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Heidi J. Ellsworth:

Hello, my name is Heidi Ellsworth and I'm here for this month's RLW, Read, Listen, Watch, from RoofersCoffeeShop. This is a great RLW. I know I say that every time, but seriously, this is a great one. We are going to be talking about one of my favorite topics, and that is technology and it's going to be with two of my favorite people in the roofing. So, we're looking forward to a great hour.

Before we get started, I want to remind everybody that this is being recorded. It will be available on demand within 24 hours. So, if you have any friends who missed it, be sure to forward them the link or let them know. Also, we like to have the chat moving. So, the chat is open and we're going to be taking questions and comments throughout the webinar.

So, please feel free, put in your name, where you're at, what kind of company you have, residential or commercial. We just love to get everybody going on that chat. So, here we go. This month's RLW is technology that is changing roofing. And I am very honored to invite two guests, Greg Bloom with Beacon and John Kiesel with Division 7 Roofing and Imagine Technologies. This RLW is brought to you by Beacon.

So, here we go. Let's meet our presenters. Greg, welcome to the show. This is your first time.

Greg Bloom:

It is my first time. Thanks for having me, Heidi. I appreciate it.

Heidi J. Ellsworth:

I can't believe it.

Greg Bloom:

I'm honored to be with my friend John Kiesel, too.

Heidi J. Ellsworth:

I know. I can't believe it's your first time, first of many is what I will say. But for everyone out there, if you could introduce yourself. Tell us a little bit about your role and history in roofing, your role in Beacon and Beacon overall.

Greg Bloom:

It's a long history hike.

Heidi J. Ellsworth:

We were just talking about that.

Greg Bloom:

Forty years. I've been in the roofing distribution business for 40 years. It's all I know. If I ever get fired, I don't know what the heck I would do. So, yeah, 40 years, 35 with Allied and the last five with Beacon after we were acquired in January of 2018. I run the National and Strategic Account team for Beacon. Previous life, I was the chief sales and marketing officer for Allied. So, this topic is near and dear to my heart when it comes to technology.

Also, I am on the NRCA Board of Directors and I'm the vice president of the Roofing Alliance, which is the foundation board for NRCA. And also, I run a couple advisory boards for some regional associations like Western States and Midwest Roofing Contractors Association.

Heidi J. Ellsworth:

Excellent, excellent. And we're going to talk about this in a minute, but you were one of the original founders of Roofing Technology Think Tank also.

Greg Bloom:

I am. I am. And thank you to Heidi, because you're the one who made the phone call to me.

Heidi J. Ellsworth:

Greg, we have something else. Let's do it. Let's go. So, a lot of this has come from that.

Greg Bloom:

In our spare time.

Heidi J. Ellsworth:

In our spare time, in our spare time. So, John, I am thrilled to have you on the show. Thank you so much for being here also. If you could introduce yourself, tell us about your companies and your history in roofing.

John Kiesel:

Yep. John Kiesel, Division 7 Roofing. I started in roofing in 1988 as a laborer in Pittsburgh, Pennsylvania. Worked my way up through labor to right-hand man to foreman, superintendent, general manager to president of Division 7 Roofing. So, my passion is to create a different path than I had to go through for the people entering into the roofing industry because honestly, it was pretty tough on me, but I made it out the other side.

And I really just have that passion to make things better and easier, which was the main driver to start this Imagine Technologies Group to come across technologies that can be tested in the roofing industry and implement it into the roofing industry to be adopted by others. It's very rewarding for me. And the drone imagery is one of the first things that we've started with. And we're not pushing turnkey solutions. We're not pushing buy it.

What we want to do is train contractors on how to self-perform. So, again, I'm glad to be here with Heidi and Greg and definitely feel honored to be a part of this conversation.

Heidi J. Ellsworth:

This is great. Thank you both. This is going to be so good. And I want to remind everyone that we are going to have the chat open for questions. I know with a lot of webinars, you kind of wait till the end for questions, but we've kind of mixed that up lately. And so, please feel free to put in your information, what kind of company you have and ask questions or just make comments as we go through.

So, okay, let's get started. So, let's talk about the rise of technology in roofing. So, I want to start out, Greg. We just talked about it during your introduction, but one of the things that you, myself, a number of other people, Steve Little was out there. There was all kinds of folks who really saw the need for more

technology education within roofing where we could bring more of what's happening into the industry and get it out there.

So, maybe if you could share a little bit about roofing technology and how you've seen the industry change over the last decade.

Greg Bloom:

Yeah, I think if we go back, just go back 10, 12 years where we were with technology. I think EagleView had probably burst onto the scene by then, but I think they were obviously a groundbreaker in technology in the roofing space. I'll never forget the first time someone told me about it. I'm like, "What? What are you talking about? What? Aerial imagery? What? How's that going to work?" Well, look at it now.

And CRMs were a future state or still considered a future state. There probably were one or two, but really, contractors weren't using CRMs back then. And certainly, distribution wasn't using CRMs back then either. So, look, like I said, I was honored to be asked by you to be on RT3. It's been a phenomenal association. It's a cast of several different sectors of our business. It's not just distribution, it's manufacturers, it's contractors.

We have some technology companies that are on here on the board as well. It's great. And what we're trying to do is move technology forward, bringing ideas to the table, hopefully bringing value to the industry, allowing contractors to learn from Think Tank. And it's been great.

