Zebra Your Edge Podcast

Hosts:

- **Tom Bianculli,Chief Technology Officer, Zebra**

Guests:

- **Robert Wolcott, innovator, professor and founder of TWIN Global**

Transcript

00:00:00:00 - 00:00:26:14
Tom
Hi, I'm Tom Bianculli, the Chief Technology Officer here at Zebra Technologies, and I'm joining you from our 3D printing lab where we make prototype parts, we iterate on our designs, and we've even made some of these entire products using 3D on-demand printing technologies. And the reason for this location will become much more apparent as I introduce our guest, Robert Wolcott, who's joining us for this podcast, where

00:00:26:16 - 00:00:42:20
Tom
we're going to hear about the launch of his new book and the entire concept of proximity that's critical to your business. And as a as a preview really, to what he and I are going to be talking about together at MODEX which we're extremely excited about. So, Rob, I'll turn it over to you for introductions.

00:00:42:22 - 00:01:03:27
Rob
Great. Thanks so much, Tom. It's great to be with you and having known you for a long time and followed the progress of Zebra and your work with companies around the world was part of the inspiration to what has become Proximity which we'll get into later on. But for a way of quick introduction, I'm an innovation guy.

00:01:03:27 - 00:01:25:01
Rob
I love the future. I love technology. I also like to explore the positives and the negatives, the pros and the cons effect on our daily lives and society, etc.. So I'm an adjunct professor of innovation at the Kellogg School of Management and an adjunct professor of innovation at the Booth School of Business. So that's University of Chicago and Northwestern.

00:01:25:01 - 00:01:54:03
Rob
I guess it's sort of like teaching for Pepsi and Coke, but now in the academic space, it's all one big happy family. So part time I'm an adjunct professor of innovation and then I also have a group called The World Innovation Network, or TWIN. And you've been part of that, Tom. That's our logo back there. Essentially, we get together a few times a year, talk about the future, where things are going, and what's exciting to me about this group of innovation and growth leaders from around the world like yourself,

00:01:54:03 - 00:02:15:04
Rob
Tom, is that part of the reason I set it up is I wanted to, selfishly, I wanted to learn from all of you. I wanted to know what you were seeing, what your challenges were, what ideas you had for building the future. So that's TWIN: teaching, writing, convening, conversing, and - I like to think - listening from time to time.

00:02:15:07 - 00:02:40:16
Tom
Yes, absolutely. Thanks. Thanks for the introduction. I think the really value part of that whole TWIN network is getting the diversity of perspective. So, you know, from astronauts to artists, from entrepreneurs to Fortune 100 CEOs, you're getting this sort of, I don't know, renaissance coffee shop sort of, you know, discussion that you just don't have typically in a corporate setting, kind of frees up some of the thinking.

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Tom
So speaking of that, you know, the notion that the pandemic caused outward pressure to innovate. Right. At an unprecedented scale, I mean, before what happened with e-commerce and the need to effectively shut down parts of the logistics chain, but yet still be able to deliver to people in an on-demand way. And that drove quite a bit of a business for us during the during the pandemic and the deployment of our technology to allow our transportation customers, our retailers, of course, those in the healthcare space to be able to react and respond.

00:03:14:19 - 00:03:37:10
Tom
But the reality is that the need for innovation, constant innovation, has always been there. And the second we become complacent, we become vulnerable because there's always someone out there that's rethinking how do they deliver the value that someone's providing an entirely different way. And I'm mindful of the fact that you've spent 20 years making the case for continuous innovation.

00:03:37:10 - 00:03:50:20
Tom
Why do you think business leaders need that constant reminder? Why do they need someone like you and some of the organizations that you're a part of that helped build the business case for innovation, one that sometimes is just so obvious to us?

00:03:50:22 - 00:04:10:27
Rob
It's a great question. We could talk for hours about it, but I think the punchline is: established organizations get where they are by doing what they did before, and you became successful by being great at what you did before. And if we were in a steady state world where things don't change, then you could just keep doing that same thing forever.

00:04:10:29 - 00:04:46:15
Rob
We all know and feel, and we feel it more today, that that is not the world we live in and certainly not the world we're living into. And so the reality is, and we call this the success trap in the academic space, the reality is that the established enterprises are focused on becoming better and better at what they already do, and they have disincentives to look further out, to innovate, to invest in the future. Not just lack of incentives, actual disincentives, because those investments hit the bottom line today with no real guarantee that you're going to get a return in three years, five years, seven years.

00:04:46:22 - 00:05:22:02
Rob
And obviously there are really good ways to solve this problem. We can talk a bit about that if you want. But the challenge is that while the established enterprises are focusing on what worked before, new entrants have to innovate to get into the game in a big way. So, Tom, if some startup came to me - and I invest in a lot of startups, in fact a lot of startups that have been driving this proximity revolution we're going to talk about - and if a startup came to me and said, "Hey Rob, we've got this great idea, we're going to build the same business as Zebra, and you know, we're just going to copy their products and

00:05:22:02 - 00:05:47:11
Rob
services and we're going to go to market." Do you want to invest in it?" Of course I don't want to invest in that because no one's going to buy it from them. They already know Zebra. They trust Zebra. They're going to buy from you. Now, on the other hand, if a startup comes to me or comes to you for that matter and says, "We can do this thing that you're doing now, we can do it 10x better and more reliably. Are you interested in working with us?"

00:05:47:11 - 00:06:05:03
Rob
And the answer might be, yeah, let's buy an option on the future. Let's have a portfolio of options, and that's the essence of the solution, Tom. Yeah, any enterprise needs to have a portfolio of options in the future because we cannot predict the future in detail, but we can see the contours of the future.

