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Next-Gen Breakthroughs with Auracast Broadcast

Presenter: Megan Quilter, AuD

Foreign welcome to today's course Next gen breakthroughs with ORACAST broad broadcast by Dr. Megan Quilter, a lead audiologist with GN Hearing Global Audiology team. This month on Audiology Online, we're celebrating innovation in the hearing industry with our fifth industry Innovation Summit. Thank you for joining us today and we hope to see you in more classes this month. We would like to thank our, excuse me, our title sponsor and all of the companies that have participated this year.

Now it is my great pleasure to turn the microphone over to Dr. Quilter. Hello everyone. Thanks for joining. My name is Megan Quilter.

I work for Resound and I'm in Global Audiology. Thanks for joining today we're going to have a great hour together. We're going to talk about next Jen breakthroughs with ORACAST broadcast. Hopefully you guys have already heard a little bit about oracast. It's making its way through through the industry.

Let's get started and let's go. All right. Well, gosh, where to begin with this incredible technology? You know, in the hearing world, we know that people with hearing loss often struggle to hear well in public places. In many places, especially where there's high reverberation and a lot of surrounding noise, we can think about airports or restaurants, even someone's kitchen.

My house for sure falls into that category. So this really raises the question of how do we in the hearing industry help those who have hearing loss, you know, those who are hard of hearing, improve their signal to noise ratios in these different challenging environments, whether that be in the airport or my house. We've got a number of different techniques that we've fallen on, but mainly what we are doing, what we're doing is by adding wireless technology to their hearing aids. We've been doing this for quite a while. We have a number of different options that we can choose from.

And, and again, we've been doing this, in fact since 1938. Telecoils and hearing loops have been around since 1938. So it's been a long time. They've really found their place in this industry. They're still

going strong and in some places they're still being strongly advocated for.

I know Iowa is a really big state that's huge on loops and they're a big advoc for that. I want to make it very clear, however, that Bluetooth has openly said that their newest Bluetooth technology or cast broadcast is not and was never even a thought to replace t coils. In fact, they are happy to coexist alongside it. So for all the T coil folks, this is great news. And we know that T coils are incredibly important to a number of users.

So T coils are going nowhere. But let's stick with T coils for just a moment because again, they've really, they've certainly cemented their place in the hearing industry. The telecoil is very simple. It's a copper wire that has been wound many, many times to form a small coil and then it's placed inside the hearing aid. That's why, that's why some hearing aids are a little bit larger.

They have to accommodate that T coil that's within. So it truly is a physical issue. It takes up space. But when the T coil is in the presence of an electromagnetic field, then it acts as a receiver. It's acting as a receiver for the nearby current.

The telecoil is essentially at that point, it's become a wideband analog antenna that receives analog, these electromagnetic signals through induction instead of digitally coded electromagnetic signals. But for the hearing aid user, telecoils are really easy to use and they don't have a significant impact on battery life, which is huge. However, because they're analog, the sound quality is noticeably, I'd say, less natural. They're susceptible to different interferences from the electrical currents from also other nearby hearing loops, and they don't necessarily provide consistent coverage. In many venues, you can sit near the hearing loop to receive a signal to noise ratio benefit.

Otherwise the signal may not be loud enough. We've seen some people who kind of wander around trying to get a louder, louder, more, stronger signal. The other thing about T coils is that it's also only

one signal per loop. So what you hear is what you get if the loops are too close to each other, such as in the cases of maybe movie theaters or conference rooms. Not really movie theaters so much, but conference rooms.

You may hear, hear the audio from the next door, which can be rather annoying. But the nice thing about T coils and hearing loops is that since they've been around since 91 or 1931, they've been standardized. And the hearing looped venues and facilities are well labeled and really easy to identify. And that's a, that's a huge perk for that. T coils have been around, we know, for a long time.

They're still very, very popular. And the good thing is, is that you can walk into different places and you can see the. So for instance, they're still very popular today in certain areas, including New York City taxi cabs. I For one, travel quite a bit for work. So you can see in hotel rooms, you can see the logo for the waiting areas, in theaters, museums, places of worship.

So these have been standardized and everyone knows exactly what they're looking for when they see this. Let's go back to our landscape here. Another form of analog wireless technology is FM systems. Now, FM systems are frequency modulated radio transmissions. And the person who is speaking so that signal of interest would wear or hold a transmitter or microphone, and they place a transit.

They could also place a transmitter in the middle of a table, et cetera. You can do a number of different things, but using electromagnetic radio waves. The FM system sends the speech signals to the listener who wears that FM receiver. This type of system we know has been especially popular in schools. We see this in conference areas, conference centers, because you can send the signal far field, so over a distance of about 20 or 30ft, or 7 to 9 meters.