Heidi J. Ellsworth:

Yeah, it is so good. So, along that same lines, you have seen distribution change over, I think you said 40 years in distribution. I mean, I'm right there with you. So, what are you looking at when it comes to really what you've seen change in distribution with technology?

Greg Bloom:

Yeah. I mean, I think large, medium, small distributors now have brought technology into our businesses. We've added technology to our everyday B2B, call it business-to-business activities with contractors and with manufacturers and with third party integrators. So, whether it's software, whether it's CRMs, whether it's logistics, there's all types of technology we are now using in the distribution side.

Heidi J. Ellsworth:

Yeah, and it's rapid. So, John, you've been-

Greg Bloom:

And never changing.

Heidi J. Ellsworth:

Never ever changing.

Greg Bloom:

Ever changing. Yeah.

Heidi J. Ellsworth:

I can't believe. I mean, we're going to talk about that. We can't believe all the different apps and technologies that are out there now that are at our fingertips. John, what have you seen with really the changes in the roofing industry with the adoption of technology?

John Kiesel:

Well, the adoption of technology when it relates to distribution has definitely come a long way from the days. You'd get a fax, you would have to meet with your rep. You have to wait for your scopes or your proposals and taper design, layouts and just assistance with planning and getting that information quickly because the volume of activity that we're experiencing and the unrealistic expectations of society today, everybody wants things now.

And right now, we're just inundated with unrealistic expectations of people wanting information now. So, I think Distribution has done a great job with keeping up with those expectations of getting you that price and getting that quote, getting the negotiations handled, and you can turn these estimates into proposals. So, that's been the biggest key. We talked about the Pro+ portal for Beacon that they have available to us on our prep call.

And I think it's outstanding. And we can track our orders, we can see what's been delivered and not be surprised with invoices or materials we weren't expecting on. You're placing a $2 million material order, how much of it's been shipped? How much has been delivered? What do we still have to be billed for? So, we have access to that information immediately.

Heidi J. Ellsworth:

Yeah. And with everything that you've done, John, around drones and virtual reality, and I know we're going to talk about a lot of this later on. I mean, that seems to just have been happened in the last couple years where you've been instrumental on the forefront of bringing that into the industry.

John Kiesel:

Yeah. The utilization of drones, we started doing this about two years ago. And when we started utilizing it, I thought, "We need to get this out to the roofing industry." Everybody's just going to want to jump on this and start doing it right now. Well, it's not the case, unfortunately. There's a lot of people that are slow to adopt new processes, unfamiliarity with how to manage drone pilots.

So, there's going to be a comfortability process that needs to take place, but it will take over. It's just going to take time. But the benefits of utilization of aerial imagery to photograph are roofs which are in airspace. So, it just makes sense versus climbing up a ladder to get to it.

Heidi J. Ellsworth:

Yeah. Okay. We're going to move through all these topics. So, we wanted to get them out there. So, let's start with one of the first topics we want to talk about is distribution software and processes, just because it has changed so rapidly just in the last couple years. So, Greg, let's start with you just kind of working through how contractors are using the technology that distribution is putting out there for them.

Greg Bloom:

Yeah. So, John mentioned Pro+. Obviously, that's our e-commerce platform. Now, you can order anything you want 24 hours a day, seven days a week. That is absolutely a game changer for contractors. When

you have the ability to order material any time of day and have a reasonable response, a quicker response, it certainly changes things for distribution.

And I don't know if all distribution has that capability, but it's coming. If distribution doesn't have it now, it's only a matter of time. So, think Amazon, providing that value add of being able to order material anytime you want and not have to worry about it.

Heidi J. Ellsworth:

Yeah. And you really think about that, Greg, the Amazon experience, after what we've been through the last couple years. I mean, I don't think there's anybody who can't use Amazon. It's pretty easy. And so, our buying habits have totally changed in that we want to be able to order online.

And I think this isn't... and we're talking about distribution right now, but this is across the board that our industry is going to change with the ability to even have homeowners buy their roofs online or building owners buy their roofs online. It's all coming down the stretch.

Greg Bloom:

Absolutely. And then, tracking your order, just like Domino's and Amazon and all these, UPS, right? From the time the order is placed, when it's shipped from a warehouse to a job site, it's a value that distribution brings to the table now as well. So, storm maps and you got swaths, storm swaths, hail maps. I mean, there's so many of those companies out there that distribution can partner with and provide those services to contractors.

That also includes wind, et cetera. So, there are several different companies that we are now partnering with in distribution that bring those things to the table. And it's exciting. It's exciting.

Heidi J. Ellsworth:

It is. So, one of my very first jobs in roofing, I was given a pile of receipts this tall and said, "Go and figure out how many points we get so we can get something from the loyalty machine or loyalty book," this big catalog. So, I'm really dating myself. Today, that documentation is all being done online.

Greg Bloom:

Yeah, yeah. Helping contractors document their data, track their orders, their invoices, et cetera. I would call it, it's the cherry on top.

Heidi J. Ellsworth:

Yeah, it is, to be able to have that kind of thing. So, John, for your business, and I wanted you to share your tech stack, but I know you're using Estimating EDGE, that you are in Pro+. So, how is this kind of software and technology, how's it changing your business, your contracting business, by working with distribution through some of these updates and new initiatives?

John Kiesel:

Well, it's definitely a welcomed process when there's an integration into something you're already utilizing like the EDGE. So, our estimator is able to get pricing right into the EDGE. We're able to tie documentation about deliveries right into our projects. I think technology is starting to understand there has to be a value add to adoption or utilization, or it's just going to probably die and it's just going to sit there in isolation.

