Mike Rollins:

Good afternoon and welcome back to Citi's Global TMT West Conference. For those of you, I haven't met yet, I'm Mike Rollins and I cover the communication services and infrastructure sectors for Citi research. We do have disclosures available on the conference in registration site. If you didn't get those and you liked them, you can also email me at michael.rollins@Citi.com. This session is intended for Citi clients and it's close to the media. So if there's anyone from the media on the line, you could excuse yourself. I'd also like to welcome Iyad Tarazi president and CEO of Federated Wireless and Rob Schwartz, president and CEO of Anterix to discuss private LTE and shared spectrum opportunities. It's great to see you both today.

Iyad Tarazi:

Thank you.

Rob Schwartz:

Great to see you Mike. Thanks for having us.

Mike Rollins:

Great. Well, if I could turn it over to each of you to just take a moment and introduce your company for our audience and describe your company's strategy and role that allows others to share spectrum and employ private LTE systems. Rob, we could start with you?

Rob Schwartz:

Sure. Thanks again, Mike. And thanks for having us at this event. I'd say it's as good as usual. Although the food probably isn't as good as it was in Vegas as we're pushing forward here, but we'll, I'm sure we'll get back there soon enough. Look, I'm proud to be the CEO of we're pushing. Anterix for those of you don't know, we're a public company founded by the founders of Nextel with a very specific focus, which is taking a nationwide band of 900 megahertz spectrum that we own throughout the country. We went through an FCC process to have the rules changed so it could be used for broadband and specifically are focused on bringing this spectrum to market to enable critical infrastructure entities and enterprises focused primarily on utilities to build private LTE networks. And so with the rulemaking that we got in May to effectuate the use of this broadband spectrum, and we're proud to have announced recently our first major customer Amarin on that network. We're excited about enabling private LTE networks on this 900 megahertz low-band spectrum.

Mike Rollins:

And Iyad?

Iyad Tarazi:

Yeah, let me jump in. Thank you so much Michael as always, and I will miss Vegas, eventually we'll all be back. We're at a software company. Think of us as the Airbnb of spectrum. The band is CBRS, which most people probably know about it. It is a large mid band spectrum that's specifically been built for sharing by the regulators. It's in a sweet spot for 5g which is mid width band. This is the week probably everybody believes and understands that with the pricing of C-band band that were seen mid band is popular. We pioneered the regulatory process, created a product, created an ecosystem, and we created some enablers, probably what's known about it that is the innovation behind it is that it is cloud native.

It's about managing interference through APIs. We have built special sensors on the coasts to monitor the Navy and allow 99% percent of the spectrum to be available. We use sophisticated algorithms and we basically built a lot of partnerships. It's very low cost for entry. They're really a zero cost to entry and the spectrum is available immediately under 200 millisecond from the time you request it. And so create a lot of new models looking forward to talk about some of them here on the panel. Thank you, Michael.

Mike Rollins:

Thank you. Well, let's get our audience involved, then we'll introduce our first survey question during our time together and I'll ask it to our audience. It is anonymous. We're not tracking individual responses. And the question for our audience is how or what, or how can CBRS best be used? Is it indoor coverage and venues? Is it outdoor macro coverage, private LTE networks, a turbocharger for what many expect to be the upcoming C-band deployments or all of the above. And so we'll throw that out to our audience. And while we do that, I like to ask each of you, if you could share the breadth of interests that you're seeing from utility companies and enterprises that want to build or lease access to a private network. And Iyad we could start with you and then go to Rob.

Iyad Tarazi:

All right. For us, it's probably pretty easy to articulate a lot of discussions with the abilities, a lot of active prototyping or enterprise solutions. In terms of numbers, 10 utilities paid 170 million plus at the PAL auctions, these are the licenses to... I call them as to elbow somebody else out of your way into CVRS. Two are already in deployment with us, close to a hundred plus cell sites each. Several are in the testing evaluation phases and there are a lot of adjacency to that oil and gas and refineries that we're seeing a lot of interest in that. And we're seeing on the enterprise space in general, we're seeing a lot of business development activities. The leaders in this space appear to be the DOD. There was 600 million rolled out by by the Pentagon to create 5g solutions. We were fortunate to win one of the big contracts, $12 million contract for a 5g private wireless deployment in one of the Marine Corps Warehouses for automation of vehicles and for managing robotics.