And the attenuation of the signal over the distance is much less than near field magnetic induction. I apologize a mouthful. Now, while these are much cheaper than hearing loops, they're not as simple as

that. It's not as simple as just walking into a room because both the transmitter and the receiver have to be worn. So FM is a little bit different in that respect, but we can obviously appreciate for what it does.

Moving on up the line in history here in 1999, we enter the era of digital radio transmission with the revolutionary classic Bluetooth. So we all know what this is. Classic Bluetooth just exploded globally. It allowed wireless communications between electronic devices with a short distance. It was really easy to use.

It still is very easy to use. And it provides a really good signal to noise ratio, more so than its analog predecessors. But there are some hangups with classic Bluetooth we'll talk about. Classic Bluetooth allows an electronic device to communicate with a gateway device. So using a 2.4 GHz radio transmission.

So for hearing aids to really connect to the gateway device, such as a smartphone or accessory, Bluetooth hearing aids have to use near field magnetic induction as well. In 2010, we started to have some game changers. Resound was actually the first hearing aid manufacturer to partner with Bluetooth. And they created this proprietary Bluetooth protocol that was made for hearing aids. And this particular protocol reduced the battery drain.

So they called it Bluetooth Low Energy. These same proprietary radios operate on that 2.4 GHz, the 900 MHz or the 866 ISM bands, depending on the manufacturer. And really where you're geographically located. This was really a huge moment and it opened the door to a ton of new Solutions. Then in 2013, working with Apple, the first made for iPhone hearing aids were released, which again was huge.

It was a huge success and it really motivated people to start wearing hearing aids more. Up until this point, if you wanted to connect to Google phones, you really needed to use a classic Bluetooth. But in

2019, oop, sorry, that advanced a little too much there. But in 2019, direct audio streaming for Android devices came out with that ASHA protocol, so, so that was introduced as well. So let's dig in a bit more after that history lesson here.

I apologize, I know I'm throwing a ton of different years and dates at you, but in 2013, this really is kind of when things started. In 2013, the European Hearing Instrument Manufacturers association, which is also called ihema, they approached the Bluetooth Special Interest Group, which is called the Bluetooth sig, with a request to develop a new version of Bluetooth and they wanted to include more with hearing aids. So their key requests were to have one, a dedicated hearing aid profile with lower battery consumption and really good sound quality for hearing aid users. Number two was they wanted a new codec with lower latency and number three, they wanted a broadcasting mode, which is what we're talking about, or cast broadcast. So lo and behold, the Bluetooth SIG accepted this challenge and then they began a very long 10 year journey that started to develop this new type of technology for us.

So I'm asked quite a bit when I talk about Bluetooth SIG what the Bluetooth SIG is. And the Bluetooth SIG is a global trade association. It was established in 1998. And what they do is they oversees the Bluetooth technology and the brand itself. The Bluetooth SIG is made up of 38,000 member companies all over the world, so spread out through the globe.

And they're responsible for three really big items. They're responsible for specifications of the technology, qualifications of the technology and promotional aspects of the technology. These three items are of particular importance actually, because these are also really needed for standardization.

So now we have Bluetooth Low Energy Audio and Oracast. It's not coming. There we go. And oracast. Oracast Broadcast.

This new universal protocol really solves a lot of the limitations that we've seen in the current technology. And along this journey with Oracast, we've seen some really big players come through. Samsung is a really big player. Microsoft and Google have also joined in. Oracast is incredible it has better sound quality with faster audio transmission and low battery power.

So really, when you think about it, who wouldn't want that? Well, everyone literally wants it and everyone literally can have it. Not only is this the beginning of a new era of communication for people that wear hearing aids or even cochlear implants or BAHAS for that matter, but also for those people who do not wear hearing aids. So maybe the people who perhaps wear earbuds, headphones. We did say cochlear implants or I said cochlear implants and bahas, but pretty much every electronic device is going to become ORACAST ready.

ORACAST is considered a new standard and it is expected to be the preferred audio standard for the next 20 years. So you are going to be seeing electronic devices that will be ORACAST enabled. So watch out for those. This new Bluetooth standard is going to provide three main benefits. It's going to provide better sound quality than the current Bluetooth that you have in your phones and lower battery consumption.

Number two, it's got multi stream so you can connect to multiple devices at the same time and stream audio anytime you want to, whereas before we always had a one to one connection. It also makes possible hands free calls with Android phones. So that's great. And three, and probably the most exciting is the introduction of AuraCast. AuraCast is a type of Bluetooth low energy audio that will allow broadcasting and audio sharing across devices.

