

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

Speaker 1 00:00:09 About this time last year, we began to feel the shock waves of COVID-19. And depending on where you were in the world, there were either just ripples or already waves. Suddenly the shortcomings of our businesses were becoming very clear and there was little or no time to react. It's been about 12 months now, and businesses are adjusting and looking for ways to better prepare for possible next times this week on the, make it right podcast, Kevin Snook and I are joined by James Crean. He is the president of CREAN Inc. A company that's focused on helping factories become more competitive by getting smart. And that doesn't always mean tech heavy. So, uh, I'd like to welcome you to the show, James, thanks very much for joining us.

Speaker 2 00:00:53 Thanks, Janet. Great to be here. Appreciate it.

Speaker 1 00:00:56 You're also the CTO at CREAN and I should have let people know that. And I wanted to introduce you to my colleague, Kevin Snook too. So, uh, we're going to have a great conversation. So thanks for being here.

Speaker 2 00:01:07 Absolutely look forward to it.

Speaker 1 00:01:09 So let's talk first of all, about the type of manufacturers that CREAN actually helps with their smart manufacturing approach, who do you actually work with? What type of manufacturing?

Speaker 2 00:01:19 So our focus is a complex manufacturing and by complex we, uh, um, uh, mean discreet manufacturers who have, uh, either very complex products that they're developing and producing or, um, high mix production environments. And, and so that might be an environment where you have, uh, many different skews that you're producing out of the same production facility. And you have a high mix of, of different parts or in some cases we work with, uh, with clients that have a hundred percent or near a hundred percent custom parts that are coming through made to order. And they're trying to reduce that it can create a lot of variability and complexity in that production environment. And, uh, those, the, those complex environments are where we've arrived.

Speaker 1 00:02:08 Okay. So I think right off the top, in my mind, when we say smart, like I think of your smart phone and you think of smart this and smart that. And so I always think very tech heavy, but when we initially talked about doing this podcast, you told me about a smart technology that ended up just being cutted, like, um, recipe cards or something, right? So in your type of manufacturing, smart, doesn't always mean a huge investment in technology. So just define that for me.

Speaker 2 00:02:41 You bet. Uh, we look at, we look at a manufacturing environment from a perspective of people, process and technology, right? So, um, where a lot of people think of smart factory as, as, as you say, focused on technology, uh, we start with the people and, uh, and really we start with the leadership and we make sure that we understand what their goals are and the strategy of the company. And, uh, and then we work directly with every level of, uh, of the, uh, uh, of the organization from operator to supervisor, to a management, to a CEO, to make sure that, that, uh, we understand the capabilities of the people and, and, and make sure that, that we integrate the folks that are, that are doing that work into the whole process of improvement of that manufacturing environment. Um, so that's the, the people part, the process part of course, is critically important.

Speaker 2 00:03:49 And what a lot of people don't realize is that if you implement technology into a production environment, you're changing the process, right? So if you, if you use, uh, uh, uh, you know, uh, quality, uh, you know, something to do a quality inspections on automated quality inspections, you've changed the process. You've changed potentially where, where there are choke points in that production environment. Um, there's, there's numerous ways that technology changed the process. So you need to understand the process first before you start implementing technology. And oftentimes what we find is when we do our deep dives into the process analysis, we find there's, there's great opportunities for process improvement that we implement first. And then the last thing we do is we layer in the technology because now that we understand the process, we understand the people. Now we --

-- can understand how and what technologies are best going to serve that environment. We're technology agnostic. We do have some stuff that we've developed internally, just because we needed it. We had clients that needed it, but we, uh, we, then we didn't find a partner that could provide it. So we're not trying to sell a technology solution. We're trying to sell a people process and technology solution for our customers that says, all right, this is what's going to give you the benefits that you're looking for. And, uh, in the smart factory benefits are significant.

Speaker 1 00:05:16 Okay. So, um, let's actually, well, let's lead off from there. What are the benefits of, of the smart factory technology? Tell me what, what can be gained by going down this path?

