06:19
Speaker 1
You.

06:24
Speaker 2
Hello and welcome to the Human Emission podcast. My name is Jaco Markwat. I am your host of the show. My, my usual co host, Lenny Smith, is not with us today. Lenny has taken some well deserved leave. So I'm joined here in the studio with Clarice Rautenbach, who's obviously part of the element eight team. Clarice, thanks for taking Lenny's spot for the day.

06:47
Speaker 3
Yeah, thanks for inviting me, yogurt. I'm very excited for my first podcast.

06:52
Speaker 2
Absolutely. It's great having you part of the conversation. So if you've listened to the past couple of weeks, or if you're not familiar with the podcast, or maybe you've only heard one, the Human and Machine podcast. We, of course, cover everything in the south african landscape to do with manufacturing, engineering. We're going to go a little bit broader than that today, but our background is, of course, in the industrial automation world. And we really aim to bring you just stories and experiences every week from inspiring folks that are doing some things a little bit differently. And hopefully through those stories and that sharing, we can inspire you and give you a little bit of a glimpse of what is possible and some of the things that people are doing. So we've been looking forward to speaking with today's guest for some time.

07:42
Speaker 2
We're chatting with Senele Goba today. We finally managed to get some time from her busy schedule to join us on the podcast. Senele is obviously a seriously busy person, young lady, but also an inspiring young woman. Soneli is firstly an ICT industry entrepreneur through her company, four hour innovations, where she's obviously a full time director. She's also a non executive director of the Institute of Information Technology Professionals for South Africa, of course, the IITPSA. And also what we want to get into a little bit more today, the founder of a nonprofit organization, Oson Science. And there's really a lot of things we want to chat with Senele about today. But Senele, thank you very much for joining us and finding the time to chat with. Really, really excited to chat with you today.

08:34
Speaker 1
Yeah, thank you. Thank you. I'm looking forward to great discussion.

08:38
Speaker 2
And you're currently at home in KZN, right?

08:42
Speaker 1
Yes, in Durban, the south of Durban.

08:45
Speaker 2
Fantastic. I hope you have good weather. We're having incredible weather in Johannesburg.

08:51
Speaker 1
Well, it depends. Our weather is actually quite cool today, but I've been enjoying it because it's raining, so I don't need to water my plants. I like.

09:06

Speaker 2
Almost want to say a couple of years ago, but it's far more than that. We met a number of years ago when you were, I think at the time you were manufacturing systems trainee at then south african breweries. Is this where your engineering technology, is this where the journey started for you and the passion started for you, or perhaps even a little bit earlier?

09:38
Speaker 1
On the qualification side? I would say it started earlier because it started at university. I guess. I did my computer science honors degree at UCT, but I specialized in computer engineering and I guess that's where then my channel towards automation started. Well, I didn't really want to work for SA Breweries, but it was one of the companies that I had in mind to start working for. So I got to work there as a graduate trainee. I started off there in 2005 as a systems trainee in Roslyn, Pretoria.

10:19
Speaker 2
Okay.

10:20
Speaker 1
But my aim was really to settle down in Durban because my then boyfriend lived in Durban and I really enjoyed being around family and him now my husband. So I moved down to Devon to complete my traineeship at the prospecting brewery. You know, the heart. Yes. So yeah, from my traineeship, I then completed my traineeship and moved on to become the automation engineer, the process control engineer. This was in 2007 there in prospecting. And I guess I kept going deeper and deeper into automation and I seemed to enjoy it quite a lot because I've kept at it for some time.

11:15
Speaker 2
Yes.

11:16
Speaker 3
Antonelli, and tell us, what were your student years like back then and what were some of the observations at university that formed or rather shaped your journey to where you are today?

11:29
Speaker 2
Were you a typical student?

11:33
Speaker 1
I think were called nerds at that time. And I fitted the description because I used to wear glasses, I used to walk quite fast paced, and I guess that sort of fitted the description. But I really actually enjoyed my university as, because where I was studying at UCT, I had a sort of a balanced life. I had a good social life with friends. I could do sports, I was doing netball, I was in the netball team, and I was also able to join clubs, other clubs like the computer club. We did computer Olympiads in the computer science department and I was fond definitely, of mentoring and tutoring. So every year from the second year, I would raise my hand to become a tutor or a mentor at the Res and at university, and I was then the member of the Housecom.

12:30
Speaker 1
So I enjoyed any of the activities that just gave me that interaction with my peers and the younger mates that were coming into university at that time. So I really enjoyed that Cape Town four or five years and yeah, it was quite fun.

12:52
Speaker 2
And studying engineering, I would imagine. Sorry, BSE or anything, I suppose Stem related. I would think there were maybe not too many other girls that studied that.

