

Narrator: You're listening to *BioTalk* with Rich Bendis, the only podcast focused on the BioHealth Capital Region. Each episode, we'll talk to leaders in the industry to break down the biggest topics happening today in BioHealth.

Rich Bendis: Hi, this is Rich Bendis. I'm your host for *BioTalk*. And we're coming up close to 100 different episodes of *BioTalk*. We're not there yet, but we have a very interesting guest today from Baltimore, entrepreneur and someone who's got a very interesting technology that we're going to talk about today. It's Ellington West, CEO and Co-Founder of Sonavi Labs. Ellington, welcome to *BioTalk*.

Ellington West: Thank you so much. It's an honor to be here with you today.

Rich Bendis: Well, it's an honor to be with you. I love being with ambitious and successful entrepreneurs. And you have been on the Inc. Female Founders 100 list. Is that true?

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Ellington West: Yeah, the rumors are true. And it was such a great honor to be among so many powerful women who were really dedicated to moving the needle and creating long term change and impact across all industries.

Rich Bendis: And it's really not the first or last list you're going to be on, I'm sure. But the listeners would love to know a little bit about your background. And do a little self-introduction of how you got to where you are today academically, career-wise, and anything else that would be interesting.

Ellington West: Absolutely, yes. So what's interesting is, when I decided to take that leap off of the entrepreneurial diving board, I was really coming from the healthcare sector. So I was the Director of Sales for a national healthcare company for about five years. And prior to that, I was very focused in market research, actually. I was working for a Baltimore-based company with a powerful female at the helm. It was called Observation Baltimore. And they were really focused on creating these strategies for multinationals as it related to product market fit.

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And so, really being able to understand how, when, and why a product resonates with a customer base, and then really transitioning that into the healthcare space gave me, I think, a really comprehensive look and approach when trying to introduce a new technology to the medical

community. So a lot of times, people will ask, "Are you the scientific mind behind this or the engineering mind?" And the reality is, I have come to the table with a focus on business, moving and commercializing this device, and really building a brilliant team around this wonderful device.

Rich Bendis: So you worked for a female entrepreneur, and now you are one.

Ellington West: Correct, yes. Mentors are powerful.

Rich Bendis: Are all of your mentors female as well?

Ellington West: Most, actually.

Rich Bendis: Really?

Ellington West: Yes, yes. I think that there might be one or two guys in there, but for the most part, I have truly surrounded myself by some very powerful women who are leading the way and leading the charge for me.

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Rich Bendis: So us old farts basically are in the minority in your camp then, right?

Ellington West: True, yes. We've kind of flipped that model on its head I think.

Rich Bendis: Yeah, whatever works. So you talked about you've got a good feel for the healthcare industry with your background. But how did you get involved with Sonavi Labs and your technology, which is core to the company?

Ellington West: Absolutely. So about five and a half years ago, my father came to me, and he said, "Ell, listen"—and my father's a professor at Hopkins. In fact, he actually holds the most patents of any professor across the entire system.

Rich Bendis: Really?

Ellington West: Yeah. So my dad actually invented the electret microphone. It's the microphone that I'm speaking to you on right now and it makes up about 90% of microphones around the world.

Rich Bendis: This one.

Ellington West: Yeah, I see it. Exactly.

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He'd retired, and he said, "What do I want to do with life?" And at the time, his former post-doc was the dean of engineering at Hopkins, Ilene

Busch-Vishniac, who is now our acting Chief Innovation Officer. So Jim had been retired, didn't know what to do. Ilene said, "Come on down to Hopkins. We could really use some acoustic supports and a brilliant physicist in our engineering department." So he came on down and really created this phenomenal lab that he's named the West Lab. And two of his students, Anne McClain and Demetria, came together to really focus on addressing infant mortality as it relates to pneumonia. So at the time, the Gates Foundation was really challenging the global community in saying, "Why are we seeing such high mortality rates when it comes to our pediatric patients as a result of pneumonia, when pneumonia is detectable and treatable?" And the reality was that there really wasn't enough access to real-time diagnostics.