Speaker 2 00:05:28 Oh, so, um, this is very important. It's very important for manufacturers to understand what's possible, um, because, um, using, uh, using this, uh, people process and technology combination to, to improve your smart factory, uh, operations, the productivity gains that we see can be anywhere from, from doubling tripling, or almost a quadrupling in, uh, in many. And it can happen very quickly. And so, uh, it's important for companies to understand that this is a huge opportunity for them. And at the same time, it's also a huge risk because of their competitor gets there first, then they're having to play catch up and that's a difficult place to be in. Right. So, um, but it's, uh, it's a great opportunity. And so focusing in, on, on getting the right smart factory implementations in place can really, you'd be a huge benefit.

Speaker 1 00:06:34 Okay. So I'm thinking about when COVID-19 came. I mean, what did you learn James from, uh, prior to COVID going through COVID to where we are now about what factories really need and what they're missing in their processes, where, where something like a smart technology approach would help them?

Speaker 2 00:06:56 Well, there were three, three takeaways that I would say really came out of, uh, out of COVID, uh, in my mind, um, the first one is the importance of flexibility. Um, you know, this was a, just a huge impact on so many companies, supply chains, you know, uh, the primary business, uh, or secondary businesses, uh, of numerous companies out there. And, um, and so it was the survival of the company, uh, in many ways, dependent on how flexible they were and the ability to, to pivot, perhaps from making a product that, where the demand dropped to a product where the, the demand spiked and the companies that were able to do that were incredibly successful. Um, and the companies that weren't able to do that were, you know, were really challenged. And so flexibility, uh, is, is incredibly important. And that's one of the beautiful things about the smart factory approach that focuses on, on high variability production environments is that what we're doing is helping companies to adopt methodologies that allow them to increase and, and thrive in that environment where there's a lot of variability, which allows for a lot of flexibility in adapting to the market.

Speaker 2 00:08:21 Um, the second thing is obviously, uh, supply chain is critically important and partnering with, uh, suppliers, uh, is, is a key success factor. Um, and that, that supplier risk has to be managed. And the suppliers themselves are suffering from exactly the same issue of flexibility. They may be your supplier for one product, but their primary product is in a market that just got hammered, right? And now they're struggling and they may not be able to, uh, to survive and produce for you the way you expected them to, and they have in the past. And so understanding your suppliers becomes very important. And actually, um, that sort of leads to the third thing, which is producing more locally. Um, we found, of course, that those companies were struggling to get some of the key things that the country needed in order to deal with. COVID a lot of the supply chain producers and the supply chain were overseas.

Speaker 2 00:09:31 So the more that we can move that production closer to home and do it efficiently and effectively, so that we're not trading off cost versus local production. It's a huge benefit to, to both our companies here in North America and our, um, uh, the ability to be able to be flexible and adapt to what's happening. So, um, so moving that supply chain local, uh, can really --

-- help you because now they're, it's, it's, uh, it's even that much easier to, uh, to produce, uh, and to collaborate and deal with the issues that, that multiple companies in your supply chain may be dealing with. And you can work on those together and come up with solutions together.

Speaker 1 00:10:21 Kevin, I actually want to ask you, um, from your standpoint over in Asia, is there a lot of talk about bringing things more localized?

Speaker 2 00:10:30 Yes. In both ways. And so, you know, China itself is looking to be very self-independent and developing a lot of technologies within China in order to be able to be almost completely independent from the rest of the world. And I think other countries that are also looking at the same thing, and, um, as James was said, COVID has just accelerated that. I think people are realizing that there are risks out there that we kind of, I'm not saying we've ignored them before, but over a period of a long period of stability, we'd got very used to building those risks into the supply chain and, and kind of, yeah. Got comfortable with the risks. And, and now I think this, this pandemic has thrown at that, all that up in the air and people are a lot more concerned around what happens if now, and the contingency plans are starting to look a lot more and onshoring, and, you know, we had Harry Moser on here a couple of weeks ago talking about onshoring and how the importance of that. And, uh, I think it's going to become, it's going to become a more and more pertinent topic. It doesn't mean that everybody is going to onshore and that it's right for everyone to do that, but it is right to have that conversation.

Speaker 1 00:11:46 Well, why did the pendulum not swing from one way over to the other way? So we were localized and then we swung way over to globalization. And then we're swinging back over to localize somewhere in the center is where the answer is w this is me sitting here as, as a podcaster, but that would seem to me to be the right answer. You've got to have both, right. And I'll throw that one out to you, James you're, you're seeing people, you know, making all kinds of things in one factory, they must have various different supply chains. They have to be partly local, partly global when they're looking for stuff. Right.