13:05
Speaker 1
Yeah, it was the case. Well, when we started in the first year, that difference was not very visible. There was a big class of us in computer science. I think were close to 200, if not more. But of course, because as you go through the university, as some people find that this is actually not my path, then they go for something else. Unfortunately, we lose some of them along the way because they give up, which is something that I'm trying to really fight against. But also, at the end of it, we ended up graduating as a class of about 26 students. And in that class of 26 students, there were just three of us as girls. And of the three girls, I was the only south african at that time. Actually, it was not even close to the apartheid days.

14:04
Speaker 1
It was in 2004, which means, I mean, were quite well into our democracy, but the transformation hadn't really happened. But that continued also to the work, into my work industry, because even there, I was one of two ladies in my department when I started working in Pretoria, and even in Durban, I was one of the two ladies. And then later on, were joined by an apprentice. I was very happy to see a very capable and good apprentice join us, but it still became a struggle to get more girls into the team. And even when I became the manager in the team, it was still a struggle to get girls into the team.

14:53
Speaker 1
It's something that we need to change, and that's what pushed me to actually say, we need to go back to grassroots and just plant a seed, water it so that we can see the fruits in years to come.

15:08
Speaker 2
Yeah, you had an incredible track record and career, I suppose, at SAB. I mean, you worked your way up to, I think, when you finished there, you were manufacturing systems manager, where you spent a couple of years at Prospectin and Newlands.

15:24
Speaker 1
Yes, that's correct.

15:25
Speaker 2
Your time at SAB, what was that like? Because I know SaB, I suppose, is still sab, but obviously under AB Env now. But I know at that time the culture was very well known as an inclusive and quite fantastic one. What was your experience like there?

15:43
Speaker 1
It was a great experience. I enjoyed my time at SA Breweries, I guess, because also I never really felt inferior to be the minority in the team. And I was fortunate to work with teams that were mostly quite open and encouraging of women being part of the team. So it was a great time. There were always fun things to do. The team that I worked with. I think when I left them, I told them they were my best team ever. I didn't need to compare them to anyone. I knew that's the best. It's as good as it gets with them. Because when I started with the team, I was young and I had my timidity to a certain level. And at some stage I actually resigned in the team because I felt that I was just not moving.

16:38
Speaker 1
But I had an excellent manager who actually did damage control and put my traineeship back on track and put support structures to help me get my traineeship to work through. And from that point, mean I became a part of the team. I would say my trainer, Roland, he actually at some stage said he feels like a proud father. He feels that he's seen me grow through the ages in prospecting and he was proud to see me flourish and get to a level where I'm able to lead the team. And as a leader of the team. At the same time, I felt that I was in a position of a privilege, if I can call it that, because I get to actually influence the minds that needed to actually understand that this field is for everyone.

17:50
Speaker 1
You don't have to prove yourself if you are female, that you actually belong here. You do belong here. And I made good friends with people who didn't really start off well because we have our differences, background differences, of course, outlook differences. So my time really in prospecting was the best. Moving on to new lens and meeting really friendly people and people who are always, who make you feel like part of the family. Even when I left, I felt like I was really leaving my family and going off back to my family. It was a hard choice, but yeah, that time for me was a really time of growth because I got to experience many different cultures within the company.

18:44
Speaker 1
I got to interact with many different people that were working like contractors that were working with the business and also working with also people in the factory. Much as I didn't realize it, they were quite proud of me. That's what they said when I left, that I'm giving them hope that their children can actually grow into this field and they can grow to achieve these levels because it's possible. It's a matter of really the doors being opened and the guidance and the coaching and also just that spark to say whatever you can imagine, just find a way to pursue it. You can get to it.

19:37
Speaker 3
You're actually blessed to have great and inspiring mentors as a young female engineer.

19:42
Speaker 1
Yeah.

19:45
Speaker 2
And then you started four IR innovation. It's a technology services business, specifically ICT consulting, industrial automation, obviously what you know very well. But then also the interesting part is the education technology, which is a little bit strange to see on the list of service offerings from a typical business in our industry. And I suppose you've alluded to why you've started that, but what was some of the thinking behind? What were some of the drivers and objectives behind that offering? What was the vision there?

20:23
Speaker 1
Yeah, this started in 2012. When I look back, actually, I was reminded by Facebook, because once I posted on Facebook, that I need something that will just wake me up every morning instead of an alarm clock. I must just wake up to this calling. So in 2012 I really thought, yes, I've grown and I'm grateful for the growth that I've received, but there's something that's missing in my life in general, but also in my career. Yes, as much as we do community engagement, social initiatives, I still wanted to do something that I can still makes a difference. And that for me spoke to us not having women in automation specifically as a start.

21:18
Speaker 1
But it goes beyond that, because for women to be in automation, they must first be in engineering fields, in the science field, and for them to be in the science field, they must take up subjects that are relating to that. That's the STEM subject. And I found that all those gaps were there. It goes back to primary school, where actually girls are just seen to not really be suitable to do well in maths and any other STEM subjects. And from there that seed of just not being the right fit for STEM is planted. So I thought, actually we need to go back to that level, to the primary school levels, to the mid high school levels, and get girls interested. But of course, because I'm a mother of boys, I believe that we are not in competition with men.