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There were community health workers on the front line who would say, "To the best of our ability, this kind of seems like pneumonia, but we're not sure." So the Gates Foundation said, "What can we do to increase the speed of diagnosis?" So the Hopkins team said, "Well, first, let's digitally record these pediatric lung sounds. And then, we'll take those recordings and have a team at Hopkins, a panel of about six physicians, to listen and determine whether or not pneumonia is present." And if it was, they would call that community health worker. If that community health worker was lucky enough, they would then find that patient they took the recording on and administer the intervention. And the challenge was, we were losing 72 hours of time throughout this entire back and forth process. So Jim West, in conjunction with Monia Alahali [?], who is probably one of the world's leading machine learning experts based at Hopkins, collaborated with their students and said, "Can we recreate essentially the human cochlear model?"

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Everything a physician can listen for and has trained their ear to identify, can we duplicate that with our algorithm and put it on board a device that can be easily accessible, not only by community health workers but by patients in their own homes?" And when the team realized that with a 97% accuracy rate that they could identify pneumonia, they then said, "Let's challenge it against an x-ray." So they got a panelist of radiologists, about 435 patients were reviewed, and Felix was then trained on that data. Not just physician agreement of what they think that they hear, but layering in an x-ray component to that really positioned not only the device but the company to say, "Well, wait a second. What can we do

outside of pneumonia? Are there chronic conditions that we can also tackle?"

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So when the lab had this breakthrough, my father came to me, and Ian and I had already started to get to know each other. And we looked at each other, and my dad said, "Ell, this technology will live and die on a shelf in the basement of Hopkins unless someone commercializes it." So I looked back to that market research task that I had, what I knew about healthcare, looked at Ian, and he and I said, "We can build this team, and we can make this happen." And four years later--it'll be four years October 26--we've raised about \$6.5 million, we have FDA approval, seven patents, and are well on our way to executing about four national pilots.

Rich Bendis:

Well, congratulations. And you kept referring to Feelix. Tell us about Feelix the product and how you came up with the name as well.

Ellington West:

Absolutely. So it's so funny, between the name of the company, Sonavi Labs, which is really representative of examining the sounds of life in that it's sound and life in French.

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And then, Feelix is the name of our device. We wanted the device to be friendly. We started out in pediatrics, and we knew that if this device was going to be in the homes of patients from a remote monitoring standpoint, we wanted it to be a welcoming and inviting additional element to either a home or a care kit. So we very quickly moved from just focusing on the emerging markets to a very clear North American reimbursement strategy. We had to say, "Who is going to want Feelix in their home? What would they want the name of the device to be that they can form a relationship with?" So Feelix was born in 2014.

Rich Bendis:

Oh, excellent. And you mentioned it was sitting on a shelf down in the basement of Hopkins. Maybe not literally, but sort of just sitting there, waiting for something to happen to it. Talk a little bit about the process of trying to get it off the shelf at Hopkins and getting it into a company where it could actually be commercialized.

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Ellington West:

Yes. Well, I think that working with Hopkins has been really a tremendous asset for our team for a couple of reasons. Number one, I think that just

the tech transfer department that exists is created with such intentionality of moving technology forward. We had an open door and a roundtable discussion. Christy Wyskiel, who is the advisor to President Daniels, was personally involved in ensuring that the technology that we believed could really impact, and change the world, and save lives not only had the support of the institution from a research standpoint but also a funding and commercialization standpoint. So it was a very quick process. I've heard horror stories from some other founders coming out of Stanford and MIT, and I really think that the system we have at Hopkins, where it is first right of refusal for primary inventors, is critical because it's about really ensuring that the opportunity for faculty and for students is supported.

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Because we all recognize that when a company that spins out of Hopkins does well, the entire institution does well. And we really feel lock and step with them in that regard. But we learned a lot very quickly, whether that was how much we would be paying Venable for the next three years [laugh]—there are those elements that you don't see on the front end, but with the support that we've received, it's really been a wonderful relationship.