Speaker 2 00:12:23 Uh, I mean, I think it depends like, uh, like Kevin said, it depends on, uh, on the business and, uh, and what makes sense for that particular business. Um, but you're absolutely right. I mean, it's, it's, uh, it goes back and forth and there are advantages to, uh, to having that global supply chain, particularly if you have a global customer base too. Right. So, um, so it's, it really depends on the business, uh, and, and what's the right strategy. But as Kevin mentioned, you have to think about that in a much different way today. Uh, and it's, it's become very clear that you have to think about that, right. So, uh, so it's, uh, it's a strategy call by the company, right. But, uh, having everything overseas can be, uh, too risky, having everything local, maybe too risky as well. And so that's the assessment that, uh, that every management team needs to make and, and understand for their particular market that, sorry, go ahead.

Speaker 2 00:13:25 Go ahead. No, no, please do. Go ahead. Um, I was just going to say, you've, you've been running your company for quite a while now. And, um, over the, kind of like the last 20 years, what are the things that you mentioned at the beginning around people and process and technology out of those three, which ones have you seen change the most over those, those last 20 years? Well, it's a great question. Um, yeah, we've, we've been in business since 2002 and, and, uh, you know, of course back in those days, um, you know, I, I came from Hughes space and communications and we, we were a six Sigma company. Right. And, uh, in the, in the nineties, and that you are either a Jack wealth Welsh follower, and you were six Sigma company, or you're a Toyota production system follower, and you're a lean company.

Speaker 2 00:14:21 And, uh, you were really either one or the other. Um, I stood up the lean group, uh, at fuse and we were six Sigma company and we combined lean six Sigma together. And it was, uh, it was, uh, it was an interesting time to be doing a, should have written the book back then. But, um, but, but I didn't. And, uh, so we, um, what we've seen --

-- is that, that evolution of, okay, now you can do lean six together, which is more process focused. And in that, what we've developed over the last 20 years is a focus on, on evolving lean and six Sigma. So on the process side, um, at crane, we focused on that discrete manufacturing environment where you have, you, you don't have the predictability of what your, what your customer necessarily is going to order. And if you want to try and deliver on short cycle times, uh, you know, we're working with a building, a building products manufacturer that 40% of what they produce is custom and the rest of what they produce is one of, any of thousands of skews that they have. And so that order comes in, they have no idea, they can't do that sort of level loading stability planning that is sort of traditional in the lean, um, production environment. They have to be able to react very quickly to a wide variety of product.

Speaker 2 00:15:52 Um, how do you deal with that variability and, and manage that in a way that you still can deliver that foundational lean, uh, um, um, trait that you have to go after, which is stability in that production environment. Right. So, so what we focused on is high variability, and yet still delivering stability. And that gives you that flexibility, um, that I talked about earlier. Um, and, and there's many other aspects to that process improvement and process focus that, that go into that and how you use, uh, you know, some of some foundational elements out of lean and six Sigma in order to support that. But you have to grow beyond that Lean and six Sigma are not sufficient. And in, in that high mix, um, complex production environment. And so, so from a process perspective, we've, we've spent a lot of time and effort, uh, in a lot of R and D dollars in developing methodologies tools and techniques that evolve the process, um, uh, improvement, part of that aspect of things that go beyond lean six Sigma.

Speaker 2 00:17:02 I need to get around to writing the book on that, but, um, for our team that we have an amazing team of people, and we do all of this together as a team, we focus on how, how do we improve each time we work with a client? Um, but obviously technology from a change perspective is also, you know, obviously, you know, continuously evolving. And so with, uh, the industrial internet of things and all of the sensors and methods that, uh, that can be implemented around, around that, the software, the integration, uh, there's just, uh, there's a continuous evolution of technology. And so, um, you know, you have to keep up with that, right? And, uh, and you have to cut through the, cut the wheat from the chaff of UL, right. Make sure that what you're implementing is going to work properly, make sure that it's the right technology for your production environment and understand how has that technology fit into your process and what are the changes that need to happen with your people in order to be able to implement that technology and use it effectively? Um, one thing that we do is we focus on simplicity, right? Technology should deliver simplicity to the operator, to the, to the supervisor, to the CFO, right? Clarity and simplicity. It shouldn't be delivering complexity. Anybody can deliver a complex solution. It's the simplicity that is really bold.

