ADTRAN, Inc.

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Samik Chatterjee: I am Samik Chatterjee, the Networking Equipment Analyst at JP Morgan. The next company we have for the fireside chat is ADTRAN. We have the pleasure of hosting Tom Stanton, the CEO of the company. Tom, thanks for running the conference. Thanks for participating.

Let me just start off with requesting you to give a brief introduction of the business in terms of the position in the network that the products really play in, as well as how would you outline the key drivers that investors should focus on for ADTRAN.

Tom Stanton: ADTRAN is a company that's focused in the access portion of the network. We define access as being both ends of that access. If you think about technologies like PAN, DSLAMs, fiber to the home, or copper to the home, then we actually develop equipment that enable service providers both in the cable space and the telco space to actually deliver those services as well as terminate those services.

We're also on the ONT business and the CPE business. We manufacture routers and switches predominantly focused on the small and medium business.

Samik: Just overall when you look at the customer group that you are aligned to, how much of that is aligned to the Tier 1 telecom service providers relative to more of the cable and the MSO group?

Tom: We break our market segments down several different ways. One is we have a broad segmentation of MSO space versus the traditional telco carrier space. The traditional carrier space has been where we have been since the beginning of the company. A large percentage of our revenue is there. We entered the MSO space about three years ago.

We are now the single provider, primary supplier, and really single provider for Comcast for their EPON deployment. We're the provider for Charter, for their EPON deployment. It is still a smaller portion of the revenue. We don't really break that segment out but it is growing substantially. Last year, those customers are direct customers. MSO customers grew over 50 percent.

That has to do with where they are with the deployments of EPON. If I look at another

segmentation which is, we also segment across effectively size of carriers. We have Tier 1 carriers, Tier 2s, and then Tier 3s. Our largest segment is the Tier 1 carrier space.

That would be both somebody like Comcast or Charter, but it also would be Deutsche Telekom, it'd be NBN in Australia, CenturyLink here in the US, those larger carriers. Those are the largest portion of our revenue.

Samik: The reason I asked the question is what we're seeing -- I wanted to get you view on this -- is because you have the explosion of [inaudible] customer groups, is what we're seeing becoming more apparent with the earnings report we've seen.

There seems to be more of a healthy spending patterned from the Tier 1 service providers, but then, as we move over to the cable and the MSO customers, there seems to be more of a pullback, at least that we're seeing in 1Q. I just wanted to get what you're seeing on the ground in terms your overall business with them, and how you're thinking about their spend through the rest of the year.

Tom: If I look at the Tier 1s, I expect Tier 1s in the telco space to be up or the carrier space to be up, just because of some additional things that we've added to the portfolio and some wins that are fairly new. NBN is an example of that. Telmex, the leading, the major provider in Mexico has started a significant build-out with our equipment, so I would expect the carrier space to be up.

The cable space, the delays that you were talking about have probably more to do with the DAA rollout and what they're doing with virtual CCAP and trying to upgrade their network. The business that we have with them today is predominantly, I hate to say it, but immune to that, because it's traditionally PON.

If they're going into point to new development or they have competition and existing deployments, then you'll see them deploy EPON. Their longer-term target, which includes remote OLTs, and a much broader fiber deep strategy will be impacted by that, but that's not something we're really shipping in any material way right now. We're expecting basically a flattish environment.

Samik: In terms of the drivers overall that you see for growth going forward, help us understand what's gotten adoption level of PON equipment at this point, and how much of more headroom is there as you look forward, how much of spending would be dedicated to that.

Tom: Our PON numbers are materially up year over year I think nearly 100 percent. That just has to do with the adoption both of the 10G-PON within the MSO space as well as what's

happening here in the US in Tier 2s and Tier 3s, and, for that matter, in our Tier 1 accounts as well.

I would say we're still fairly early into it. One of the things that's happening is there's been a technology shift that is occurring as we speak. That technology shift covers a couple of things. One is 10G-PON is becoming the choice that people want to deploy. If you look at what's happening all through Europe, there are a multitude of 10G-PON.