Rich Bendis:

Well, it sounds like you've had the A team associated with you because Venable is also the lawyer for BioHealth innovation.

Ellington West:

We were in good company.

Rich Bendis:

You're definitely in good company. In addition to Hopkins, though, I'm sure you took advantage of other resources that were available within the Baltimore ecosystem. Talk a little bit about how Baltimore is, especially in receiving a new medical device emerging entrepreneurial company and what kind of support you got from different organizations.

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Ellington West:

Honestly, the amount of support that we received from Maryland, I believe, is unparalleled when I'm really chatting with other founders who are coming out of different states, and I'll tell you why. First, really when we were growing from absolute infancy, ETC just wrapped their arms around us. Before we had founded the company and/or right when we were just filing that paperwork, the Able Foundation and ETC was the first guidance and the first available funding that we had.

Rich Bendis: You might mention what ETC is.

Ellington West: I'm working through it in my mind, I'm not sure. Emerging...

Rich Bendis: Technology Center.

Ellington West: Yep. ETC, being the Emerging Technology Center, was really a space and place not only for us to be able to build out our strategy and our plan, but it was the first funding that we received.

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Rich Bendis: It was your incubator, basically.

Ellington West: Yeah, precisely, it was our incubator. And then, as we grew we found ourselves working with the Department of Commerce. And we were so successful in the NIH grants that we had submitted that I really think that there is a relationship, and a connection, and a clarity around the infrastructure that the state of Maryland has created through MII grants and funding to really ensure that companies are well-positioned to receive non-dilutive funding. So to date, we have received about \$3.5 million in non-dilutive funding with another \$2 million on the horizon, and it didn't just stop with, "Well, you received a grant. Godspeed." It's been coaching for pitch competitions and coaching from a commercialization standpoint. Rich, I think if we could actually talk a little bit more about that and the involvement that BioHealth Innovation has had, really, in shaping that, it would be really helpful.

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Because as I was trying to find and uncover resources, it was really only when you and I were chatting that I realized there was this synergy in that space. So I do think that everyone would benefit from really understanding what that involvement looks like.

Rich Bendis: Yeah, I think you for bringing that up. A lot of the things you've experienced, we've helped companies go through that same process ourselves. We help people with their incubation process, we help them with their intellectual property protection. Non-dilutive funding, we know extremely well, whether it be TEDCO, MIIs, SBIR programs, matching biotechnology investor tax credit programs, which you can apply for when you're going after grants, and then more importantly, developing a mentoring team. We have ten entrepreneurs and residents at BHI, all

with different skillsets, who are prepared to help companies, especially those who have received SBIR funding from NIH. And they help with the pitch coaching, just like you've gone through, help introductions to investors, strategic partners, regulatory consultants or pathways to help them get their product through the regulatory process.

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Everything that you've experienced, you've been able to do without us. But yet, we're there to help others who are going to go through the same journey that you just went through. And you never know, there may be some things--and I think there are--that we can still assist you with as you continue your journey.

Ellington West:

Absolutely. And thank you for that overview because when I really think back to us kind of piecemeal-ing all of that together and trying to decide, "Who is the most trusted resource?" it's a very difficult piece to navigate as a company when you're trying to build so many other elements. So in knowing that, there's this trusted resource that's all-encompassing is something that I wish I had had the opportunity to work with sooner. But know that the future of working us together, there's a beautiful horizon there. [laugh]

Rich Bendis:

Well, you have succeeded very well.

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We have been a partner with Johns Hopkins for many years. Christy is extremely talented in what she does. And we have an entrepreneur in residence who have spent a lot of time at Johns Hopkins, Albine Martin, working with the professors there, especially as they're going through the MII process, introducing them to other resources they may need. Sometimes it's out of sight, out of mind. Our headquarters is in Montgomery County in Rockville, Maryland, even though we support Maryland, DC, and Virginia. But sometimes that 35 miles between Baltimore and Rockville seems to be like San Francisco to New York.

Ellington West:

I know. [laugh]

Rich Bendis:

And it's easier for people to just walk out their door in their backyard. If all the resources are there, there's no reason not to use them, Ellington.

