

 *Jaco* - **00:05**

Hello and welcome to the Human and Machine podcast. My name is Jaku Makwat. I'm here with my co host, Lenny. Lenny, how are you doing? Very well, thank you. If this is your first time listening to the Human and Machine podcast, Lenny and I are not professional podcasts by any means, but we've had a great response to our previous episodes. We of course cover everything in the industrial automation and industrial technology space in South Africa. If you missed our previous podcast, we spoke with SwaT is with Blue SP and the foresight group. And Valhallam took us through his experience and some of the wisdom that he has to share around digital transformation, the approach to digital transformation, and some really practical insight. Lenny, I think, on how to get going on that journey of digital transformation. So that was our previous episode with Valhallam.

 *Jaco* - **00:59**

If you missed that, make sure to listen to that one. That was a goodie.

 *Lenny* - **01:03**

Yeah, I think he debunked a little bit of the myths around digital transformation and what people can perceive by doing a digital transformation strategy or project. And again, Yaku, as per my love for this podcast, is taking it back to the business value. And again, it was prevalent in that call that digital transformation also needs to be, again, coupled with the random descents that you're going to get a return on. So yeah, I love that podcast. Just debunking a little bit of the myths. That is not something you buy in a box you install.

 *Jaco* - **01:36**

As Khisa from Kellogg's pointed out, people try and sell them IoT in a box.

 *Lenny* - **01:41**

lot in a box. That was great. Cool.

 *Jaco* - **01:43**

So that was last week's episode. This week we super excited to host our second or 3rd, third only international guest. We're definitely going global with a podcast. All our thousands of listeners, we're up to a couple of hundred now. Again, thank you for the support and the suggestions and the DMs. We're really excited today. We've spoken a lot about inductive automation and ignition. Specifically, if you're not familiar, inductive automation out of Folsom in California, in the US, creates industrial software that empowers organizations to really swiftly turn great ideas into reality by removing all the traditional, I suppose, Lenny, technology and economic obstacles typically associated with these tech offerings and what they've done is cross pollinating it with SCADA technology created ignition how many years ago?

 *Lenny* - **02:42**

That's 1313 years, 13 years ago.

 *Jaco* - **02:44**

Yeah, we might be wrong on that one. As the first universal industrial application platform with unlimited potential and ignition really empowers industrial organizations around the world in virtually every industry with this outstanding software platform and very exciting now here in South Africa as well. Now I's objective was not to just improve existing technologies, but to introduce disruptive tech and business model as well, with the potential to fundamentally change the industrial software market. And today we're very excited to speak with Colby. Clay Colby is the VP of technology at inductive automation. Colby has been with inductive automation since the company's formation, really since the beginning and the genesis in the early days, and is one of the original designers of ignition. Colby, welcome to the Human and Machine podcast and thank you for the very early morning start on your side.

 *Colby* - **03:41**

Oh, thank you. Thank you for having me. I'm happy to be here.

 *Jaco* - **03:45**

So you've been with I since the beginning, but what was your start and introduction into this? We call it, very jokingly sometimes we call it the sexy industry of industrial automation in South Africa. What was your start in this industry that we love? And what was your journey?

 *Colby* - **04:06**

Well, yeah, it was a bit of a blind start, I'd say, because out here or in the world I was in, I really had no knowledge of it whatsoever. So what happened was I was getting towards the end of my time at the university here near Sacramento, University of California, Davis, and I was studying computer science. And in my circle there was a guy who kind of, at the end of the year, was recruiting for summer help for a company he worked for. And so he was kind of a mutual friend of mine, and he asked me if I was looking for a summer job. I said sure. And so he took me out to a small office out in Sacramento, and I was put to task on working on the website for the day.

 *Colby* - **04:55**

So at the end of the day, the owner of the company came in, and that's Steve Heckman, that you all will know about now as our. So I met Steve at that time, and so I had no idea what the company did. I was just working on the website, making it look a little better. And so I got to talking to him about what they did. They were a systems integrator, so they were doing a lot of work in the Sacramento region for food and beverage companies, the wineries out in Napa, bottling lines. And so I thought it was interesting. And basically within an hour, he started explaining to me his ideas, some ideas for some software that he had been working as an integrator for. He had owned calmetrics at that point for about 15 years.