It's XGS-PON opportunities that have emerged over the last three to four months. They include some of the biggest Tier 1s out there. Our key there is to win more than our fair share in those opportunities as they close over this year. Within the US there is some XGS drive. I would say it's probably not as strong as what we're seeing in Europe where it's just everybody wanting to do it.

I think the drivers are different things for different customers. If you look at somebody like the MSO space, it has probably as much to do with the residential competitive piece as well as their willingness or wanting to get into higher up into the enterprise connectivity spend. If they want to compete with 10G-PON when they're competing against the telco space for that commercial customer.

You're seeing that really being, I would say probably a bigger driver. In Europe, I think it is a multitude of things. First of all, there is government pressure to actually deploy it. The cost differential between PON and XGS-PON is relatively immaterial. In fact, it is immaterial compared to the overall total cost of deployment.

All of them are thinking about 5G and cell densification. The requirement back home and the cost of cell densification and XGS-PON is a perfect fit for that.

Samik: Since you mentioned 5G, just outline for us in terms of your portfolio products, how do you see 5G as a tailwind and which segments of the prop portfolio would you expect to benefit the most? How are you thinking what timing as well? Because what people want to see is we've been discussing 5G for a while but how much of that is real 5G investment is always going to be debatable.

Help us understand those drivers.

Tom: I do think that there is a when will 5G happen, still, that has to be answered. Our portfolio, first of all, we have fixed wireless products in our portfolios. We re-sell some. We're investing in some companies. The big driver for us today is cell densification and the use in mid-hall, back-

hall of these cells. No matter how it gets deployed, you can argue about the level of densification.

It's either 10 or 100 times what's going on in 4G today. The number of endpoints that have to be aggregated and brought back into a central point is tremendous. It's a huge opportunity for us here in the US as well as other parts of the world.

What we're seeing happen, I can't tell you our 10G product today is being driven by cell densification. I can tell you it's being chosen with cell densification in mind. We're making choices based off of the fact that they believe that there will be a need in the future. It's a relatively easy jump for them to.

Samik: When you're looking at the densification as being a priority across the world, when you think of the different geographies, where are you seeing the different geographies play out in terms of what kind of densification they're looking at?

Tom: That's a good question. [laughs] I don't think there's a single answer to that. Even here in the US there's differences between different carriers as to the level of densification that they're looking for. Without a doubt, you can say it's exponential. The question is, how many easier ones are there behind it? The different carriers have different thoughts.

Their orders of magnitude are different but it depends on the carrier. There are a lot of things that are happening for instance in Europe right now where the spectrum is just not being opened up. It depends on who the auction winner is. There are a lot of things that are just unknown as to exactly what that architectural look like.

Samik: What's the competitive landscape? You mentioned that one of the primary suppliers of the product to your customers, but when you look at the rest of the competitive landscape, who are you generally competing against? How are you differentiating your product relative to those competitors?

Tom: Our competitors are different depending what part of the world that you're talking about. In APAC, our biggest customer is Australia and our competitors there are primarily Nokia. I'll start with just the landscape. In Europe, it is Nokia and Huawei.

There is some, I'll say, consternation right now going on which has allowed RFPs to open up, because of some of the concerns around eastern manufacturers, I'll say. That landscape is materially changing even today. I think that's been a catalyst not just for positioning our product line, but it's also a catalyst in accelerating RFPs, requests for proposals and the timeline that's not

a traditional timeline.

People are looking to actively look for solutions outside of their normal, their current vendor base, which is I think one of the things that's been driving this interest in Europe. In the US, our competitors on the Tier 1 space are really across the board, well Tier 1 and Tier 2 it's Nokia and Calix, then in Tier 2s and Tier 3s it's Calix.

Samik: Is it fair to characterize then, looking at these opportunity [inaudible] that you're expecting the strongest growth to come from Europe in the near-medium turn?

[crosstalk]

Tom: We're about 50/50 right now, if you look at Q1, really last year. We had, and I'll step back a little bit, last year was not the best year for us, some of you may know that. The reason was we had a significant drop off with a Tier 1 customer here in the US. The way our business is a Tier 1 customer materially deviating from their plan can materially affect our results.

