

 *Jaco* - **00:04**


Hello and welcome to the Human and Machine podcast. My name is Yaku. I'm here with my co host, Lenny. It's another week, another episode. It's probably the favourite time for me of the week, where we get to speak to some incredible people in the industrial and manufacturing world in South Africa. It's a privilege to have some really good, honest conversations about where the industry is, the technology that we've been seeing, and just plainly how some of the role players and some of the operational folks and strategic and just generally the doers in the industry, where they are right now, in this moment in time, given where we are with COVID and lockdown. So this week, last week, there's maybe. Lily. Let's start with last week. Just a fascinating chat with Alti.

 *Lenny* - **00:49**


Yeah, so I think we kind of wrapped up our three part series around IoT. We had Altmar from Hive Iot on the line or on the call, and we had a very good discussion about devices, the actual manufacturing of these IoT devices and how he sees it and how they tackle it from their end and how they actually take that to market to become a complete IoT solution at the end of the day. So it was a great insight from Altma on the challenges in that space.

 *Jaco* - **01:15**

And pretty much with the three episodes that we had back to back. We first, obviously spoke with arland, the co inventor of MQTT. If you haven't listened to that episode, really good context in terms of the birth or the genesis of MQTT, which was in the early 80s. We spoke with Louis von Vik, the managing executive for IoT at business connection, about some of the drivers behind these kind of projects. And then with Alti, very much on the device level and layer and some of the very practical considerations there around scaling, especially, and also about their product, their solution, safetrace.

 *Lenny* - **01:52**


Definitely in this part of the situation that we're in now with the pandemic, really nice innovation coming out of, as we said many, numerous times in the podcast series out of display, kindness, opportunity. So that's a great initiative that they took to innovation of the safe trace solution.

 *Jaco* - **02:10**


Nice little bit of south african digital engineering down there. So that was good, right? So this week we onto something a little bit different. I don't think we can escape Iot somehow. Not that we're trying to escape IoT, but it seems like whatever topic we try to cover for the week, IoT is involved there somehow, which is a good thing.

 *Kagiso* - **02:29**


Yes, definitely.

 *Lenny* - **02:30**

We're taking it a little bit back, probably. I don't know, back to basics, if we can call it. We're talking to Kahiso from Kellogg's. Kahiso. Just to explain to our listeners in South Africa, we've got eleven official languages. I'm going to try and pronounce your surname or Yaku is going to try and pronounce your surname and maybe you can just help us there. But it's Kahiso Kumalu. If I did my click correctly.

 *Jaco* - **03:00**


I don't think you can separate the click from the.

 *Lenny* - **03:03**

Definitely not. Karhiso is the electrical instrumentation and electrical business partner at Kellogg's Southern Africa at the springs manufacturing plot. Kahiso, thank you so much for joining us.

 *Kagiso* - **03:19**


It's a pleasure. It's a pleasure. It's Kahiso.

 *Jaco* - **03:24**


See, I didn't even attempt that lady because I knew I would butcher it completely.

 *Kagiso* - **03:29**


But it's okay. Like, I've been called everything from primary to my university time. Yeah, one professor of mine said, used to call me Kahiso Nxumalo.

 *Jaco* - **03:44**

I love that.

 *Lenny* - **03:46**


We'll call you just Nx.

 *Jaco* - **03:48**


I like that.

 *Kagiso* - **03:49**

It's all good.

 *Jaco* - **03:54**


Thank you very much for joining us. I know it's a Friday afternoon, were recording a little bit late this week. Thanks for joining us in the Friday afternoon again, it's great chatting with you. And like Lenny said, it's a topic that we call it an old topic because it's very relevant in terms of its importance and just the innovation that's happening. But it has taken in certain forums in certain areas of our industry, it's taken a little bit of a backseat. And then all of a sudden with the advent of, again, networks and devices, it's very hot topic again. And manufacturing technology, we've seen it optimized production and reduced labor costs. And a lot of these technology advances are most prevalent in things like condition based monitoring, whether it's proactive or predictive maintenance.