00:06:05:05 - 00:06:21:21
Tom
Yeah, that's, that's great. Great perspective and great reminders. I think, you know, at Zebra, we're always looking to balance that - sometimes we refer to it as offense and defense, right. How do we protect the position we have because we have this great number one market share, as you were alluding to, in so many core areas. But then where is the offense?

00:06:21:21 - 00:06:42:21
Tom
And, you know, how do we need to be thinking about that and investing around that corner? And you know what I often say internally, where the offense meets the defense is the most simplest place to get alignment and consensus. Because if I think about the application of AI and machine learning and I think about reading a barcode as an example, well can we recognize products using computer vision and does that disrupt the barcode?

00:06:42:21 - 00:07:04:20
Tom

Right. So it's a both an offensive and it's a defensive move for us. And so where we're investing in that in a whole bunch of ways organically, we also have a venture capital investment arm where we write in startups that are in some of these places that we think that can be disruptive. So, you know, Rob, you were quoted as saying, “True breakthroughs won't happen due to being more efficient at what we already do.

00:07:04:23 - 00:07:30:17
Tom
They'll happen by doing what was hitherto impossible.” Yeah. Do you think that the reason innovation efforts investments don't always have the desired impact is because people are innovating for the wrong reasons or with the wrong mindset? That they're trying to be more efficient without having to engineer anything? You know, essentially they're just trying to put a fresh coat of paint on the walls in the hopes that it will brighten things up when what they really need to do is knock the walls down completely and the whole infrastructure?

00:07:30:19 - 00:07:52:27
Rob
Yeah. So there are a whole range of questions you just posed. But I'll give one observation. So most companies that I talk to and work with, they notice this stuff happening. It's not like they show up at the office one day and say, my God, did you hear about AI. I didn't see that one coming. I mean, of course, it's been out there for a long time.

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Rob
It's happening fast now, but they see it happen. The issue is not that they don't see it. The issue is they don't appreciate the magnitude of the impact. So what we tend to do at an established enterprise, and this is true for government organizations and big nonprofits, we look at the new thing and we say, “What could we use this for to be a little better at what we already do?”

00:08:15:10 - 00:08:41:24
Rob
And that's a good exercise, but that's not enough, right? The question is: what does this thing allow us to do that we could never have done before? And when there are things that we could never have done before, the more different that new thing is than the past, the more dramatically it can enhance our ability to add value, create value, or even blow up entire industries.

00:08:41:26 - 00:08:57:00
Rob
And so if companies stick with their current paradigm and they try and fit the new stuff within the paradigm, then they're seriously going to underperform in the long run. And as you said, offense, defense, it opens them up to a lot of risk.

00:08:57:02 - 00:09:03:16
Tom
Sure. Yeah. Makes sense. And it's a continuous conversation, you know, for sure. Yeah.

00:09:03:21 - 00:09:09:04
Rob
So actually, Tom, let me digress because I love this question and I wanted to address and give an example.

00:09:09:11 - 00:09:10:22
Tom
Yeah.

00:09:10:24 - 00:09:32:02
Rob
It has to do with how we see the world. And this is in my work. I and others refer to it as, well, I call these paradigms. We all have paradigms we use to understand the world. And by the way, we'll always have paradigms. That's the way we've evolved. If you don't have paradigms, it's hard to know what to do in the next second of your life, much less multiple years.

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Rob
So paradigms are there because they work...until they don't and then they become dangerous. So when there's a big step change in what's possible, the old paradigms have a tendency to mislead us. I'll give you a tangible example. The main reason most people don't buy electric vehicles we know is not cost. The cost is coming down fast. It's range anxiety. Now is an interesting observation and there's research about this.

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Rob
Most of the people who have this notion of range anxiety don't have electric vehicles. Why is that? Because when you have an electric vehicle, you realize you don't actually need charging stations all over the world. You don't need them all over the place. You don't need them like gas stations. Why is this? Well, because in many countries, like in the U.S., Europe, not all places, but in many places people have homes.

00:10:25:00 - 00:10:47:14
Rob
And in their homes they often have garages and, Tom, I imagine, like me, you can plug stuff in in your garage. What you can't do

is fill up your petrol based car in your garage and so on. I've been saying this for a decade. A lot of these companies that are building out charging station infrastructure are going to lose all their money and we're seeing it happen right now.

00:10:47:14 - 00:11:09:09
Rob
Now charging technology that's different. You can make money on great charging technology. Tesla Supercharger Network on key locations on long distance drives. That makes a lot of sense. But what doesn't make any sense is thinking that someone who drives 25 miles to work is going to worry about plugging their car in at the office because they need to fill up that last 25 miles.

00:11:09:09 - 00:11:20:21
Rob
Right? We don't do that in our petrol base. So what people do, Tom, is they take the new thing and they cram it into the old paradigm and we do it over and over again, and that's what stands in the way.

00:11:20:21 - 00:11:48:23
Tom
Yeah, that's a great example. I think it's, it's a great springboard into the whole concept of proximity because the movement of, you know, what changed in what you described is going from central or more central stations at which the refueling, whether it's petrol or it's, you know, electricity and in the latter case, has moved from kind of more of it distributed but still more centralized model to one where it's like literally in every

00:11:48:29 - 00:11:57:09
Tom
...adjacent to every kitchen in every garage And so the ubiquity fundamentally changes the model. It is really cool stuff.

