Noah Kravitz (00:10)

Hello and welcome to the NVIDIA AI Podcast. I'm your host, Noah Kravitz. The history of agriculture is closely intertwined with the history of weeds. As farms and farming techniques developed over human history, weeds evolved as well, adapting and thriving as farmers employed ever more rigorous weed management techniques, from manual pulling to herbicides. Seattle Washington-based Carbon Robotics may have found a better way to weed through a combination of farm machinery, lasers, and AI.

The company has destroyed more than 15 billion weeds on more than 100 crops to date without the use of herbicides. They were recently named to CNBC's Disruptor 50 list of innovative companies — they're actually in the top 20 — and last fall, they closed a Series D funding round whose investors included NVentures, NVIDIA's venture capital arm. Here to take us into the world of laser weeders and the future of farming is Paul Mikesell, founder and CEO of Carbon Robotics. Paul, welcome, and thanks for taking the time to join the NVIDIA AI Podcast.

Paul Mikesell (01:11)

Yeah, you bet. Thank you for having me.

Noah Kravitz (01:14)

So let's start at the top. You had an impressive and successful career as an engineer and an entrepreneur before founding Carbon. What inspired you to take on the future of farming and technology and get into this sector?

Paul Mikesell (01:30)

You know, so it really started when I was at Uber working on neural nets and AI systems for vision and perception. And what I was really excited about at the time as an engineer was the ways in which computers were being able to, for the first time ever, really understand the world around them. And so through the use of neural nets, all these AI systems — and this was back in the day when this stuff was all pretty new and you wouldn't find, you know, thousands of people claiming to be AI experts at any random coffee shop or whatever. And we were really, I was really excited about the technology and I found that in my career whenever you get that level of excitement about something you really have to dive in because there's a good chance it might be the future. And so really just focusing on that stuff, and we were working on self-driving cars and a bunch of other stuff at Uber, a bunch

of very interesting problems. We were talking about global logistics in a broad sense, and that was really a lot of what we were doing there, beyond just the self-driving car work.

So anyway, I left Uber after the IPO and wanted to go do something new and interesting, and I met some farmers, and just nothing to do with technology. Actually, the first farmer I met, I actually sold him an airplane and that was how, that was where the connection came from. That was pretty, and you know, it's one of these things where sometimes if you just take the time to stop and talk with somebody who has a completely different background and set of perspectives and worldview and, you know, of course, experiences from you, you learn a lot. And I really got into understanding what's happening in farming and was interested in farming. And the thing that shocked me was the level of innovativeness, inventiveness, curiosity, and mechanical intuition that farmers have about things. And what I learned is that farmers are not what you might think if you had only lived in any of the tech cities, San Francisco, Seattle, et cetera, in that they're not afraid of technology.

Paul Mikesell (03:52)

They don’t want to hide from technology, certainly. And in fact, they're very much promoters of technology. And it's really anything that can help them with their job. And their job is to produce food, healthy food, quality food. They all care about these things and for people to eat. So this came out of a long discussion with farmers about what were really their pain points. And weed control kept coming up as one of the top pain points.

You mentioned in your intro, you did a very nice job with that, it has been a combination of either just people out in the field, physically pulling these weeds out or spraying chemicals, spray, spray, spray. And we got really addicted to spraying chemicals as the primary weed control method. And there's a lot of negative downstream effects, health effects to the consumer, long-term health effects to the farmer, who are the people that really suffer from this long-term chemical exposure.

Damaging to the quality of the produce, damaging to the land over long term, things running down the stream, so runoff going into the Gulf of Mexico, killing a bunch of the sea life down there — all these problems with it. We only do it because we kind of got into this spot where it was the only way to economically grow food. And so we combined our AI systems for weed detection and general understanding of what's going on in the field with lasers.

And our AI finds the weeds, the AI points the lasers at the weeds, keeps it on target and burns them out with this high-powered laser. And we discovered all this also along the path, talking to some of the folks at the University of Washington, which is my alma mater.

I earned my computer science degree from UW. But I talked to folks at the plant sciences and the horticulture division there and really learned about how plants grow.

This is where we discovered all this sort of original research about undifferentiated meristematic growth cells and using lasers to destroy plants at the meristematic. So that was where all this came from.

Noah Kravitz (05:57)

Okay, that last bit, can you unpack that a little bit for those of us without the scientific background?