Our focus has been over the last three to four years on diversifying our revenue, which is our entry into the cable space, and it's also our continued push toward diversifying outside of the US. We're at right now a 50/50 point which is actually a good point for us to be at. I do expect international to grow even stronger in the second half than in the first half.

I would say if you look at the Latin America marketplace and Europe, both of those have good, strong potentials. Australia with our position the national network in Australia, I think we're in a good position there as well. I will add one other thing, one of the headwinds of course in the US is the Tier 2 space is a little rocky right now. We're kind of expecting flatness in that Tier 2 space and I think I can say this with CenturyLink is more in the flattish realm.

Samik: If you do see that growth over the near to medium term coming more from international than domestic, what is the implication in terms of margins, on margins from that group profile?

Tom: International margins are historically lower than US margins. Some of that has to do with the particular countries that we're in, the competition within those countries, and the product set that we sell, so all of those have a factor.

Our international margins have improved. That has to do with the product sets that we're selling, try to make sure I don't get into any issues here. We expect our international margins to continue to improve.

Samik: One of the things we've been hearing from the network influence suppliers into Europe is, everybody knows Huawei is the most price aggressive equipment supplier in general. As you see some of these open up, does that allow you to also improve margins faster than even on the top relative to the benefit on the top line growth, you get a better margin tailwind as well. Is that how you're thinking about it?

Tom: I think it's too early to think about it that way. Let me make sure that I state this in a way that makes sense. The problem we have is not Huawei gross margins in general, the problem we have is that -- I'll just be more general -- we have competitors, a competitor, that will sell below cost, and that's not sustainable. In those areas we will walk away from that business.

My sense will be that you'll see a better understanding of that and that the opportunity set that we play in will be greater than the opportunity set that we play in today.

Samik: You mentioned 10G-PON as the growth opportunity for the company, and I think you mentioned recently being in trials with a few operators as well as having won some deals. How does the addressable market, can you quantify how the addressable market with 10G-PON options?

Tom: First of all, let me make sure I state some in a broader set with the opportunity set is. 10G-PON is a growth driver without a doubt. The growth rate of 10 gig roughly a hundred percent. If you look at broadband trends, I think they're targeting at a hundred percent. It's supposed to be about a $1.2 billion market next year. I think 2021 it hits somewhere around $3 billion. It is the biggest driver in PON.

Although the PON market itself is growing at roughly 15 percent per year CAGR, XGS-PON is driving that number materially higher than it would be by itself. That's one of the pieces, the other piece is G.fast is now being deployed not only in the US, it's going to be deployed in Latin America, it is being deployed in Australia, it's going to be deployed in Europe.

Those are all projects where we're either in the lab or through the lab. G.fast is especially because the second generation of G.fast is now out, we are now shipping second generation of G.fast, it allows a very, very cost effective 2 gigabit per second solution to the home or to the MDU, and that is going to absolutely be deployed.

The third piece of this is there are customers specifically, let's say customers where the network isn't at the level of say average, or where they're literally trying to get a lot of deployment over a

hundred meg quickly. You're going to see those customers deploy super vectoring. I think you have to have a broad range of sets, but I would fully expect super vectoring to be stronger this year. I expect G.fast to be stronger this year. Of course, 10G-PON will be stronger.

Samik: Let's get into discussing some of these new opportunities you've talked about recently. SmartRG, that's a recent acquisition for you. How does it improve the customer experience, as well as allow you to monetize that experience better? What are the competing solutions in the marketplace?

Tom: There are a lot of one-off solutions. Our competitors that are on the infrastructure side typically have solutions that compete in this space. You can think of SmartRG as being, there are two strategic drivers there. One is they have a customer base that is very broad. They have over 500 customers.

We have shown a history of being able to take customers when we acquire customers and leverage broader product sets into them. That's one piece. The second piece, which is really more strategic on the product side, was the thing that SmartRG has is something called SmartOS. SmartOS is the OpenWrt-based system that allows for a much richer customer experience. It will be part of our Mosaic platform.

It allows other parties, other applications to come in and easily plug in whether or not that's cloud-based service or prem-based service, and significantly change the potential customer experience both from an application set, but more near-term from an experience set.

