

Patrick Moorhead: Hi, this is Pat Moorhead with Moor Insights and Strategy. And welcome to the Six Five Summit, 2021. I am here with Jim Anderson, President and CEO of Lattice Semiconductor. Jim, how are you?

Jim Anderson: I'm doing great. Great to be with you, Pat. Thanks for having me in and thanks for giving me some time. Thank you.

Patrick Moorhead: Absolutely. And Lattice is a huge add to the agenda here. I am very familiar with Lattice Semiconductor. In fact, you just had your financial analyst day the other day, which is just a great review of all the markets you're in, how you're different in the markets you serve. But maybe for our viewers who may not be as familiar, can you talk a little bit about Lattice?

Jim Anderson: Oh sure. Happy to. So Lattice does a type of chip called FPGAs, that's what we build. And an easy way to think about FPGAs, is to think about it as just a really flexible chip, a chip that you can program to do just about any task you can imagine. And the other neat thing about FPGAs is you can reprogram them over their lifetime, so you can reprogram them hundreds of times, thousands of times, et cetera. And so our customers use these chips for, first of all, the flexibility, but also the adaptability over time. The fact that they can change the function of the chip, and that helps them, in a lot of cases, future-proof their systems. And then, for Lattice, where we specialize within FPGAs, is we specialize on very power-efficient FPGAs, really easy to use, small size. And we're actually the highest volume FPGA maker in the industry.

And our chips get used in just a whole bunch of different applications. And Pat, I know you know this, but we are used in just hundreds, thousands, of different applications. But just to name a few, things like 5G wireless infrastructure, servers in both enterprise, as well as hyperscale cloud servers, PCs, tablets, industrial automation, industrial robotics, automotive electronics, consumer electronics, and the list goes on and on. And so used in many different applications. And we're really seeing some interesting growth in usage models like artificial intelligence, embedded vision, security processing and things like that. So hopefully, that's a little bit about what Lattice does. We're pretty excited about the company and where we're headed, over the next few years.

Patrick Moorhead: Yeah. And Jim, I have to explain it a lot, as well. And I always like to think that there are different chips that you have for different purposes, and people are using FPGAs instead of controllers, instead of ASICs and things like that. And not necessarily just Lattice, but when you look at the entire FPGA's typically lower power than a controller, and a lot faster time to market than an ASIC. But it is incredible, the companies that I run into, when I ask, "Hey, how are you doing this special feature?" In the factory, in the robot, in the car. And, inevitably they get to an FPGA, so congrats on that.

Jim Anderson: Yeah. Thanks a lot. Appreciate it.

Patrick Moorhead: And you have had quite the year. And I know it's not all about stock price, and it's not all about bringing out multitudes of new products and solution stacks, but maybe it is. Can you share some of those highlights?

Jim Anderson: Yeah. I think, and Pat, it's not just with the last year. Okay, the last year has definitely been interesting. But actually, I would say it's the last two to three years. I joined Lattice in, that was late 2018, almost three years ago now. And then brought on a new leadership team for Lattice as well. And so, there's been a lot of changes at Lattice for the last two to three years. One of them is, for instance, the culture of the company. I think today, our culture is much more focused on innovation and driving fast innovation to market, for the benefit of our customers. Being bold in some of the innovation that we're driving. And I think that you can see some of those cultural shifts, actually, you can see that now showing up in our product portfolio. We've totally rebuilt the product portfolio of the company, over the last couple of years.

And, for instance, if you look at just the number of products that we've launched, over the last two years. And you compare that to, say, three or four years ago, we're launching products at a rate that's three times what we did a few years ago. So tripling our rate of new innovation that we're driving to the market. And then, not just bringing more products to the market, but much better products to the market too, much more competitive products. So we've rebuilt the product portfolio. Our customers see that. The level of customer engagement is really astounding right now, really exciting. But then that's also showing up in our financials too. So you're starting to see, in our financials, strong revenue growth, record profitability growth. So yeah, it's a great time to be at Lattice. Last couple of years have been great, but we're way more excited about where we're headed from here.