 *Colby* - **05:44**

And he had some very specific ideas of things that he thought could help his business. And so by the end of the day, I basically just told him, that's way more interesting to me than the website, so maybe I can help. And that was really the start of it. So it just kind of went from there. I went into a world I completely didn't know. It took about two weeks to get kind of oriented into what were doing, but the fundamentals were pretty straightforward, collecting data, putting into databases, so on and so forth. But apparently pretty revolutionary for the industry were in.

 *Jaco* - **06:19**

Absolutely, evidently so.

 *Lenny* - **06:21**

And, Colby, did you get your teeth sharpened a bit in the SI world as well, or did you just start on the software side, or did you actually do some system integrator projects in your early days as.

 *Colby* - **06:34**

Yeah, absolutely. So, yeah, within a very short amount of time, I got a few other friends recruited that are all still. Carl Gould was my, he and I served as co director of software engineering for a long time, and Travis Cox was another good friend of mine from college and beyond. And so basically, we all came together, and for the first few years, the software was really for the purpose of helping the integration business. And so were definitely out there doing projects. We did a number of projects all over the region, and a big project down in San Diego all over the place. And so that was a really important period of time for us.

 *Colby* - **07:17**

That's why we talk about our integrator roots a lot, and it'll come up a lot, I'm sure, in this conversation, because it's really affected how we run our business. But then for us personally, understanding what people are going through, remembering what it's like to be called at 03:00 a.m. And have to go out and figure out what's going on, it was an important experience to have, for sure.

 *Jaco* - **07:42**

Absolutely. Those are the folks that really need support, because to your point, that is an absolute reality for them. Always on call, always on standby, and it's a world that's less glamorous. And maybe a lot of people are not familiar with what it looks like behind the scenes. And just looking at. Looking back at the last few years, from the early days of starting out right in the beginning, looking at the incredible growth that IA has had over the last few years, specifically, I think, officially one of the fastest growing Scada and IoT technologies in the world, globally, at least, looking back at those early days now, the vision was quite a specific one to create the new skater. And the vision was quite specific as well, to help system integrators deliver their best and make the world life easier for them.

 *Jaco* - **08:38**

Looking back at those early days now to where you are today, any sort of anecdotes that you can share from those early days, any sort of struggles and small victories? We're thinking about it now. It's almost unreal that was a challenge at the time, looking at where you are now as a global business.

 *Colby* - **09:00**

Well, yeah. The first thing that comes to mind is the almost near ridicule we got for offering a new skater product to the market. I remember the very first trade show went to. Right off the bat, somebody was like, okay, why does the world need another gator product, another HMI software platform? And I can totally get that because at the time, that was maybe, what, I don't know, 2005 or six or so. There were a lot of products. There were a lot of them. But the thing was, as Steve likes to say, if a single one of those products had served anywhere close to what he needed, he wouldn't have started a software company. He was an integrator for 15 years. So it wasn't like he just woke up one day and said, okay, now's the time to start a Scada company.

 *Colby* - **09:49**

And so that first kind of skepticism and then the fact that we operate in an environment, the industrial automation space, that requires, there's really a level of trust that they have to have in you, and that takes time. So for the first five years, it was really just working very hard to find the people, the early adopters, who we could get on board and then build up that trust that would serve us for the broader market. At the end of the day, though, the answer to that question of why do we need another one is just because there was just really nothing out there that was letting us do what we needed to do as integrators.

 *Jaco* - **10:32**

Yeah, 100%. And I think for those folks that are familiar with your story or the IA story and ignition specifically, they've probably heard about the four. I think, you know, anybody that's, for example, read Steve's story or history, at least they would know about the four pillars. If you can maybe give us an idea of what those are, because I think those are very significant around what you've just spoken through, what those four pillars are that shape the vision and the significance.



Colby - **11:05**

Yeah, absolutely. Steve worked really hard early on to kind of establish the foundation, know how we would look at our business and our approach to the market. And so these four pillars were just different cornerstones that he identified as important. So we have what we call the new technology model which is to say technology based on openness and interoperability, technology that gives more access to data and supports. For example, cross platform support was really important to give the greatest amount of exposure to different platforms and accessibility. Then we have the new licensing model, which is a different way about going about selling licenses compared to what was going on at the time. All the vendors had gotten to a point where they were charging for virtually every dynamic they could.