Things like WiFi analytics and being able to not only do monitoring but do upgrades, or fix WiFi problems are a material problem today when you're deploying broadband. SmartOS substantially helps that. If I think of the application set, the agreement that we did with...We announced now we've got several different partners that are now plugging in to SmartOS.

One of the ones is IoT.nxt that we announced at Mobile World Congress, where it allows...and this is really a commercial-based application. IoT.nxt, by the way, is owned by Vodacom, which is owned by Vodafone.

Their intention is to roll IoT.nxt out to their customer base, which is very substantial, and offer commercial customers a solution set that allows them to save money on power or better manage their IoT devices. That's a relatively, in fact, it was an extremely easy plug-in to our SmartOS system, and allows just a broader use case for it.

That piece and the flexibility that that piece brings to our customer base is really what's driving that.

Samik: Just to clarify, the SmartRG or the SmartOS product is sold to service provider customer but they're passing on the experience. Overall, they're passing on their experience to their enterprise customers, or is that something that...

Tom: That's correct. That's typically correct. It can be, and there are customers today, there are really segments today that you can go in and a third party will offer a solution set to an enterprise, let's say, to save them money.

Energy savings is the easiest one, ESCOs, where you have people that are coming in and in fact pre-funding the equipment deployment in order to save energy cost and then getting return on the back. That's a very easy example of that.

In general, what you're doing is seeing carriers wanting to adopt a commercial solution where we may sell hardware or we may sell software, and implement the solution set that allows cloud-based services to be provided.

Samik: Are you seeing any computing solutions in the marketplace?

Tom: There are but they're fragmented right now. If I look at just the SmartRG gateway, that's probably the easiest to think. It's safe to say that they're competing solution sets. Nokia has them. Calix has them. Huawei has them. If you look at the overall ecosystem today and then the OpenWrt-based platform, they're typically startups that are in that space right now. We're pretty well-positioned there.

Samik: Let's go back to some of the core product portfolio here and round up where things are or where things stand on G.fast [inaudible] . That's been probably not a strong adoption as most equipment suppliers would have expected at the onset.

Just give us a roundup of where adoption stands maybe on a geographic basis, and maybe what are the hurdles that you're generally seeing if you're seeing the same thing in terms of adoption...

[crosstalk]

Tom: There are a couple of things that hurt the adoption. One is there's a Tier 1 provider here in the US that was going to roll out G.fast in a very material way. They have not rolled out G.fast in a

very material way. That's probably the biggest disappointment. Fortunate or unfortunate, we had won that. That has been a disappointment.

Market-wise though, the rest of the world seems to be following along the same path of deployment as far as they are deploying it. They're living up to their plans. The technology hurdle piece that slowed us down a little bit is right after the first generation of G.fast came out, the second generation was announced.

People wanted the second generation of product because the first generation only got you to about 800 megabits. Everybody knows that gig is a magic word. People wanted to deploy second generation. Second generation is now shipping at least for us. Maybe the only one shipping a second gen, which allows 2 gigabit speeds.

That really opened up what's going on today in Australia. It's opened up what's going on in Europe today. I would say we're probably a year-and-a-half to two years behind where we want to be. I will tell you it's happening in Latin America, it's happening in Europe, and it's happening in Australia. It will happen in other parts of Asia as well.

Samik: Before we move on, because we've been asking the other companies the same question, and I'm not that aware of where your product manufacturing footprint really sits. Is there any back from the tariff escalation that we are seeing on China? How is your manufacturing footprint positioned right now to handle that?

Tom: We have three main manufacturing facilities. One in Vietnam, one in the Ukraine, and one in Huntsville, Alabama. We moved out of China six years ago or so roughly and moved most of that manufacturing to Vietnam. From that perspective, we're in a pretty good position.

Also, in this business, you have to worry about ODMs. The ODM business for ADTRAN out of China is relatively small. Honestly, the biggest piece is probably some of the stuff that right now we're moving with, let me just say, some of our recent acquisitions. In terms of overall, magnitude is relatively small.

Samik: Moving on to keeping with the growth opportunities, you mentioned LATAM as being an opportunity, Australia. Beyond the customer set that you're working with in these countries, what's the opportunity to move beyond the primary customer and expand the customer base to drive greater growth? What are you seeing in terms of the adoption beyond the primary customer?