Patrick Moorhead: Yeah, Jim. I've written about your company, multiple times. And the first time I went to your financial analyst day, I came back and just said, "This is not the Lattice that you've grown up to know and like. This is a very different company." And then since then, your say/do ratio is very high. And whether it was your days at AMD, or your new days here at Lattice, I think that makes a difference. And I do feel like, and I'm hearing this from your customer set, which is, "The claims that Lattice makes, we can pretty much take to the bank." So congratulations on that. And what you're doing is, is you're enabling your customers to do some great stuff. And this year's theme for the Six Five Summit, is the next roaring twenties, okay? And accelerating into the next decade. And I'm curious, what are your customers seeing and saying about this? We're not completely out of the woods yet, with COVID, but boy, we're close.

Jim Anderson: Yeah. Look, it's a great question. Actually, before I dive into some of what we're seeing with customers and what they're talking about. Let me just say, I think it's a great time to be, not just in the tech industry, but the semiconductor industry.

Patrick Moorhead: Yes.

Jim Anderson: Spent my whole career in the semi industry. And when I look back over the last couple of decades, and then I look forward at some of the innovation we see moving forward, it's a fantastic time in the industry. Semiconductors are so pervasive, in every part of our life, in every electronic device. And I think the number of new applications that we're seeing are just incredible. And so I think the roaring twenties, that's a great theme. I think the next decade or two are just incredibly exciting. And so yeah, some of what we're hearing from the customers, it's interesting. One of the things about Lattice is, we have a really wide customer base, over 9,000 customers, many different markets.

I would say, one of the interesting themes that we're hearing from customers, across all those different markets, many different applications, is around this idea of, all of our customers are trying to figure out, "Hey, how do I make my system more intelligent? How do I add decision-making capability to my system? How do I make sure it can adapt to the environment and change over time and be adaptable?" Invariably then, what customers are talking about is, you're talking about adding artificial intelligence processing to their systems. And so we're seeing AI, or if you're talking about at the edge of the network, a lot of times it's inference processing, being added to all sorts of different devices, and devices that have never had that capability in the past. And so, that's probably one theme that is just consistent across all our customers. The reason that that's important for us, is our devices are just a naturally good fit for AI processing, because of the parallelism of FPGAs, because you can reprogram and adapt the FPGA over time as your AI algorithms change. It's just naturally a good fit.

So that's one of the big themes that we're seeing across the customer base. Another one that's closely related, and has actually been impacted by the pandemic, is around industrial automation and robotics. This is something ... So first of all, it's a big market for us, it's about 40% of our revenue. We have just thousands of different industrial customers. But I would say, pre-COVID, there was already a focus on accelerating industrial automation, the use of robotics. But, with the COVID-19 experience, that has really sped up. When we talk to our industrial customers now, they're all accelerating their plans for introducing more automation, more robotics, into their facilities. And again, our devices are a naturally good fit here. And so that's another common theme that we're seeing across the customer base, especially our industrial customers. So that's a couple of different themes we're hearing.

Patrick Moorhead: Yeah. So with a lot of people, when they think of AI, they think of, "Oh, that's something that's done in the cloud, right?" And what's absolutely happening is, the more efficient and the more secure method of doing inference, is at the edge. And it's efficient because you don't have to go two or three hops, it's speedier because the latency is low because you're literally doing it right on device. And because you're not transmitting data back and forth, it's inherently more secure.

Jim Anderson: You got it. That's exactly right. And so customers are trying to add that edge intelligence, or that intelligence into their edge devices. And then, look, they

also realize that, "Hey, things are going to change, right?" The AI algorithms that they're using are going to change over time, and so they need that system to be adaptable, over time. And they realize the pace of innovation is just speeding up. So adaptability at the edge is also really important to them.

Patrick Moorhead: Yeah. Security is key too. And I think one of these "Hey, fun facts!" about Lattice is that, you're on pretty much most of all general purpose server motherboards out there, whether it's AMD or Intel. And essentially, it's first boot. You're the first piece of silicon that lights up and gives permission, and that says, "Hey, nothing's been added to this motherboard or this server when it was an in-flight." And I just find that incredibly important, Jim.

Jim Anderson: Yeah. A lot of people don't know this, but there's a Lattice chip on almost every server that's shipped today, whether it's hyperscale or it's enterprise. And yeah, we do some of the control and management on the platform and you're exactly right, we're one of the first chips that boots up. And some of our devices are designed, they're special versions, that have security that makes sure that nobody's corrupted that system. Not just after it's deployed, but from the very beginning when it's first manufactured, all the way to where it's shipped through the supply chain, to the deployment in the data center, our chip makes sure that nobody's corrupted the system through that pathway.