22:19
Speaker 1
It's a matter of really empowering boys to know that they are not superior to the girls. And that way you also empower the girls to say your value is not relative to a man's value, and it doesn't depend on somebody saying, this is your value. You can determine your own value as the girl, as the woman. So I then thought, okay, I need

to do something. Yes, we speak about things we want to do, but we don't really do them. So I need to do something about this. I started planning from 2012, actually started saving up money and started thinking, okay, if you're doing work like this, you don't really make a lot of money, but you still want to survive.

23:04
Speaker 2
Yes.

23:04
Speaker 1
So I started saving up money.

23:06
Speaker 2
You've got to put food on the table at the same time.

23:09
Speaker 1
To put food on the table, yes. So then we started working at just reducing any costs that we may have, which may hinder the process of running this mission. And I think in 2018, God pushed me and it was the right time, and I felt that it was the right time. So I decided, no, let me now get out and do something that I feel will make a difference every day. So I then decided to start my fire innovations business, which is aimed at automation and control. But also starting that business gives me time to be able to pursue this mission of digital empowerment among the kids, but also stem empowerment among the kids in primary schools, in underserved areas. And that's how it started, really, in 2018. This is April 2018. Yes.

24:14
Speaker 3
I want to get back to what you've stated, but on STEM, which of course, science, technology, engineering and mathematics.

24:21
Speaker 2
Yeah. A lot of people don't know that.

24:23
Speaker 3
Why it's important, perhaps a silly question, as STEM is so pervasive and all around us in everyday life.

24:33
Speaker 1
Exactly. Actually, that's the reason why we must all be aware of STEM. Even if you don't pursue a career that's relating to STEm, it's important because it's about science. Science is about everything that is around us. Technology, basically, whether you are a doctor or a cleaner or a lawyer or an engineer, you need to understand the impact of technology in your lives. Now, technology forms basically a foundation of all our daily operations. So we need to become smart, and technology gives us smart careers, basically. Of course, engineering is a bit more involved, but if you understand how things work, you can solve problems better. And I think problem solving is something that is not inherited or sucked from the mother's breast. It's something you can teach a child. So we need to get kids to understand problem solving.

25:45
Speaker 1
That way you won't have to call an electrician if your light bulb is off.

25:53
Speaker 2
Exactly.

25:54

Speaker 1
Fix it.

25:55
Speaker 2
Yeah.

25:56
Speaker 1
So stem is really important in just life because it forms part of everything that we do in life. I mean, accounting is part of STEM. The mathematical subjects, they are part of STEM. Yes. And I was speaking to one of my colleagues in IITPSA the other day. We were speaking about music, that music actually forms a huge mathematical part. Exactly. And a person who understands music actually then has a much better potential to do well in maths. And that's why you find some kids that actually take up stem subjects and they take music as an additional.

26:41
Speaker 2
Maybe, maybe from a big picture kind of approach. So we know that in South Africa, we have an unemployment crisis and specifically a youth unemployment crisis. I think the youth unemployment rate at the moment, I mean, it's staggeringly high. I think it's nearly 60%. There's so many research pieces, but I think it was the World Economic Forum that reported quite a worrying number of just indicating the shortage of scientists and engineers in South Africa. And they've also estimated that subsaharan Africa requires a crazy number. I can't remember what it was. I think I've got it here as 2.5 million more engineers to increase the continent's developments problems. So in terms of the bigger picture, do we have a stem crisis here in South Africa or sub saharan Africa, or do you think there's definitely a stem opportunity?

27:38
Speaker 1
I think there's a stem opportunity. Seriously? Because we've got a whole lot of kids that have an amazing amount of curiosity, an amazing amount of potential, and all we need is to just unlock it in some of these programs. We did national Science Week activities in 2019. This was last year in the south coast area, Umzindo in KZN, and theme was about climate change and how facing the realities of climate change. And we challenged the learners to come up with solutions. So take material that you can recycle and build something innovative with it. Now, this is kids that don't have a science lab, not a single science lab in all the 25 schools that went to visit. And they've got very willing teachers who are enthusiastic and energetic. We did not meet one teacher who didn't want to get involved in this amazing.

28:57
Speaker 1
We had very short notice in terms of the sponsors on activities to be done, but the teachers still put all the effort in it to get it done. Now, when the kids brought in the projects that they had done, we had over 70 projects that kids had come up with innovative solutions from grade four all the way to grade nine. And it was heartwarming to see how much out of a box they can think to solve the problems that are around them. So the reason why I'm saying we don't have a crisis, we've got an opportunity, is that we are not lacking in potential. We've got all the potential. We just need to harness it.

29:46
Speaker 1
So if we get more people getting into the field of cultivating that love for science, giving that understanding for stEm at a young age, of course, it's not going to be next year that we see the results, or in two years time, but we are building a long term vision here. And in five years time, we'll definitely start to see the difference. But we need to have a whole lot more hands on deck. We need to have more financial backing to say we want to support these initiatives. It's very expensive to run initiatives in deep rural areas because a lot of the money is spent on traveling and accommodation sometimes. But if your heart is into it, you cannot say, I'm not going to do it because it will be too expensive. We have to consciously put the money into it.