Ellington West:

Very true. Very true. I think there's such value, though, in connecting all those dots. And I'm excited that we have a community that does that.

Rich Bendis:

Let's talk a little bit about your funding. You've been very successful as a first-time entrepreneur going through the funding adventure that it is, really. And the other thing is, as a first-time entrepreneur but being a Black woman entrepreneur, have there been additional challenges for you that others may not have encountered?

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Ellington West:

It's interesting. Being a first-time founder, being a woman, being a woman of color, and working to market a brand new technology that is hinging on AI and healthcare, it's like the four pillars that are the biggest flags. What is happening? What are you doing? And so, for me, I had to look at it as an advantage. I had to say, "What are the unique qualifying factors that we have as a team and as a technology, and myself personally as a leader, that don't come with the by-the-book founder profile?" And so, being one of less than 100 Black women in the United States to raise over a million dollars in venture funding for their company is a very difficult but real statistic.

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And so, I have known that maybe the road wouldn't be the easiest for me, but I accept the challenge because I recognize twofold what it is that I'm on a mission to do. The first is to ensure that this technology gets in the hands of the people who need it the most, and the second is to redefine what the profile looks like for a medtech leader. And I think that those two missions are equally valuable, and I think that as we've grown, we've seen a true shift. There are folks coming from every corner of the world, saying, "How do we address this issue? How do we address this disproportionate allocation of funding?" And so, it's really just about having those winning stories. Initially, I raised 95% of my capital outside of Maryland. But the second that Christy, and the team at Hopkins, and the local champions here recognized that African-American women were being over-mentored and underfunded, I very quickly saw a shift in pace.

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And it wasn't about me, it was helping them really see and understand our technology. And once that happened, and we had the right ear, it was undeniable that this was a brilliant investment, regardless of my gender or ethnicity. And when you really look at that, that's when we all win. We're seeing the technology, and we're seeing the value in diversity in leaders.

Rich Bendis: Very eloquently stated. But if you have your words of wisdom, and you look back on the last five, six, seven years, other people who want to follow in your footsteps, what are the things you've learned that might make it easier for them if they're going to go forward, trying to emulate what you've done?

Ellington West: You know, really interesting, I think that the best piece of advice that I got was to lean into your imposter syndrome.

0:19:06 It's you. You are the only thing that is going to block, stop, or tackle your progress. Because I was afraid of what would've happened if someone didn't agree with our strategy or if someone didn't believe that I could do it. But you get so used to and comfortable with no's that you would then pivot and work to find the yes. And that's really been it for us. We have never stopped, and we're not going to stop until we see this through. And that is just the tenacity and energy you need because you are going to be surrounded by disappointment and failure and recognizing that it isn't easy. And I've said this a thousand times, as a first-time founder, in retrospect, I probably would've never dove headfirst into Everest, which is a software as a diagnostic requiring reimbursement pathway.

0:20:05 No. But I'm so thankful that I did because it takes that unique lens, and thank God I'm young because I don't know if I would've been able to do this ten years from now. But honestly, the reality is that you have to go forward as confidently as possible. And have a well-thought-out plan and execute that plan. And always compare it to the folks who are out there making the wildest decisions with no evidence and still getting funded millions of dollars. Put yourself in perspective to what else is available, and remind yourself that you've worked hard enough, your technology-- obviously, validate it--is a great market fit, and run towards it. Why not? I wish that I had started sooner. I think that's the best answer.

Rich Bendis: You mean, when you were 15?

Ellington West: Exactly. That would've been a much better use of my late teens. [laugh]

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Rich Bendis: You've overcome one other thing, that this BioHealth Capital Region, as we refer to it, is not really known as a medical device empire. You have to compete with Boston, Minneapolis, San Francisco, and some other areas

in the country. How have you found doing a medical device startup in Baltimore, not known really for medical device leadership, but up-and-coming? It is up-and-coming. What challenges have you had, and how have you overcome them?