 *Jaco* - **04:48**

So the whole space of maintenance is a fascinating topic and probably a very exciting place to be at the moment. I'm very keen to understand how your journey started in this world. Sometimes it looks to me, or the observation is that anybody in sort of the critical task of maintaining assets and looking after these very expensive pieces of equipment, just generally maintenance, have to do everything for anybody at any time of the day or night. That's usually the sort of image that I have when I think of somebody that has the primary role of maintenance on the site. How did you get into this?

 *Kagiso* - **05:34**


Like I said, my name is Cafiso. Yeah, I'm at Colex at the moment, but, yeah, before I was at Heifeld and Asalo Mital, all in maintenance. So I guess I'm all about that. I enjoy problem solving and just making sure that things run well. That's me. I don't think I do this just as a work. I do it because I'm into this. I really love it. So maintenance is part of what I do daily.

 *Jaco* - **06:11**

Fantastic. So you born and bred in maintenance?

 *Kagiso* - **06:15**


Yeah, fortunately, I was lucky. From when I started my training at IFL, I was in maintenance up to where I am now.

 *Jaco* - **06:26**

That's fantastic.

 *Kagiso* - **06:27**


Yeah.

 *Jaco* - **06:27**

Not sled like a lot of people try and escape their destinies, but that's fantastic.

 *Kagiso* - **06:34**


But maintenance is quite a very stressful environment. Yeah, it's very stressful.

 *Jaco* - **06:44**

Yeah. He was actually in our office a little while ago, and just judging by the number of phone calls that he received, and it seemed like you were the most popular man not on site the day that you were in our office.

 *Kagiso* - **07:02**


Exactly. It's very stressful. As for when the machine is down, you can imagine.

 *Jaco* - **07:09**

So you started at Arsenal?

 *Kagiso* - **07:13**


Yeah, I started at Highfeld Steel. At Highfeld Steel? Yes. Then I moved to metal, Asalo Metal.

 *Jaco* - **07:20**

Okay.

 *Kagiso* - **07:21**


Then I was in Highfeld as a trainee between 2005 and 2010. Then I moved from there to Asalo Mittel between 2010 and 2013. Then from 2013 I've been here.

 *Jaco* - **07:41**

How was that transition from, effectively, the metals and steel industry into food and Bev? That's probably quite a big transition.

 *Kagiso* - **07:51**


Yeah, quite a big jump. And it was very scary, because in Asalo mital and Hyfal, because we're doing high value products, the pressure is there, but it's not as much because you're making your profit. The product that you sell, a high value product. So in food and Bev, because of our products are low cost, and for us to make good money, we have to produce a lot. So the pressure is much higher. You get what I'm saying?

 *Lenny* - **08:24**

Because margins in the food and BeV industry is not as high as I think some people might think it is. It is actually a very low margin gain. And you're 100% right. You need to manufacture quite a lot of product to start, to get that return on your investment.

 *Kagiso* - **08:41**


Yes. When the machine stops. Yeah, the pressure starts. So that's how the game works. Machine stop, pressure starts. You want to get it. That's going as quick as possible.

 *Jaco* - **08:54**

Absolutely. I think the dreaded word that you're probably too scared to say it is the person that's supposed to avoid it is downtime. It's the swear. It's the machine that every manufacturing facility and every production facility, it's the one word that is an absolute avoidance. It's something that just wreaks havoc with the bottom line at the end of the day. So any form.

 *Kagiso* - **09:19**

Exactly. And end of the day, that's where at the same time, as in maintenance, we have to juggle that. You have to make product, but at the same time you want to do maintenance, you want to take down the machine to fix it, but at the same time you have to make product. The business must continue. They'll tell you, we in engineering, and they'll tell you, this is not an engineering company, it's Kellogg's food making company. You get what I'm saying? They engineering is not their forte. But yeah, end of the day you need the machines and the engineers to make the machines run. But yeah, you have to play with that. Juggling the two.

 *Jaco* - **10:04**

Absolutely. And the relationships within your business, I've always wondered what those relationships look like, the teams that you work with. So you touched on something. Let's take it, for example, scheduled maintenance. Just the ability and the flexibility for you to schedule that and arrange it and make sure the teams are aligned for that scheduled downtime. What does that sort of process look like behind the scenes? The people that are involved, it's something that obviously has to be planned very carefully, ideally as opposed to reacting to it. Hence scheduled maintenance. What does it look like practically on the ground to get that kind of thing?