So, trying to get your team members to utilize technology is not very easy. It definitely takes a lot of pushing. And I talked to our estimator yesterday, Ryan, about the Beacon Pro+ platform, and I talked to our CFO about it. And I'm like, "I see you're using it for one component. But when it comes to project management and managing the financials about deliveries and billings, you need to get in there, double check what's going on because you need some redundancy."

Because most of our information comes from the field and that's unfortunately can be a little bit inaccurate. So, we need these redundancies. So, the technology stacks we're using with project management, accounting, estimating, field management, you name it, we have a fleet tracking. Everything is happening, but now we're working to untangle the spaghetti.

Heidi J. Ellsworth:

Yeah. We had an interesting question. And Greg, I'm going to put this to you because you started to answer it in the chat. Charlie Williams, thank you. Charlie said, has technology advanced to a stage where they can be used to identify defects in roof installation?

Greg Bloom:

John may have a better take on this, but I know it's on the horizon. I know that manufacturers are looking at that. It's definitely a future state, but not too far in the distant future would be my guess. John?

John Kiesel:

Yes. So, I know Pointivo, they have a program. Well, they'll fly projects and provide you an AI report. It will identify granular loss, ponding water, a few other AI algorithms that they've worked on to get integrated. But as far as automatically or autonomously picking up on avoiding a lap, those types of things, that's probably a ways out. But definitely, the obvious larger things to program are being detected today, for sure.

Heidi J. Ellsworth:

I know we talked about this a little bit earlier this week, but there's also manufacturers out there who are starting to use RFID. I hope I said that right and my dyslexia didn't get in the way. But to actually put monitors into the roof to be able to track when it was made, manufactured, all of those kind of things. I mean, it's not the same as installation, but definitely, we're starting to see that happen. So, let's go because we're talking about that.

Let's move on to integrations. So, you kind of started this, John, but I want to kind of talk about the visual, what integrations we're starting to see out there. And so, Greg, maybe we'll start with you in just what are you seeing between contractors, distributors, other software applications, and then how they're putting that whole tech stack together?

Greg Bloom:

Yeah. Where do I begin? Because there's so many now. So, there's distributor to contract, there are integrations. There's third party integrators to contractors. I think eventually you'll see manufacturers to distributor to contractor. Call it four-party integrations. There could be, right? So, estimating, CRM, visualization tools like Chameleon Company cam, those types of integrations, they're out there.

The purpose of doing an integration is having a contractor's tech stack align with a distributor's tech stack or a manufacturer's tech stack. And in all those fields, John mentioned field management. So,

Dataforma, one of the top field management softwares out there. It is incredible how far that process has come or how far that, call it that integration has gone to the depths of contractor processes.

It blows me away what these softwares can do. And we in distribution need to be on top of that and try to find a way to bring more value and help our contractors build more, one of Beacon's core values. We want to help our contractors build more, meaning enhance their business, enhance your business. Not just be there to take orders, but be there to really be invested in a contractor's business. That's what we want to do.

Heidi J. Ellsworth:

Yeah. It's so interesting because, Greg, I have seen so many just in the last, I'm going to say two years, and I don't know if it started all with this COVID thing. But what I've seen is so many more business relationships. In fact, I'm going to give RT3 credit for it. Let's forget about COVID. Maybe it's because of RT3 where so many business are making business partners, affiliations, where they are making sure that their softwares integrate or that they integrate into different places.

I've seen that so much. And so, John, I would love for you to talk about that contractor tech stack because man, when you look at apps, you could have a hundred and it's like how many subscriptions are you paying? What are you doing? Does it work together? Do they talk together? So, talk a little bit about that.

John Kiesel:

Yeah. So, being in the business as long as I have, and I've watched us kind of graduate the fax machine, the cameras going to digital and these fairly inconsequential technology developments. But when we started to get into, oh, we can buy Dataforma so that it'll manage our projects, our photos, our documentation, great, we want that, we need that. Then, we want something to keep track of our vehicles. We see it. Great, we want that, we need to do that.

Well, now we need a technology to help us with roof assessment processes. Okay, well, biotech. And we really didn't realize or I didn't realize what I was building, and that was a giant mess. And what I'm starting to see with accounting and estimating and timekeeping and scheduling, all these components that we used to do person to person if we just feel there's need to make a technology, what I'm starting to see is the technologies are starting to become buildable yourself through Power BIs and different Microsoft programs.

I had to hire a couple of different people that are just very tech savvy to stop me from continuing my madness and slowing me like, "Hey, John," I can build these things through Excel. I can get an export to handle these things. I can make this technology that you're wanting to see myself with what's available. So, I'm really starting to see this shift from you have to buy this whole entire bundle to you can buy and build what you want. So, I'm starting to see that starting to happen.

Heidi J. Ellsworth:

Yeah, I've seen that, too. And also people are talking to each other, "What do I really need?" And I've been hearing people who have a whole evaluation. And in fact, we did it. What are we paying a subscription on, the whole list? And do we need them, that evaluation? And I love Jerry's comment and I just want to say it, the tech and CRM programs seem to take the place of true knowledge of what you are doing.

It's like, here, take this tablet, just punch in the basic numbers or measurements and I'll do everything for you. Thank you, Jerry, very much. That's a really interesting comment because-

Greg Bloom:

It's a balance. It's a balance.