00:11:57:09 - 00:12:35:05
Rob
By the way, Tom, and you I know you're a technologist and I'm going to guess that a bunch of other people listening with us are interested in technology. I'm a huge fan of the history of technology. We talk a bit about it in the book Proximity. We open the chapter about electric electricity, how we power. We open it with a story about Nikola Tesla and Nikola Tesla, who's predicted a whole lot of things that we have today that 100 years ahead of his time, his vision in the long run was to have electricity available ubiquitously anywhere on the planet through a version of inductive technology.

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Rob
Now, his original vision is not bearing out exactly the way he thought it would.

00:12:39:07 - 00:12:39:23
Tom
Yeah.

00:12:39:26 - 00:12:55:19
Rob
But we're seeing more and more indications that ultimately, and I believe in the longer run, Tesla will be right and we'll have access to electrons to power things at any level anywhere in the world and eventually beyond that. Beyond the world.

00:12:55:22 - 00:13:10:16
Tom
Yeah. No, it's a very cool opening story there around Tesla. And as luck would have it, you and I have spoken about where I'm standing on Long Island is only about 40 miles from the last lab of Nikola Tesla, and

00:13:10:16 - 00:13:13:21
Rob
You introducing me to them, that's been really exciting.

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Tom
Yeah it's a lot of fun that project...to revitalize Tesla's last known lab at at Wardenclyffe here on Long Island, and it is an amazing vision and amazing number of inventions that really Tesla has put forward. And I guess really being the father of of alternating current and being able to distribute power as we know it today to where and when it's needed in an on-demand way and, you know, I don't know if you envision the exact idea or describe that I'd plug my car in the you know, the garage.

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Tom
We certainly envision the concept of being able to light up all of our homes and be able to do that, you know, across the entire country and distribute that value right to the edge where it can be consumed and used. So we take the word for granted when we call it a utility, but I mean, isn't everything to some extent, Robert, you know, technology-wise is becoming more and more of a utility that we can access when we need it, where we need it, how we need it in order to deliver on whatever value it might provide.

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Tom
I mean, maybe we could talk a little bit about that and then we'll jump into, you know, specifically the launch of your book.

00:14:20:24 - 00:14:48:00
Rob
Yeah, great Tom. I mean, the highest level - markets, business, etc. - is about satisfying demands. And I'm going to oversimplify to make the point. But one thing we already know the demand side pretty well, and I mean this in a generic sort of meta level, but we know the demand side. The demand side is that human beings want whatever they want, wherever they want it, right now.

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Rob
And by the way, they want it for free. But let's set that aside. That's hard to deal with. So we already know that if whoever can figure out the value that an individual customer or organization company, government, whatever, whatever value it is they're trying to achieve, whoever can provide that for them, the most effective way, the most efficient and effective way, is going to ultimately going to win.

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Rob
And so that's the demand side. The supply side to me is what's so exciting these days. The reason is there are more and more things we can do that we literally couldn't have done a decade ago. Right? So, transition into proximity where this this effort came from that resulted in the book by the same title Proximity back in 2014.

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Rob
I remember I was, I don't remember what the event was, but it was a corporate event and people were talking about technology in the future. And I realized that everybody's talking about Internet of Things or artificial intelligence or whatever. Pick your technology.

00:15:49:18 - 00:15:50:06
Tom
Yeah.

00:15:50:08 - 00:15:55:08
Rob
Additive manufacturing. I mean, I'm excited that you're in your 3D lab there at Zebra.

00:15:55:08 - 00:15:55:17
Tom
Yeah.

00:15:55:24 - 00:16:17:16
Rob
And we're all talking about these things. But I thought, you know, nobody's looking at the overall picture to try and understand if we can get some foresight into where the world's going. And the question we started to address was, are there some common underlying dynamics that digital technologies of all sorts so include rooftop solar, 3D printing, They're all digitally enabled.

00:16:17:19 - 00:16:50:14
Rob
Are there common dynamics that digital technologies drive that will give us foresight as to where the future's going? Yeah, and what we quickly realized was the first part is not going to surprise any of your listeners, Tom, but what's the implication that very few people have noticed and now we're seeing it happen in a big way? So the first part is digital technologies of all sorts allow us to compress capabilities in smaller and smaller packages, all sorts of capabilities in smaller and smaller packages, and distribute them all over the economy ever closer to each moment in time and space.

00:16:50:14 - 00:17:04:17
Rob
So whether that's a 3D printing machine or an app on your mobile device or a QR code, whatever it is, it allows us to distribute these capabilities closer to each moment. And so therefore and this is the punch line.

00:17:04:18 - 00:17:05:12
Tom
Yeah.

00:17:05:14 - 00:17:20:21
Rob
Therefore digital technologies push the production and provision of value ever closer to the moment of actual demand in time and space. And that's the dynamic, that's the direction of every industry for the rest of our careers.

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Tom
Right.

00:17:21:10 - 00:17:46:00
Rob
And what you talked about before, Tom, about the availability of electricity, that is a fundamental factor to enabling this drive of production and provision closer to the moment of demand. And just to put a fine point on it, when I first started talking about this, I think the first time I mentioned proximity was at an Economist Innovation Forum in Chicago, and I talked about proximity.

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Rob
And then it became clear to me that a lot of the people in the room are thinking, he's talking about better supply chain management. And I, I sort of slapped my forehead and I thought, okay, well, that's a nice thing, but I'm not talking about that, right? I'm literally talking about setting up business models and technology platforms to encourage us to procrastinate, to wait as long as possible.