Paul Mikesell (06:03)

Yeah, great. So just like how people have stem cells, you've heard this term before, of course, stem cells. And that's where everything comes from that your body is made from. You have these stem cells that can become anything. And then it's through the proteins, the hormones in your growth cycle that cause them to become what they need to be. Same thing in plants. Plants have this area that's called the meristem. This is where the undifferentiated meristematic growth cells of the plant live. And if you burn out all of those cells, you burn out the meristem and the plant dies. So this is why laser weeding works, right? We don't go all the way down into the root. We attack the meristem. And that meristem is where it's necessary for the growth of the plant. And when you rip it apart with the energy like we get from the lasers, there's a bunch of intracellular fluid in there that leaks all over the place. If you've learned anything about plant sciences, there's this chemical in there called Robisco.

That is part of the carbon cycle. So when you rip these cell walls apart, what you've really done is just completely destroyed the ability for the plant to photosynthesize. And all of that nutrient matters goes back into the soil now and becomes fertilizer for the crops.

Noah Kravitz (07:46)

I've had a little bit of exposure just over the years of working with NVIDIA on the podcast and some other stuff to some, you know, machine learning, computer vision aided farming systems. I think there was a similar, similar setup years ago that I worked on a project about, but there were no lasers? It was using computer vision to identify weed or not weed. And then, you know, I think it probably had a blade or it pulled something like that, but it sounds like the laser and the way you described wiping out those cells is the way to just stop it from growing back.

Paul Mikesell (08:21)

Yeah, and the laser is so fast to do. Right. if you do a blade, sure, but imagine, you know, trying to get a blade to move from plant to plant to plant versus the laser, we're doing it with optics, right? Our optics, our optical system controls the alpha path of that beam so quickly that it's much faster than a blade could do. And the other thing is there's a huge benefit to not touching the soil. Every time you disturb the soil with something physical, it causes a bunch of downstream effects. harms the roots of the plants, it spins the dirt up. If you get dirt on top of some of these vegetables, it actually becomes a health problem, a food safety problem. There's a bunch of bad effects, which is jamming blades and dirt. So the lasers are really nice because it doesn't touch the soil and because we can move between targets so quickly.

Noah Kravitz (08:43)

You mentioned before utilizing, it sounded like from data gathering, just kind of general state of how the farm is, pest detection, things like that. Can you talk a little bit more and then maybe we can jump into some of carbon's specific offerings and innovations, but a little bit more about other ways AI machine learning is used on modern farms.

Paul Mikesell (09:05)

Yeah, I'll tell you about the ways in which we do it and then I'll extrapolate a little bit and how other things are happening.

Noah Kravitz (09:11)

Perfect.

Paul Mikesell (09:12)

So the laser weeder, you know, we talked a bit about that. We use the AI on the laser weeder to also not just find the weeds and kill them, but detect what the crops are, where they are, how many there are, how big they are, how healthy they are. We show that data to our farmer customers through a thing we call the Carbon Operations Center, Carbon Ops Center.

We make a beautiful heat map. You can see how your crops are doing. You can see where the weeds are coming from, the weed type. There's a lot of interesting information in there. When we get all of that from the AI system, the deep learning models we have, we also have a second product that we announced this year called the Carbon AutoTractor. We'll take an existing tractor, put a kit on top of the roof of the tractor, in some of the electrical systems, and now it's autonomous.

Paul Mikesell (10:00)

An AutoTractor has the ability to see the obstacles in the field, see what's happening around it, and not only that, but it detects where the furrows are. So the furrows in a farming field is the area in between the crop rows where the tractor tires are supposed to go. Okay. Tractor tires, because you're going to plant, you're going to harvest, you're going to weed control, and when you do that, you're to have someone that drives in those furrows.

So we use our computer vision models, our AI models, to detect the furrows as well. And then we keep the tractor inside the furrows and driving on target completely visually. So there's no GPS laying things out and mapping the rows. And we just do it entirely visually and that works beautifully. And then when we want to turn around at the end of the row, what the machine is doing is figuring out where that next set of furrows is and then driving around and targeting it and driving back up to the other side. So all that stuff is all an AI system. It's kind of like a self-driving car, but it's more specific.

Noah Kravitz (11:07)

Yeah, I was, as you were describing, I was wondering on a sort of technical level what the differences are in developing an autonomous car system versus an autonomous tractor.