 *Kagiso* - **10:52**


You need the team to function as a system for us to be able to do that because it's not only you have to work with the planning department, we have to work with production side and us at the same time. It's a juggling type of a thing. And I think the main important thing is us being flexible. As for the maintenance team because depending on also if we're reaching our targets or not reaching our target, we might plan something. And last minute they say we're not getting the line because of market changes or something happened or they got a big order. It does happen. So main thing is we must just keep at it, note it down. We didn't get to do it.

 *Kagiso* - **11:38**


Or there's a lot of type of also things that they try and teach us like pit stop maintenance, whereby sometimes if we have a gap for any other stuff, maybe the supplier didn't supply material on time. We have to be that flexible to say, okay, this is a chance to get at it. So not all the time it works as planned. But what we're learning lately is try and be as more flexible as possible, agile, learn to be nimble in a way that we work with what's there at the moment. But obviously you do plan. But yeah, it does happen that sometimes what we're experiencing more and more is that fact that doing those pit stop maintenance and every time when there's a gap or because of any other issues, that's happening.

 *Lenny* - **12:37**

All right, so that's quite a new concept. I haven't heard about the pit stop maintenance.

 *Jaco* - **12:42**


I was about to ask.

 *Lenny* - **12:43**


Yeah, and it's quite interesting because it's a concept that we use in kind of the engineering field, is to become a more agile kind of development kind of road. So it's quite interesting that agile approach is also leaking down into kind of the maintenance space where not necessarily that you can use your scheduled time, but if there's an opportunity to take it, you take it and you run with it, as you said.

 *Kagiso* - **13:07**

Yeah, it happens. Also, remember now we're in the load shedding and all of that. So sometimes you have a supplier who's been load shedded to a supplier supposed to bring something, he'll behind schedule. So we have to just do a pit stop. Also, because you can't run without some of the raw materials or depending what is he supplying. So you never know. It's South Africa, my friend always say. He says, what is it sa things.

 *Jaco* - **13:38**

S-I-T-I like that.

 *Lenny* - **13:47**


On that point. Can you actually relate that this new way of agile doing kind of these pit stop and maintenance has actually benefited? I know, take and giving the guys more production time, do you see that it actually makes a difference in the actual overall uptime of the line or from manufacturing facility maintenance.

 *Kagiso* - **14:14**

It's funny because maintenance, sometimes people find it difficult to because you've prevented something in the future that people, and that's for when you have people who don't believe in it, they believe in the process, they'll just think like it was just luck. But obviously, if you've seen the process, it's something that you must just believe in the process and see it happening, because it's not just a concept. Then when you start seeing it becomes like the way we do things, it does benefit. It does benefit. And if you're in a plant that's been running fine, you'll think like it's not it. But if you've been in a plant where it was chaotic and when you start seeing, when you're doing these things religiously you'll start seeing the difference.

 *Kagiso* - **15:15**


The same as if you're not planning, if you're not servicing your car will decide when it's going on service. If you don't plan it does help. The issue now sometimes becomes in having the right team who think like that. Because we must as a team think the same way. So that when we agile. I mustn't be agile only as a manager, but also with my team. When I ask them, oh, we have a situation, can we do this? Sometimes it's 04:00 you have to be flexible to say, okay, can I stay for another 4 hours? That I didn't plan to. That's where sometimes it becomes a bit tricky. I'm talking in particularly with the pit stop like maintenance and all of that.

 *Jaco* - **16:11**

Because it's very opportunistic, obviously.

 *Kagiso* - **16:15**


Yeah, some people will call it opportunistic maintenance, but that's part of it. This is an extra one. Besides what we do normally, the predictive and the preventative.

 *Jaco* - **16:26**

So you mentioned it's like your car. I had a friend at university who said if you hear a funny noise in your car, you just drive faster until the noise goes away.

 *Kagiso* - **16:34**


I like that.

 *Jaco* - **16:35**

I would imagine it's very different with a very expensive piece of.

 *Kagiso* - **16:41**

Exactly.