So all electronic devices, like I said that will be AuraCast ready can share audio in the same way that we have shared WI Fi, allowing electronic devices to broadcast this audio which can be received by any AuraCast devices, any AuraCast ready devices. But we're going to talk a little bit more about AuraCast

devices and stuff in just a bit, so don't worry. I would like to take just a moment though to address the sound quality because the sound quality is exceptional with ORACAST and with the new Bluetooth codec.

This type of technology is offering sound quality that is far better than we've seen before. First off, the new audio codec is different and fantastic all in one. Oracast Broadcast uses what's called an LC3 codec. This stands for low complexity communications codec and usually an audio codec is used to compress an audio stream at the transmitter and decompress it at the receiver side to playback the audio. That's what we're working with.

Low energy audio is coming with a new codec and again it's called the low complexity communications codec or LC3 for short. So it is replacing the current codec. The LC3 codec enables the high quality and low power features. I don't want to turn this too much into a codec talk, so we'll keep it fairly simple. But the LC3 provides better quality, better sound quality at lower data rates and offers flexibility when choosing the product requirement trade offs between audio quality and power consumption.

It provides the same audio, the same quality of audio with around 50% lower rates than the standard Bluetooth Classic codec that you're using now. So the graph here shows the result of a study that Bluetooth had done and this is published on their website where the participants compared the sound quality of classic Bluetooth. So that's going to be that SBC in the gray bars right there and the new Bluetooth LE Audio with the LC3 codec, which you see in the bright blue bars.

In this study, the participants rated the perceived sound quality from 0 to 5, where 0 essentially meant terrible to them and 5 meant excellent. So you can see that the LC3 in the blue outperformed the old SBC in the gray by quite a bit even at the SBC's highest bit rate. So all in all, the new codec sounds incredible and it has lower battery.

So what is auracast? I've been asked this a number of times. Too many people are still confused about this. So let's try to make it really simple. We know that everyone is familiar with classic Bluetooth, right?

Because we use it every day and it's everywhere. If you're using classic Bluetooth, then you also know that classic Bluetooth only allows for a one to one communication between devices. As you can see here on the left, the new Bluetooth LE audio allows to broadcast audio simultaneously to an unlimited number of devices nearby. And that's what's called AuraCast broadcast audio. So AuraCast is the name of the broadcast audio platform for Bluetooth low energy audio.

Now currently with Bluetooth Classic, you can only connect the phone with one set of earbuds or maybe one set of hearing aids, one implant, one speaker, computer, et cetera. But if you and your partner want to watch a movie together and share, share your audio, you can't really do that unless one person has one earbud in one ear and the other person has the earbud in the other ear and that looks a little awkward and it makes for a terrible first date. And then if you're working with a child, then your child's just left out, you know, unless the partner has a three way splitter and then you're starting to split signals and then you've got wired headphones and it's really just can become a mess. With oracast broadcast audio, the phone, your phone, your tv, any public announcement system they can stream to an unlimited number of nearby audio devices.

So this can be shared with personal devices and it can be made also private with password protection or can be available with public for public use or during conferences, restaurants, etc. But it's very similar to a home WI fi system that would be password protected. You don't need your entire neighborhood listening to your ORACAST broadcast. So we do have password protections in place. But you will also enjoy ORACAST out in the public.

You can see a little bit of the setup of what is needed here. You need a transmitter for this to, to transmit that signal of interest. And when I say transmitter I know there's a lot of eye rolling probably

going on or a lot of questioning of how much is this going to cost me. When I say transmitter, I really truly mean the signal of interest. So I mean a computer, a tablet, a microphone maybe if you're in a conference, you may have a lapel mic on a tv, whatever your signal is, then you'll need an or you'll have that signal to be transmitted.

Then you'll need an ORACAST assistant, which we'll talk about as well. You'll need that ORACAST assistant as well as ORACAST receivers to receive the sound. So the receivers can be anything from like we said, hearing aids to cochlear implants, Bahas headphones, earbuds. Whatever will be receiving that sound can work as long as they are ORACAST ready. And I know there's a lot of questions about the ORACAST assistant, so don't worry, we'll get there.

So how to connect to oracast?

Well, step one, like we just talked about, you do need an ORACAST transmitter. So again this can be a PC, an iPad, a microphone, a wired up lapel microphone at some point. Step two is the ORACAST assistant. So we're going to walk through this a little slowly. But step two, you actually have three routes.