00:18:09:16 - 00:18:10:00
Tom
Yeah.

00:18:10:03 - 00:18:20:09
Rob
Before adding any value at all. Right. Now that's the ideal case, but imagine if you could wait until there is a specific customer ready to pay.

00:18:20:09 - 00:18:20:24
Tom
Yes.

00:18:20:24 - 00:18:42:03
Rob
for a specific product, service or experience. And then you create it and provide it...coterminous, co-locate. That's the direction that we're all going at different paces. It's going to take different amounts of time in different industries. They're going to be some products that take decades before we get close to that and others. It's been happening for a long time, like video streaming, totally digitized.

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Rob
You can watch anything you want, anywhere you want to watch. Yeah, that's one of the early examples. Approximate. Yeah.

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Tom
Yeah, I think that's great, Rob. I think the reason we've adopted at Zebra the whole proximity concept and we use it frequently in our customer engagements at some of the highest levels is because the trap, if you will, of what you described earlier that, you know, so many times the conversation starts off with, well, in IOT or an automation conversation or how am I going to use this technology or that wireless technology. And fundamentally when you get down to, “Hey, what are each of those technologies in service of?”

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Tom
Like, what are they really trying to promote is the business challenge of being able to push that value ever closer to the to the point of demand. And that starts to unlock it in a lot of people's thinking. And B, it gets to value much faster because rather than falling into the trap of, you know, we’ll create an IOT platform or we’ll create sensors, it's literally saying, “Hey, can I dynamically set the price of a perishable piece of produce like blueberries?”

00:19:47:13 - 00:20:15:21
Tom
Because I can literally see the moment and the moment they were harvested all the way to the point that they got to the shelf at the retail location. What exact temperature, environmental conditions, humidity, were they exposed through that entire journey? Yeah, I can set on demand pricing ahead of those blueberries perishing. Right. So rather than saying they're starting to go bad now, I'm going to cliff the price down because I'm just going to try to move them out.

00:20:15:23 - 00:20:48:19
Tom
We can very easily predict or very accurately predict exactly what their the cycle is going to look like with perishability and then start to set the gross margin profile of the pricing in a way that stages to optimize profit, minimize waste, do better by the planet. Yes. Deliver a better product to the customer. And all of that's only possible if you only if you think about, in this case, the pricing being delivered in a dynamic on demand way and the product being visible as it's moving through that entire supply chain.

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Tom

And you know, these are the sorts of things that just they're just game changers in terms of even business models with our customers. But you got to get people kind of thinking at that level and get out of the sea and the swarm headlines of all the technology as well.

00:21:04:09 - 00:21:32:00
Rob
And also to build on that time when in the in the book proximity, we Kaihan's my coauthor - Kaihan Krippendorff - he and I have identified five components of proximity strategy. And one of those components speaks to your specific point, which is if you're trying to be the most competitive on the planet and producing and providing what your customers want where and when they want it, you need a lot more.

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Rob
It's sort of ironic, really. You want to be better at that moment of demand. You need a lot wider and better visibility to everything that goes from pulling stuff out of the ground to providing that product, service, or experience. So you need better visibility across the whole ecosystem of players. And the more you have that, the more you can see big opportunities to transform the model, not just the small incremental stuff.

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Rob
And I'll give you a tangible example.

00:22:00:18 - 00:22:01:29
Tom
Sure.

00:22:02:02 - 00:22:12:26
Rob
We talk a lot about in the book. Dr. Jeffrey Lang is a personal hero of mine. I think you've probably met Jeff, Dr. Lang, at a TWIN event at some point. But he was with the military.

00:22:12:26 - 00:22:27:09
Tom
Dr. Lang was the person that said - and I invite people to go check it out at your TWIN conference when you presented - and the hook for people to go watch it was he said, "With an egg and a pencil, you can make any medication on the planet." Yeah, yeah, yeah.

00:22:27:13 - 00:22:50:03
Rob
Give me a pencil and an egg and I can make anything you want. Yeah. So, he was a military doctor with the Army, retired as a colonel. He had six tours of duty in the Middle East in these environments, they kept running out of critical generic drugs. Now, that's not shocking in a war zone. But what was shocking to me, Tom, and I know you have clients in healthcare, I didn't know this.

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Rob
We have generic drug shortages all over the United States. Every day. Dr. Lang practices at Johns Hopkins, now one of the top institutions in the world, and they have generic drug shortages. So what everybody else was doing was trying to figure out the supply chain and improve inventory management and make sure that you have better demand planning and all this.

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Rob
And Dr. Lange said, wait a minute, most generic drugs are synthetic chemistry drugs. They're made of carbon, hydrogen and oxygen. Yeah. So presumably if I had the right piece of equipment, I could make anything I wanted right here from generic ingredients right now. At the time, people thought that was nuts. That that's not going to work here.

00:23:28:29 - 00:23:48:24
Rob
All the reasons it's not going to work. Right. But Dr. Lang went to DARPA, where, you know, our military thankfully invests in crazy ideas and some of them work out like the internet. And he got a big grant from DARPA, but he worked with a team from MIT and they created a piece of equipment that today is proven it works.

00:23:48:24 - 00:24:07:21
Rob
The FDA has confirmed that the drugs that come out of this equipment are exactly the same as you'd get at the pharmacy. And it allows you to sit around and wait until, you know, hey, Tom, we need a thousand doses of atropine, right? You type in a thousand doses of atropine and hours later come out a thousand doses of atropine.