 *Lenny* - **16:45**

You mentioned quite something that's true to South Africa. And that's obviously when there's potentially load then. And obviously if your supplier can't supply, then very quickly you can potentially do these kind of pit stop maintenance tasks. Another kind of thing that we're sitting in is obviously is lockdown. Right? So we currently within the Covid-19 pandemic, surely. Okay, you guys, it's a little bit different because you're essential service, so you need to food for people. So it's not like your plant actually went down and you could have never went down. So to do quite extensive maintenance just based on the current lockdown pandemic, how did that influence you guys doing maintenance? How do you get spares? How do you get people on site? Just the regulations on testing and getting a guy on site, how did that influence this whole maintenance kind of cycle?

 *Kagiso* - **17:50**


I think the biggest thing what happened was when the lockdown before just the lockdown, when people were going frenzy, panic buying, that's when we actually, normally a company will keep like eight weeks, ten weeks stock at the warehouse. Our stockhold went down to like five of a week. It was the first time I've been here where they're saying everything was bought out. We are like at 0.5. So you can imagine the pressure from top because we don't have stock and the orders are just becoming big because everybody's paying, buying. So it just put pressure on all of us in terms of the whole thing, in terms of maintenance itself. How do you do maintenance? Because now you need more uptime than ever. I think this lockdown, it was a situation where, as a manager, you were tested.

 *Kagiso* - **19:00**

As an employee, you are tested, and as a manager, you are tested to move quickly and think of innovative ways and new ways. What can you do? Because nobody planned for this. So maintenance wise, I think what we did is went less on maintenance. Unfortunately, that was the call. I mean, that's the call they made that we can't stop. We have to make sure that we build up stock. And I think it was a booming for us in terms, because if you've sold everything at your price, because it just happened just before everybody. There was a price hike normally in April. That's when normally all the food and Bev guys put price hikes, so everybody didn't wait for it. We didn't expect this. Definitely. For our side, were more busy than ever. I've never been so busy in my life. Being busy is one.

 *Kagiso* - **20:06**


But at the same time with the team, were unsure. You were worried about safety. There was anxiety in the team for the first month or so. You felt unreal just driving on the road. And you're the only person. I don't know if you know, I'm legend. There's this other movie called I'm Legend.

 *Jaco* - **20:33**

Oh, yes, very well.

 *Kagiso* - **20:34**


One of the few times I've driven the n twelve from Kempton park to Springs, and I was the only person on the highway, it gave you this other eerie feeling. So that's besides the maintenance stuff. I feel like during this time were at work, but half of our minds also are not at work.

 *Jaco* - **21:03**

Absolutely.

 *Kagiso* - **21:04**


So it was very difficult time. But maintenance, we did less of it. We just did the essentials. Because also the directors were very scared because of. We don't know who are you bringing on site? Because at that time, I think most of we didn't know much about the virus. Yes. And you're scared that you don't want to bring somebody unnecessary who will infect and cause you to close down.

 *Lenny* - **21:32**

Yeah, because if you close down maintenance, that's the worst.

 *Kagiso* - **21:37**


You get what I'm saying? Because you're sitting with the situation. You don't have stock. You need more stock now you just do what it was so bad. Like I said, it was so bad that they had to evaluate who's coming. Is it essential? Is it going to stop machine? Can we run without it? It was the first time. We're doing all the wrong things that we know in maintenance. It's wrong. Can I just make a plan for it to run until things get better? Because at first we had a feeling that it's going to end.

 *Jaco* - **22:14**

Yeah, well, that's understandable, especially during a time where it's quite easy for most people to very easily. For most people to very easily work from home, where the majority, in fact, of people could easily work from home. Bar maybe putting a few things in place, such as around connectivity and security. Most people work from home. For you guys, that definitely wasn't the case.

 *Kagiso* - **22:40**


It wasn't the case. It's not even an option. You had to be here to make sure the machines are running. You need an operator to come and operate the machines. So it was quite different for us. As for on the manufacturing side, the supply chain side, the factory side, so we had to be here. And like I say, it was a time of the unknown. And at first, like I said, we had a feeling that it's going to be 14 days, then everything will be gone. Then we had, oh, it's going to be 21 days, then it will be gone, but kept on continuing. We are like on four months now.