And that is probably one of the early deployments that we will learn a ton from. We have done some other deployments with AWS. In a campus we're doing other deployments with other partners and we're happy to talk about all of that. Very, very early, first 10 minutes of a nine inning game, but a very exciting 10 minutes if you watch.

Mike Rollins:

And Rob?

Rob Schwartz:

Yeah, I think first of all, I've got to say it's a pleasure to be here with Iyad, my friend Iyad. And what's important to note is we're going to talk about obviously CBRS, other bands and 900 of the Anterix band. There's a really strong, complimentary aspect of CBRS with 900. We've been talking about it for a while. Those in the wireless space understand this, as you see the layer cake, the way in which any global carrier has as evolved over time, starting with low band is foundational coverage and building onto other spectrum bands. So I think that's an important just... Foundational point to put out there. We talk about these customers, Iyad really gave a good summary of the way utilities have actively participated in the CBRS auction, which is really important to know.

It's really the first time you've seen end-users outbid carriers for spectrum. And it just to me shows, first of all, the ability to pay, but the willingness to pay and the understanding of the value that could be created from that spectrum. And so I think that to me is the tip of the iceberg of some of the indications of utilities interest. Because as Iyad said, there's a lot of utilities that have stepped forward. We've been working with utilities really over the past several years as we've been perfecting our licenses. And now that we have, there's over 40 major utilities, investor-owned utilities in our pipeline that we've talked about. Eight of them have been granted experimental licenses by the FCC. So a number of large investor on utilities are out experimenting and demonstrating the ability of using a private LTE on 900 megawatts in their footprints.

We recently announced the granting of Dominion's experimental license as the eighth one. We're also seeing a tremendous amount of commercial demand. We announced just near the end of December, our first significant customer contract, a long-term lease with Amarin, the utility in Illinois and Missouri public company. It's a 30 year lease with an additional 10 year renewal option. And so it really also gives you an idea of the duration that these utilities look when they build and put something in place that the useful life for them is a long time relative to commercial users. Utilities you can see now, some of the systems that Amarin has talked about that this system will be replacing our legacy systems that have been in place for over 30 years. One of the key people at Amarin talked about in the press release quote that we put out about the convergence of over 20 existing legacy systems that they have onto this more robust private LTE system and the demand side, what's driving the interest from these utilities.

It's really coming from some pretty key elements. One is obviously the security aspect of it, right? And so cyber security is at the forefront. We've heard about all the incidences that occurred across the landscape, but specifically within the utility infrastructure. So the ability to have a private separated network and carry that traffic outside of any commercial network where they're prioritized, they have the control and the aspect to build it where they want.

And so private LTE is really a solution that both on the low band to provide the broad area coverage. These are utilities that have statewide territories, and they've got transmission lines and substations in places where there is no other coverage alternatives. And so they have to build this and they're used to this. Utilities have been operating private networks for decades. So the idea of building and operating private networks isn't new. So we're seeing really demand across the utility sector, but also in a lot of other industrial sectors as well.

Mike Rollins:

I'm glad you touched on that in terms of the reasons why firms would use private networks, because it's a question that we get with... Especially moving into 5g, where there's the concept of network slicing. We're being asked why a enterprise, a utility would want a private network? Iyad, from your

experiences with the CBRS, are there some additional reasons or factors that our clients should be mindful of as to why enterprises and utilities would employ private networks for wireless?

Iyad Tarazi:

Absolutely. I mean, and we've been engaged in about a hundred different private wireless deployments. A lot of them are protesting and prototyping over the last five years. What has emerged in the end of the day is that people look for private wireless to be a tool for private sleep... Privacy, security, and control. They don't necessarily think of it as a way to replicate carrier business. They don't think of it as a way to displace wifi. They think of it as something like this, the deployment we did in Carnegie Mellon, where the AWS team is probably a good example. The team there wanted to monitor social distancing at bus stops. They wanted to do it cheaply. They were able to get from AWS a good high definition video solution to install at bus stops. And they wanted to be able to install a quick and simple network, but they also want it to be their own.

They want it to be very secure, very isolated, under their control with their own applications so their own software. And that's where CBRS and private wireless in general comes in, in these types of application. It could be much, much larger, but ultimately they're looking to have a network that is a hundred percent firewalled from the outside world. And the new requirements that we're seeing is for it to be a software driven, to be programmable, to be driven, to enable edge compute solutions, to allow them to integrate it seamlessly into their enterprise security infrastructure, to integrate it into the wireless WAN and wired and wireless WAN type solutions. For example, integrated with SD-WAN type applications. All of these are new drivers that we're not used to. So as we came from the carrier business. So I expect that these private wireless solutions will have two personalities. One is, has an operator view that required it to be either managed by an operator or by an enterprise that will bring in OEMs and partners like the people on this panel and others.