One would be through a smartphone, either through the app on a smartphone or well, an app on the smartphone will be the easiest. For example, the Smart3D app has AuraCast application within. You could also do this via the telephone itself. For example, Samsung makes and ships their S23s Oracast enabled. Now Apple folks, we're Just going to have to wait a little bit.

But Samsung is shipping their S23s and S24s, et cetera, that are Oracast enabled on the phone. We'll talk about that as well. And you'll also be able to scan a QR code from the phone or an electronic device that you may have there. And then number three, you can also access oracast by tapping a dedicated button. Now, the dedicated button I've yet to see that has not been widely released, so that's

still in the making.

Oops, sorry about that. Those didn't come up till a little bit later. So we've got the phone, which we'll talk about the phone itself. We've got a phone app, we've got a QR code and then a button. And then step three is the easiest part.

You just join the broadcast. The receivers receiving the sound will depend on how each company wants to kind of configure them. For example, Resound Nexia automatically finds the oracast stream through its app like you would be running with like a TV streamer plus or a multi mic plus with Oracast. If you're running with a Samsung S23 phone and Nexia devices, then you're in real luck. And the oracast broadcast can go through the phone directly.

So you can bypass that app, but you can all the app is much easier. It's as simple as that. You join the broadcast and you enjoy streaming directly to your ears.

This is a screenshot of the Samsung phone. You can see. You walk right through here with the menus. You locate your settings, then you head down to Connections and you get into the Bluetooth area. For anyone here, you want to make sure that you're going to be connected so you've got devices in front of you and then you want to make sure that you're under.

You've got your devices all paired up and you can confirm that you're connected up here in these menus. From there in that middle screen underneath number five, select a broad select find a broadcast there. You can, if you can just barely see it says LE Audio. You want to make sure that that LE Audio is turned on in that Samsung phone, if it's not defaulted on. And then start finding your broadcast from the phone directly so you can see select a broadcast.

And in this particular example we use the TV streamer plus so you can listen to that oracast broadcast near you.

Number six, where you select a broadcast. If you're out in a public area and you have a number of streams. All of your broadcasts will pop up here and then you choose which one you want to listen to.

Here's an example of a conference center with an ORACAST transmitter to give coverage to the entire auditorium. It's just essentially like a little router that you would have up in the ceiling. The only thing needed is a small or cast transmitter like you see in the top left corner there. There is a company that's called Ampetronic and they're already shipping these type of transmitters. This example is a commercial transmitter that you can expect to kind of see in these public places.

This one is by Ampetronic. It's known for doing most of the hearing loop installations all over the world. This company. But they've dove into the Oracast area and now they're making transmitters for that. This ORACAST transmitter is as big as your typical WI fi router according to Epitronic's website.

And it gives approximately 30 meters of transmission range. That's about the length of a basketball court or an Airbus 300. Installation is really simple. It's overseen by Bluetooth. Remember the Bluetooth SIG is responsible for all of these things.

The only thing you really need are the power and the audio input signal. Anyone with compatible technology will be able to connect. So again that's going to be earbuds and headphones, cochlear implants. So maybe the next time everyone's at aaa, maybe not this year, but maybe next year at aaa. When you're out and you're listening to your sessions, you may look and see if Oracast is around.

Now is Oracast will replace the T coils in public places. That's a big question. I'm not necessarily sure about that. Oracast is, is an emerging technology and right now we're in a transition period where all

the technologies will coordinate exist for some years. Right.

But there are many reasons why Oracast is going to be a more accessible solution. It's expected that by 2030 approximately 2.5 million places are going to offer Oracast globally. So that's fantastic news for people with hearing aids because soon they'll have a lot easier access to information and communication everywhere they go.

This is really going to transform personal and public places resound. Nexia is the world's first hearing aid that works with Oracast and the next generation of Bluetooth that's going to be transform how we interact with each other and interact with the world.

You know the. You Know, the Bluetooth that we all have on our phones and we use every day, well, it's going to gradually disappear in the coming years. Instead, all electronic devices are going to start incorporating a new generation of Bluetooth called Bluetooth Low Energy Audio. So everything will eventually be kind of transferred over.

What I think is really exciting about oracast when we think about it with telecoils, like the best parts of telecoils, it's going to be really easy to use and standardized with rules and regulations. There's going to be signage found at different places and they've got everything already in place. They've got detailed specifications and requirements already out the door. Branding's in place. So next time you're going to a cafe or the library or museum, you know, I think sometimes we're inundated with logos all over the doors.

