

-- Speaker 0 00:00:04 Make it right. The manufacturing podcast

Speaker 1 00:00:10 Manufacturing is currently facing a number of challenges. It has an aging workforce and in the U S alone, at least one quarter is 55 or older. Most of those people are taking their knowledge with them when they retire. Manufacturing also has an image problem. It's having trouble attracting young people to the sector, as it's not seen as lucrative, highly skilled or high tech, or even sexy. And manufacturing has also faced a new challenge recently, that's the inability for everyone to be hands-on on-site during a pandemic. If you have a maintenance issue, you couldn't bring people in to help you out. There are a variety of technologies that can help manufacturers with each of these challenges. And today we're going to look at the use of augmented reality maintenance and training tools, how they work and what they're doing for manufacturers, Kevin Snook, and I are joined this week on, make it right by Dirck Schou. He is the CEO of Taqtile. They're an augmented reality technology company. And Dirck, I have looked at the videos and I just think the technologies really need, it's almost like gaming to me. So welcome to the show.

Speaker 2 00:01:21 Thank you for having me, Janet and Kevin. Nice to be here.

Speaker 1 00:01:24 So let's talk a little bit about tactile and your goal to make everyone an expert through training and using augmented reality. I'm going to give you a challenge here. I want in like 60 seconds to just illustrate what this augmented reality training tool looks like.

Speaker 2 00:01:41 Sure. So, you know, we, um, everyone's familiar with the sort of suite of productivity tools that we have on our desktop. Let's just call it Microsoft. Office's Google docs. There's all sorts of productivity software, but what do you do on your desktop? You create documents, spreadsheets, PowerPoints, you send emails out sort of thing. Desk-less workers have none of that, right? They've got spiral notebooks. Maybe they have a mobile app. Maybe they have something on an iPad. Uh, they may even carry a computer around, right with them a laptop, but their problem canvas let's call it like our problem canvas being the computer screen. The problem canvas for the frontline worker is the entire world, right? The entire world is their problem. And what does that, what does that, uh, that, that require it typically requires someone following step-by-step processes to do something, to operate a piece of equipment, to do a process, to maintain something.

Speaker 2 00:02:45 What, with augmented reality, what you have is you have the ability to project step-by-step processes over the field of view of, uh, any desk-less worker or a frontline worker, by the way, 2.5 billion non-farm frontline workers in the world, and there's half a billion knowledge workers in the world. So the market is massive and it's completely being underserved. And, and with an augmented reality hands-free headset, this is the computer. This is the standard user interface for a desk-less worker. We're just getting there from the hardware and the technology perspective, but this is going to revolutionize everything. Every, every worker in an industrial environment will have a set of safety glasses on them that has the ability to understand their environment, that has the ability to react to their gestures, their gaze, their voice, to control their experience and all the things that go along with that.

Speaker 1 00:03:52 So share with me how one of your customers is actually using your technology to two. This will give us a better understanding of how it's going to work. So just

Speaker 2 00:04:05 For, for example, uh, PBC linear, a small manufacturer in the Midwest 300, uh, people, um, they have had a number of challenges, many of which that you mentioned in your introduction, older workers retiring, uh, not enough younger workers coming in, not enough access to skilled workers, but they're also facing other competitive threats. Um, on the older worker side of things like even before the pandemic, there was this skills gap that was, uh, expanding right? Older workers were retiring faster than younger workers could come in well with a well-orchestrated set of tools. Leading with augmented reality, PBC linear was able to, uh, hire a group of interns over last summer, basically gave them the tool and said, Hey, start capturing --

-- g our processes in our factory. And, and they captured, I don't know, 60 or 70 different processes. They documented them. And that enabled new workers to come in, train on their own train, faster older workers to get refreshed on processes, uh, in the factory, again at sort of a, a self-guided pace or at an enhanced pace basically. And they've been, they basically claim that this tool has enabled them to sort of go forward into the future and maintain their business, uh, at the same sort of, uh, rates that they, that they had been able to do. So in the past. So like that's just one example. We have examples across a small manufacturers, as well as large manufacturers, uh, sort of across the board.

Speaker 1 00:06:02 So basically these people are going in, they're putting on the headset and they're actually learning their process, wearing this headset. It's telling them where to go next on the machine, what to do next. And if they have a question, they can connect with some support person and that support person can see the machine and say, what you really need to do is, you know, connect this and this because it's been disconnected. And that's where your issue is, right? Like they're wearing this headset on their head and it's telling them what to do and where to go.