30:45
Speaker 1

And that's why I had to actually save up to say, well, if it's going to cost us, we will self fund at some stage, but of course we'll try and get funds to support these initiatives.

30:56
Speaker 2
And I think especially at that age is so important because it feels like I'm not an educator or a teacher or a specialist, but it feels like there's a very small window of opportunity to get kids at the right time. Because when they grow past that, I think anything in that field could be quite overwhelming for them. And they feel totally overwhelmed and they feel like they're too far behind and everything is too complex and too complicated. So, yeah, it almost feels like you have a small window of opportunity to do that. While they're quite little and quite young, you definitely do.

31:32
Speaker 1
I think that by the time the child reaches grade nine, that window is really closing, because now in grade ten, they need to start channeling themselves towards the careers that they want to pursue. So I always make an example of a child that grows up in a business setting where they've got a business at home. That child starts working in the business from the age of five, six, seven, actually. In the nearby shopping center, there's a child. I saw her from the tanchers in grade one. They sell samousas, and she started selling the samousas to us, counting the change. And I would sometimes give a very od money so that she would work out what change she needs to give me. And that child is now in grade nine, and you can see she's become a mathematical boffin.

32:25
Speaker 1
But my point about the business is that a child that grows in business doesn't think twice about deciding to choose a career in business. Now, what we want to encourage now is that the child that is exposed to stem science technology at a young age sees it around themselves. They don't see this as a foreign concept. They can just naturally choose careers relating to it. They don't have to be told that this is difficult, don't go for it. They've become accustomed to it. They know it. It's not difficult. It's not rocket science. Even rocket science is not difficult.

33:04
Speaker 2
And that's the perception, right?

33:06
Speaker 1
That is the perception. That is the perception, sadly, it's a perception that is also enforced by us, the older people who have experienced that. So we need to sort of break that cycle of teaching kids that this is difficult. Don't do it. Our teachers are very willing if we partner with them. You live there with a full warm heart knowing that actually we've got people who are willing to take our kids to the levels that they want to be at. Yeah. That window of opportunity is really something that we need to take as early enough and keep going with it. We mustn't just do workshops or boot camps or short term activities. It must be something that you take the kids through so that sustainable, so that we can see at the end of it that actually there has been a.

34:10
Speaker 3
Those are great examples of how to nurture homegrown STEM talent. Is our public education system in any way equipped to do this or some of the load?

34:22
Speaker 2
Yeah, good question.

34:27
Speaker 1
Sorry, it's a tough one.

34:32

Speaker 2
Sure. A lot of work to be done there, I think.

34:35
Speaker 1
A lot of work to be done. I've had the privilege of getting exposed to the curriculum as my kids are going through school. It's as if I'm going through school all over again. So I'm getting to learn what they're doing in school.

34:52
Speaker 2
And how often do you Google?

34:59
Speaker 1
I was saying this morning to my son, I don't know everything because he thinks I know everything. How is it that I know everything? I say I don't know everything. I just know how to search for the information that, you know, Google has become like an essential service. We must just always have it on our education system. Yeah, I think it needs a lot of work. The curriculum is actually quite rich. Of course there are some things that can be trimmed out and made maybe more detailed, but I was impressed with a lot of stuff that is in the curriculum. It's a matter of translating that information into actual real life experiences, into qualitative ways of teaching, supported by classrooms that are conducive to teaching and learning.

36:01
Speaker 1
Because a motivated teacher can only do so much if she has a class of 80 people that she has to teach. I would find teachers sometimes saying that there are kids that I don't speak to the whole week, although they are in my class, because I just don't get through to all of them. So there are a lot of opportunities that we need to take to just relieve our education system from this pressure and then get the potential which exists in our kids to be really extracted.

36:37
Speaker 2
There's absolutely potential. And you're right, I think there's a lot of good intent there, but there's a couple of things. It's not a siloed problem or challenge. I think there's a couple of things that have to sort of work together over there. And you're right, you would probably have a lot more experience. But I think the role of the teacher and the passion, and if there's a hungry tummy, that's something that could potentially be fixed. Not always easily. If there isn't a classroom, it could be under a tree. But I think the passion, a teacher's passion, is very often what makes or breaks that.

37:15
Speaker 3
Sorry. And you also mentioned that girls and young women are underrepresented in STEM fields. Why do you think that?

37:24
Speaker 2
Oh, it's another tough one, Clarice.

37:29
Speaker 1
It's a tough one. But it's a question that I do ask often because I want.

37:33
Speaker 2
Probably ask yourself the question a couple of times.