Ellington West: Here's the crazy thing. I consider being in Maryland a complete advantage. While some folks nationally might not view this as a hub, the secret that everyone needs to know is that we're so well-positioned, whether it's national labs, if it's the hospital systems that I have access to for pilots, or the universities, the talent has been here for me.

0:22:01 It has been so easy in this war for talent for us here in Baltimore to be able to get some of the best and brightest coming right out of Hopkins, right out of University of Maryland. Because we're a small, little town and city, the ability to move through systems quickly has really, I think, also given our company a competitive edge because I'm not competing with the hundreds of thousands of companies in Boston. I have the attention of some of the best physicians and partners, and they're here and ready to move the needle. So there's a selectiveness that can happen, a pace at which we can move that I find to be unique. And funding is coming here. What I'm seeing from every corner, PTX Capital is a wonderful example, Matt leaving New York to really see and foster the opportunity that is in Baltimore. So I think that folks really need to, if you're looking for another hub or headquarters, you should come here quickly because it is going to get competitive fast.

0:23:08 But right now, these resources are unmatched in my opinion.

Rich Bendis: And no matter how many resources you have, unless you have a visionary leader, they're not going to do much for you.

Ellington West: Absolutely. I'll take it. [laugh]

Rich Bendis: You'll take that. So congratulations on being able to utilize the network to the company's advantage, which you're doing very well. Let's talk about the future now. Talk about where you're positioned with the company and the technology and the future goals and key milestones you want to achieve over the next year or two.

Ellington West: Absolutely. So when you think about our journey and us starting, and the emerging markets, as a tool to really help quickly diagnose the presence

of pneumonia, we believed as a company that we would have overwhelming support from every corner of the world to say, "Yes, let's get this device in the hands of the people who need it the most."

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And very quickly, we understood that we had to pivot and really focus on this North American reimbursement strategy, where the pandemic was at our door, we were already a respiratory device and software company that was already addressing the pre-pandemic respiratory crisis. And so, to layer then COVID on top of this, we just have overwhelmed everyone who has been fighting this fight with us since the beginning of time. And so, we see this device really being utilized in a couple of ways. The first is just being able to enhance a telehealth visit for patients. Right now, your telehealth visit is the equivalent of a Zoom call. Your physician cannot hear the sound of your lungs or heart, and we really wanted to ensure that a patient could have a full clinical workup in the comfort of their own home. So this is just the device being distributed with our partners at large telehealth companies who really want to advance and have a competitive edge on their telehealth visit.

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That second phase is really focusing on the diagnostic component, where we're the first company in the world that is saying, "You don't need to use an x-ray to confirm the presence of pneumonia. You can utilize a device to do the exact same thing in 40 seconds without radiation." But then, the third and most important powerful piece that I believe will make Felix as ubiquitous as a thermometer is our chronic management program, where we will be able to predict asthma exacerbations, COPD exacerbations, and also test out and improve the efficacy of treatments that patients are having in their homes. We really wanted to focus on understanding where each patient stands to their condition every day, and the only way to do that is to utilize brilliant medicine, engineering, and acoustics. And so, my goal is, as I've mentioned, for the device to be as ubiquitous as a thermometer in everyone's medicine cabinet. Because as we grow out of respiratory and really check off all of those indications, cardiovascular health is at our front door as well as digestive systems now.

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So we're really excited that, essentially, whatever a physician can diagnose with a stethoscope, we hope to be able to match with Felix, in no way to replace a doctor at all, but to really offer, I think, a clear,

personalized point of care approach for patients at home and diagnostic support for clinicians anywhere in the world. Because that really is our goal, to be able to get back and do so well here that we can very easily serve where our heart is, which is in those emerging markets.

Rich Bendis: That's one thing I didn't drill down on, the clinical as well as home health aspects and going into both markets. Are you going to be able to get the price point to a level that is going to be appealing for the home healthcare market for everyone to have it in their medicine cabinet?

Ellington West: Absolutely, yes. That's been one of our greatest focuses, that optimization of the device.