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Rob
We need 300 pills, ciprofloxacin hours later, out comes 300 pills of ciprofloxacin and if any of your listeners are interested, you can look it up. It's called On Demand Pharmaceuticals. I did not invest in it for various reasons, but I'm a huge fan. I follow it very closely and they have their first commercial implementation already in the field in Tupelo, Mississippi, making injectables.

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Rob
So they're starting slowly to prove it in a real clinical setting. And it's working great. They chose Tupelo because Tupelo kept experiencing these critical shortages. It is a very poor part of the country. They have they have needs that aren't being met. Now, they've got this equipment here at this health center where they make exactly what they need, where and when they need it from.

00:24:54:12 - 00:25:10:24
Rob
Raw materials. So they're not producing them in a factory in China or India months before putting them in a warehouse, throwing them out every two years because they have a shelf life right there waiting around until there's a specific patient that needs that thing. And they're making it right there. And that's exciting.

00:25:10:26 - 00:25:33:04
Tom
Yeah, it's phenomenal. And Dr. Lang is an amazing presenter as well. So I encourage people to go check that out on the Twin Channel on YouTube presented a few years back. So yeah, you mentioned already, Rob, you know that obviously you've coauthored a new book called Proximity. It launches in May. You and I will be together, as I mentioned in the opening at MODEX in the middle of March, which we know a lot of people watching this...

00:25:33:04 - 00:26:07:26
Tom
Hopefully you'll be able to join us there. We've committed to working with you at Zebra to have about 150 books that will be sharing with the public after it launches in May. So people won't get it right there at MODEX but we'll be taking names and collecting information to be able to share those. And I'm really excited by the opportunity that creates to have more of a community around talking about the implications of proximity and really putting it into perspective relative to digital technologies that allow us to push out production and provision of value.

00:26:07:28 - 00:26:28:28
Tom
You know, those products and services and experiences nearly to the moment of demand. And it's not just like you said, forecasted demand, but as you like to say, real ready to pay for it, that demand. And so, you know, as we look at that, we look at the dynamics happening in the marketplace. And I mentioned the venture capital investment arm we have we invested in a company called FourKites.

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Tom
Right. And FourKites is ...they're doing some you know, you've had the chance to kind of check them out...they're doing some really exciting stuff where they're managing and monitoring our goods and products as they move through the supply chain in real time. So they're doing that by aggregating telemetry information from various different sources, some that are, you know, provided by third parties to carriers, others that were built by those carriers themselves.

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Tom
And they're able to basically forecast estimated time of arrivals with very, very high degrees of precision. And one of the things that that I've noticed is with the concept of proximity, as that is the procrastination as you've put it, is driven, whether it's B2B or B2C driven, the decision to order to kind of the last moment.

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Tom
Yeah, I'm hopping around a bit, but we did see in a B2B context one of the largest medical distributors in the United States say to us that even hospitals now are ordering in a more of an each-based way as opposed to bulk ordering. So we're all used to doing that from an e commerce perspective.

00:27:36:29 - 00:27:58:05
Tom
Yeah, you order something at 3:00 and I order something different at 5:00, you know, from Amazon. But to see a hospital doing that I think is, is pretty profound. So anyway, as that procrastination to the moment of need happens from an ordering perspective, we're seeing our customers say, “Hey, for me to react to that, I can't operate the way I was operating.

00:27:58:07 - 00:28:20:26
Tom
I have to operate in a way that shows me exactly where all my capital assets are, my vehicles, my trucks, what the weather equation is, plate, where the goods are on those vehicles, and even become predictive about where things are going to become. So I anticipate somebody ordering something. They're going to intersect my supply chain with that." I mean, that's a fundamentally different way of operating it.

00:28:21:03 - 00:28:30:26
Tom
Wires, all kinds of you know, visibility and analytics and prediction. So, yeah, I'd love for you to kind of comment on how you're seeing that impact the supply chain and these cases around that.

00:28:30:28 - 00:29:01:00
Rob
Well, by the way, Tom, you pointed out FourKites to me. I was excited about it because I love to see actual examples of these things in the real world. And that that's exactly the sort of capability that's going to be needed to make good on this proximity promise. But I'll take it a different direction. And we could talk about this for hours, but I'll pick it a slightly different direction, an opportunity for all of your clients and frankly, for Zebra as well.

00:29:01:02 - 00:29:01:16
Tom
Yeah.

00:29:01:18 - 00:29:27:26
Rob
For all of your clients is to look across all the products they offer consumers at their retail or if they're a manufacturing company or if they're, you know, in the middle of a supply chain value chain, for instance, look at those products, ingredients, whatever it happens to be that are the most strategic and important for you, then figure out which ones have the most supply chain risk currently.

00:29:27:28 - 00:29:51:05
Rob
And if you run out of it, if you can't get to it, yeah, it costs enough. And it's not just the per unit. It has enormous knock-on effects, right? When you do that math, you start to identify some things where you know what, it might not make sense today on a unit basis, right. If everything's working great in the world to invest in 3D printing, for instance, to do this.

00:29:51:08 - 00:30:01:03
Rob
But you know what? If we do the math on the risk, we realize if there's a tsunami in Thailand and it knocks out a couple of manufacturing facilities, which happened in the past, right?

00:30:01:03 - 00:30:01:21
Tom
Yeah.

00:30:01:24 - 00:30:24:12
Rob
So now it starts to make sense for us to for specific strategic ingredients, components, products, etc., to invest in on-demand capabilities in our infrastructure. Now, let me give you an example. It's one of my favorite examples. I did invest in this company and so far so great. So in 2018, a good friend of mine, she's a French plant scientist.