Heidi J. Ellsworth:

Yes. Greg, go. Yes.

Greg Bloom:

It's a balance. Absolutely. No, I think Jerry makes a great point, but I think it comes down to balance. You can't let it completely run your business by the same token. If you want to be more efficient, it's the way to go. Technology is the way to go.

Heidi J. Ellsworth:

And we're going to talk about that a little bit more as we go forward. But it also could be, without technology, some roofing companies are being left behind because of just the expectations of speed to what you said, John.

John Kiesel:

Yeah, I think we're in a different society expectation of perfect, exact. I don't think our expectations are what they were 20 years ago. We kind of settle for we need information, we need good enough, we need to get the ball rolling. And that's what, I think, we're kind of falling in a trap as an industry on is just trying to be submissive to people's expectations and not perfection or as close to it as we can.

And that's why with the drone technology that we're putting out there and marketing is we want you to fly the buildings, acquire the imagery and analyze it yourself, and use real intelligence versus artificial to determine what's going on. But these things are enhancements. So, if they can pick out a few things so you don't have to waste your time to find it, that's a bonus too.

Heidi J. Ellsworth:

Yeah. Well, speaking of drones-

Greg Bloom:

If I could just add one more thing, Heidi? Go back one slide. I think contractors will be and should be constantly updating their tech stacks to be more efficient. So, we all know software changes or software "updates". We always do our software updates. You've got other software apps out there now for labor. You've got ToolBelt and you've got Labor Central, where literally a contractor can hire labor off of an app.

So, they're new to the industry, but from what I understand, they're doing great. So, point being is, almost every aspect of a contractor's business can utilize technology, if not all.

Heidi J. Ellsworth:

It's all. Yeah, and done the right way. And so, one of those is aerial imagery. And so, I will say, as part of my career, I was so blessed to be with the startup of EagleView and really see what happened with satellite and airplane. And Greg, I was probably the one who talked to you about EagleView the first time. And you said, "What? Are you crazy, Heidi?”

Greg Bloom:

I think you were second. You were second. There was one other guy that brought it up to me and I'm like, "All right, whatever."

Heidi J. Ellsworth:

Yeah, I know.

Greg Bloom:

But you gave credibility. You gave her credibility, Heidi.

Heidi J. Ellsworth:

And it works, thank goodness. So, John, let's talk just a little bit about these because I think a lot of people get really confused when we're talking about these reports, aerial imagery reports that we're getting. What's the difference, as you're looking at it, between satellite, airplane and then drone?

John Kiesel:

So, for contractors like us, we got a hold of Google Earth. And there was a slow process of can we use Google Earth? We use Google Earth. Now, you have Google Earth 3D and you're starting a lot of contract, which is fine. You verify a layer of redundancy to measure and look at roof assets in Google Earth. The Google Earth, we call it GSD or ground sampling distance, and that means the accuracy of the pixel spacing within that image.

And Google Earth is about 10 inches, which means you can be 10 inches off very easily in measurements. And when you're talking about roofs that are a million square feet, that could become a pretty big consequence. Airplanes and drones, it really kind of depends on what the payload is on the drone. What kind of equipment are you using? Are you using LiDAR? Are you using an RTK module? Are you just using a camera and utilizing photogrammetry?

So, there's different accuracies that you can expect just depending on the acquisition process. But in the general easily obtainable photogrammetry process, we're at an inch. So, our measurements are tighter. The ability to measure vertical interior assets of the roof, we can handle doing that as well in the 3D model creation within the photogrammetry program.

So, what we are doing is not just about a report, it's about having that digital twin to be able to manipulate, measure and utilize for plenty of processes down the road.

Heidi J. Ellsworth:

And the thing is, is that this is becoming so important. And especially I see it in commercial, because if you can bring in that 3D model and image into your Estimating EDGE, now all of a sudden, that estimating you're bringing in with, and I'm going to say with airplane or drone, drone being the highest resolution. But now, you're able to really start putting some things together and creating that tech flow that makes estimating more accurate.

You aren't going to have duplicate entries, all of that. And it kind of flows all the way through to distribution. And so, what are you seeing, John, with people actually using those 3D images and starting to... I mean, it's a slow adoption with the drones for people to fly their own. Talk a little bit about that.

John Kiesel:

So, in our journey, like I said, about two years now we started out with marketing, to some extent, a photogrammetry imagery processing program, Optelos. And people thought what was in it is great, and those were 3D models, those were orthomosaics, there are point clouds and it's great stuff in there, but how do I get that imagery? So, I can use a third party drone provider that'll fly things, turnkey and you put the imagery in there.

But it starts to get very expensive every time you want to have an image data set put inside that great Optelos program. So, what we did was we partnered with Drone U and provided them with our process on how to utilize or how to capture, how to process and how to utilize it within the EDGE program. So, we're going to teach you, get your Part 107, how not to crash the drone, what kind of equipment you need to buy, how to fly the missions.

And once you get the imagery, how to bring it into the EDGE so that you can supercharge the EDGE Estimating program and have very, very accurate information about what the roof looks like today. Not Google Earth, which could have been two years ago, three years ago. Who knows what happened to it in the last 15 minutes. Today's imagery gathered when you do the takeoff, brought into the EDGE and now you're cooking with gas.

And the next leg of that will be punching in your materials and turnkey right into Beacon. And now, you just optimize that workflow 25% faster.