Paul Mikesell (11:19)

Yeah, I mean, to me, the big thing is that a self-driving car is basically saying use the road system as defined to get from point A to point B where a self-driving tractor has some work to do. And that work is very specific and it will mean it's not just, ‘Go from here to here.’ It's go up and down these rows and make sure you touch every spot and follow the speed that's required by the implement that you're pulling behind you, or depending on what you're doing, sometimes it'll be adjusting hydraulic levels to move things up and down. So there's a bunch of very task-specific work that needs to go on, and the AI system is

what understands that and makes sure the job is done. It is both more specific and less specific.

It is less specific in that we don't have to worry about everything that might happen in the world. I don't have to worry about baby strollers crossing in front of me, things like that, in the crosswalk, et cetera, like you would with a self-driving car. It's also more specific because I have this very fine-grained task to do, drive up and down the furrows, right? Do this thing in this order. Make sure you touch every part of the field like this. And so those things are, you've got to get really deep into what the operation is in order to make the AI system. And then there are, of course, many other things that AI is being used for on the farm and things that it could be used for. Some of the things it is used for in the packing shed where we do packing and sorting of your food before it goes in the grocery store. Somebody puts it in a box and that box gets filled with stuff that's been checked for quality, for size, and all of that stuff is done with computer vision systems inside the packing shed right now. And that is a very common use for AI.

There are many systems that are trying to do things where they're gathering more crop information and we haven't seen any real successful results of that yet, but there have been some pilot programs from places like Driscoll's to do berry counting in the field, things like that. I have seen many versions of different kinds of harvesters. There are a bunch of different strawberry harvesters that have come out, some of which have done well, some of which haven't, but it is a fast moving field.

And it's one of the most interesting fields today for practical deployments of AI systems, because really everything that happens has a dollar value associated with it. Every action you're doing is because you're going to get something to market with better quality and better pricing. And so it's just ripe for innovation. It's a perfect environment for AI. And especially since it's all, your private land, it's constrained environments. It's a workplace. You don't have to worry about.

Noah Kravitz (14:14)

Right, those unknown factors, yeah.

Paul Mikesell (14:16)

Yeah. Exactly. exactly. You don't have to worry about, like, a police car pulling up behind you and trying to get around you or things you do in a self-driving car. It's a much more constrained environment. It makes it, I think it's a great area to be spending time in.

Noah Kravitz (14:30)

What are some of the most exciting or even surprising results and impacts that you've seen using AI, deploying the tech out in the field?

Paul Mikesell (14:40)

When we first started with laser weeder, I thought a lot of what we were doing was killing weeds in a manner where the dollar per acre for killing those weeds would be better. That was the premise we started with. What we learned along the way is we also had a surprisingly dramatic and positive effect on the quality and number of the crops. I didn't realize, and I don't know that maybe anybody realized this, how bad the regular, call it common farm weed control practices, how bad they are for the crops. Everything from having people walk through the field, certainly spraying, but even driving blades into the ground. These all have negative impacts on the crops. And so with something like laser weeding, because we don't touch the ground, because we can kill weeds right next to the crop without harming the crop, the yield increases were dramatic, and surprisingly dramatic in ways that we hadn't even forecasted. So that was pretty interesting. That was very surprising to us.

We have been through several versions of our AI models, our AI systems and the ways in which the neural net runs. So I'm talking about the structure of the neural net itself. We've been through several different generations, model creation, innovation, and model architectures.

These things are, we try to pull the best that we can from academia, from industry, but we also have some pretty interesting innovations that are very specific to our task. And because of how many machines we have out in the field now, we get new images all the time. We're always uploading images. So our image corpus has grown very fast. And I do remember the days back in the beginning, just being perpetually worried about, 'How are we ever gonna get enough data?'

Noah Kravitz (16:31)

Yeah. Of course.

Paul Mikesell (16:33)

And that I think is everybody's concern, right, when you're starting some AI project is: How do we get enough training data? But once the flywheel gets going, once your machines are useful enough to be sold and that creates a market and they start getting into the field, if you do what we did, which is set it up so that all of your machines are able to capture data and send it back to your training set, then you might really get this flywheel. At that point, you kind of reach escape velocity and we crossed that threshold a couple years ago. And now I'm sure we have the largest number of labeled image data points for agriculture in the world just because of how many machines and how regularly we're setting these things up. And that stuff is great for now running different types of model architectures, trying different things out, comparing contrast results, performance versus power requirements.

Yeah, all of that stuff is really happening.