But then there's also another personality of it that will have to be truly open software managed, integrated into enterprise ecosystem, allow the enterprise team at that enterprise to be able to manage it. And so I would say privacy, security, programmability, the ability to control it and manage it is what people are after. Ultimately

Mike Rollins:

Let's bring in the results from our first survey question, see how our audience thinks about the applications for that CBRS spectrum that we were talking about earlier. And it looks like you have an even split between indoor coverage and venues, outdoor macros, and private LTE networks. And we'll come back to a little bit more on CBRS in a moment, but as each of your customers are trying to deploy and consider deploying private networks, how do they do that? It just seems like a skill set that most... Utilities or enterprise companies that are focused on their widgets and their services and their people that they don't have the in-house wireless expertise. So, how does a non-wireless firm go about building a private LTE network?

Iyad Tarazi:

Yeah, ultimately, so that is the million dollar question right now in the industry, no question. Everybody's trying to figure it out. I would say traditional system integrators are a preferred path for many people. These are people that have their own applications without mentioning names. If you think of big retail operators, they've invested billions [inaudible 00:14:39] billions, into their own application, infrastructure, security. And they built their own IOT frameworks and waste on board employees and waste automate retail. And they want something that they typically will go look for system integrator

type solutions because they've used them before. Enterprise OEMs, cloud companies are getting into the business.

They're trying to figure out a way to extend their partner models, their third-party solutions, their VARs into that. That's the work we did with AWS was basically a cloud solution for deployment. We were one of many that they've integrated into the solution and they basically operated as within their overall platform of creating customer specific solutions that can be bought in the marketplace really. There is... We've created a [inaudible 00:15:30] model for some of our close customers to help. There are some [inaudible 00:15:35] models that are being created by tower companies. Some of our partners are working on that specifically looking at early opportunities. There's also offerings from traditional OEMs, the Ericsson, Nokias others. Typically, they target really big installations that are visible that look as close to carrier model as possible. I personally think where the market is going to evolve. We're beginning to see very, very early stages of that is you're going to see a really big base of resellers channel partners that are specialized in this and they become really the path to market in the bigger sense.

So, for example, we've created now a set of easy to understand onboarding tools [inaudible 00:16:19], for them to be able to say, Okay, I'm talking to a customer about deploying a fixed wireless network for CBRS, they don't really know what that means. Can you give us the list of five things they have to do? Yes. You need a planning tool, potentially you need an [inaudible 00:16:34] engineering services contract. Here are the people you can work with. I think we're going to see more of that, but again, we're very, very early in the development process. There's no natural go-to, other than the normal chaos that comes from enterprise adoption of anything.

Rob Schwartz:

And Mike, if I can add-

Mike Rollins:

[crosstalk 00:16:54] the utility companies. Yeah.

Rob Schwartz:

Yeah, absolutely. One of the reasons, one of multiple reasons why Anterix is focused on utilities in that regard is because utilities, if you think about it have been operating very large complex networks, and people say it's one of the most complex systems in the world is electric grid. And so their ability to build, own and maintain infrastructure is pretty substantial. Obviously their ability to raise capital and deploy capital as well as they build out these systems historically and going forward, they have a strong incentive to do so.

And so what we see is a strong interest as we talked about from all the reasons why, from a control standpoint, the ability to control reliability and security and the resiliency, one of the key words to them. How fast networks bounce back after incidences and we've seen so many different kinds of incidents that have occurred across the country from wildfires to storms, to cyber incidences. But also importantly, in compared to carrier networks. And I know Iyad and I both come from the carrier world. So we've got tremendous respect for the models and the great businesses that the carriers have. But in a carrier world, the prioritization of usage in the most important time of need is also really important. And that's where a private network where you own the spectrum, or at least have the proprietary rights to use that spectrum is critical.

We are seeing in part of the role that Anterix plays here is bringing this utility industry together to understand exactly how to best approach build, own and operate these kinds of networks. So we launched something called the U Broadband Alliance, for example, which now has over a dozen different members, large utilities that have been founding members uniquely in this sector, the customers, right? The utilities are willing to work together.