We sometimes don't even notice them anymore. Take notice in these next couple months because start to see if you, you'll, you'll start to see that oracast logo there. So watch out for that. That's coming. What's also really great is that oracast is going to have a registry.

So for anyone who's going to be implementing ORACAST in their facilities, whether that be schools or theaters, museums, et, there's a registration database. So they'll have to register their oracasts with this database. But that's great news because when people want to go out to the theater and they want to make sure that they're covered for their, you know, for whatever their accessible needs are, they can just get online and look at the registered databases that have ORACAST ready and find out if they're going to a location that is already ORACAST enabled. So again, oracast is going in the route of being standardized and they've got everything in place making this as easy as possible for everyone.

So live is good, but is AuraCast better? We have some real world demonstrations of AuraCast broadcasts streaming and I want to walk through some of those. One of the most common questions that we get from audiologists is oracast sounds great, but when is it coming? When is it coming to public places? Well, it's here.

2024 was the year where Oracast, well, 2023 people started kind of talking about Oracast and I think it's fair to say that in 2024 it was the year where ORACAST really started to be tested in public places. And now we've reached 2025. I really think this is going to be the year where many public places will finally offer permanent Oracast installations. We have a number of people who are already asking where these types of equipment can go, how do they get their hands on it, who do they contact? So I really think it's, it's going to explode pretty quickly.

Because we were the first hearing aid company really bringing oracast to hearing aids. We've been a part of many of these really early tests and it's been really, really exciting. It's allowed us to kind of strengthen our collaboration with other industry leaders. Like we said Samsung and Microsoft and Google and whatnot. Having that strong collaborations are really important, especially working in the field of assistive listening in public venues to continue really shaping the technology and give hearing aid users the best possible experience moving forward.

You know, we don't want technology just to stop now just because we've got something great. We want to keep things moving and keep the momentum going.

One of our biggest events that we've seen with Oracast was in early November of 2024. We hosted and I hosted with a few of my colleagues, Greg Warih, Jill Mecklenburger and Laurel Christensen. We hosted an intimate evening out with oracast at the Lincoln Center's Alice Tully hall in New York City. It was an incredible opportunity to experience an absolutely unforgettable evening. If you're not familiar with the Lincoln center, the Lincoln center manages two different concert halls, the David Geffen hall and Alice Tully Hall.

Alice Tully hall is where ORACAST took place. It took center stage. The performance was called the Voices of Light and it was also accompanied by a silent film. This was composed by a hearing aid user whose name's Richard Einhorn, who's become a dear friend. He resides in New York City and is a resound hearing aid user.

He is absolutely phenomenal and a huge advocate for everything hearing loss associated. The performance was located in the Alice Tully hall inside the Star Theater. You can see a snapshot of the of the hall here. You can see it holds up to 10, 85 people. And for our evening we had a totally sold out performance.

What's really interesting about this venue is that this hall is located just a short way, literally 22ft from New York City's rumbling subway tunnels. So you can imagine the hustle and bustle outside. And so when people are outside in the busy New York area with that hustle and bustle, it can be a little bit overwhelming. So I hope that people found a little bit of, of comfort being able to come into the theater where it was nice and quiet and calm and Oracast ready. This is another angle of the theater.

You can see there. At 2:30 that day we had to set up a stream check which is obviously really very new for us, and a sound check. You can see my colleague Gregoire Yates right there. He's in action. He's setting up the first TV streamer at stage left.

And you can see there's a gentleman right there next to him. He's a key opinion leader and one of our guests, a spot tech engineer. His name is Nick Hun. If you're not familiar with Nick Hun, please look him up. He wrote the Bluetooth textbook which is widely considered the Bluetooth bible.

You can see him there overseeing what's about to take place and it's really exciting and we were really very nervous. But you can see this, the TV streamer there in the yellow and you can also see the TV streamer that we had placed up there in the ceiling as well. So we have two AuraCast ready streamers ready to go. This is that same streamer just at an angle facing the audience. So again stage left and a close up shot to see how that was positioned there.

And then again we had that second streamer that was located up in the ceiling as well. The performance began and it also included a silent film. So you can see a snapshot of the app there as well. It's a little difficult to see maybe, but you can, you can see we've got streamer A and streamer B there on the app. From that point on we successfully orcast broadcasted an 187 person ensemble to our entire audience.

It was a heart stopping moment for sure. So it was really exciting and it sounded incredible.