Noah Kravitz (17:37)

I'm speaking with Paul Mikesell. Paul is founder and CEO of Carbon Robotics. And we've been talking about the changing landscape, if you will, no pun intended, of modern farming and the use of computer vision, machine learning, everything we call AI these days.

Paul, let's dive in a little bit to Carbon Robotics' actual robots, if you will, right? The laser weeder you mentioned, the retrofit kit that can go on top of a tractor, AutoTractor. Talk a little bit about them if you will.

Paul Mikesell (18:09)

Yeah, okay. LaserWeeder. Gen 1 LaserWeeder was a 20-foot machine that had lasers all the way across it. 20 foot is a pretty common layout for farmers because that comprises, that's three rows of 80 inches a piece, which is a common layout format. So you're developing, it's a very task-specific machine. It's meant to fit into the field. And that was very successful.

Noah Kravitz (18:35)

Sorry, when was Gen 1?

Paul Mikesell (18:38)

Gen 1 was launched in the middle of, I think it launched in February of 2022, but then the first deliveries were middle of 2022. Yeah. So, so in May of 2022, it was the first machine off the line. That was kind of amazing. Cause it was, wasn't just, Hey, how do I get my AI

system to do the thing? It was also learning about manufacturing and starting to build for manufacturing at scale, combining GPUs and cameras with large pieces of steel that are welded together with the intention of being run in a farm.

Noah Kravitz (19:14)

How did you, did you have to like retrofit cameras or source special sensors?

Paul Mikesell (19:21)

For sourcing cameras, they're commodity, you know, vision cameras. We've been through several different brands over time. It's all stuff you can buy. There's nothing really particularly special. We are particular, but they are not unique. Boy, that was amazing, you know, getting that thing up and running and shipped out to the farm. And it was all of the failures, of course, come from just environmental amounts of dust and things like that. You're dealing with temperatures, you know, negative 10 to 120. God, these environments. So that was real learning for us. And we spent a lot of time figuring those things out. And the failures would be things like not the GPU failed, or not that the deep learning model, you know, had some issue running in our memory. It was stuff like the chiller had a leak or the air conditioning failure.

Noah Kravitz (20:09)

Yeah, yeah, yeah, it's physical world stuff, right?

Paul Mikesell (20:11)

Yeah, we got dust into an area where we're not supposed to have dust. was all of that stuff, physical world stuff, exactly as you put it. So that was amazing. So the Gen 1, OK, so then we came out with the Gen 2 Laser Weeder that just launched this year. This is 2025. And the big innovation in that machine was really that we switched to a more modular architecture that all happens to be different sizes now. So I can build machines that are six feet.

We still have our commonplace machine that's 20 feet, but now I have machines that are also 40 feet wide. 60 feet wide for different crops. Some of the big, midwest, large acre corn and stuff. So the ability to go into a modular architecture that allows us to build different sizes was very important. And then not just for the US, there's large portions of

Europe that need smaller machines because they tend to have a lot smaller plots. More of them, but a lot of smaller plots.

They essentially have these hoops that are up over the top of the crops, and then we'll put giant plastic over it. And they use that for protecting the crops from a lot of the environmental weather damage, et cetera. So you need a smaller machine to get in. And there's a lot of that in Europe. So the smaller machines were essential for making that work. And then of course the AutoTractor, that's our autonomous tractor solution.

A lot of that really is figuring out where the camera should be doing the kinds of, I guess, more classical computer vision stuff, which is stitching things together and figuring out what a global view looks like from a perspective. And then the AI system, I think we built our architecture really nicely because the AI that runs in LaserWeeder is the same AI as what runs in AutoTractor. It was trained in different ways.

But the architecture is the same and the software is the same. That works really nicely for us. Because you'll see things that we do on AutoTractor that then we incorporate into LaserWeeder and vice versa. So for people trying to build architectures — I think it's sort of obvious to say it — that having a unified architecture pays those kinds of dividends. But I think people sometimes shortchange that or don't really give it enough credibility. But just having the same architecture that you use across multiple deployments really pays out.

In the end, I encourage people who are trying to build systems like that to really focus on modularity. And then we built, and then we pulled, we were able to get at scale and get just generally big enough, fast enough that now we've pulled manufacturing as an internal portion, an internal function. Our Gen 1 was manufactured externally through OC. We manufacture internally now. That was something I never really planned to have the opportunity to learn, but there are all the obvious benefits from this. People care — you get better quality when people care about the product they're building. People care about the product they're building when they're employees of the company, when they get some equity in the company and they feel like they're part of a mission. And so that was really important to us. So when we moved manufacturing in-house, that week the quality went way up, the velocity went way up.