Speaker 2 00:06:35 Yes. And again, very similar to how a knowledge worker or a desktop worker uses desktop tools like, Oh, I got to make a call and talk to someone to find out about this. You know, this project that we're working on, what we're doing is developing these suite of productivity tools that we believe will become the defacto, almost the user interface. Right. For any more. Like, it doesn't matter if you're on windows or you're on Mac right now, you're using office. Are you using an office suite, right? Like that has become the user interface, not the operating system. That's what we're trying to develop for the headset. Now I'll say also one thing is that it all starts with making it very easy to capture knowledge of your most skilled workers. And, and that's where this has to start. If you have a tool and it has to start in the engineering department on a high powered desktop, running some cat application over a 3d model, you're never going to be able to scale that business, right?

Speaker 2 00:07:43 Like, so you have to be able to capture knowledge in a very natural way for the experts that are out there on the front line. Many of whom are not digital natives, right? Many of whom are folks who are not comfortable with computers. So, you know, uh, I, I was at Walt Whitman that said one time, I'm sorry, I didn't have time to write you a shorter letter. Like there was, it was either white women or it was, uh, it was some, it was a famous American author and making something simple is much more difficult than making something complex. And, and what we are doing is we have simplified this process for these desks as workers who, again, are not digital natives who are not comfortable with computing technology, many times, some, some of them are, but many of them are, you have to build for the lowest common denominator.

Speaker 2 00:08:43 So there's a, there's a time to actually do that. And then there's a time, correct? The idea is that you come up with the ideal solution that then anybody who's new to the role can come in and say, okay, I am now basically changing out this piece of equipment. What do I do first? And then that, that media is going to take you through that process rather than you having to have someone standing next to you. The goal is to enable any on or under-trained worker to perform any job as if they were an expert. There's this scene again, I'll bring it to the movies. I am a fan of science fiction movies. Um, the matrix, right? There's this scene where, uh, Neo is being held by the Smiths and, uh, or sorry, Morpheus is being held by the Smiths and, and Neo and Trinity on top of this building.

Speaker 2 00:09:36 And, and there's a helicopter. And he says, Hey, do you know how to fly this thing? And she says, hold on a second, makes a call, blinks her eyes a couple of times and says, let's go because they're in the matrix, right? They, and she has downloaded this helicopter, uh, pilot program to her brain. Now that's not w w w that's not exactly what we're talking about, but, but that's the sentiment. The sentiment is let's access this, this store of data. Um, and, and by the way, this, --

-- this type of data doesn't exist right now. That's why we're, we're at the very beginning of this technology. That's going back to that, making it easy, making it simple. And the more that you document this, the more of these processes you have, and the more resilient your enterprise is.

Speaker 3 00:10:26 Go ahead, Kevin. Yeah, no, I just want to follow up on that a little bit. One of the things for me, I don't wear glasses, so, and I'm a very tactile kind of person. And so I'm wondering what, what's the difference between doing a job and doing a job, looking at it through enhanced reality. Um, does it feel the same? Does it, when you're changing that belt on a piece of equipment, are you disoriented in any way, because you're looking at it through a sort of a virtual reality screen.

Speaker 2 00:11:01 So there's, there's a small, very small level of adjustment, um, that, that you need to do when you're using augmented reality. Virtual reality is a different thing. We're not talking about virtual reality. Augmented reality is I am augmenting my real world view with digital artifacts. In fact, a computer screen train is an augmentation of reality, right? Just this screen. I'm just not wearing it on my head. Right. I've got this, I have my real world here. And then I have a digital construct that emulates, uh, you know, people and yeah. And an environment and conversation. And it's very good, right? It's very natural. That's the way that, uh, that the best augmented reality solutions are. And in fact, really what you're, what you're doing is you're enabling people to use, uh, as much as there are a variety of categories that this falls into one is augmented reality.

Speaker 2 00:12:06 The other one is wearable computer, right? So w a wearable computer, like we think about like an, you know, an Apple watch is a wearable computer, and, you know, a lot of different sensors, that sort of thing, but a head-mounted wearable computer, uh, is, is also a way to describe this. And, and when, and these head-mounted mounted wearable computers, augmented reality headsets, they are transparent, right? It's just like th there's a pair of glasses and you're, and like, you could, you could have no experience on, and you'd be seeing the real world with zero interference and then a window will pop up and that window, um, can either follow your gaze around, or you can lock it into the environment in a certain area. So let's say I have, uh, come in and I'm working in this area right here. And this is where my tool sets are and everything like that.