0:27:00 We've already identified some elements that will reduce the cost by 40%, and we're utilizing our series A round of funding to really help support that optimization. Because cost is key. But let's also expand this a little bit. For that home health, we're really utilizing payers, so the device will be covered by insurance companies to reduce and remove that cost barrier.

Rich Bendis: I understand. So you've got all of these great goals. There are probably some impediments or challenges ahead of you. What do you lose sleep over on Friday night, as you're getting ready to go for the weekend to relax maybe?

Ellington West: Relax? What is this relax? [laugh]

Rich Bendis: And thinking about what the challenges are for the next week, what do you lose sleep over?

Ellington West: I would say the supply chain issue that we're all dealing with as a global community as it relates to the pandemic has really been the most challenging piece. We are a hardware and software solution, so we've really had to become quite strategic in ensuring that our inventory can match our demand.

0:28:07 So absolutely, supply chain and identifying a vendor A, B, C, and D. And so, we've been lucky to work with Harbor Designs and Manufacturing, which is a Baltimore-based company, ISO-certified, that has prepared us with an A through Z alternative distribution and vendor option. And I will have to be honest with you, too, it's adoption. While we're seeing an

increase in adoption of telehealth across the board, it's still difficult to get patients to be compliant and to trust this space. We know that that's our uphill battle. We see the benefit, but it's educating all patients on the value that will probably also be one of our greatest lists.

Rich Bendis: You're pioneering two new adoptions. One is the telehealth industry, but then a new device within the telehealth industry, right?

Ellington West: Absolutely.

Rich Bendis: A double whammy.

0:29:00 But I know that you're going to be able to succeed for sure.

Ellington West: Thank you.

Rich Bendis: We've gone over a lot of things, Ellington. It's been very enjoyable. Is there anything that you would like to convey that we haven't discussed if I give you an open mic, and you can talk about whatever you'd like?

Ellington West: Yeah, I would love that opportunity to really focus on the value of community and what drives true innovation. I think it all comes down to surrounding yourself with the right people and the best resources. And the only way to identify what you don't even know you don't know is to surround yourself and immerse yourself with the folks who have done it before who are willing to help show you the ropes, and to let you know and warn you where those dips in the road might be. And so, I look at spaces and places like the Maryland Department of Commerce and BioHealth Innovation, and I think about how rich those resources are and how quickly you as a team can move if you position yourself in the right spaces and really invest not only in your technology and team, but that external community that's really waiting to lift and support you.

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Rich Bendis: That's a very good perception. And one of the things it reminds me of is, about 30 or 40 years ago, I went through a weeklong program, and it was based on building a quality organization. And one of the things we were left with was that you will only be as successful as far as your shadow will reach. Basically, you need people on both sides that can complement what you are doing with your extraordinary leadership, whether it be from a regulatory, engineering, product design, marketing standpoint.

And it sounds like you're assembling a very well-balanced team to surround yourself.

Ellington West: Thank you. I think you said that perfectly.

0:31:00 And I love that piece, too, because this conversation is supporting my story to move forward outside of the defined walls of Baltimore. And when you get those champions from outside of your box involved and interested, that's the elevator approach. That's how you move quickly. So thank you for this opportunity and allowing me to share and tell my story.

Rich Bendis: Well, we want to thank Ellington West, the CEO and Co-Founder of Sonavi Labs with a great Felix Digital Stethoscope, which is her primary product, which will be expanded upon with additional products in the future. If people want to learn how to get ahold of you, how can they reach you?

Ellington West: A couple ways. One, feel free to head over to our website, SonaviLabs.com, or to reach out personally to me. The easiest email, Ellington@SonaviLabs.com. I welcome all opportunities, collaborations, customers, whatever you're compelled to reach out with, please feel free.

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Rich Bendis: Well, congratulations on your growth to date and your future. And anything we can do to help you, please let us know.

Ellington West: Thank you so much. It's been a wonderful afternoon together.

Rich Bendis: Thank you.

Narrator: Thanks for listening to *BioTalk* with Rich Bendis.

End of recording