00:30:24:12 - 00:30:41:14
Rob
She was a venture capitalist for a while, but she was always pulled back to plants because that's her thing. And she called me in 2018 and said, "Rob, I would like to figure out how to grow food on Mars. I said, "Well, what it sounded like you said grow food on Mars." She said, "Yes, this is what I said."

00:30:41:16 - 00:31:05:12
Rob
I said, "Well, okay." And she said, "Would you like to invest in my company?" And I said, "No, of course not. I'm not a billionaire. I can't wait 50 years for a payback." And she laughed because she knew that I wasn't the right target for that. But she got a grant from NASA. She got a grant from the ESA and that project for figuring out how to grow food on Mars or the Moon or in spaceships, that continues today.

00:31:05:12 - 00:31:30:17
Rob
And they've made a ton of progress. But Barbara, her name's Barbara Bellvisi. Barbara also knew she needed to build an actual business for the sort of near to medium term. So what she did was exactly what I explained to you. She looked down the list of ingredients that are derived from plants that are very high value, very low volume, and interestingly coincidental, and Barbara lives in Paris.

00:31:30:19 - 00:31:53:13
Rob
So what industries need plant-based ingredients at very high value, low volume? Well, cosmetics, fragrances, skin care, all these industries where France is a world leader. So she she looked at these plants and she and her team created a bio pod. The pod is about the size of probably the room you're in right now. You can walk into it.

00:31:53:15 - 00:32:18:18
Rob
I've been in one outside Paris and they grow and optimize environments. Any plant that you decide is a value they can grow and optimize environment. I'll give you one example a plant called vetiver. There's an ingredient derived from the roots of vetiver. It's a very high value ingredient. It grows in Indonesia and India. And so supply chain's an issue.

00:32:18:20 - 00:32:26:21
Rob
So in this pod she can grow, they're already growing, vetiver and the yield is 1,000% better than in the water.

00:32:26:22 - 00:32:27:17
Tom
Amazing.

00:32:27:19 - 00:32:52:09
Rob
Yeah. Now here's the punchline. Her biggest clients are the biggest ingredients company in the world and now they just announced that a few months ago. L'Oreal. So L'Oreal is buying these pods. They're installing these pods in their manufacturing facilities. Yeah. And so now L'Oreal will be able to make exactly the amount of vetiver they need in exactly the right location.

00:32:52:09 - 00:33:16:13
Rob
And they're completely free of any supply chain risk. Right. And the punchline for Barbara's company is she doesn't sell them the pods. She sets up the pods and they remotely monitor them and optimize them and build a database of understanding how to dramatically increase the yields of these various plant products. So she calls it hardware on demand. And so what does this mean?

00:33:16:13 - 00:33:34:15
Rob
And of your clients can do this. Any of your clients can say, what are the ingredients, the components, the products where we need we need to invest in on demand because it will protect us? Right? Make us more responsive, decrease our reliance on great demand planning for next year and that sort of thing. So this is where the world going?

00:33:34:22 - 00:34:00:02
Tom
Yeah, really, I love that example because it;s a sort of a bit of a blueprint of saying, "How can I tackle challenges where maybe a company is experiencing today from a supply chain resiliency perspective, while also building in the strategic advantage of being able to deliver? And what's it's it's a guaranteed outcome that people are going to want things faster, quicker and at lower cost like this.

00:34:00:09 - 00:34:23:27
Tom
This is never going to change. It's not like we're going to wake up one day and people want things slower for more money, right? They're not going to say, "We want less selection." The are going to want more selection delivered faster at lower cost. And so if you can sort of solve your supply chain resiliency problem through the kinds of thinking that you just with the bio pod, but you're also then setting up the bank shot to be more competitive from an on-demand perspective, it's kind of a win-win.

00:34:23:27 - 00:34:44:24
Tom
So amazing. That's a that's a great one. Really cool. You know, I guess without giving away too much of what's in the book, let's talk a little bit more about the importance of proximity in today's on-demand economy, as well as from a forward looking perspective. So yeah, there's definitely long term implications here, especially when it comes to competitive differentiation.

00:34:44:26 - 00:35:05:25
Tom
There's an urgent, immediate need for companies to be aware of current demand and respond to quarterly. This is where I think many companies seem to struggle, right? They sometimes can't see what's happening, you know, sort of right in front of them and respond in a way that's going to drive the change required both from a mindset perspective, a functional perspective.

00:35:06:01 - 00:35:31:17
Tom
It may seem unmanageable for a lot of companies, but you share stories in your book of companies are using proximity to better serve their customers. Companies that appreciate the risks of not embracing proximity. So why is this something other than just, you know, the examples that we're both talking about here, which it's great to talk about real world examples, but why is this something that people should take seriously and embrace right now as a survival strategy?

00:35:31:17 - 00:35:46:15
Tom
And it's great if you could, Rob, maybe talk a little bit about it in terms of horizon, like, you know what, how do I need to is it a survival strategy for the next, you know, that's going to impact me the next three years? Is it a five year arc? How do I you know, how do I need to think about this?

00:35:46:19 - 00:35:50:02
Tom
I'm a business leader dealing with the kinds of challenges we're talking about.

00:35:50:04 - 00:36:21:19
Rob
Great. So great leaders are defined by changing before a crisis. And I mean, I can think of a few companies that have done like Walmart has changed their fundamental aspects of their strategy multiple times in their history before crisis. And that's a mark of great leadership. So when you talk about horizon standards, the right way to think about it, they're clearly going to be very different things I need to do this year compared to three years compared to seven years ago.