Speaker 2 00:13:01 And what I do is I arrange my work environment. I make video over here. I have my PDF over here. And then if I'm using a hologram to show me how this piece of equipment works, that experience will be locked into my environment. And if I have a handle here, let's say like, you can have a hologram that shows animation that goes over that, and you can toggle that on and off. So if you need to, if you need to, uh, uh, get some deeper level of understanding, uh, and you have access to, to, to these other sorts of, of, um, digital artifacts, you can, you can toggle them on and off, but it's very, it's, um, it's non-intrusive, as it is now, and it's getting better.

Speaker 1 00:13:51 So I want to, because the technology that you're talking about sounds very cool for somebody who's younger. I can see how that just the actual fact that you might be able to play with this stuff would be a recruitment tool to somebody like, yeah. I'd like to get in there and learn how that stuff works. So let's talk about, you know, the benefits as far as recruitment goes, but there's also, I'm sure a safety benefit and there's an error elimination benefit as well.

Speaker 2 00:14:19 These are some of the two, possibly the number one thing that you, that you, uh, that we're looking at with this technology. I mean, every, every industrial environment that I've ever walked into, there's been a sign somewhere at the entrance that says it's been 152 days since our last accident let's keep up the good work, right? Like we are, we've, we've had quantitative analyses done, uh, in a variety of environments where we've shown close to, if not complete elimination of errors, um, and errors equal, you know, accidents in, in, in some cases. Right? So, so, um, I mean, that is a, uh, made the recruitment. You mentioned the recruitment. Absolutely. You're up here in the Se --

-- attle area and you're, you're maybe King County wastewater is a customer of ours, like, and they're sitting between Starbucks and, and Microsoft and Amazon, and they're trying to recruit people and how is a wastewater treatment plant going to recruit people in that environment while they say, Hey, we're going to invest in you.

Speaker 2 00:15:29 We're going to give you access to the best technology. You're going to be on the cutting edge of this. And, and, and by the way, you're going to, you know, you don't have to have a computer. You don't have to have a computer science degree in order to do that. This is a way that you can get into this and you can, we're gonna invest in you if you invest in us. Right. So, so covers the gamut with all of those things, but error, elimination, uh, increased safety. Um, you know, again, I'm going to go back to, to PVC linear. They, they make very, um, round bearings and very straight pieces of metal for a variety of customers, including the national labs. And they have pieces of what they manufacturer that go through four or five or six steps. And every step, that piece adds value.

Speaker 2 00:16:23 And by the time you reach the end of the line there, that that one piece may have \$200 worth of value it in an environment prior to their using manifested, they were scrapping 60 to 80 of these, uh, parts per shift sometimes, right. When you don't have a well enough trained person. So what does that translate to \$16,000 per shift? I'm, I'm not sure what that is exactly, but, but it's, um, but, but it's large and, and it let's say that you can even, you can even reduce that by half, right. That's a big win.

Speaker 3 00:17:02 So one of the biggest reasons people don't make decisions is overwhelmed, right. It just seems too much for me. And so I'm, I'm just going to put that on the shelf for awhile and go work on something else. If somebody wants to get out of that feeling of overwhelm, how would they start to learn enough about this to be able to get to that decision point?

Speaker 2 00:17:23 So, number one, I mean, there's a lot, uh, there's a lot of, we have a lot of video content on our website. Like you can eat, it's, it's one thing to talk about what this is, but it's another thing to, uh, to be able to see it. And this is th th this is a very visual medium. so@tactile.com, there's a lot of videos that are out there. There's a lot of other companies that do this as well. Microsoft is a big, uh, provider of this technology, but, but if you just search, you know, manufacturing arguments in reality, you'll probably have 5,000 videos, you know, that you can watch. Um, you know, the thing is, is, you know, a lot of the companies out there, um, we'll do a free demo periods, or we'll have demo versions that you can download. Like, again, for, from us, we have, uh, we support iPad and some other mobile devices.