37:36
Speaker 1
Yes. And it gives me a bit of a bias because whenever I see a girl child, my eyes light up because I just want to

mentor them. And of course we can't mentor everybody, but I just want to assure them that their imagination cannot be limited. What happens is, of course it hasn't been a study that I've done and have empirical evidence of it, but what I've observed is that it's easy for girls to be discouraged of doing math. They are told it's difficult, it's for boys. You find sometimes even professors who actually say boys do better, girls just don't get this. There's a big mindset shift that needs to happen within the educators and the people of influence. And then I don't think there's a lot that needs to happen with the girls themselves to get into stem.

38:41
Speaker 1
I think once they are assured of their value, that actually you've got the value. There's nothing that else that can be stopped. So the main stumbling block really is the mentorship. It's us telling them that they can't do it. It's us telling them that this is difficult. It's not for you, it's for the boys. Do you see? The boys do well anyway, so just choose something else that's easier, not what you want to do. I think us in the position of power and influence are the biggest stumbling blocks to actually stem and the proper representation of girls in stem. And then also culture plays a big role because then you get into parts where there's an expectation of women fulfilling a whole lot of roles in their families and in society, roles that actually don't expose them to stem.

39:48
Speaker 1
And that also requires sort of a mind shift. And I guess we can spend our lifetime working towards it. But I believe, at least if everybody starts something, however small, it will exponentially grow at some stage.

40:08
Speaker 2
Absolutely. There's no better time than now. I agree. Definitely.

40:13
Speaker 1
Sure.

40:13
Speaker 3
And there's always learning from kids. Are there any lessons you have learned from working with the kids and young people these past few years?

40:24
Speaker 2
You have two very young. Clarice, you've probably learned patience.

40:31
Speaker 1
I have patience, definitely. I've learned patience. I wasn't a very impatient person from a young age. But with having children, I have to learn to really not jump to conclusions and also just observe without saying anything and don't immediately say, no. What I've learned, a child that asks why, we very easily dismiss them. But for me, the question why? Is extremely loaded. Yes. It indicates that the child wants to see beyond what is there. The child wants to know a whole lot more than what we've just put across to them.

41:25
Speaker 2
Is that inquisitive mind?

41:26
Speaker 1
That's the inquisitive mind that we must feed, and we must feed the right stuff. Kids, teach me to learn more because it's not easy to always say, I don't know. I don't know. But you also get to a point where you say, actually, this is something interesting to read about. Let's read about it. So they teach you to learn more, to be more humble as well, and understand that they could know more than we do. And that's what I'm hoping for. I'm hoping that the kids that I mentor, the kids that I teach, can actually come back and be superior in knowledge to me. And for me, that will be an amazing experience. So we learn a whole lot of things. We learn to be referees. Like I was saying, I'm a referee to my boys and to be a referee that has wisdom.

42:32
Speaker 1
And I learned that the words that you say to a child can make them or break them. So it's very important for us to choose the words that we are saying to the child, and we must always aim for words that build them. I was very interested in a story that was a speech by the lady from Black Panther. She made a speech at the essence women's. It was a conference in America. And she was, she's from Zimbabwe, and she was a model at the time. Young, very young. And of course, they were being modeled for the Americans to come and see the beauty and appreciate them. And she says, this woman that came to her and said, you are beautiful, it is a set of words that actually carried her for a long time in her life.

43:40
Speaker 1
Somebody telling you that you are beautiful. Many of the kids we meet have actually not heard those words. And it's important for us to, when we think of something good about a person, we must just say it. It builds them.

43:54
Speaker 2
Yeah, definitely.

43:56
Speaker 3
And you have two boys, right? In LA?

43:59
Speaker 1
Yes, two boys.

44:01
Speaker 3
How do you find balance and divide your time within your family and all the initiatives that you involved in? I mean, that's super euro.

44:15
Speaker 2
What's for dinner?

44:19
Speaker 1
I get that question often, but I'm actually impressed. I think my boys are quite independent, but I think they take that from my husband, who is very independent as well. If you leave him with food in the kitchen, he won't call you and say, I'm hungry. He will only do that when he really wants you to cook something special. I've been lucky on that front that they are able to look after themselves. They have learned to become so caring. On a weekend, sometimes they make us breakfast. So it's quite heartwarming. But I've also learned to just take the days as they go. I used to be a perfectionist, and I think at some stage it did take its toll on me because I wanted everything to be the best. I wanted my kids to do well at school.

45:20
Speaker 1
I wanted all their homework to be on top of 100%, and I wanted their school uniform to be clean, and I wanted the house to be clean, and I wanted my work to be 100%. But I realized that actually, perfection, they say what, perfection is a fallacy.

45:39
Speaker 2
Yes.

45:42
Speaker 1

I actually learned that we mustn't aim for perfection, we must really aim for balance in life. And I learn every day to balance my life. And I'm hoping that when they grow up and become men, big men, and they'll be respectable men who also have a balance in life.

46:08
Speaker 2
Yeah, I know. We always aim to achieve the balance. Do you believe that we can really reach balance in our lives between everything that we're involved with, work, home? Do you think we can reach a happy state balance?