00:36:21:22 - 00:36:48:22
Rob
But the further out I go, the more I need foresight to be better at making my decisions today. And so thinking about how when you have a paradigm like proximity and you understand how profoundly that's going to change the world, you can look at each individual industry or consumer need in their lives and ask if this is totally proximate 20 years from now, how might the world look?

00:36:48:25 - 00:37:15:03
Rob
And when you do that exercise, you can work backwards and realize the implication for your own company, your own industry. So I'll give you an example in our in our book, we organize by industry. So how we work, how we eat, how we prevent and care, how we create and produce, which includes distribution, how we power, electricity and how we defend it.

00:37:15:05 - 00:37:46:15
Rob
And in the last chapter, we talk about virtual reality and space, which we can talk more about. That's cool stuff. But in each of the industries, we pull out punch lines from within the chapter as to how proximity looks different in each of these industries, how it will shift the focus, the competitive dynamics in each industry. So the most tangible example for all of us is in the healthcare chapter, which is how we prevent and cure, we assert.

00:37:46:15 - 00:38:13:24
Rob
Kaihan and I assert that proximity pushes healthcare from curing things to preventing things. Why is this actually very easy to understand? So, my father died in 2004 at the age of 63. He had an aortic aneurysm. He had just had a complete physical, clean bill of health. And two months later, he dies. Now, fast forward to the not distant future.

00:38:13:29 - 00:38:35:13
Rob
We already have Apple watches and in that's nice...Aura rings. But imagine in 10 years when we have always-on all body monitoring and you've got a tech - now very simple set of technologies - they're monitoring your heart rate. They're monitoring maybe your arteries in some way and there's a new imaging, blah, blah, blah. So they're monitoring every aspect of your lymph system.

00:38:35:15 - 00:38:54:08
Rob
And that system says, “Hey, Tom, you know what? We've noticed you might you have some signs that suggest you might have stage zero pancreatic cancer. Don't worry about it. Go to the doctor, we can fix. That's not a big deal.” Compare that to today, right? If I have you know, I have symptoms and boy, boy, I'm not feeling well.

00:38:54:08 - 00:39:13:24
Rob
I go to the doctor and they say,” Boy, Rob, you know, we have bad news. You've got stage four pancreatic cancer. There's not much we can do for you.” And so this is what we mean by proximity pushes health care from curing things to preventing it completely changes the dynamics. And here's the exciting part, Tom. We know this is coming.

00:39:13:26 - 00:39:14:18
Tom
Yes.

00:39:14:21 - 00:39:27:22
Rob
This is a, “My gosh, is this going to happen?” No, no, no, no. This is coming. Yep. So now you as a business leader, as an investor, can see that future world in a new light and make better business and investment decisions.

00:39:27:27 - 00:39:55:24
Tom
Yeah. Yeah. And I love the example in healthcare and, you know, it really reminds me of some work we've done with a Professor Martin Curley out of Maynooth University, and we had the opportunity to present with him at the U.N. General Assembly Council last year actually in the Digital Health Symposium. And what I love about Martin is he's just got very, you know, right to the point in a ways of conveying where things are going in healthcare.

00:39:55:24 - 00:40:15:21
Tom
And, Rob, he would be a big fan of proximity as he talks about the future of healthcare. It’s not illness being at the center. If you think about your point of, you know, hey, you're ill and then we're going to make you better. So illness is at center and then it's is moving from illness to becoming healthy.

00:40:15:24 - 00:40:40:04
Tom
It's that wellness that is at the center of healthcare and the whole thing becomes about prevention using the types of instrumentation you were talking about and becoming, you know, just like we spoke about the supply chain becoming predictive. Yeah, that's where that demand is going to be. It's becoming predictive about what's going to happen in, you know, in my body and being able to react to that before it becomes an issue

00:40:40:06 - 00:40:51:04
Rob
By the way, I'd love to connect with him. He sounds fascinating, but you think about the implications of this. Yes. Talk about an impact on costs. Yeah, Talk about an impact on quality of life.

00:40:51:04 - 00:40:51:16
Tom
Sure.

00:40:51:20 - 00:41:00:19
Rob
I mean, wouldn't anyone rather solve the problem before it's even a problem solely as opposed to what we do today, which is waiting around until it's maybe too late?

00:41:00:20 - 00:41:18:15
Tom
Yes. Yeah. Yeah. I think another “proximity to the edge” kind of concept is, yes, Martin will also say that healthcare is going to move from “doctor knows best” to “patient knows best.” And it's really right at the heart of what you said because the patient knows best. Meaning we're carrying around the data.

00:41:18:15 - 00:41:19:16
Rob
Yeah, right.

00:41:19:18 - 00:41:35:03
Tom
Who else is carrying around the data about the way our bodies are operating through, you know, through this idea of physical instrumentation. And so we're being able to use that in a way that prevents is just is just amazing. So, hey, Rob, I Before we wrap up here, I want to ask you just one other question.

00:41:35:10 - 00:42:03:18
Tom
You speak with you know, you speak with folks in academia. You speak with business leaders. Your you know, in researching and writing the book you're about to launch in the next couple of months, what is the biggest takeaway? The biggest lesson, and I know may be impossible to distill it down to one. Right? But if you were to give our viewers, you know, what's something, a nugget to walk away with that you learned going through those dialogues and those discussions, how might you summarize that for for our viewers?

00:42:03:18 - 00:42:08:27
Tom
And you just give them a takeaway to think about?