Colby - **12:05**

The number of clients, the number of tags, the amount of data, so on and so forth. And so it was like you couldn't do anything without going back to the purchasing agent, your salesperson, and trying to get another po cut and whatnot. So we wanted to do a different model that was unlimited, very simple pricing, pay by the server, do as much as you can with it. Basically, the third pillar would be the new business model, which is again, focused on delivering value and customer experience and not really putting a primary focus on our corporate valuation. For example, we really chose to do a bootstrapped approach to growing organic growth. And we've worked continuously to keep our business structure very streamlined. So we do virtually everything out of our office in Folsom.



Colby - **13:05**

Now we're all remote around the Folsom area, but the point is that our dev QA, support, sales, all of that, we all work together in our one office. And then finally the new ethical model, which, it's a more vague term, but it's about how we see our long term relationship with the industry. And again, the goal of the foundation is to deliver real value to the industry and try not to focus on hype and really to build a company that customers can trust, hopefully for very long term.



Jaco - **13:49**

Yeah, exactly what you've just mentioned. I'm not quite sure what to label it. I almost want to call it conscious capitalism, I suppose. I think as a business, your business ethics are really guided by a higher loyalty to the community. That's something that almost comes across just the dealings with IA and the culture, that there's definitely a higher loyalty to the community and the overall objectives of the community rather than the pursuit of profits. And I think dedicated to reinventing the industry for the long term is something that definitely comes across from the early days and not selling out for your own gain. And that's quite unique, I think, and it's quite sincere and quite authentic. And this was obviously a starting fundamental. This obviously hasn't changed for you guys.



Jaco - **14:47**

Do you feel that has served you well, and do you feel that was a big part of the loyalty? I suppose you can almost call it that you have received from the community and the system. Integrated community specifically.

 *Colby* - **15:02**

Yeah, absolutely. You asked about another antidotes or milestones, and a big one for us was the first time we held our ICC, our ignition community conference. We thought for years about doing a conference, but weren't sure if anyone would show up. We finally decided, well, whatever, we'll throw it. We'll do one. And we didn't know what to call it. Should be a users conference or whatever, but we thought the term community conference had a nice ring to it. And so we organized it, set it up, and the first day, I think, was supposed to be registration. People were just supposed to show up and get their badges and go back to their hotels or whatever. But by 08:00 p.m. Everyone was still there and the hall was packed, and there was just such an incredible energy.

 *Colby* - **15:52**

And that's where we realized that we really did have this incredible community around us. And so it definitely has served us well. We have formed really terrific relationships with integrators, end users, just engineers and users of our software that have pulled us into all of these different industries. You talk about it being used in virtually every industry around the world, and that's true. And it's really incredible. And it comes a lot. We could never have done that on our own. It comes from planting these seeds and building these relationships and then seeing the way they grow over years.

 *Jaco* - **16:37**

Yeah, I haven't experienced ICC. I'm actually looking at Lenny across the table here. He's wearing his ICC 2019 shirt, and all I've heard is just incredible stories about the ICC.

 *Lenny* - **16:48**

Yeah, no, definitely. I can vouch for that. Literally. You do get that sense of community. As soon as you enter an ICC event, everybody is open to one another. You really get that sense of this early adopters as what Colby talked about and sharing their stories. And I think Colby, I mean, you mentioned it. It took a long time to get this ecosystem and partners on board. And it's one of inductive automation's philosophies is this whole ecosystem of partners, this ecosystem of a community, the sense that I belong to this greater good that is inductive automation. But surely you guys probably had some rough time in the beginning. I mean, a software company born out of a system integrator kind of environment. Now you need to get other system integrators on board to gain their trust and to start leveraging that partnerships.

 *Lenny* - **17:45**

I presume that was very hard work to get that run, to get that right, to break that perception that this is technically completely different company. We're now doing software and to gain the trust of different sis. Obviously, this is super important to build these ecosystems and partnerships. And how has that evolved and changed over the past few years?

 *Colby* - **18:12**

Yeah, it was a lot of work, and it was an important thing to pull off in the right way in the sense that we started as an integration company, but then we had to form the software company because, of course, customers, they don't want to be locked into one integrator. So we couldn't be perceived as just being software from an integrator. And then as that evolves, the software starts to stand on its own. We were very conscious that we didn't want to compete with the people we were trying to sell to or we perceived to compete with them. And so eventually the integration company was closed. And so then going forward, building those relationships in that ecosystem up to the more modern times, it really comes out of the approach to the industry and then the software itself.

