help match businesses to supply chains and help match consumers to businesses and consumers to government and city services. So the city platform borrows a lot of the ideas and the wealth creation properties of platforms themselves, makes them available to cities. But I think we need to run ideas in both directions. Cities can borrow ideas in platforms, even as platforms probably should be valuing borrowing the voting rights of governments, of cities, involving the citizens more in the design of the ecosystems themselves.

I think there are enormous opportunities here, especially as firms don't necessarily have to be in as much competition as you might otherwise think. So, if you think of Berlin's not in competition with New York or in competition with London; it's cooperation in those cases. So it's quite possible to do these things at scale. If we're getting energy in distributed systems, decentralized form, we're going to be attaching these things to smart grids and actually doing more efficient management of that infrastructure. What I think is interesting is that one of the impediments to B2B platforms has been... We haven't had the frequency of interaction we've had in B2C platforms. So in search and social work, there's old fat, massive amounts, but as we move toward infrastructure, all that's going to change. Machine to machine, device to device is going to dwarf the number of interactions among people. And so I think we should absolutely anticipate huge transitions towards these platform and these models, especially in infrastructure. And I think the firms that get there earlier are going to be better positioned to capture the value that's created within that new infrastructure.

Humpton: That's why I'm so excited about Xcelerator and its launch. And I typically end episodes of the Optimistic Outlook with a look into the future. So, Peter, what I want to do is turn to you. Take a look at us a decade from now after the launch of Xcelerator. How has our digital business platform evolved and how have our customers benefited?

Peter Koerte: Yeah, look, the 10 years outlook [is that Xcelerator] has set the benchmark when it comes down to simplicity of transactions, enabling technology and giving technology to anybody who needs it at any given point in time. Today, we know how cumbersome it is and we always know that the B2C environment that Marshall alluded to you is usually a decade ahead of the B2B environment. So think of your transaction today, that you're doing

as you do your online shopping, exactly that simplicity. We need to bring that to our industrial B2B customers.

So imagine a world where you go online, you find exactly already what is needed. As a matter of fact, it is being recommended to you because we know it because of all the machines talking to each other, we already can tailor the solution to the respective B2B environment. It can be all automatically deployed and many others that not just Siemens, but a lot of other companies, ISVs, service providers and so on, are prosperous because they provide key parts of that solution. So clearly that is the case and we do this over and over again, we do this for industrial customers, for infrastructure customers, and we do this for mobility customers. So clearly setting the mark of how to do business in the 2030s of the century.

Humpton: You know, a future in which the technology does that repetitive work and humans are freed up to do the things we do best. Now, Marshall, your book closes with the section called a challenging future. So let me ask you this final question. If we're able to successfully bring a platform approach to industry and infrastructure, bringing along workers as Peter has talked about, bringing along small and medium sized enterprises, leaving no one behind, how will the transition from pipeline to platform positively impact the world?

Van Alstyne: That's a fun question. So let me suggest that I think there are a couple of great possibilities. One of them is that we're going to dramatically increase resource efficiencies. We should be able to get more value from the same sets of resources. Again, tapping spare capacity in lots of different forms, reduce unnecessary production, which reduces the unnecessary pollution. Other possibilities and opportunities that I think are going to be immense include remote education, increasing the value after COVID; many universities and others have been learning to move education online. I think the costs will decrease dramatically. Also, remote healthcare and platforms I think will be enormous possibilities. Also, we move into distributed energy and other grids. I think those things are going to be, again, immense contributions to society. We do have to look at this clear eyed. I would draw some analogies between the internet revolution and the industrial revolution a century ago, because then we did have some labor issues and some pollution issues and immense power of the platform company.

So I would suggest we as society also need to manage voting rights. At the moment individuals haven't had as many voting rights and platforms. We need to increase the transparency and we need to increase the shared wealth. Immense wealth is going to be created and it probably needs to be going back to the multiple sources that are going to create it. We manage to … solve all those problems a century ago. I think we'll solve them now. And so I think the future is very bright so long as we actually do manage voting rights, transparency, and shared wealth and can get benefits of the efficiency gains in education and healthcare and wealth creation. I think there's a very, very bright future.

Humpton: Very encouraging, and to think all of this begins now with the launch of Xcelerator. Thank you so much both of you for joining us. Marshall …

Van Alstyne:

It's a great pleasure. Thank you for having me.

Humpton: And Peter, I can't wait to work with you on this.

Koerte: Thank you for having me.

Humpton:
I hope you enjoyed hearing from Marshall and Peter. And let me leave you with this final thought. Marshall writes in Platform Revolution about an MIT professor who likes to say that the greatest salesperson in history is whoever sold the very first telephone. Why have a phone if there isn't anybody to call? Yet, as more people did buy phones, the value of having one grew and it grew fast. With just two phones, there are two possible connections, with four you get six, with a hundred you get nearly 5,000 and so on. Something similar is happening on the edge of the grid. The electrical grid has been called the greatest machine ever built and the greatest enabler of our economy, yet the flow has always been one way. The utility to the consumer.

The funny thing is, all this time, for more than a century, there have also been ways to manage power locally using microgrids. Except, if power is already coming to you reliably and affordably, why use one? Well today we know we need to decarbonize and green the grid. Microgrids help us with this transition. And the microgrids we have today are smart. They leverage software and AI so we can manage intermittent power sources reliably. We can have onsite power resources kicking in autonomously if the utility grid experiences an outage. In other words, we can move beyond one way power flows and become prosumers who both consume energy and sell excess supplies back to the utility, which, hey, that's pretty nice incentive to join this new energy future.

So now as more micro-grids come online, we're increasing the number of grid connections going back to that telephone example. And what's the next step to create even more and rapidly scale climate action? None other than shifting to a platform model that creates an ecosystem of prosumers. You can go to our show notes to learn more about how Siemens is driving this platform model with ComEd in Chicago's Bronzeville neighborhood and more about everything else in the episode, including Siemens new Accelerator offering.