But I do think I'm sort of dovetailing into some AI related topics here. I would like to see more manufacturing automation. I'm surprised. I think there's a huge opportunity there for just manufacturing automation. If you saw how much manual metalworking, you know, bending, folding, cutting, welding goes on to make things, it's really surprising to me. I think it's a big opportunity. I would love to see some more AI systems get built, design deployed into manufacturing. I think it's a huge opportunity there.

Noah Kravitz (24:01)

So you've talked about this as we've gone on, both in terms of farming being this really good opportunity to kind of focus in on, and what am I getting out of this? Everything's got a dollar sign sort of attached to it at the end. And so you can kind of see where you're making it back where you're not. And then also you talked about the downstream effects, the positive effects of not doing negative things like spraying, like sticking blades in the soil, all that kind of stuff.

What are the biggest impacts you've seen from what Carbon Robotics is doing? Are they along the lines of cost savings? Are they along the lines of crop — you know, over time your crops just get better and better? What are the real big points of impact you've seen?

Paul Mikesell (24:46)

Yeah, we think about it in terms of ROI to our customers. So the question is, when you buy a laser weeder, how long does the laser weeder take to pay back for itself and then get dividends beyond? And it's a combination of savings in labor and chemicals, it's a savings in the input costs. And then the benefit you get, there's really great what you said, the positive effect of not doing negative things. I really like that. So that yield improvement,

So when you add both of those together, you get a really nice ROI. So, and you got to, you know, we have to remember as tech people, as founders, as startup folks, that what we're really trying to do is save people money. If you're a B2B like we are at least, what you're really trying to do, produce a product in an industrial capacity that saves people money. So that's what we're doing. So we have to have that cost benefit.

The ROI has to be there and you have to follow that. It's not about the tech, it's about the ROI. So what is the real trick is getting your AI systems and your tech to help move that ROI forward. And I think if you can do that, like we have, you wind up in a really good spot. I think there are more opportunities to do that down the road. But it is all about ROI. So all of these other things about, 'Wow, look at how awesome that is! It's super fun to watch! It's amazing to watch it rip weeds with lasers!' That's all candy.

The, you know, the meat and potatoes is do we save people money? And so that's the important point. I've also learned a lot about the quality of our food system. And I know that there's lots of discussion about this now. We are becoming more aware of it. The different herbicides are being banned in Europe, United States, et cetera. We are learning about more of the long-term negative health effects.

Again, the ones who really suffer from it over their lifetime are the farmers who get exposed to this stuff in much higher doses than the consumer. But even the consumer, even you right now, are participating in some form of a multi-decade, maybe multi-generational science experiment. We all have glyphosate in our system at any time.

And so if you take everybody listening to this podcast right now, if we all went and did a urine sample, you would find about 90 % of us would have glyphosate in our system right now. What's glyphosate? It's the active ingredient in Roundup. We know that it's carcinogenic. Like any carcinogen, it's only a question of exposure over time. So we should be able to, with the kinds of technology that are available today, with the things that AI can do, we should be able to take a step back and say, do we really need to be spraying this stuff on our food in order to grow it and survive as a population? My answer to that question, I think, is No, we don't need to do that. And we should do things like lasers.

Noah Kravitz (27:46)

Without knowing a whole lot about the industry, I'm with you. No spraying sounds better to me. So from the farmer's end, know, ROI, obviously, big investment farming, not known for being an easy money profession, I'll put it that way. So you're looking at the bottom line, making this investment, paying back over the long term.

How are farmers reacting? Are they, you know, you mentioned up top that a lot of people probably have a false view in their head of, 'Oh, farmers aren't tech savvy, this, that, whatever. You dispelled that up top, but are they taking to it? Are they worried about the cost? Are they, you know, what's the reaction?

Paul Mikesell (28:24)

The number of farming customers that have repeat purchased and have bought year over year is what I really look to to see, we doing the right thing? We have had customers repeat purchase over and over again and expand their use of laser weeder. that tells me we're doing a good job. Farmers have a varying level of external emotion expression. And so sometimes it's very hard to tell, but you'll have to talk to a farmer who's like, looks super grumpy and then they'll tell you, 'I really love this machine. It's saving my farm.' So it's very hard to tell sometimes.