So Amarin does a pilot and test 14 different important use cases. They immediately come and present that findings to the Utility Broadband Alliance and share it with all the members. So they're all climbing this collective curve together, and there's a level of support. There's also a lot of key vendors as part of it. In fact, Federated is part of that group as well, so that when the utilities come together in this forum, they're able to learn from vendors collectively about how to do so. We're seeing a lot of different kinds of approaches from the vendor community, which is now growing into a pretty significant ecosystem, thanks to both the work done at Utility Broadband Alliance, but a lot also about the ecosystem growing on the backs of, of CBRS. We're seeing all of the large OEMs focused on the opportunity.

And so utilities that want to go for a full turnkey solution are able to do that in the traditional way. We're also seeing all of the large scale engineering firms, the engineering firms have record of these utilities, developing expertise, acquiring expertise to be able to... Because they realize this is the future of the infrastructure of these utilities. One last thing I think it's really important is what's driving these utilities into the need, right? So when we think about the changing business model of a utility, historically generating power in one place with a spider web of wires, bringing that power out to every place, including our homes, now with all of the changes that are really being forced upon them, but now being embraced by utilities with distributed energy with renewable energy.

And we'll clearly see even greater acceleration with the new administration that area, there's a need to have a much more robust communication layer to be able to communicate with a growing number of endpoints, sensors on... Most of this is fixed wireless devices that are already existing in networks, but are being deployed in networks as well, to be able to get this level of command and control of what now our distributed energy sources and intermittent sources of energy.

So you've got to monitor wind solar powers coming in and when that home or industrial user is going to need power coming out and so the growing need for the support of this energy sources is a critical use case. The other side we talked about is cybersecurity, right? The ability to have such a higher level of awareness, situational awareness of all the assets in the network. Historically the networks weren't designed for that both because of the legacy communication systems and the kind of devices that are being put out there. Now with the ability to have a wide-scale broadband communication network that they can build where they need it, how they need it and prioritize how they need to be, is a critical piece of the solution. And that's what we're seeing utilities driving towards.

Mike Rollins:

Rob, if you could spend a couple of minutes and talk about the transaction that you just announced with, Amarin in a couple of respects, why now? Why was this the right time? How did you agree on a value with someone that hasn't been operating in the wireless arena? And finally, was there an interest or a path for them to use CBRS in their pursuits?

Rob Schwartz:

Absolutely. So, as I mentioned briefly in the opening, we're very proud to announce our first large-scale commercial customer with Amarin, the investor on utility in the lower half of Illinois and most of

Missouri. They announced that they'll be building a system-wide, service territory wide private LTE system. It's a 30 year deal with an additional ten-year renewal. It's about a $48 million contract. We'll get about 50% of that upfront in 2021. The rest would be paid... Prepaid through 2026. So it's a prepaid lease in essence over that term. And so we're wildly excited about Amarin as his partner. Amarin for those of you who don't know them, and if you're not utility [inaudible 00:22:40], it wouldn't be a reason you do. But they are the bread and butter supplier in that area, but also a national leader in the utility sector, their CEO Warner Baxter is very much a visionary, on a number of big industry platforms.

He's now the vice chair of the Edison Electric Institute, which is probably the most notable group. And when he executed his agreement, he's made some really strong statements about the importance of them bringing this digitization capability, is really what they talk about utility space, but it's taking these legacy fragmented information networks and putting them into a single pool of data. And you think about all the things that they can then do with that as they bring this data together across all these different, what historically I call them puddles of information. And now they build this big data Lake collectively to use for all the right kinds of things, using all of the capabilities across, the artificial intelligence decision-making for doing predictive analytics, for using drones to be able to monitor everything from vegetation growth and for service on their lines.

So they've got an exhaustive list of current use cases that cost justify to your question about price paid that cost justifies today buying it, what they and we are really wildly excited is about the future. It's like when we first got our first 4g phone and said, "Someday, we'll get video on this." And the content had to catch up. There's very much the same thing going on the utility space that private LTE is rationalized by the current use cases. But the exciting part is what they'll be able to do with it in the future as future developments happen with new use cases and application layers that go on top of that. I think a lot of what Iyad talked about what's happening on the edge cloud and with the cloud vendors is going to bring a whole nother layer of excitement and capabilities there. About the price itself the $48 million they paid.

I think it was just about the midpoint between the 600 megahertz auction and the AWS auction. It was historical bookends as we looked at it. Although I think with the C-band auction going on, that may change the paradigm as we move forward. If people are paying those kinds of prices for mid band, obviously that says a lot about the value of our low band spectrum as well. So, we expect to continue to see transactions occurring within that range, but it does take time. It's a good question, Mike, about how do you get utilities to understand the value of spectrum? Historically utilities got spectrum for free. They got narrow band channels to operate their LMR two-way radio systems for filing a $35 application with the FCC. And so they'd been asking for broadband spectrum for over a decade from the FCC.