The evening, I have to say, was a smashing success. It had incredible audio, there were no delays and we had fabulous reviews. I urge you to look up some of these reviews online because Oracast is very much on the move at this point and hopefully coming to a theater near you, pun intended, of course. But in all seriousness, one of the things we were really worried about because this is the first time that we had done this, was obviously the sound quality and delays. That was a really big issue that we were

concerned about and we didn't experience any of that.

So the audio is incredible and no delays. It was absolutely unbelievable. Oracast will really make the world a more hearing friendly and accessible place for everyone, not just those with hearing needs. It's going to introduce new audio experiences in three main areas. We're able to share our audio.

So if you have kids, I'm sure you have, you have experience with this. If you're flying somewhere or traveling somewhere or have a car that has all the fancy, fancy stuff in the back, your kids want to watch a movie on your iPhone or maybe your iPad and maybe you only have one set of headphones. Well, you don't have to panic now. Now with AuraCast, it'll be possible to share your audio from your phone to other people nearby. So this way your kids can enjoy the movie with their own set of headphones and they can share it peacefully with their siblings and whatnot.

We also have the ability to unmute our worlds or I'm sorry, hearing our best. Obvious. We want to hear our best in public places. This is one of my favorites. Big venues like airports and train stations, shopping centers, all will have oracast ready.

They'll all be ready to oracast broadcast out for people with hearing difficulties. This is, you know, we know this is a really big game changer. We want to unmute the world. You know, why have it muted? Have you ever been to a sports bar where they show different games and multiple TVs?

Well, now with Oracast you can actually tap into those so you can tap in, connect to any silent TVs in public places. So that really brings March Madness to a whole new level here in the United States. Going to the gym, you always see your, the gym TVs up, you can always watch for those, maybe use a QR code and oracast into those gym TVs.

Unmuting the world in hospitals, in waiting areas, in just different public places are really going to change things for the world.

As a researcher, I think this is going to be really exciting. Bluetooth, low energy audio and oracast have many, many impactful benefits for those who are hard of hearing and those with normal hearing. For me, it's really fun because it lends to so much future research in the areas. When you think about oral rehab and speech therapy for adults and kids, if you're one of the unicorn audiologist SLPs out there, this could be right up your alley. Schools, universities, workplaces, I mean, everything is going to really change.

Quality of life is going to increase. This is going to be really, really interesting to see where this technology can take off.

Additionally, Bluetooth, low energy audio and AuraCast is solving some issues that we've already had. You know, it's addressing current, if not all the issues with performance limitations and functionality. I mean, one of the biggest issues was the one to one, the one to one limitation there. It's going to provide a better end user experience for really everyone. And again, it's not just for people with hearing instruments or hearing needs.

Think about just wearing earbuds, think about being that person who doesn't want to sit in the front row, you want to sit in the back row and you just want to have a better listening experience. Well, now you'll be able to. That doesn't mean we should sit everyone in the back row with hearing loss. It just means that we have different options that will be available now. It's going to provide such, such incredible sound quality.

Way better than previous generation and way better than teak oil. It's going to be at a reasonable price point. We've seen, we've seen price issues with other technology pieces but this is going to be a little bit

different because the technology that you're buying and that you're investing in as you move along through life will be ORACAST enabled. So you will eventually get that. It's just going to offer a much broader experience for everyone.

And again it's going to standardize the way we do public broadcasting.

So couple more questions that have always come up where. Well, what's interesting is In May of 2024 Google Maps added ORACAST to their accessibility section. So you know this is moving now. Also Bluetooth's website lists locations that it's going to be at. Are you able to purchase ORACAST transmitters?

Well, for public places. Bluetooth will begin listing qualified transmitters this month with a product called ori. Again that's the transmitter that's coming from Ampetronic.

We know that these are being installed into venues this year. The installation is really quick, about 20 minutes. So things should move along pretty quickly. It plugs into just the AV system. Oops, didn't mean to go back there.

So what is the broadcast range of oracast? Well, this is going to depend a little bit on the transmitter and how it's actually implemented. Right now we're seeing it reach up to about 300ft, so about the same as WI fi. Bluetooth's website will tell you 30,000ft. And the reason why we've got, we see such large numbers for that is because they're working in ranges, working with airports and whatnot.

If you're working with resound accessories, you're working with about 80ft. And non resound products. Will you know what non resound products offer? Oracast, that is, that's a little different that we're going to have to keep an eye on. For receivers.

We know that Resound Nexia is available, but outside the hearing aid industry, companies like Samsung are making earbud receivers and they're also making the phones with BTLE audio capabilities. Samsung is really kind of the biggest player that we're seeing put out different pieces of technology we haven't heard or I personally haven't heard a single thing from Apple. I'm an Apple user, so I'm anxiously waiting. But for right now it really looks like Samsung is taking the lead on this one.