Greg Bloom:

And the cool part of that, John, is we have a third party integration with the EDGE. And seeing that drone technology, it just blows me away what can be done now. Again, going back to that statement I made at the beginning, 10 to 12 years ago, where were we? And look how fast we've evolved since then. It really truly is phenomenal.

Heidi J. Ellsworth:

And when you think about the next generation, and I think that's so important, what you just said, John, is that, first of all, we're in a labor shortage and I'm not talking just in the field, getting estimators, getting young people coming into the roofing industry. But when you can start talking this language and talking about all these things that you can do with drones and aerial imagery, you can walk through the, you just kind of did, but walking through this process, it's going to attract young people.

John Kiesel:

Well, it does. And our overhead team needs to have a person on it that understands technology and understands how to deal with being effective and efficient when it comes to utilization of it and attracting people into the industry through a technology path versus the path that I took and it's kind of the old-school way of thinking. They don't know anything. They've never been on a roof. They didn't spend 10 years on a roof.

They can't do anything in the office and make it to the gravy train until they paid their dues out in the field. The people that think like that unfortunately are probably struggling to advance with the rest of the industry because it's a little bit unrealistic and it's a diamond in the rough to find that person that goes through the hard knocks and actually has a technology passion. And you haven't beat it out of them within the field operations, but this is where they come in.

They can learn how to fly out the drone. They can learn how to project manage, and the project management takes them to estimating. Getting involved with continual flights on projects to manage the safety performance and manage customer updates on where you're at on the job, so there's a lot of real

accurate information. We're glued to the news every day. We're all going to go and meet at the IRE here in a few days.

And we're going there not just to find out what's going on, we're going to find out what's really going on. And this imagery tells that story. This is fact. This is accurate. This is what's really going on. And it wasn't depending on maybe a person having a bad day and not really wanting to tell you the whole story about what's going on.

Heidi J. Ellsworth:

And even though there is obviously an upfront cost for the training and equipment and the software and everything like that, at the end of the day, there is quite a bit of cost savings when you are able to fly those drones and take people off the roof, safety issues, everything else. I mean, obviously, they have to get on the roof eventually.

Greg Bloom:

Yeah. And we use this in distribution from a perspective of job site safety. So, we get an address, and most of the time, we'll get tipped off by our contract, say, "Hey, it's a little dicey on that job site." And we have used aerial imagery to help keep our team safe as we're delivering materials on the job site. And again, flipping that over measurements, estimating tools, these are all things that distribution is bringing to the table with third parties for our contractor base.

It's very important that we continue to evolve in distribution and bring value to our contractors.

Heidi J. Ellsworth:

Right. And bringing the technology there. Okay. So, let's talk about... this all stuff is happening right now. Maybe a little bit of slow adoption on the drones. But man, between now and five years ago, it seems like a lot of adoption. But let's go just a little bit forward here and talk about robotics because when we're talking about the labor shortage, we're talking about how can we do more with less people and that's robotics.

John, you've been doing some very cool stuff with trying to get into robotics. Maybe you can share with everybody what you've been doing.

John Kiesel:

Again, Ryan, our estimator, hi, Ryan, if you're watching. He was in a robotics class when he was in high school, very brilliant fella. And his robotics teacher, they still stayed in contact, but they just had a conversation. He asked Ryan, "Hey, would you be," or actually, Ryan asked him, would they be interested in building a robot that would lay installation plates within the robot because they always are looking for a project to try to work out and see if they can build it.

We were a little bit late in the game of deciding or them being able to make a decision to build this robot for that course or for that mindset, but we did end up sponsoring the robotics team. Gave them some money, gave them a couple days of drone technology training and did some presentations with them.

And we may have lost a little battle of that robot creation, but I think we won the war with getting roofing in front of brilliant youngsters that are now thinking that roofing could have something for me in it.

Heidi J. Ellsworth:

You said when we were talking about this that really roofing, construction overall, but really roofing is like blue ocean for robotics. So, any young entrepreneurs or older entrepreneurs out there is going to be the first ones to make it to the roof to be able to figure out how to use more robotics. I mean, we already have equipment up there, the Macaden, Minimacaden is one of them that has really created the need for less people up on the roof.

But we are starting to see people talking about this. How can they code a roof with a robot or with some robotic machinery, I should really say? And John, are you seeing some of this at all or is it still just a lot of talk?

John Kiesel:

Well, I think that there's a lot of big, big money entering into the roofing industry. Everybody knows Venture Capital. And when these people start buying up roofing companies, and they actually have the force needed to push the needle, the Garlocks and the different manufacturers of roofing equipment, they're not building customized equipment.

Maybe they build it for Sinmar, companies that actually have enough oomph behind them to make this not going to be a slow adoption creation. But I do see problems in commercial roofing starting. I mean, manufacturers, they create systems. It's not a great system and it's not great to apply all the way from like the InvisiWeld System. We are struggling to find these plates underneath the membrane so that we can induction weld them.

I've seen guys dragging around 20 pound blocks of black rubber to scuff them. I've seen everything in the world just trying to find these plates. And I'm sure there's a robot that's going to run around and find that magnetic source and put some kind of mark on that plate so that the guys don't have to do some crazy process to find it. But we are looking at things and looking at things efficiently because the cost of labor is so expensive and rising.

We can't afford to do business like we used to. Throw 12 guys at it, they'll get done within any hours. It'll be fine. Who cares what they go through? That's going to solve two issues is one, if we can make things be a two-man maximum process, automate it and optimize it so that it make sense. We will attract people to want to do roofing.