 *Jaco* - **23:18**

Yeah, it's crazy.

 *Kagiso* - **23:22**


That's why it was so easy for the managers to be like, or the directors to be like, stop maintenance, just do what's essential to keep the machines going.

 *Jaco* - **23:35**

It took me a few minutes to catch on to it, but I really like the similarity, or at least the analogy between a Formula one sort of, or a racing environment, and a pit stop versus the pit stop on a plant for plant environment. So obviously, as opposed to having shut down maintenance or downtime, you have what you refer to as pit stop maintenance. I really like that analogy between those very basic things that you do during a pit stop. And I would imagine it's very similar.

 *Kagiso* - **24:07**

You want to go in and out.


 *Jaco* - **24:09**

Exactly. So we spoke a little bit about teamwork. You obviously have a very specific defined task and task list that has to be done according, again, I would imagine, to a very specific standard. Communication is obviously very critical between the guys. In Formula one. You can do training and practice for a pit stop. How do you do that in a live manufacturing environment? How do you do training and practice for a person?



 *Kagiso* - **24:41**


It's not easy. It's not easy. I saw ever since I've been here at Kellogg's because I don't know where I was. Like, I don't know if you know, Heifeld and Mital, those are big organizations. So they had a training center which had staff which is dedicated for that. Over here, it's a bit tricky because there isn't a dedicated training center.

 *Jaco* - **25:09**

Okay.

 *Kagiso* - **25:10**


So it's very tricky. You have to motivate yourself to go out and train yourself as much as you are manager, doing what? Your management stuff. That's another role that you're doing, which is not really defined on your contract or anywhere that you train your guys and make sure, because the more you train them yourself organize training for them, the more it becomes easy for me. So you're doing it on that pen. I can't really say there is.

 *Lenny* - **25:55**


A.

 *Kagiso* - **25:56**

Dedicated person doing that. We're just doing it here informally, unfortunately.

 *Jaco* - **26:02**

Okay. And that's obviously quite important. I mean, I would imagine as a team, the experience part of it or the practical experience part of it is quite important when you have a very limited time window to actually work on something and get it going. And especially if you have a young, inexperienced team stand the risk of perhaps not even completing it in that sort of window that you have.

 *Lenny* - **26:29**


But I think that's another point where these pit stops on Formula one has a very good concept and that's obviously the one thing that everybody looks at, right? And that's the time. How fast can they do it? And I think probably a very good metric to measure is to say, you know what, last time we did this pit stop task, the benchmark was set at X time. Can we get to it? Can we maybe do it quicker? Can we get it done faster? And obviously with that kind of motivation and always chasing that benchmark or that pit stop time, if I can call it that, then everybody in the team gets motivated and it just helps with that, boosting that morale from that perspective. Is that something that you guys do? Do you guys keep track of these pit stops?

 *Lenny* - **27:11**

How long it took to do a.

 *Kagiso* - **27:13**


Certain task and then normally across, that's where our maintenance planner comes in because normally we're using sep system. So on your sep, that's one of the first thing you put in. When you put in your job cut, how long did it take? Then from there, that's where we can just try and evaluate how can we do it better and better.

 *Lenny* - **27:35**

So, yeah, it's very similar concept just in your benchmark.

 *Kagiso* - **27:38**

So that's where the maintenance planner, he plays a big role in that, in anything that we do, basically any task that the time that the duration you put in, that's what we're trying to beat every time.

 *Lenny* - **27:51**


One thing though, that's very important with this kind of concept is you don't really know what type of maintenance you're going to do, right. You're going to get a gap, you're going to get a window of opportunity, but you need to have the resources. Is that something that you find during, especially now with the pandemic, that it's something that is less abundant, it's resources to perform the maintenance? Or do you guys feel that or experience that you can still get enough stock from suppliers to actually have enough resources in the kitty to actually perform this maintenance task?