We're not really sure when oracast is going to be in more electronics again. I'm still one of those Apple users waiting to hear something from that. But 1,000 plus devices are going through end user testing right now. 3 billion devices by 2030, 5 billion classic Bluetooth by 2021.

So if the classic Bluetooth can get there, the new Bluetooth definitely can we definitely will see 3 million locations by 2030. I would put my eggs in a basket on that one. So the next big question is how will my patients be able to join an AuraCast broadcast? How will they be able to do it? Well, never fear, we've got you covered there.

We have launched the Resound Smart 3D app with the Oracast Assistant. You can see some snapshots of it right here. It's available for all users. I would urge you to get online and start looking for that immediately. With this release, the hearing aids can scan for available oracast streams in both public and private areas and you can access them with a new interface which is going to be that new app.

You would select the stream that you want to connect to and then insert a passcode if that's needed based on how that's set up. And you can do all of that from inside the app. If the hearing aids have been connected to an oracast broadcast outside of the app through the phone's operating system, that will also appear in the app too. So it's very easy to use. Today we'll be able to share oracast by making it public.

You can. Today we can only share oracast by making a public. So we're going to be changing that going forward. You're going to easily see so much more things coming from this.

Some key takeaways. Well, Orast will be the future system, but it's difficult to say that it's the future system when the future is already here. So it is the system for Wireless transmission of audio signals in multiple locations for many types of users. It's going to provide significant benefit for hearing aid users and I can't wait to keep my eye on that one. It will definitely coexist in parallel for a while now with loop systems, at least for several years during this transition.

And I would urge anyone who is absolutely in love with loop systems to give oracast a chance, see what it's all about. All types of hearing aids from every manufacturer with time will be ORACAST enabled. So that's just going to be a matter of when those will be ready and we will see it rapidly coming to the market. I mean, it is already here, we're already doing testing on it. It's all over globally, people know about it.

I think we're all ready for it. But why? I'm also asked this, why oracast? Why not hearing loops? Why not FM systems?

Why? Why auracast? Well, in my opinion and the science behind it shows that AuraCast has better sound quality and it has better Bluetooth connectivity. It's as simple as that. For me.

It provides users with a personalized listening experience. The low energy option is going to be phenomenal with a better sound quality. You really can't top it. And the potential of Bluetooth LE audio in oracast is immense. One of the things I'd been thinking about because I often think about T coils versus Oracast and how these conversations will go and I was just recently having a conversation with a colleague of mine and he pointed out something very simple to me.

Hearing loops have one signal. That's the loop or that's the signal you're getting. With AuraCast you can be in one place and access a number of different streams. So it really, truly is different from T Coils in that respect. Now I'm not saying that T coils are by any means limiting, but when you look a side by side comparison, AuraCast will give you a more personalized listening experience because you can select exactly what you want to listen to and how you want to listen to it.

And finally, and I truly believe this, Bluetooth, Lea and AuraCast are for everyone, not just hearing aid users. I hope that this really helps to normalize hearing loss. You know, we know that there is a deep stigma connected with hearing loss and we know that the stigma is one of the greatest challenges that people are up against, especially with that hearing aid adoption. We want to make sure that hearing aids aren't sitting in a drawer. So it's interesting with this type of technology.

Because when Apple first started coming out with their earphones and their earbuds and whatnot, everything was white in everyone's ears. I remember, you know, you look around, you'd go to the airport, you'd go to schools, you'd walk down the street, and everyone had white cords in their ears. That actually helped things because everyone had it, so it wasn't as weird. But now the person sitting next to you can be receiving the same type of broadcast. So whether they have hearing aids or whether they have earbuds in, we know that everyone has something in their ears these days.

Everyone looks at their phone and everyone has something in their ears. And it doesn't matter if it's a hearing aid or it doesn't matter if it's an earbud, it matters if it sounds good. So I really hope that this type of technology helps normalize hearing loss and it shows that hearing is important for everyone, not just those who are experiencing the loss of it, but the hearing is important everywhere you go. Thank you very much. I know there are a number of questions.

I have seen those pop up. So let's take a few minutes here to get those addressed. How do you think oracast will fit into our two church loop system for auracast ready hearing aids without retooling the

audio system?

That's a great question.

It sounds as though you have a church loop system and that you want to add oracast to it. I think the best bet would be to look at the mixing board and see where you can plug a transmitter in. The loop systems, generally in churches go through some type of mixing board. So I think that would be probably the best place to start. I have talked to two people who have done this.