00:42:09:00 - 00:42:38:10
Rob
I would say, Tom, make sure you're solving the right problems. It's impossible to have confidence that you're solving the right problems, that you're posing the right challenges to yourself into your team unless you have some level of foresight, right? Some high quality foresight. I'll give a quick, quick example to conclude. Before COVID, I was speaking to the leadership team of one of the big bond rating agencies, and there are only three.

00:42:38:10 - 00:43:00:02
Rob
So take your pick. But and they had this objective. They had a small team together with a small budget, with a specific objective. I love this model for innovating, by the way. But the objective of the team concerned me a bit. They said they wanted to take their offering response time for a critical offering from the company from two months down to two weeks.

00:43:00:04 - 00:43:00:23
Tom
Wow.

00:43:00:26 - 00:43:23:11
Rob
And I said, “Boy, boy, that's bold. Congratulations. Very, very impressive. It's going to take a lot of work. But here's the problem. What happens if you and your team go through all that effort and you win and you figure it out and a year later you've got that response time from two months to two weeks, then what happens if a couple of years later somebody else launches the same thing in two minutes?”

00:43:23:12 - 00:43:42:25
Rob
Right now you have wasted all that time and effort, all those resources to go from two months, two weeks, and it's irrelevant. And they all deflated and they realized what I meant There in bond rating. You know what they do? They told me, they said, “Professor, we take data and we analyze it. That's all. We don't really do it.”

00:43:42:25 - 00:44:03:17
Rob
I” mean, we take customers to dinner, but that's all we do, right?” So the reality was clear. There's no scenario where sometime in the next three, five, seven years, I don't know, somebody is going to be able to do exactly the same thing in a matter of minutes because of AI data analytics. So it was already clear right?

00:44:03:23 - 00:44:23:13
Rob
You could already see that you had that foresight, but they had created the wrong challenge. And so I'd say the one thing that I would hope people would take away, Tom, is think hard about this proximity thing and where it's going to add value for your customers and your customers’ customers in the future, because we know this is where it's going.

00:44:23:15 - 00:44:29:21
Rob
And then with that light, make sure you're asking the right questions and posing the right challenges.

00:44:29:21 - 00:44:57:28
Tom
Yeah, that's a great bit of feedback. I you know, I think there's this idea of really thinking about the art of what's possible, you know, what's valuable in the art of what's possible is changing faster than ever, right, Rob? I mean, you talk about this all the time because of due to technology and then looking at what's valuable and really framing that in a way that's going to where the puck is going to be, you know, as opposed to solving the problem with the constraints.

00:44:57:28 - 00:45:14:22
Tom
It's kind of getting to first-principles thinking is a lot of I think what you're saying, and you know, what from first principles thinking can we build because it's possible today that wasn't possible before and how does that disrupt us. And I love the, you know, the bond rating example because you don't think those kinds of cases.

00:45:14:22 - 00:45:18:06
Tom
Right. When you think about the kinds of innovation we're talking about. So now. Awesome.

00:45:18:09 - 00:45:28:02
Rob
By the way, Tom, a quick note and an encouragement to everybody listening. If you're at MODEX in March, I think I'm speaking on March 12th, you and I are going to be on the stage.

00:45:28:02 - 00:45:29:11
Tom
Together.

00:45:29:13 - 00:45:53:07
Rob
In addition to. “It'd be great for you to be there and to hear our session.” But even more than that, as Tom knows, I love hearing what other people think, what they're seeing in their industries, in their context. And part of the reason I reached out to you, Tom, you were one of the first people I reached out to when we were planning for this launch is that you're in the middle of these transformations all the time.

00:45:53:07 - 00:46:01:07
Rob
So I want to know what you're seeing. And so I'd provide the invitation to everybody at MODEX to come by our session. I want to hear what you're seeing.

00:46:01:09 - 00:46:15:05
Tom
Yeah. Yeah. I think that's, you know, another piece of advice you may not mention because it's so obvious to you rather than the way you operate is being a good listener, right? And is really what a good listener.

00:46:15:06 - 00:46:17:17
Rob
No, I'm kidding.

00:46:17:20 - 00:46:18:07
Tom
And I feel.

00:46:18:09 - 00:46:20:08
Rob
Really bad joke.

00:46:20:11 - 00:46:44:23
Tom
And I fell right into the of you know, I spent money on that one. But yeah, no really, it is that listening and we talk about that all the time as a culture, as a customer-first culture that's really starting with it. What kinds of problems are customers trying to solve and work backwards as opposed to, Hey, we have a pile of things, you know, we can come in and deploy inside your environment.

00:46:44:25 - 00:46:53:12
Tom
And I think there's a level of of leadership to that you mentioned you touched on. There's a level of vulnerability. Hey, we don't know what we don't know.

00:46:53:12 - 00:46:55:13
Rob
But if we had a humility to.

00:46:55:15 - 00:47:17:26
Tom
Exactly humility, if we could all admit what we don't know, we could probably navigate to the correct answer much more effectively. So I, too, would invite everybody March 12th, you and I will be presenting and that presenting part will be great. But more important than that will be, you know, networking, connecting, sharing ideas. And we promise if you're at the session with us, we'll do an equal amount of listening as we do presenting and chatting with you all.

00:47:17:26 - 00:47:24:10
Tom
So I'm really looking forward to it. Rob, great to talk with you and look forward to seeing you in Atlanta in March.

00:47:24:12 - 00:47:28:12
Rob
You too, Tom. Thanks so much. And thanks to the Zebra team for helping set this up.

00:47:28:15 - 00:47:29:02
Tom
Thank you.

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