And finally, with our report in order, we were able to bring spectrum to the market, but obviously it's at a cost. And I think with the help of a lot of outside experts, there's no shortage of information available and transaction. Comparable information have gotten comfortable. And bringing it back to the CBRS auction issue, we've seen a number of utilities that finally realized that they actually have to compete in these auctions to be able to get spectrum. So we're confident now that Amarin shows not just the willingness and the ability of utilities to pay, but also the value that can be created with low band spectrum and their networks.

Mike Rollins:

Thanks. And Iyad, we can go back to you for a moment. The survey we put up earlier showed different use cases for CBRS, and this has been a big debate for both carriers, the investors, and even the perception that tower companies have in terms of how CBRS gets used. Can you frame for us based on what you're seeing from your customers? What percentage is going indoor and venues? What

percentage is going macro? Are you seeing a significant amount of fixed wireless being used and this is another application that we've heard about? Just be curious for the context of how CBRS is being used so far.

Iyad Tarazi:

Thank you. By the way the survey response was dead on because we're seeing all three, indoor, outdoor and fixed wireless. So I think that it was absolutely accurate. The vast majority of deployment early on is fixed wireless primarily because there are a lot of equipment already deployed that had 3.5 minutes with this... All it needed is a software to allow it to become CBRS capable. So we've seen a lot of deployment there. Just in terms of numbers today, where as a system, we're about a hundred thousand nodes. [inaudible 00:27:31] cell sites are access points. We're adding about 10 to 20,000 a month is what we exited last year and accelerating. So we're in real deployment. We Federated were 48% market share in terms of deployments, the other big players, Google and then after that, the next player is about 4% or so. So it's essentially a two player business today.

We are seeing a lot of MNO densification cell sites. We're beginning to see a lot of venues in preparation and Dez deployments. There has been multiple launches from operators that private wireless solutions for [inaudible 00:28:15] that include CBRS, namely AT&T and Verizon, both went and different models and launched it. We are also seeing a lot of prototyping and development in labs in cloud companies and in equipment makers for enterprise and traditional OEMs that are beginning to work on early deployments for enterprise indoor solution. So my expectation in the longterm is that it's going to be... In five years, it's probably going to be primarily indoor, but there was be very significant outdoor deployment for specifically for fixed wireless and densification. That would be my expectation over time.

Mike Rollins:

Just to follow up on that very briefly. When you say there's a hundred thousand nodes that you currently have from your customers, what does that mean is a node a sector in a cell site? Is a node a cell site? How do we just contextualize? Okay. A hundred thousand is a significant number.

Iyad Tarazi:

Yeah, it's a radiating node. It means it has its own antennas and directionality, and it's generating its own power and heat because remember what we do is we create these real time performance management and the software and the cloud and the regulatory process is all around that. So for a big macro cell site, it might be three nodes. For a 250 milliwatt indoor, small cell that's maybe one node. The vast majority of fixed wireless deployments with CBRS will probably not be counted as nodes. We'll only count the cell site itself because it's low powered, but for a lot of the fixed wireless that require high power CPE at a big location, that would be a node. So it's a hodgepodge of stuff. A wifi access point like that would be a node. So we support all of them in different ways, but anybody coming from the carrier business knows that I used to struggle to try to get a thousand small cells deployed in a year and call it a good year. Or maybe in some cases say, "No, guys, it's got to be next year again." Right?

To be able to build a system because of the open ecosystem, because of the way chairing works, because of the software automation. To be able to bring 20,000 nodes a month that tells you that certification of the network will happen, that they'll do sharing and it's really going to work. And you're going to be able to onboard all these customers. What's quite essential for us to create a deployment model that [inaudible 00:30:52] you.

Mike Rollins:

So another question for each of you is as you look into the future and you look at the spectrum, that's out there, spectrum that's underutilized, not being used, up for reclassification. How do you think about the opportunity to expand the addressable market for each of your businesses? Iyad beyond CBRS for you. Rob beyond the low band spectrum that you have, just curious how our audience should think about that future direction for each of the businesses. Iyad, we can start with you and then go to Rob.