I cannot really speak too much of it, but I know that it is possible and I know that they're coexisting together. My best guess would be to find out the mixing board and start there. Next question is. Oh, and let me just go back to that real quick. That's what we did at the, at the New York Lincoln Center.

We really just kind of started with the mixing board. You'd be surprised at mixing boards and how easy things are when you plug in. And then you have to start, you know, fooling around with the sound quality and whatnot. But that's what the mixing board is for.

Let's see, what are the data for your statement? What are the data for? Your statement that the sound quality will be better than t coil. I assume you mean better than hearing through A hearing loop. The sound quality is better than T coil in my opinion and the sound quality evidence would be found on the Bluetooth website.

You'll also find a lot of their research for sound quality up there. You'll also find that codec study as well. How does one access an AuraCast broadcast if their hearing instrument is not oracast enabled? That would actually not be possible. So if you are wearing hearing instruments and they're not oracast enabled, then you would not actually be able to access that broadcast.

In order for you to access oracast broadcast you would need a transmitter that's oracast ready. So let's say a computer Samsung computers are oracast ready. You could have a Samsung computer and you would route that signal over to the hearing instrument. But the hearing instrument would need to be AuraCast enabled in order to receive that broadcast so you would not be able to next question. Nat mentioned as an advantage of Bluetooth LE Audio AuraCast versus loops is that it enables one to hear stereo with AuraCast a great advantage when listening to music.

It plays symphonies etc. Thus as a hearing aid user I greatly look forward to oracast. Thank you for your comment Larry. I really appreciate that. I can't wait for you to experience it and I would love for you to give me any feedback you have for that.

So thank you and I wish you all the luck.

Next question. I think personal oracast transmitters for the home we have our resound TV streamer that's acting as a home transmitter that's AuraCast ready and ready to go. So that is in the works. We have a multi mic plus that is oracast that's also ready to go with transmitter transmitters. I know computers are already out there.

I was at Best Buy not too long ago a couple weeks back. Best Buy knows exactly what AuraCast is. I'd head over to the Samsung area. Samsung has transmitters available if you're looking for maybe outside of the home but something more public. That's where your ampetronic ORI transmitter that's going to be the commercial transmitter at the moment.

If you're working with a Samsung telephone and you want to share your audio, the Samsung phones have AuraCast already in them. JBL speakers are already shipping they have or their AuraCast ready. Microsoft has Microsoft and and Google have. Well Google no Microsoft has oracast ready technology as well. So I would probably find your nearest Best Buy or get online and I would first go on to Bluetooth

and see if they have any recommendations of who is selling oracast ready transmitters.

I would also get on the Resound website and look at our TV streamer as well as multi mic. Those are going to be your top ones to look at. Another question coming in, just to clarify. Oracast uses Bluetooth LE Audio. They are not the same thing, correct?

Correct. You need to have Bluetooth LE Audio as. Think of Bluetooth LE Audio as your umbrella and Oracast falls underneath that. So Bluetooth LE Audio you can almost think of as kind of the platform. And AuraCast is a feature in that you cannot use AuraCast without Bluetooth Le Audio.

You can have a Bluetooth LE Audio. I believe you can have a Bluetooth LE Audio computer that is not auracast ready. But you do want to have Bluetooth LE audio. Bluetooth LE Audio will get you the blue the oracast broadcast you need.

Next question. At what point in the fitting process with a new patient do you envision training them on how to access oracast broadcast or other assistive listening system options? I think that that's a great question. At what point in the fitting process? I think for me it would depend on the person who's in front of me.

It would depend on how that person is with technology. I would probably start the conversation. It depends if. Well, it really just depends. If they're a new user and they're coming to you, then I would probably open up that after they, after I feel that they're happy with the hearing aids and how that's going, if they're a type of user who wants hearing aids, needs hearing aids because they need those connections, then I would probably start that conversation early on.

But I'm a person who does a fitting and I like to make sure that my, my patient is fit and is happy with the hearing aids before I move on to the next. But if I am working with someone that's tech heavy or

comes in specifically saying I'm having trouble and I work in this business and I have to have it, then I would rush that conversation and make it a priority. Otherwise I usually try to cover accessories on the second or third fit. We start talking about it at the first fit and I give them ideas about things they can look up if they want to and kind of it gets them starting to do their homework on it so that when we do meet again and we have that next conversation, we're both a little bit more aligned. So I would say probably the second or third meeting on that one, unless it's for a particular reason.

Excellent. I made it through all my questions. If you have any other questions, please feel free to reach out. I'm happy to help. Thanks, and have a great day.