Patrick Moorhead: So you're not done yet, are you? You're not just decided, "Hey, okay, we've done enough. We're going to stop innovating here." And at your recent security analyst meeting that you had, you introduced a brand new platform called Avant. And my understanding is that it gives you access to a completely new and very large market. And I also think it'd be great to know, who needs it and how's it different?

Jim Anderson: Yeah. We're pretty excited about this. We just introduced this, a week or two ago. But we've been working on it for quite a while. And what it really came from was, really came from our customers, our customer requests. When I first joined Lattice, one of the common questions I would always get asked by customers is, "Can you extend your product portfolio? Can you give us a wider range of products than you have today? We love, for instance, your current generation products, Nexus products. We love the power efficiency, the size efficiency. But can you give us an even wider range of products?" And so we basically listened to those customers. And we've been developing a brand new platform called Avant. It expands our capacity or capability of our devices, by about five X, compared to our current devices. Doubles our addressable market.

But more importantly for our customers, it gives them just a much wider range of Lattice offerings. And so we're excited about this. Actually, those same customers that kept asking us to build a bigger portfolio, we roped them in to help us define the platform as well. So we've actually had 100, actually over 100, engaged in the product definition and making sure that we're building exactly what they need. And so, as you can imagine, the engineering team is super excited about this. They're working really hard on it, they're having a good time.

But the sales and marketing team, the sales team as they engage with customers, they're just having a great time too. It's exciting. We think we're on a great path, moving forward. We're in a new growth phase of Lattice, and Avant will just continue to layer on new growth for us in the years to come.

Patrick Moorhead: And what I appreciate about Avant is that, this is not a wormed over design on lagging edge technology here. What you're bringing is something that's relatively new, because a lot of companies that I'm seeing, is they may have come out with a design, four or five years ago. It's on very lagging edge manufacturing technology, and really haven't touched the designs. Now, Avant is different than that, correct?

Jim Anderson: Yeah, absolutely. So this is a ground-up rebuilt architecture, and purpose-built for the markets that it's targeting. And I think that there's really nothing else out in the market, that we see, that'd be competitive with this. And again, it's exactly what our customers need. We're engaged with them very closely, to make sure that we're building exactly what they need, given some of the new challenges that they're seeing and new opportunities that they see in their business. And so, it's pretty exciting. We expect to launch this next, in the back half of next year. And as we get closer to launch, of course, we'll share a lot more detail about the products that'll be based on the Avant platform, near that launch.

Patrick Moorhead: Yeah. I was going to try to squeeze some more details out of you, but your PR people wouldn't let me [crosstalk] do this. And going into this, Jim, you weren't throwing darts at the dartboard. You said you had 100 customers who were engaged, and it sounds like you learned a lot from Nexus, as well.

Jim Anderson: Yeah, we did. Nexus was a platform that we launched in late 2019, that started production just at the very end of last year. And it's actually ramping into production this year. And we took a lot of those key learnings from that platform. And that's been incredibly successful. In fact, we've seen the highest levels of new customer adoption or rate of adoption, that we've ever seen in the company's history, in terms of new product adoption. And so, we took a lot of those key learnings from Nexus and now, made that part of Avant as well. And a lot of the software that we've built for the Nexus platforms, we've built out these application-specific software solution stacks that make it really easy for our customers to adopt and access, those are also transferrable to Avant. So Avant will also leverage that same software portfolio that we've been building out over the last couple years. Things like ... There's software stacks for artificial intelligence processing, embedded vision, factory automation, security, et cetera. So those will be transferable to the new platform as well.

Patrick Moorhead: Jim, I'm going to give you the final word here, but the people that are listening now are your investors, potential customers, executives, executives from your ISVs and your channel partners. Any final words, before I close this out?

Jim Anderson: Well, first of all, just thanks, Pat. Thanks for giving us some time. The way I would say it is, over the last two to three years, we're really proud of the

progress we've made in the last two to three years. We've really rebuilt the company. But we're much more excited about where we're headed from here. We think we're just getting started. We're in a brand new growth phase for the company, and we're really excited about the coming years for Lattice. We think we're on a great trajectory.

Patrick Moorhead: Jim, thank you so much. And I will tell you, there isn't the magic to do it, but if you keep the say/do ratio going, I just don't know how that doesn't work out for you. So, I just want to thank you so much, for being part of the Six Five Summit, 2021. And this is Pat Moorhead with Moor Insights and Strategy signing off. Thanks again, Jim.

Jim Anderson: Thanks, Pat.