You can't make their first day of roofing be this experience that they don't want to even make it to lunch. So, automation is definitely going to happen.

Greg Bloom:

Don't put them on a roof the first day, John.

John Kiesel:

You do training with them in the office and they think it's going to be great and easy.

Heidi J. Ellsworth:

Well, when we talk about robotics, it actually in the roofing industry is already happening, but it's happening at the manufacturing level. So, part of Roofing Technology Think Tank, we were able to do a tour at OMG. And Greg, that was phenomenal looking at the robotics there. Maybe talk about that a little bit.

Greg Bloom:

Yeah. Manufacturers absolutely have the wherewithal, the money, as well as the desire to use robotics in the manufacturing process. That was an eye-opener for us when we toured that plant, OMG, state-of-the-art fastener company. They bring so much to the table to our industry. But seeing that for real, arms stretched out, picking up a big stack of plates, putting, I mean it was really cool.

It was really cool. And I saw a video, I think it was about a year ago, of a robot actually on a roof trying to nail the roof.

Heidi J. Ellsworth:

Shingles to our question in the chat. Yes.

Greg Bloom:

Yeah, yeah. Jerry so eloquently said, "Get me someone on it that could do a 1012 right now. I'm in." So, whether that happens or not remains to be seen. And I certainly think for distribution, could it be a future state? I mean, do I see robots loading roofs? Do I see robots operating machinery? I don't know. That's probably above my pay grade.

Heidi J. Ellsworth:

Self-driving delivery trucks.

Greg Bloom:

Yeah, yeah. Is that going to happen? Obviously, there's self-driving vehicles now. And I know that certainly could be a wave of the future, but who knows? It's a future state in my mind.

Heidi J. Ellsworth:

Yeah. And I do want to say too to the chat to Jerry, what you said, there was actually talk, and I haven't seen it in a while, but I saw some samples of people trying to get drones. So, it wasn't about clinging to the 1012, it was actually a drone that was flying and installing shingles. It was a concept. I don't think anything already came of it.

But you just never know where some of these things will go with the innovation that everybody has and that they're thinking about. I do want to talk about, and I'm going to come back, Charlie, to your comment because that's really good. I want to talk about virtual and augmented reality because, John, you have given some great presentations to the RT3 Group about this. And we have a lot of people who are using this.

So, maybe if you can just talk a little bit about, first of all, what is it and then how is it being incorporated into the industry?

John Kiesel:

So, virtual reality, the Oculus headsets that people see it Best Buy, we fly just a 30,000 view. We fly our buildings, create a 3D model, put those models into virtual reality space, mail our client a $200 pair of Oculus. It's a little clunky. They got to set them up. It's kind of a pain in the neck, to be honest with you. But this is early on. Virtual reality is not everyday practice for everybody, especially older people like myself.

But you get them set up in it and then you can do a virtual roof walk with your client on the roof, take them through a tour, talk to them about the issues, the deficiencies, because asset management people, they've never been on a roof. They don't know. So, to a property manager, excuse me, this is a great tool, so they can talk to their asset management team and actually show them why they're asking for money.

Augmented reality is something we're using for virtual assistance. So, it's a layer of a digital world laid over the real world. So, you don't lose that perspective of where you're at, covered up in a full-blown headset. So, in virtual assist, we can have somebody with that.

Greg Bloom:

I think we lost him.

Heidi J. Ellsworth:

Oh, no, did we lost him?

Greg Bloom:

I think we lost him. I can add something here.

Heidi J. Ellsworth:

Go ahead. Yes.

Greg Bloom:

What I'll add is what I've seen virtual reality, these Oculus devices are great for data storage too. So, I think John was alluding to all the different ways he utilizes it. So, I've seen it used really well for data storage. So, call it material safety data sheets, cataloging, just all types of specs and taking manufacturer specifications and loading them into virtual reality systems. It's pretty cool. I mean, it's cool.

Heidi J. Ellsworth:

It is really. And we have a question in here from Monica that says, what application do you use for the VR roof tour idea? And Monica, we can get you with John. I can tell you from our last meeting last year at IRE for Roofing Technology Think Tank, he actually had the rooms with us. And I get terrible motion sickness and I thought, "I'm never going to be able to do this," but I could. I could.

They have the roof and then they take the people in there. And so, if you have your facility manager or somebody who just can't get up on the roof, you can actually take the two of them, walk them through the roof, show them where everything is. But one of the big ones, Greg, and you've heard Rackley talked about this, is Rackley uses this for their safety training.

Greg Bloom:

Yep. The data collection piece, right? Yep, yep.

Heidi J. Ellsworth:

Yeah. So, all the safety training, every person goes through with goggles, they have them fall off a roof. And so, did you see how terrible that feels? I don't know quite how it works. I've not done that.

Greg Bloom:

I can't imagine. It's like a rollercoaster.

Heidi J. Ellsworth:

I know, I know. But that's how they're using it. So, there's a lot of different ways that this can be used either for training on what is a roof with your own employees, for your customers, and then also on safety, and then finally on inspections. If you're doing your inspections and then you can take it to the boardroom, you don't have to be taking everybody up on the roof all the time.

And you know what, Monica, we'll get back to you with what drone do you prefer. That's a John question. Unless, Greg, do you have one of your favorite?

Greg Bloom:

I don't. I don't. I mean, obviously, Pointivo is the one I'm most familiar with, so that would be my guess.