 *Colby* - **19:05**

And so having with ignition, a platform that is modular and scalable and can run on all these different platforms, can scale up or down, kind of was a very fortunate bit of luck as we got into the IIoT area era, let's say, where now you can take one piece of software and use it on the edge to collect data at the plant level to run, to do supervisory control there, and then up to the enterprise level to do higher level functions. And so we've formed partnerships in basically all those different areas. For example, our strategic partner program that we have where our choice to make ignition an open platform that anybody could build on led us down the route where we found a few companies that were doing some really great things in areas we didn't know anything about.

 *Colby* - **20:12**

And so we have two of them right now. We have Sepisoft and Siriuslink, Sepasoft doing MES software, and then Siriuslink doing kind of the other side of the spectrum with their modules. And so that's one example of how the approach evolved over time. And then, of course, as it's very relevant to you guys from the business point of view, starting to reach out and form distributorship relationships and finding companies that can help take us into markets more fully, more substantially in different parts of the world is a continued evolution.

 *Jaco* - **20:54**

Yeah, I wanted to ask about that. Obviously, you've had incredible success building a community or an ecosystem with system integrators, and that served you very well. And over the, I think you've appointed, over the past years, you've appointed four regional distributors, including Element Eight here in South Africa. That's quite a different model to what you have been building and what you've led with. What can customers expect? And what are some of the, maybe just very briefly, two or three reasons why you've elected to appoint subtritus all over the world? Basically.

 *Colby* - **21:34**

Yeah. And this is something that we held out on for a long time. I think most people who think about building a business, building a software company, your first thought is like, of course we want to get it out to as many people as possible, as quickly as possible. And obviously distributors are a way traditionally to do that. Our approach going off of that kind of organic growth start, we wanted to basically really build our brand and build our name in the market as well as we could. But then it got to a point where it's clear that from one office, we can't interact with everyone in the world with the same level of efficiency.

 *Colby* - **22:16**

Obviously, somebody on the other side of the world, they're very inconvenienced to have to wait till a certain time of the day to call us or whatnot and stuff like that, of course. And on top of it became clear that we could find companies that wouldn't just be resellers, but that we could really trust to represent us and carry on our message more fully into those markets. And so that's really where I think we're focused with the program, trying to find. And that's why the distributors that we have so far, they come from companies that have worked with this for a number of years, really. And so I think that's probably the most important part of it.

 *Lenny* - **23:07**

Yeah, now, you mentioned getting the software to as many people as possible. And obviously one way to do that is to give some free stuff away. And you guys quite like doing that with the new release of Homemaker, which is a free version that you can use for your home.

 *Jaco* - **23:25**

Kind of a lot of excitement around homemaker. We've had a few calls on that.

 *Lenny* - **23:28**

One, so that's great. And obviously, one other thing that you guys did was you were one of the first industrial automation companies to offer complete free, pretty much free training. I mean, the video based platform, the inductive university for the listeners, if you haven't registered and done it, please do. It's an absolute cracker jack of 600 videos that you can go through and learn all the functionalities of the scatter platform. But obviously that's for free. It's for free for people to register. It's for free to go into. Obviously, again, there was probably some strategic importance to that at a time where traditionally training was just offered or a paid for service.

 *Jaco* - **24:11**

Yeah, for many, it was quite an important revenue stream, and you guys decided to disrupt that entirely and offer this free platform, which is really intuitive and really easy. That was quite bold at the time.

 *Colby* - **24:27**

I suppose so, yeah, it's, sometimes the best decisions are made by mistake, I guess, what we could get out of it. For us, it was very pragmatic. I mean, like I said, we worked very hard to be lean. And so basically the best way to sell, let's put it like this, people who are proficient with the software are going to buy more and do better projects, which will lead to better reputation and other people who buy more. And so our thought was, if we can help people become proficient, it's going to help take the load off of support, it's going to help our sales process. We do have a training department, of course.

 *Colby* - **25:13**

It creates material and they also offer in person training, but it keeps us from having to scale up all three of those departments linearly in order to continue to reach more and more people. So that was really all there was to. It is just a recognition that I think in the long run, beneficial for us to have a customer base that's very knowledgeable and proficient.