Speaker 3 00:18:34 Yeah. I love that point. And especially when we're talking to the operator level, we really need to make sure the right information is in the right hands to make a good decision quickly, not just an overwhelm of, uh, or an overload of data coming through to people. Um, one of the things that you said and your, by the way, your, your process follows very much kind of like my career process. I went from Procter and gamble where we were, you know, very high quantity production, um, continuous production. Then I moved to a printing company where we were very much making, like the discreet manufacturing side. We were making very much job lots. And, uh, and the change for me moving from one type of production to another, it was huge. And then the technologies that we had to look at through that, um, so I've been through that and now I tend to look more at the continuous processes again, but as I, uh, as I've been through that, the leadership teams that I'm working with have to kind of, uh, there's two negative approaches to technology that I say, one of them is like a skepticism, like, is this really gonna --

-- work?

Speaker 3 00:19:43 And do I really have to spend a million dollars on this and et cetera, et cetera. And the other one is just this sense of overwhelm. Like, I don't know where to start. I don't understand the technology. Things are moving so fast. I don't want to do it now and then be behind the curve with the leadership teams. How do you, how do you approach those two things, either the skepticism or the sense of overwhelm?

Speaker 2 00:20:06 Yeah, that's a great question. And it is an, it is a real issue and it's what, it's what keeps people from moving forward. Um, so we do a few things, first of all, we start with the process. And so it's, you know, it's more comfortable, I think for the leadership to say, well, let's make sure we truly understand what's going on and not understand how we can improve the process. So that's a start, but the, the key is, is making sure that the technology fits the problem that you're trying to solve. And, and that you're set up to be able to manage that technology appropriately. Right. And so, um, you know, honestly when we start with people and process, the technology piece starts to become more comfortable cause we can start talking about all right. So here within the process is where technology can help you.

Speaker 2 00:21:01 And we can be very specific about, here's a roadmap, let's start with something that's clearly going to give you a benefit right out of the right out of the gate. And we can demonstrate it and we can get the whole team from, from operator down to the, you know, up to the CEO, down to the CEO, whichever way you want to look at it, I'm comfortable with how that all is going to work. Right. And how does that change the way that they do business and, and then you, you bring that in where it makes sense and take it a step at a time. Um, you know, uh, most of our clients, uh, do proof of concepts, uh, that really helps. It helps to, to make sure that the matches good. And then it helps to make sure that the people understand how to use the technology before you roll it out. And what the training program is. Another key part of, of the people piece of this is you have to have a good training program in place, you know, it's uh, so yeah, I mean, I think those are the key things to two successes is picking the right technologies. Uh, I can give you some examples. Um, but

Speaker 3 00:22:15 Yeah, I'd love, I'd love to hear some, but I think that's the part where the fact that you are right Gnostic to technology and what you're really doing is trying to find a solution that works for the individuals and then start small and roll it out. You're building the confidence in your building that, uh, that, that technical capability to use the technology at the same time that you're, you're moving forward with them. And so, like you said, that ties really much into really into the people, part of it when we have to be upskilling our individuals to be able to make the most use of the, of the technology. Right.

Speaker 2 00:22:51 Absolutely. And, and again, it goes back to what I said before is picking technologies that implement simplicity for you. Right? So, you know, we, we, um, we get, uh, sort of hung up sometimes on how technology is going to impact the factory floor. Uh, and a lot of people worry that technology is going to eliminate people. Uh, I have the opposite view. I actually, from past experience, all of the efficiency improvements and, and, uh, uh, technology improvements in the past have led to more people, um, being involved because you can now do things that are more complex. You can do them more efficiently and effectively. And so the demand increases and you're going to be more effective. And, and so, so it's, it's, it's finding that deliver simplicity for people, allows them to be more productive and for your company to be more successful, if you implement technologies that are incredibly complex, then all you're doing is wasting time going back to that lean principle of, you know, eliminating waste.