Heidi J. Ellsworth:

DroneBase also does a lot of that and they're involved also. And then, I did want to mention that Charlie had said, first of all, thank you, Charlie, "This is a great presentation with lots of value. Any thoughts on creating a roofing technology video, PowerPoint or PPP geared toward middle to high school students?" Charlie, we're going to be talking, RT3.

In fact, next week, we are doing a presentation at IRE, a panel on contractors who are taking the technologies into the middle and high schools to help recruit.

Greg Bloom:

Yep. Plus, NRCA is doing things with SkillsUSA, those types. We are working diligently between what NRCA is doing and what the Roofing Alliance is doing to try to get more and more young people, call it jazzed up, Charlie, about roofing. So, great idea. By the way, Charlie and I go way back, way back.

Heidi J. Ellsworth:

There you go.

Greg Bloom:

Charlie and I worked very closely together in the '80s. He's a great man and does a lot for children, or not only children, but also high school students, which is why he chimed in here, which is fantastic.

Heidi J. Ellsworth:

We need to get him in RT3 there, Greg.

Greg Bloom:

Yeah. Well, Charlie's retired, so it's up to him if he want to come in.

Heidi J. Ellsworth:

Perfect. There we go. We need you.

Greg Bloom:

Charlie would bring value, for sure.

Heidi J. Ellsworth:

Yeah, that would be awesome. Okay. What I would like to talk about real quick is everyday technology. So, this is one of the things, we talked about what's out there industry-wise. We talked about the futuristic, but there's really everyday technology that we use in our lives that can be utilized in the roofing companies or in anybody's company.

And so, one of the first ones that came across that actually Rackley Roofing out of Nashville found translation earbuds on-

Greg Bloom:

Love it.

Heidi J. Ellsworth:

... Amazon.

Greg Bloom:

Love it.

Heidi J. Ellsworth:

I know. Since we don't have John on in, but Greg, you saw this too where they just put the earbuds in. And then, when you're talking to... and the other people have an earbud, too. I think may be one per ear, I'm not sure. And when they're talking, it translate it between whatever language you want. It's incredible.

Greg Bloom:

Yeah. Who would've think it, right? This is the age we're in. And I got to tell you, that's got to be a huge plus for anybody who is working with their, call it their labor force that does certainly not necessarily speaks English.

Heidi J. Ellsworth:

Great.

Greg Bloom:

Yeah, it's great.

Heidi J. Ellsworth:

And so, I just saw Jerry came on here and said he wants those. I'm telling you what, just go on Amazon. That's what we're talking about is some of this technology is just out there at Best Buy or Amazon or wherever it may be that may serve some of those solutions for your business that you need. FaceTime and virtual assist. So, this is another demonstration that John gave at the last RT3 meeting where you can actually... oh, John, you're back. Yay.

Greg Bloom:

He's back.

Heidi J. Ellsworth:

Perfect timing, John.

John Kiesel:

Thank you. Sorry about that. A little bit of a technical malfunction here, but I'll just blend right back in here.

Heidi J. Ellsworth:

During a technology webinar. That's perfect.

John Kiesel:

Yeah, absolutely.

Heidi J. Ellsworth:

We were just talking about your demonstration of virtual assist and how companies can utilize that for training and for answering questions up on the roof. So, we're hoping you could talk about that some.

John Kiesel:

Yeah, the complication we have right now is bridging that generational knowledge gap. So, we have so many people that understand roofing really, really well, and then we have the majority of people trying to learn about what's going on and how to handle situations. And FaceTime and those types of things get utilized pretty regularly. But with a virtual assist platform, you actually have a great set of tools.

You can bring into the conversation documents, specifications, all those types of things. So, it's a little bit... it's kind of a FaceTime on steroids. And if you layer that with AR within a visualizer so you can be hands free and see what's going on and have instructions being given, it's a great piece to consider.

Heidi J. Ellsworth:

Yeah. So, where do people get virtual assist, John? How can they purchase that?

John Kiesel:

Well, there's a couple different programs out there. We use a company called Blitz. It's called Blitz App. So, it's very inexpensive. You can send a text message to your text out in the field. They can send a message to you. It records the conversation so that you can go back in time and say, "Hey, this is what we talked about." And the photographs that you can take remotely of what they're showing you are saved.

And I know a lot of people out there have a problem with service departments and trying to get their service technicians to take great pictures. Big problem, believe it or not, no perspective. They just sometimes have a hard time taking pictures. So, with virtual assistance, you can say, "Hey, just hold up your phone and show me what's going on and I'll just snap the pictures I want. I'll upload those right into my platform."

Greg Bloom:

Right into the platform.

John Kiesel:

And we can get that invoice set out right now, and problem solved. So, we're working on making the field technician's efficiency happen and quit trying to pile on top of them a bunch of technology requests, as well as doing the roof.

Heidi J. Ellsworth:

Yeah. So Blitz, B-L-I-T-Z, app, right?

John Kiesel:

Yep. Yep.

Heidi J. Ellsworth:

Okay, I want to make sure. I just put that in the chat for everybody. Okay, so this is going to kind of lead us to a couple things along this line. And so, one of the things we had earlier was when Jerry was like, "So you're going to put a headset on a customer." And so, if it was me, John, as you know, I'd be like, "Oh, I'm going to get sick. I can't do that." So, there's a lot of different ways and this virtual assist I think is one of those, or even FaceTime.