 *Jaco* - **25:35**

Yeah, definitely. And it's definitely served, I would imagine it's definitely served you well. Over the past few weeks, a month, we've seen here in South Africa, we've had a state of lockdown due to the pandemic. I think we were on 130 plus days before we reached the relaxed level two that we're in now. And this really wasn't an incredible opportunity for folks at home with just some extra time and extra freedom to do it, to join, jump on the platform, work their way through their modules. Like I said, it's really intuitive and easy to work through the modules and the videos. And we've definitely seen a surge in registrations for inductive university, as well as just the number of actual credentials and credentialed and certified folks over the last few weeks and months.

 *Jaco* - **26:22**

And if it wasn't for that platform, that definitely wouldn't have been the case. And we see others doing that now, only now in creating those platforms to make it easier to get the learning done from home. So definitely bold at the time and maybe by mistake, but it's been incredibly well received and we've had only good experience with it. I think Lenny is a little bit further than me. I'm only around 13% of my online learning, so I'm a little bit behind, but I know the rest of us in the office, the guys are really embracing it and they're getting towards that 100%.

 *Colby* - **26:59**

Yeah, it has been successful and it's been very fulfilling for us. I mean, really, we've heard numerous cases now of people who come across it. Usually they're still at university or studying, but it could be anybody. And they come across it and they go through it, they get the credential, and then they use that as kind of an entry point to the industrial automation world. And they go out to some companies and say, hey, I've got the certification. And it means something to see that today. Coming from where we started with it, that would have maybe been a dream, but hard to fathom. It's really incredible. And yeah, Maker edition is another thing that I think it had good timing in the sense that with people stuck at home or stuck isolated, it's a nice thing to offer.

 *Colby* - **27:55**

We had been working on it for a little bit before that, so it wasn't really on purpose, but it just continues a philosophy.

 *Lenny* - **28:02**

Wanted to ask, was that a well calculated mistake or not? But obviously not. There's been some great thought into that. And again, great free version of ignition.

 *Jaco* - **28:15**

Maybe give us a quick overview.

 *Lenny* - **28:18**

So obviously homemaker edition or maker edition, I wouldn't say at all. Watered down version. There's obviously some capabilities around the amount of tags that you can access.

 *Jaco* - **28:30**

And it's for personal use.

 *Lenny* - **28:31**

And it's for personal use, obviously for non commercial use. But pretty much you can have a full fledged ignition solution or ScaDA solution that you can use for home automation potentially at your fingertips at home. Obviously, that's probably not the only thing, was to get hobbyists included into the community.

 *Jaco* - **28:52**

And Colby, that's a game as far as technology roadmaps go for you folks, like a business at IA, that's something quite unusual to have on the roadmap and to release.

 *Colby* - **29:04**

Yeah, maybe to us it made perfect sense. It's the kind of stuff we like to do, and we wanted to keep it as unlimited as possible. In fact, I think a few people inside the company weren't even happy with the restrictions we did put on it. But again, we take a long term vision. We want our user base to be engaged and proficient and knowledgeable. And so my take on it, I keep saying, honestly, what system integrator is going to go recommend a different product when their house is running on ignition. Right, exactly. So it's just about building engagement.

 *Lenny* - **29:47**

It's almost a no brainer, to be honest.

 *Jaco* - **29:50**

Yeah. And what a great talking point as well. Just to break the ice very often, just to break the ice and get some conversation going around tech. It's a really good conversation starter. So that's the maker edition.

 *Colby* - **30:03**

Well, and if I could say one more thing about it does tie into the university and going off what I said about kind of building and attracting the next generation of talent into the industry, because now people can show up for a job interview, not just with the certification, but with an actual portfolio, a project or something that they've built in the software that's been running and can show what they can do. And so it's part of that educational ecosystem as well.

 *Lenny* - **30:34**

Definitely.

 *Jaco* - **30:34**

Yeah. We've seen just on the inductive university on IU, we've seen a number of students that have registered over the past few months and we've been promoting a little bit on our platforms and some of the conversations that we've had and we've seen a number of students that have signed up for it, both in sort of secondary schooling, high schooling, as well as university or uni or college kind of level. So we'll be sure to share the link for inductive university afterwards as part of the podcast description as well. And I agree, I think on the point of making it available and accessible to a broader audience, that's definitely empowering. And I think that definitely does serve this community in this industry that we love a lot more.

 *Jaco* - **31:19**

And it's being helpful and it's just empowering folks a little bit more than what we have been. So I love that. I love both of those initiatives.