Speaker 2 00:24:02 Well, if people are struggling with the technology, that's just, non-value added work, right. And so simplicity is key. And, you know, I'll give you an example of a technology implementation that we did for a company. We, we had a company that they were a space products company, and they were producing 18 units a day, uh, all custom 95% custom. Uh, they had a team of about a hundred peo --

-- ple that were all working 60 hour weeks, and they were just burnt out. Right. And they, they, they couldn't take things to the next level. And so we went in, we analyzed, you know, it went through our process, people processing technology, analyze their process and, and developed a solution for them that implemented, uh, a, uh, you know, technology that was going to be very effective for them. Okay. And this goes back to a comment that Janet made the technology.

Speaker 2 00:25:05 It wasn't a recipe card, but it was actually a, a, um, um, index card index and index card. Yes. Thank you with a number on it now. So all that was doing was conveying the priorities for everybody in the factory. So everything in that factory had a number on it. Now, the key was, you know, the key to the technology piece of it was getting the right number on the right, the right item throughout that factory. But, um, but that, along with other, um, things and other non technology related implementations that we did took them from producing, um, 18 units a day to producing 44 units a day and from a hundred people working, um, 60 hours a week to only two people working 60 hours a week. And so the productivity gains were enormous and, you know, and it was about implementing the right technology at the, you know, there's, you know, systems in the background, but for the operator, it was just, I, I, I need to be able to read a number and, and that was the simplicity of that particular implementation. And so, so we have to be really focused on making sure that the technology we implement is focused on the people and it's making them more effective and it's not bogging them down with trying to figure out how do I use this system. So,

Speaker 1 00:26:35 And that, that all goes down to, um, the goal of the smart system is just efficiency. And, you know, you're, you mentioned waste earlier, James, and, you know, we think about waste of our supplies and things like that. But if you have people that are staring at the technology, because they don't understand it, that's a waste of their time. Right. That's why they're working the 40 hours a week and stuff, cause they don't know what to do next. Right. So this all comes down to efficiencies.

Speaker 2 00:27:04 Yeah. Ultimately it does. Right. And I mean, of course that's the thing that manufacturers have always looked for or, you know, for, you know, going back to producing the wheels on stone, I'm sure. Um, you know, is how do I do this as efficiently as possible and, and the smart factory, uh, approach. And, and for us, we don't just call it smart factory technology, but smart factory approach because it's people processing technology combined, um, has a huge, huge opportunity. I mean, where lean made a big difference, uh, you know, back in the day and, and that, um, smart factory is, is critical to the future. And, um, and, and it's, um, it's important to find ways to get started and, uh, and find ways to start putting, uh, you know, those smart systems in place within your business. And, uh, and look at where those opportunities are because either you're going to do it, or your competitors are going to do it, and it's a guarantee, it is, that is the future, right?

Speaker 2 00:28:17 And so it's, it's always the conundrum of every business business owner is how do I stay in front of my competition? And, and I just, I want to emphasize how important it is to look at how smart factory systems are going to help you to stay in front of your competition. So, um, it's, uh, it's not just about trying to implement lean and six Sigma anymore. So it's a combination of, of the technologies lean and six Sigma are foundational, but you have to combine that with technology in a way that, um, you know, let's, that's evolving everything. Kevin, do you feel like it's difficult for, uh, companies to know what they don't know? Right. We talk about sort of evolving into a smart factory, but if you've never really had the exposure to a lot of different places, if you're not quite sure around what technology is out there at the moment, it's difficult to know what you don't know.

Speaker 2 00:29:18 And, and that's where it's a lot more important to have these discussions with people who've seen different things and can bring a different viewpoint to the table. Yeah, no, and you couldn't be more, right. Um, we actually got, you know, into smart factory technology because we were strug --

-- gling in, uh, convincing management teams that we could improve their process. Uh, and, and, you know, it's, we, we have, uh, we have a couple of guys on our team that are pretty amazing at walking the factory floor. Right. And, you know, we can walk a factory floor and, and see stuff that, that, that team doesn't and the management team doesn't see is this kind of like boiling a frog, right. If the pot keeps getting hotter and hotter, and the frog doesn't realize that he needs to jump out because eventually that the, you know, the frog's been boiled.