Iyad Tarazi:

Yeah. There's two opportunities today that are active in the FCC process. That range between 3.1 to 3.55, which is right below CBRS is being pegged to be suitable for sharing or clearing or a combination. The proceedings for 3.45355 are active. And actually the last legislation that went through Congress during the holiday included a requirement for the FCC to at least auction a portion of it by the end of 21. Yes, Michael, one more auction coming your way. The rules there most likely will look like an extension of CBRS, but also more power. And it will probably be combined with CBRS for... Now with two 50 framework, that's very exciting.

There's a lot of people engaged. We have a good coalition working with us. I feel good about it. The other early work is the 12 gigahertz. There's 500 megahertz there where a chairman [inaudible 00:32:36] circulated a draft notice for sharing the 500 megahertz between satellite system and terrestrial 5g. And it would need a sharing system as well. There's a few other items like six gigahertz includes some sharing, but I would say for your audience, these are the two big ones, the extension below CBRS and a 12 gig. And over the next two, three years have both become real.

Mike Rollins:

Thanks, Rob.

Rob Schwartz:

Yeah. To add on... I think, first of all, you know our background as... We have founders of the founders of Nextel. We are all about the spectrum opportunities and it's not just about the speculation of that spectrum. It's the businesses we can build with that spectrum. And so when you start with the foundational aspect of our nationwide 900 megahertz spectrum, our clear number one objective is to be able to continue to monetize it in a way we've demonstrated with validation of the Amarin deal and continue that momentum to be able to do so. We expect through our fiscal year end, we've talked about... Which is March 30 fiscal year in 2024 and March 31, 2024 to roughly trying to get to monetization of half of that spectrum as we ramp up.

And what's interesting in the utility space, it's big game hunting. These are large customers that it doesn't take a lot of customers for us to be able to get to that, we estimate somewhere between six and 11 of the large investor on utilities to be able to fill that pipeline. But with that said, other bands, you asked the question before I don't think I got to... We absolutely see that already the opportunity to use CBRS as part of that, right? So that the overlay of CBRS on low band in all the kinds of use cases that that we've talked about already, whether it's spot capacity in areas, being able to do things in doors, in certain places or certain campus environments, clearly not a substitute at all for wide area, but a compliment for that kind of capacity.

We are actively looking at other bands to find opportunities. When you think about how Anterix expands beyond the spectrum monetization, it's into other bands. It's also into other services, as we start building this nationwide network of networks that we like to call it, the collective of utilities and

other industrials that are going to build private networks. The benefit of them working together and having someone like Anterix as the connective tissue between that, the services that will be required, then once that starts happening or the things that are of interest to us. And so it's both expansion to other products and services with partners, for sure, but also expansion into other potential spectrum bands.

Mike Rollins:

In our final few minutes. Are there opportunities, other opportunities or aspects of your business that you want our audience to be mindful of as they think about each of you over the next 12 months? Rob, we'll start with you.

Rob Schwartz:

Sure. And so for us as a company the validation of the business model we've been talking about bringing our spectrum to market for a long time and getting report in order and having that go on the Federal Register this past year was a big occasion. It takes time and patience. And we thank the investors that have come along with us for the journey. Same thing with the customer side, these are long sales cycle customers that we're going after. It requires a lot of patience, the prediction of the day or week when they're going to happen. It can't necessarily happen. But for us, it's the long game about being able to bring this collective industry to market. The value that we've demonstrated with our first transaction I think absolutely can be extrapolated into the valuable of the asset or a balance sheet, but obviously the asset we want to bring forward. And we think that's just the foundation and the platform on which we're going to continue to build our business opportunity on a nationwide scale.

Mike Rollins:

Thanks, Iyad.

Iyad Tarazi:

I think there are two things that would probably be interesting. One is that I do expect there'll be more power in CBRS and more power for new bands for sharing. That will obviously be something that would remove a lot of the concern that people have had perceived or not. I do think that there's an environment because we have proven that these systems can work. We can continue to improve the algorithms and ask for more power. That's something I expect to happen in the next 18 months or so. The other thing is that there is in this business, a marketplace aspect or the resale aspect of PAL, we're seeing a lot of interest from people looking for these touchless marketplace development for the PAL auction proceedings that they won. And we would... You should expect us to begin to create that market later this year. Thank you for the opportunity here, Michael.

Mike Rollins:

Yeah. Thank you for sharing your time with us today. It's great to see you both, look forward to doing this in person in the future. And thanks to our audience for joining us today.

Rob Schwartz:

Thanks Mike. Take care.