 *Lenny* - **31:29**

Yeah. I love the idea that we now also almost disrupting the job market. So when we look at when you employ an engineer, typical kind of process.

 *Jaco* - **31:39**

We had the conversation this morning with one of the system integrators.

 *Lenny* - **31:42**

Yeah, you got your standard Oil CV, you come for an interview, you talk about the stuff. It's almost like we're becoming architects. When you apply for architect job, you take your whole portfolio of all your drawings and your past projects and everything with you in a massive case and you lay it on the table. What a great way to get your feet up in the job chain by showing them a live actual project. Ripping out your phone. Here's my solution. I've built on Maker edition. I think it's a great way to help people in the job industry as well. Definitely.

 *Jaco* - **32:13**

Yeah, I love that. Mistake or not, I think both of those, the notion and narrative serving us behind both of those has been really well received. I quickly want to ask, you mentioned the ICC. Obviously this year the ICC is a virtual event. I'm quite bummed a few of us were actually looking attending this year. By no means will it be less valuable, it's just shifted to a virtual event. Do you maybe want to give us a quick 1 minute summary of what we can expect at this year's virtual ICC?

 *Colby* - **32:46**

Yeah, it is a very different event this year. It's going to be mostly on September 15. We're doing a keynote video, and then we'll be doing a form of our ever popular, what we call the developer panel, where Carl and I go on stage and let people throw tomatoes at us. And then there's a variety of sessions that are being done in video form. So really it's a condensed kind of video format, much more on demand and importantly, completely free. This year we wanted to open it up to as many people as we could. So very different event. We're going to miss the real event, I can definitely say getting everyone together. Like Lenny said, the experience there is really going to be impossible to match online.

 *Colby* - **33:36**

But I think we can offer something that hopefully is valuable in a different way with a lot of great sessions and a lot of videos by partners like the distributors and our different partner channels as well.

 *Jaco* - **33:49**

Yeah, we'll definitely share the highlights of the virtual ICC in the description for this episode as well. If you are listening and you do want to get some valuable insights, that's definitely one not to miss. And that's going live on the 15 September. We haven't spoken any tech. That's usually the main theme for every one of the podcasts that we do is tech. We love talking about tech. We love talking about some sort of trends that we're seeing globally on the tech side as far as ignition is concerned. I wanted to get maybe a view from you in terms of what is next, any specific sort of trends and enabling kind of features that you are potentially looking at. We spoke with Ola Nipper.

 *Jaco* - **34:50**

We were lucky enough to host him on the podcast a few weeks ago, and we spoke a little bit about MQTT and spark plug and everything that's evolving in that space and the adoption towards cloud. Anything that you can share specifically that you guys are working on the roadmap right now that is potentially a pivotal moment or shift or significant that you're comfortable talking about?

 *Colby* - **35:17**

Well, sure. First, I have to say that I can't really stand up to Arlin in terms of compelling people describing the environment we're in. I would highly recommend if anybody hadn't listened to that podcast, you should, because Arlen is just wonderful to listen to from our point of view, from the ignition core point of view, what I can say is I see it as a continuation of a road we've been on for a little while. The whole layering on of IIot, industry 4.0 and so on seems new over the last few years, but really is a synthesis of things that have been in the works for a while.

 *Colby* - **36:00**

And so one of the things I like to talk about a lot in terms of where our goal for ignition, where it goes, is that I think there was a real perception initially that these new paradigms meant that you just shoot data from the edge up and then do something with it up there. And that's not really the way that I see it or that we've seen it. We see that the data has value at every level, several levels up the chain, from the plant floor up to the enterprise layer. And so ignition, with its modularity, with its flexibility, can act at each one of those layers and can take that data and make it valuable at that layer, and then help it go on to the next layer and have its value there.



Colby - **36:57**

What that means, practically, is that over the last few years, we've introduced a lot of features to basically help you to scale and manage ignition instances at every level and to make that a reality. And that has been very beneficial to our user base and to us as a company. So a lot of those features, the gateway network, MQTT, the enterprise administration module, for example, these are things that work together to help move data around and let you manage ignitions in different places. And that has opened up a lot of incredible architectures that companies have been building and has led to a lot of more enterprise level adoption. And so I definitely see that continuing.



Colby - **37:43**

I see it continuing into the space of leveraging the incredible computational power of the cloud and a lot of the services that are up there and basically starting to work that back.