46:27
Speaker 1
I think it depends on what you are calling the balance. If you are calling the balance in a mathematical term, it's probably very difficult to reach that.

46:36
Speaker 2
That's probably impossible.

46:37
Speaker 1
It's likely impossible, yes, that's probably impossible. But for me, a balance is where you don't have to give the equal amount of time to everything. But you have to give enough time to everything that your heart is in the right place that you feel you are able to. Yeah. It ultimately speaks to you that you feel fulfilled. You are not feeling that. I've missed something there. I've missed something there. Some days are not as good as others. So balance cannot be measured on a daily basis. But I think if you look through your year, I guess this is very important to take time out and just reflect and see whether we are moving forward or back or that way you are identifying if you are actually achieving the balance.

47:39
Speaker 1
So it's achievable in my view, not in mathematical terms, but definitely in personal terms, where you feel that you are fulfilled, what you are doing is what you want to do and it's what makes a difference in the world. It's what is needed and it's what keeps you alive as well. I guess that's when they talk about the icky guy. Once you find your ikigai, which we pursue on a daily basis.

48:12
Speaker 2
Exactly. I love that. I had a conversation once about balance with somebody that's been a mentor to me and he said something quite interesting. He said that balance, he didn't believe, and I agree with him, that you will ever have balance in your life. And his take on it is that instead of seeking balance in terms of to your point hours and where you spend it, his objective is that the one or 2 hours that he has, where he has it is that he is there in the moment. Because very often you probably find it with busy career and business people at home. Maybe they strive to be home early because they're trying to find their balance. But then you're at home and you're not really there. Your mind is on 7 million other things instead of your family that's right there with you.

49:08
Speaker 2
And his opinion was to rather, if you do have an hour here or there, be in the moment, wherever it is, whether it's at work or at home, and make sure that it's quality time that you have. And rather strive for quality time than balanced time, which is not a terrible way of looking at it.

49:27
Speaker 1
That's the best way of putting it, really. Be there.

49:30
Speaker 2
Yeah, definitely. So I want to get back to the jobs topic that we spoke about. Obviously there are available jobs

in the stem fields and we know that local stem talent or experts, there's very few of them. So are these positions being full? And if they're being full, who's taking those jobs? Are we not filling those positions?

50:01
Speaker 1
Sure. Yeah. I don't actually know.

50:07
Speaker 2
Is some of it being outsourced. It feels like there's a lot of the sort of position that feels like it's being outsourced to elsewhere in the world.

50:18
Speaker 1
It feels like that because, you know, we've got a few countries that have a huge operation base in South Africa, which is good for international relations. But at the same time, it's important for us to really ask ourselves, do we have to outsource that kind of skill or activity? We should have people within the country that can do that. I don't think we've got enough pipeline to get people into the right stem jobs. We've got a lot of high unemployment, like you said, Jaco. But we don't have a match between the jobs that are available or the jobs that are in demand and the qualifications that our unemployed youth have. So it's something that we need to gap, that we need to fill, and that way then we will outsource less.

51:28
Speaker 1
I was happy to hear our president saying, as part of the recovery plan, that we will look into. Sorry, I just wanted to laugh. We will look into creating, having more products developed locally.

51:50
Speaker 2
The role of manufacturing in South Africa.

51:52
Speaker 1
Yeah, the role of manufacturing. I mean, I don't understand why we have to import cereal if we've got it in South Africa. We must make it something that's really simple. In my view, we should not have to import. We must manufacture it here in South Africa. Now. Also, the talent that we are getting out of tertiary, I think because it's quite raw, we need more mentorship into the jobs so where the graduates are being really trained to be able to do the jobs that they're getting into. I think that kind of mentorship is also a gap. Closing that gap will also ensure that when we get a person into a workplace, they are not just going to stay there as an employee on that level forever. They will grow in that role.

53:08
Speaker 1
When we have a manager who hires a person, hiring them with the hope that this person will actually outgrow this job very quickly, I think that's very important, because then that person will start their own business and that business will start to employ more people who will start their own quality businesses rather than multiplier effect. The multiplier effect, yes. So we need to focus on that. Definitely. But I think it speaks to mentorship with our unemployed youth, getting them the basic skills. We sometimes assume that most people have got access, who have got access to a computer, a cell phone, actually know how to use technology. No, it's not necessarily the case.

53:56
Speaker 1
We need to have deliberate programs that give people the right skills to be relevant and be able to harness the power of computers, the power of the Internet, the power of technology.

54:11
Speaker 2
Absolutely. We often speak about that. We speak of what do you have in our world? You have technology, you have processes and you have people. And the technology is an enabler and the technology is an enabler to just

help those people improve the processes and let them focus on innovation and what they're good at. But they need to have the skills and the ability to harness their technology.

54:40
Speaker 1
Absolutely, I fully agree.

54:44
Speaker 3
And our industry, the industrial, domestic industry, obviously also plays a role. How can we make a difference? Perhaps grad programs or internships? Senele, you have great experience here. What more can we do today? Perhaps not knowing where to start.