There's a lot of different ways to bring the roof into that facility manager's or building owner's office. It's just a different way of thinking. How are you showing them? Or maybe it's just the photos from that as we go through. But when you talk about service, I think that's so true, John. I mean, talk about you have to have the right photos.

John Kiesel:

You have to have the right photos. And every client has a different expectation or willingness to even participate. We have clients that really don't even care about what you're even talking about and wouldn't spend five seconds to do anything. "Just send me the bill. Just fix the roof." You have some clients that, "Hey, I really want to get nitty-gritty with this."

And you have conversations with people, and if they get excited about, "Hey, would you like to walk this roof of virtual reality?" "Yeah, that would be amazing. Plus, I have kids that would use these things to play whatever VR games on after you're done."

Heidi J. Ellsworth:

Jurassic Park.

John Kiesel:

It's a promotional item and it's also something that can be used as a tool.

Heidi J. Ellsworth:

Such a great idea. That's so cool. I do want to also, and this was great from Taylor, that another good software is IMGING by Loveland Innovations. They also do stuff out there. So, really going out and

looking... I know I can say on the RoofersCoffeeShop, we have Imagine Technologies with John's company.

Of course, we have Beacon, we have all these directories of all these different softwares that you can do research right there to get some more information, get contacts, make those connections. John, while you were off, we had one question from Monica that said, what drone do you prefer?

John Kiesel:

Well, we prefer a drone that's called the Phantom 4 Pro. It's something that they are not producing any more new drones of. They replaced it with the Mavic 3 Enterprise. But for somebody that's going to get into creating imagery and doing photogrammetry, you need a specific type of camera capability. And that comes on a Phantom 4 Pro, which you can buy for probably under $1,500 used, making sure you have a good clean unit.

But you can buy a Mavic 3 Enterprise, which is probably going to cost you about $4,000 to get started with that. And there's a few other manufacturers out there that do the mapping missions, but you need that proper shutter and that's what's going to come on that Mavic or DJI Phantom 4.

Heidi J. Ellsworth:

Taylor was agreeing with you. Mavic 3 Enterprise is the future. So, we've got a lot of great knowledge on here. Check out the chat, Monica. And also, like I said, Imagine Technologies with John Kiesel is on RoofersCoffeeShop directory. You can find them there and get ahold of them too as you're going. Any drones have use of a thermal camera? What's happening there, John, with thermal cameras and drones?

John Kiesel:

Right now, we have a M300, which is about a $20,000 drone and a $10,000 thermal camera on it. And we are performing thermal mapping missions today. Last year, we probably spent over $30,000 to a thermography company to come out and thermal scan our roofs for overlay wet installation detecting for replacements. And we say we can fly these. We can get the imagery. We can do destructive testing if we need to and bring that process in house.

So, we're using thermal imagery today. You can buy a Mavic 3T, which is a Mavic 3 thermal. It's all in one, but does not have a camera interchangeability. It's a thermal drone versus the M300, which you can change in and out the different payloads, which means different cameras and adapters to it. But the Mavic 3 thermal is the most inexpensive path to flying thermal missions right now.

Heidi J. Ellsworth:

Excellent. Well, gentlemen, we are at the end of our hour. Has this been great or what?

Greg Bloom:

Good stuff.

Heidi J. Ellsworth:

Good stuff.

Greg Bloom:

I learned more about drones today than I knew for the last 40 years.

Heidi J. Ellsworth:

That is great. And I have to tell you, I've learned so much. It's constant and this is why we need to keep having these and keep talking about them.

Greg Bloom:

Yeah, for sure. For sure.

Heidi J. Ellsworth:

So, Greg... oh, go ahead.

Greg Bloom:

It's ever evolving. No, technology's ever evolving. And we all are very, very entrenched in helping our businesses get better. And we as distributors, we at Beacon, our job is to help our contractors build more, as I said earlier. And that's what we're going to do. So, appreciate the time, Heidi.

Heidi J. Ellsworth:

Thank you. Thank you, Greg. Thank you to Beacon for bringing all this great knowledge to everyone.

Greg Bloom:

You bet.

Heidi J. Ellsworth:

What a great hour. John, thank you so much for being here today and sharing all of your wisdom.

Greg Bloom:

Thank you, John.

John Kiesel:

Thank you for inviting me. My pleasure.

Greg Bloom:

See you next week.

Heidi J. Ellsworth:

This has been great. See you next week at IRE.

Greg Bloom:

See you all at IRE. Take care.

Heidi J. Ellsworth:

Thank you. Thank you, everybody, for being on today. Remember, this will be available within 24 hours so you can share it out to your company and to your other roofing professionals or friends. If you have

any questions, you know where to find us, heidi@rooferscoffeeshop.com. You can find Greg on the Beacon directory. You can John on the Imagine Technologies directory. Any questions you have, please give them to us.

We will be back again next month with our RLW. Last Wednesday of every month, we're here. So, we'll be seeing you then. Thank you so much and have a wonderful day. And for all of you who are going to be at the IRE, please stop by at the Beacon booth and stop by at the RoofersCoffeeShop booth. We're at 9309. I don't know your booth number, Greg.

Greg Bloom:

I wish I had that available on top of my head. My bad.

Heidi J. Ellsworth:

Beacon is so big. You'll never be able to miss it with their big sign.

Greg Bloom:

Yeah, we got a good one.

Heidi J. Ellsworth:

We'll see you all then. Have a great day. Thank you so much.

Greg Bloom:

Thank you. Thanks, everybody.

John Kiesel:

Bye.