Speaker 2 00:18:22 So if you have an iPad, you can download for free, uh, a sample of what the tool looks like. Obviously, if you have a headset, um, you you've already started to take that first step, uh, uh, down the road. You, you can typically download a sample experience using that. And then, you know, for us, again, for other companies that are in this space, um, you know, we have a variety of channel partners around the country and around the world that can come to a physical location and do live demos, right. Depending on whether or not that, you know, that that fits your COVID protocols.

Speaker 1 00:19:03 So I'm just keeping an eye on the clock here at dark. But I did want to ask you one more question, and this is sort of pandemic related and not so much, um, technology related, but you're a CEO of a company you've gotten through, or you're going through the pandemic. Tell me about just how challenging it is as a leader to ride through this.

Speaker 2 00:19:28 Yeah. I mean, it's, it's, uh, it's been extremely challenging. Um, you know, communication is what, uh, is what it's all about. Uh, it's been about leaning in it's, it's been about, like, I'll give you one example. Like we, you know, uh, probably about six months ago, my, my partner said, Hey, listen, we're like, we have to be careful that we don't just like lose people that don't, you know, that aren't required to get on calls, et cetera, et cetera. So we started doing a trivia day on Fridays, and we, we pay 15 bucks a week or whatever it is to get a new set of --

-- trivia answers. And you, you get an email and you answer those questions in five minutes, and then a half an hour later, we all get on a video call and make fun of the wrong answers that we all gave. And so, you know, like just these little things to make sure that we maintain our connection and our humanity and, and, and that we invest in our employees, that sort of thing. Well, a lot, lots of other things I could talk about this for a long time.

Speaker 1 00:20:38 Yeah. Derek, I think that's, I think it's really interesting. I'd probably love to talk to you about just how you've written through this pandemic and some of the that you've done, um, and the challenges that you face, but, uh, we're running out of time here. So I want to ask you some key takeaways on just, you know, uh, I know that Kevin asked you the question, you know, how do you look at this augmented reality and know when to get in, but I mean, you got interested in this, you see the value in it. What are the key points about it that you want to leave with people?

Speaker 2 00:21:12 So it's very, it's much easier than you may think to get involved. Um, it's, it's much less, um, uh, uh, of a, uh, of, uh, you know, of a challenge for your workers. You, you, you you'll, you'll be surprised they would, they will adopt this. Even your older workers will much faster than you think it's not science fiction. This is people are using this today. Uh, again, go to our website and look at some of the videos that are, you know, that are examples of how people are, are using this. It's less expensive than what you think it is. And in the long run, it's actually going to save you money and potentially can be a profit center, depending on how you consider using this from a, from a, um, from a, um, a support perspective. And then finally, I'll say, you know, it allows you to have a much higher level of, of understanding about your operations and your facilities, because you're capturing knowledge, you're building a knowledge base, uh, with a tool like tactiles manifests, right?

Speaker 2 00:22:27 This is something that you've never really had the chance to do in any sort of a cohesive manner E in the front lines, in the field, in the factory. And, and so, I mean, you know, the future is now with this technology. And, uh, and I encourage people to start looking at it that in somewhere between three and six years, you're going to see every single worker in an industrial environment using a set of safety glasses that has these capabilities in them. This is no joke. This is going to happen. And, um, and the sooner that you get your mind around this and how it's going to be a benefit to you and your industry, um, the sooner you'll be able to put it to use as a competitive advantage

Speaker 1 00:23:22 Dirck, thank you so much for joining us today. Really appreciate it. Thanks for coming on to talk about tactile.

Speaker 2 00:23:28 Thanks, Janet. Thanks, Kevin. Very nice to talk to you.

Speaker 1 00:23:32 Dirck Schou is the CEO of Taqtile. They're an augmented reality technology company, and Kevin Snook is a manufacturing leadership advisor. And this podcast is brought to you by Kevin and his book, Make It Right - Five steps to align your manufacturing business from the frontline to the bottom line. You can find more of our shows@lucidi4.com. We're also on iTunes, Stitcher, Spotify, and YouTube. And there's more information on our make it right, Twitter and LinkedIn feeds and Dirck. If I have your permission, I might like to throw one of your videos out there so people can have a look at just exactly what, what you can do with those goggles on cause it's kind of cool. So anyway, thank you so much, gentlemen, and we'll see you again next week. Kevin. Thanks for listening to the Make It Right podcast.

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