55:02
Speaker 2
Yeah, and that's a good question. We believe that we maybe don't have access to like a grassroots level and we business people. And what you've done is the extreme, and we applaud for that. But yeah, it's a good question. How do we help?

55:20
Speaker 1
I think it's a matter of everyone who is in a certain profession looking to say, I can support somebody else, get into this profession, go out there and look for it. I'm actually not for the CSI programs where we go and do something that will last that day. I'm all for CSI programs where you are saying, we are going to run with this community and grow this community. If you are a factory that, okay, I'll make a blatant example, like a factory that makes paper. The communities where your forests exist should actually be the closest to your heart. You must ensure that they aspire not to become tree fellas, but they must aspire to become the paper scientists. They must aspire to become the professions that exist within the business, in the businesses.

56:37
Speaker 1
We need to really see the potential that exists in communities around us and then start to nurture it through the CSI programs. So for me, the qualitative CSI programs that are sustainable is one way that business can actually do this.

56:54
Speaker 2
And the intent is always good, but it does seem like it doesn't have longevity, and that makes it seem a little bit superficial and artificial.

57:02
Speaker 1
But I think the intent is always quite good. Yes. And it's a matter of really going back and reevaluating. And we mustn't stop. We mustn't stop with those short term activities or once off activities. That's not really what I'm saying. Yes, they should happen, but we must definitely have a sustainability aspect in all the CSI initiatives within businesses.

57:26
Speaker 2
Yeah, of course. So we know that you're quite a humble human being and you're not a fan of being the center of attention or being in the limelight, but we have to celebrate some recent achievements. So you were recently awarded a place in the US State Department. They have what they call a tech.

57:46
Speaker 1
Woman program, which is tech women, which.

57:48
Speaker 2
Is an incredible feat given the number of entries. And I think you were one of 108 women globally for more

than 4000 nominations that were awarded a place in this program. Well done. I mean, it's phenomenal. We obviously, as South Africans, we're incredibly proud and excited for you, maybe for, I would imagine a lot of people don't know what is the program all about and what was the process?

58:13
Speaker 1
Thank you. No, it's a program to identify women that are making a difference in the STEM field and also get to grow the number of women that are effective in STEM. So through mentorship programs, through exposure programs, where you get to actually work with people in certain technology companies or whatever other companies that you want to get involved with, because we will go to the Silicon Valley and we will get to interact with people in the different companies. So it aims at getting women in STEM, putting them through this program where you grow their network, you grow support structures, financial support structures, you grow technical support structures, as well as just general business support structures for them so that we can get more women into STEM and get more women to actually make a difference in STEM.

59:16
Speaker 1
So that's really what it's aiming at and the process for getting into the program. For me it was quite interesting because I wasn't aware of the program, but I was contacted by a good friend of mine whom I went to university with. And when we caught up and were speaking about just our lives and where I was, she just said, this is the program that you need to get into. So she said, even if it's the last thing I do, I'm going to just get a nomination for you in day. So at that time, of course, I didn't know much about it, but then I thought, okay, no, that's good. Let's have a look. She nominated me. Then I was invited to do an application. I had to fill in a number of essays.

01:00:08
Speaker 1
I think it was about 13 essays that you have to write about your life and things that matter to you and things that you do, things that you want to do. It was an interesting experience, really. And it was a time to reflect and to see where my life is and where it's going. And then went through the interview process with a team that is in South Africa, a selection team in South Africa. Then that selection team makes a recommendation to the US team and then the US team then makes the final interviews if they see the need, and then they do the final selections. So I was then informed, I think it was in July when I received the news. Of course, it was a bit late because of the COVID changes. So the program is also.

01:01:03
Speaker 1
Yeah, were meant to actually go in September to the US, but it's of course not possible right now. But we'll be going in February again depending on what the lockdown rules look like. But we have already started with the program and it's been quite exciting. Every week you get to spend some time with one of the cohort team members from anywhere in the world. My first friend was in Uzbekistan and got to know her and what she does. And my other friend was in Kyrgyzstan. And it's quite interesting to find that there's a lot of good work that people are doing everywhere and how common also the work that we do is among us. And then we also have a mentor that is taking us through the leadership development on a weekly basis.

01:02:07
Speaker 1
Every Thursday we meet with our mentor and we have discussions and we have some assignments that we work on and some feedback on it. So it's been quite exciting. I can't wait for us to meet face to face as a south african team. There's five of us from South Africa and we have to come up with a project. So a project that can make a difference. So I'm also excited about that because I've got so many ideas. My teammates are equally excited because we now must look through all these ideas, analyze them and then decide what we want to do. So it's quite a good program. I feel privileged, but at the same time I feel challenged.

01:02:58
Speaker 2
In a good way?

01:03:00
Speaker 1
Yes. In a very good way? Yes, definitely.