 *Kagiso* - **28:28**


It will depend. Also, normally when you do that pit stop, we'll have. Normally we plan weekly, our weekly line shut. So now on those line shot, we'll prepare a week before normally in house. I'm talking about if we're doing in house normally, we'll plan a week before. So if it happens that we have that pit stop before the day were planned to go down, that's our chance to go in and do that. So internally, yes, that's how we do it. But when it comes to the external guys, that's where it becomes a bit tricky. You can take a chance and call whoever and say, this is this opportunity. Can I get you out? Most of the time it becomes a bit pricey when probably it's out of waking hours because he's going to come out as a breakdown.

 *Kagiso* - **29:25**

But it was something that they planned, so that's where it's opportunistic. Also, if it works. If it works, yes, but if it doesn't. As for with the external guys, but with the COVID thing, it becomes more extra. That's another huddle itself, because to even get somebody on site, that's where there's a COVID protocol that the company following where they must go through all the other guys, the EHS guys, health and safety guys, it makes it extra. So if you can pass all of those within that open window, yay. If not, we'll just do what we can internally.

 *Jaco* - **30:13**


Yeah, absolutely. And that's a massive consideration that you can imagine if you visit your local shopping store to pop in to buy just some groceries, the process that you go through for that. Imagine in a plant environment where the screening is equally as important. There has to be responsible observation of rules in terms of social distancing. Yeah. It does have a massive impact on your planning and operations.

 *Lenny* - **30:43**

But it also brings a very good opportunity for your internal team to learn things that you normally would have just gotten an external contractor to do. Yeah, but it's quite a good time as well to skill internal people up on tasks that now becomes either too costly or just. It's going to just take too long for the guy to actually get there and do the task themselves. Not going to fit the window.

 *Kagiso* - **31:08**


Yes, definitely. This Covid has made us more agile because it has woken up a lot of people in terms of skills and all of that. Very important. My latest hashtag is. I was telling my manager, my latest hashtag is capability building. So hashtag capability building on everything. I'm trying to build capability from my guys to love that.

 *Jaco* - **31:36**

Just becoming more resourceful. Absolutely. We are a very resilient bunch, South Africans. I think generally we're resourceful and resilient, and we make a plan, and I like that hashtag. Lovely philosophy.

 *Kagiso* - **31:54**

Yeah, I like training. So I really enjoy seeing guys who came under me and seen them going and blossoming to something else. I really enjoy that. It really warms my heart to see somebody who probably was once my apprentice and I see him as a manager somewhere. I like it. So, yeah, it's all about capability building. And I think this also pushed that beside the digitalization, moving the digital activism very quick, it also pushed people to empower themselves more.

 *Lenny* - **32:33**


Talking about that digitalization thing, is there anything that you guys at ketos embarked on during COVID to help drive with that, to potentially get more maintenance related data into the hands of your maintenance team?

 *Kagiso* - **32:47**

I think we started the concept of. It started last year when actually they started this digitalization, globalization thing, because we fall under the Asia Pac division. So the idea is they want to see the Singapore and start seeing everybody get all the info from that. So the concept had already started, but I think with this Covid, we just had to put fuel on it. It just put fuel and it just reassured and made sure the managers are more determined that they must make this happen. So, yeah, now we had the face of fighting on what are we using? Because everybody had started the journey, but now we want to put one.

 *Kagiso* - **33:34**


The guys in Singapore want to look at one thing, and at the same time, I don't think everybody understand the concept very well of digitalization, because some managers, they think it's something we go and buy.

 *Jaco* - **33:52**

Is there a box that you buy?

 *Kagiso* - **33:55**


You go buy for Ir. Where can we buy it? And it's sorted. We got mixed feelings, but those who really understand it, they really want to see it happening.

 *Jaco* - **34:13**

Buy us a box of four IR.

 *Kagiso* - **34:14**

Yeah, buy a box of four. Really? That's what people are thinking. Really? Just go around and just speak to other directors and just try and find out what do they understand by this. That's where I got it. Some of them, they think it's something you go buy. Just buy and install four I art. And we sorted. They don't get the concept.

 *Jaco* - **34:39**

It's probably very bespoke and very personal. According to your needs and your plant and your environment.

 *Kagiso* - **34:45**

Exactly. I was laughing the other day. They'll ask you about now AI thing. There's a new word, the AI.