Speaker 2 00:30:18 And so, um, so you don't see what you don't, you know, what you, what you don't recognize in that environment as things continue to change. And, and so, um, so it's, it's, it's both process, it's people, sometimes it's process and it's technology, what you don't know. And I mean, we use outside consultants in our business to help us figure out what, what are we not doing or, you know, and that, so that we can learn from people that, you know, that, that are looking at multiple businesses and in marketing or whatever it is that we're trying to improve in our particular company. Um, and the advantage of bringing in somebody from the outside is, uh, they, you know, I mean, we're working with clients every day in all kinds of various different industries. We're, we're seeing things that, uh, that somebody, you know, oftentimes we'll go into an organization and the chief operating officer is like, well, what are these guys going to teach us?

Speaker 2 00:31:20 I've been in this business for 20 years. Right. Well, well, part of the challenge is that you've been in this business for 20 years. Right. And that's the business that, you know, and you know, it really well, but we're not trying to go in there and change the way that you produce something. We're trying to change the way that maybe how, how the systems work together in order to produce those things more efficiently. We're not going to become experts in, you know, creating building products for you, but we are experts in how to do that efficiently. And there's a, there's a difference in, it's hard to communicate that. And so, yeah, so it's, it's from a process perspective, as well as a technology perspective, staying up on the things that are going to make the biggest difference for you. Uh, and, and it's a continuous challenge for companies to be able to understand what's out there and what are the things that are delivering real value.

Speaker 2 00:32:13 Right. Um, so there there's that I always like to give the example of, of, you know, a company that decides, well, I want to, uh, use technology to improve the efficiency of this machine. Right? Seems like that's a good idea because I can pull data off that machine and I can make that machine more efficient. And that's probably true. Right? And you can spend a whole bunch of time and effort improving the of that machine. But if that machine is never a bottleneck for your operations, you'll never see an improvement in your bottom line. You'll just see the cost of an, of analyzing the data off of that machine. Right. And so, you know, that's why it's so important to look at the process and say, well, where am I going to actually get a return on investment and find that, that opportunity, what technology should I bring to the product, to the, to the process and to the people in order to be able to deliver that return on investment, which is ultimately the goal for any business.

Speaker 1 00:33:16 Kevin, do you have any more questions? Cause we're out of TA almost out of time, but did you have anything else you wanted to ask dams? We're just getting back another time and we'll <inaudible> yeah. Okay. That sounds great. Um, so, uh, we always like to end our conversations, James, with a couple of key takeaways from the guests. So you shared some really good stories here. What about some key takeaways for people who are, you know, I've just sort of thought about this conversation, what would you leave them with?

Speaker 2 00:33:50 Well, don't focus just on the technology. That's, that's very important. It's, it's about your people and it's about the process and it's about the technology all working as a system. And so, uh, so make sure that whatever plans you put in place in your strategy for improving your, your operations, you focus on all three so that you, uh, you have a successful implementation and focus on si --

-- mplicity. Um, you know, it's, uh, it's really, uh, important, and it's not just for the, for the folks on the floor. Uh, you need simplicity for everybody in the entire operation. You know, that ultimately the technology that you have, the processes that you have should make things simpler in the simpler, they are, the more efficient you're going to. Each of those people are going to be able to do they, that they can adopt things quickly and, uh, and implement change quicker, focus on simplicity, focus on the people, focus on the process and then focus on the technology. That would be my, my most important advice for anybody. Who's looking for ways to implement smart factory transformations in their organization.

Speaker 1 00:35:04 Okay, James, thank you so much. We'd love to have you on again. Uh, good luck with your continued success with the cream, and we will speak to you again.

Speaker 2 00:35:13 Great. Look forward to talking again. Thank you very much for your time today.

Speaker 1 00:35:20 You're very welcome. James Crean is the president and CTO of CREAN Inc. It's a company that's focused on helping factories become more competitive by getting smart. Thanks. Also to my colleague, Kevin Snook, who is a leadership advisor for the manufacturing sector. He's also the author of the best-selling book, make it right. Five steps to align your manufacturing business from the frontline to the bottom line. You can find, make it right on Twitter and LinkedIn. And you can also subscribe to the podcast at iTunes, Google play, Stitcher, Spotify, and YouTube. I'm Janet Eastman until next time. Thanks for listening to make it right.

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