01:03:03
Speaker 3
Yeah. And to also visit Silicon Valley in the US next year, that's exciting. Have you ever been to the US before?

01:03:10
Speaker 1
No, I've never been. So it's really exciting.

01:03:14
Speaker 2
It makes it extra special.

01:03:17
Speaker 1
Absolutely, yes.

01:03:22
Speaker 2
Any amount of travel is always great. Just opens your view of the world and broadens your horizons and gives you.

01:03:30
Speaker 1
Absolutely. I only started traveling at a very late stage in my life and I really could not understand why I didn't travel earlier and I don't understand why our young high school learners, well, I guess I do because there are financial implications, but it's really eye opening. As you say, Jaco, it's eye opening. You see so many things that happen in other worlds, in other countries, and you see what it is that we as a country can mean. When I look at the rail systems that exist in Europe, I'm just mind blown because they are so efficient, they are so simplistic, yet they just work. We spent about two weeks in different countries in Europe this one time, and we traveled by train everywhere went. And we had no guide, no travel guide. It was just me and my best friend.

01:04:36
Speaker 1
We just went around Europe and we didn't get lost once. Every information is there. So our kids that are in grade ten, grade eleven, grade twelve, they need to experience traveling. And this will really open up their minds about the difference that they can make in our country.

01:04:57
Speaker 2
And also just the opportunity to give them an experience outside of their immediate surroundings, even if it doesn't necessarily have to be Europe or somewhere, but just anything outside of the immediate surroundings just gives them that as well.

01:05:12
Speaker 1
That's true. That's definitely true. You know, there are these programs called academic achiever programs. You find they run mostly in the private schools where kids are into travel in other countries. And I always ask myself, because I really think we should give kids opportunities as part of these csis that I'm talking about. There should be an achievers program that actually looks at kids that cannot afford to travel and helps them, gets them out there, things like that. Not only bursaries give them the experience. You'll be amazed at what will come out of that. So we've got our work really cut out for us if we want this potential, that bursting in our youngsters to really be harvested.

01:06:06
Speaker 2
Yeah, absolutely. Sure. I think we're really well over our time. Sundi, thank you so much for your time today and the great work that you're mean again. There's a few Stem experts, if I can label you, that, they can teach on. You're doing a marvelous job and deserve all the support and encouragement that the private sector, government

and really just all of us can offer. And also an incredible example for all of us to follow. Is there any way that our listeners can reach you? Can we share some contact details with the podcast? Are you okay with that?

01:06:45
Speaker 1
Yeah, we can share a few contact details. The website for my company is www dot Fouririnnovations co Z A. And our ososciency is found on Facebook as ososcience. O-S-O-S-A-Y-E-N-S-I. That's a zulu word that means scientists.

01:07:13
Speaker 2
Yes, that's right. I saw the definition of that. I love the name. Yeah, that's great. We'll share the contact details in the description of the podcast as well.

01:07:25
Speaker 1
Sure. I'm also on LinkedIn as Senele Koba.

01:07:29
Speaker 2
Fantastic. Thank you so much for your time. Any message for any of our listeners? We don't have a listener base of millions, but it's growing slowly and we really appreciate your message today. Any message for any of our listeners? Somebody who wants to get involved?

01:07:47
Speaker 1
Yes. I think if you feel that there's something missing in your world, you want to mentor somebody, you want to make a real difference, do something within the community development. It's really fulfilling. Even if you're doing it as a part time or once off, reach out to nonprofit organizations that do work like that and contribute your time. The fulfillment will be unmatched.

01:08:17
Speaker 2
Really love that. Thank you very much. Appreciate it. Thanks again for your time. And yeah, we'd love to follow up with you maybe in a couple of months time, see how things are going. I think you're definitely going to stir some people to action, which is always great. And thanks again for your time and keep up the incredible work.

01:08:39
Speaker 1
Thank you so much. I'm glad we eventually spoke.

01:08:44
Speaker 2
Definitely. You're the super busy one. So thank you for making the cool. So thanks very much. All right, so next week, Louise, we've got coming up next week, we recorded a podcast with Herman skippers all about artificial intelligence and machine learning.

01:09:07
Speaker 3
We also topics haven't actually covered, but AI was one of the main topics. And BC and AC, quite interesting.

01:09:24
Speaker 2
Yeah. The role of machine learning before COVID and after Covid. Then I think we recording with Kudzai. Kudzai. He's a great guy. Also a good online educator and just generally just a mensh and a great educator as well. So, yeah, we've got a couple of good episodes coming up and you can do the exit line.

01:09:52
Speaker 3

If you have any other ideas or want to get involved or want us to cover any specific topics, you can send us an email to podcast at elementate and we will make sure to contact you guys and get those topics out to our listeners. Thank you so much for listening. Feel free to share the podcast today that we did with Selena Goba and yeah, thank you again for joining us.

01:10:21
Speaker 2
Awesome. Thank you very much, Therese. And yeah, just thanks again for listening, everybody. Stay safe and look after each other. Bye.