Tom: In Europe, it's very well. In Europe, a lot of the customers that we're looking at, they were

either answering RFPs or have been awarded business are relatively new customers. In some cases, just flat out, we've never done business with them even on our enterprise side. Those will all be incremental customers.

We think about Europe in a couple of different ways. One is Tier 1 carrier. People like Telefonica that we did an announcement with at Mobile World Congress. People who follow us know that DT is a customer of ours. DT also has affiliate countries that they run. We just recently won a G-PON RFP for the affiliates, which is basically there are a couple of countries that we sold into, but not much.

That's a significant piece for us. There are companies like Orange and Vodafone that, to the extent we can win those RFPs, those would be incremental to us. I don't think we're selling a whole lot to them. In Europe, it's wide open. In the US, we pretty much sell to all the carriers in the US. There is a market segment below that top tier carriers. We have Comcast and Charter today.

Cox is going through an RFP today. We'll see how we do. We feel pretty good about that. That would be incremental. Then there's a whole level of Tier 2 carriers below that that I would say we have spotty entry into. We have products that don't actually go after them. In Latin America, it's country by country. The biggest without a doubt behemoth in Latin America that is attainable for us in the near-term is Telmex.

They own so much of that market that it's difficult to look outside of that. We do sell to some of the larger providers in Latin America on the cable side. We also sell into the Caribbean. Those are relatively new.

Samik: If I try to bring all that back into getting more of a view on the growth expectations longer term, we realize that most of these opportunities that you're working on are large projects, and that tends to be lumpy in terms of when it comes through during the year.

Without having visibility into the predictability on a quarter-to-quarter basis, how should investors think about the long-term growth expectation on the top line when they're looking at ADTRAN? What should they be expecting in terms of long-term growth?

Tom: We don't give guidance that far out. I can tell you what the drivers are and the growth rate on the drivers. We touched on them first. G.fast is in its early stages of adoption. In Europe, I don't expect G.fast to really start to being deployed until next year probably some time. Hopefully around the half or third quarter of next year. That will be a material impact to our sales and to that

region.

Australia, they just went through their first phase of deployment. We have incremental business that we have won in that area so that we'll start shipping tail end of this year or next year. Those two pieces, Australia, the G.fast piece is incremental to what we're doing right now. There's stuff that's going on in Mexico today. They have a long catch up to do. They've been frozen for about three years now.

That started off this year as strong customer. We expect that to carry on. XGS is all incremental to what it was that we're doing. The unknown there is, when does the cable business really hit that sustained growth rate and start to get its legs? It grew substantially last year, but it's still materially less in our business than the carrier side.

The wrapping on top of this is this moved towards more software-based solutions. SmartOS is one of these. We have our Mosaic platform which is being deployed by Tier 1s in three different continents today. All of that, the rationale behind that from us, you were talking about the selling point, what differentiates us.

We are the only one out there with the fully disaggregated SDN control solution. If you ask any carrier where they want to get to, where they want to get to is our product line. Different carriers are different levels of adoption and different carriers are different levels of their capabilities to adopt. That has been one of our hold ups. We have a materially differentiated product to anybody else out there.

Samik: Any questions from the audience? Otherwise, I'll just finish up then with the last question. You've mentioned a couple of acquisitions that you've done. SmartRG being one of them. As we look forward, when you look at the product portfolio, how are you thinking about [inaudible] ?

What are the gaps that you want to fill? Is it more around just create on the service side to augment this services side of business or the experience that their customers get?

Tom: The experience type acquisitions are relatively straightforward talking. They're not difficult to do to the extent we see them where we can continue to help differentiate our products on the end users' side. You'll see us do those.

We're always looking to add relevance within the MSO space. Things there, the problem there for the market, where it is today, is difficult to see through the fog there. We have done some investments in companies. We've done different levels of partnerships on the fixed wireless

space. I think there is a need for fixed wireless access even in a 5G world. We've started on that path.

Those are the areas where we're looking at where we can add to the portfolio products and change the outlook in future years.

Samik: Thank you for participating in the conference. Thanks for coming.

Tom: All right. Thank you. Thank you everyone for being here.

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