Early on, we were trying to do this ICP exercise, you know, 'What is your ideal customer profile?' that people do when they're talking about go-to-market stuff. And we had varying degrees of success with that. It's just an exercise people go through. Maybe it was helpful, maybe it wasn't, but the joke that I had was that we could have kind of two different storyboards that said 'This farmer is very skeptical of your product and doesn't think it's going to work,' and, 'This farmer loves it and thinks it's the most amazing thing ever. And the trick is that it's the same.'

Noah Kravitz (29:36)

So what's next? You mentioned, I think if I heard you correctly, Laser Weeder G2 hasn't been out all that long.

Paul Mikesell (29:43)

G2 launched in February this year, 2025.

Noah Kravitz (29:47)

February this year, right. So what's next for Carbon Robotics? Are you kind of, this is where you're at and future things TBD, you have a roadmap you can share?

Paul Mikesell (29:56)

We have, okay, so laser weeder, G2, we're continuing to push that into new crops, big crop use cases. We are continuing to evolve the software systems, the AI, it gets more capable.

Noah Kravitz (30:12)

It just gets better all the time, not to interrupt you, but it's not like product releases used to be.

Paul Mikesell (30:16)

Yeah, that's right. It's not like a piece of metal that you buy and throw into your farm. It's, you know, we do regular software updates. We're always updating the software. The AI system is always getting better because we're training based on what we see on the farm. Lazy Weavers, beautiful product. You know, we're very, very proud of it. We just launched AutoTractor. AutoTractor is probably in its infancy right now. We're really scaling and growing that basically now.

AutoTractor has been running since February, running some farms 24-7, doing various tasks, a lot of laser weeding with AutoTractor, but other things as well. And we're going to continue to invest in that platform because AutoTractor allows farmers to scale their tractor operations without having to scale their labor. And it really is, you think about farming, one of the most fun things is driving the tractor, right? It's this fun, big machine. You get the driver.

Try doing it 24-7 for six months out of the year. Now you've got a fleet of 20 of them. What are you going to do? And so just like with most of the agriculture, most of the agricultural tasks and activities in this country, it's almost entirely remote workers. It's almost entirely migrant workers, I should say. And so they're on an H2A labor program. It's the way that we guest workers come into the country and can work on things like farms. But it's a real strain on the farmers to find these people

You know, validate what they need to validate about them. There's more work needed than people available. So you hear stories all the time about farms, fields going unharvested because they couldn't find workers, things like that. And the tractor is a big part of that. It's a little higher, it's a higher skilled task. And so your available population of workers to fill that role is even smaller.

So the tractor is ... getting into autonomy in tractors, in farms, has become a very urgent task for us. And we're going to continue down that road. AutoTractor, you know, we'll continue to ramp and scale that. And then we have some other things that we're looking at, thinking about, working on the testing. It's all about AI systems, robotics, and farming. And there are many different places we could be going. At some point, we'll move into some activities that are outside of farming, but still very industrial AI capacity. We're probably not going to be a B to C company, you know, we're very, we're very AI robotics for work, right? That's very much what we do. And so we'll continue down that path.

Noah Kravitz (32:51)

Excellent. Paul, for listeners who want to learn more about carbon robotics, about your own background, maybe about some of the technical stuff, you were talking about the AI systems and whatnot, is the best place to go to the carbon robotics website?

Paul Mikesell (33:06)

carbonrobotics.com. We have a YouTube channel. We have an Instagram. We have TikTok. You know, I described it as candy, meaning like it's not, that's not an R.O. either. It's just whizzing and interesting, but I still love to see it. It's cool. It is really fun. We do have some videos on our YouTube where we get a little deeper into the technology. We did some where I was walking around showing how the scanner system works that targets the lasers.

Noah Kravitz (33:20)

Yeah it’s so cool.

Paul Mikesell (33:33)

We've done some walkarounds inside the office showing how things are built, what we're doing. We try to do more of those. We will try to do more of those and we'll continue to do those over time. So yeah, our YouTube channel, we try to have a lot of content on there to show people what we're doing because it's fun and interesting.

Noah Kravitz (33:51)

Awesome.

Carbon Robotics, Paul Mikesell, again, thank you so much. This is a lot of fun for me. I appreciate you taking the time to come on the podcast. And all the best in all the work you're doing.

Paul Mikesell (34:00)

Yeah, thank you. Thank you very much for the talk today. I really enjoyed it.