The SAFE Leader

with Mark McBride-Wright

Ep. 013

From Farm to Factory and Bold Decisions

WITH EMMA KNOWLES
DIRECTOR OF ENGINEERING GB

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SPEAKERS

Mark McBride-Wright, Emma Knowles

M **Mark McBride-Wright** 00:00

Mark, hello. Welcome to another episode of the safe leader podcast. I'm your host, Mark McBride Wright, and I'm delighted today to be joined by Emma Knowles. Emma is a director of engineering GB at brute Vic PLC, and she's appeared on management today's 35 under 35 she's a chartered engineer, a STEM AMBASSADOR and a One Young World ambassador. So Emma is a chemical engineer, and she's worked in the fast moving consumer goods FMCG manufacturing for the past 12 years. She's now a director of engineering at bricvic, where she's got responsibility for GB project process sustainability and maintenance engineering teams, and she's passionate about inclusive leadership and recruiting diverse teams, and is on a mission to change the perception of manufacturing, especially through being a STEM AMBASSADOR TO schools. Emma, hello, hello.

E **Emma Knowles** 01:03

Nice to meet you. Yeah,

M **Mark McBride-Wright** 01:05

nice to meet you. Finally, we've, we've been connected for, I don't know how long I'd have to go on to LinkedIn and go to that contact info bit, and it tells you when you when you connected. But I know it's been a fair number of years. I think, yeah,

E **Emma Knowles** 01:20

absolutely, I remember following your equal engineer stuff quite a while ago, I think, yeah,

yeah,

M Mark McBride-Wright 01:25

yeah. And it just shows you how how big your networks can get, and how you kind of feel connected. But sometimes you never really get a chance to come together and be connected. So I was really excited when you accepted the invite to join the podcast, because what I've been, it's been really, I've had a mixture of guests so far where it's people that I've either worked with before or we've done, you know, we've collaborated on a project or something, and for some people, with some guests, it's literally the first time I'm chatting to them ever you know, and you're, you're one of those guests today. So it's weird, doesn't it, where you feel like you know someone, but then actually you don't really you know, because you just see what put up there. And, yeah, it's so. So we're in that moment right now, in our

E Emma Knowles 02:17

absolutely but it's really exciting. And I read your book recently as well. So, oh, thank you for that. Yeah, yeah, I'm glad I recommended it to some members of my team. So, Oh,

M Mark McBride-Wright 02:29

awesome. Oh, great. That's really nice to hear. Thank you. Yeah. I mean, I, I'm hoping this podcast and the newsletter around it helps start to build a bit of a movement or a framing of safety and engineering, and, you know, through the EDI lens. But no, I was saying to you in the in the when we were just chatting a moment ago, you know, I've not had many engineers in the food and drink sort of side of things come, come on the on the podcast. And so I love it when I get someone where I know the brand and I have it in my kitchen, you know. So today, when the kids were getting ready for school, we were we were talking about what our day is going to involve, and my kids actually said to me, they're like, Dad, where do you work? Working? I work in the off, well, we've moved to New York, so actually, I don't have an office anymore. It's a desk in my room. Again, I feel like a student, but, but I said I'm interviewing someone's day for for podcasts that I started. They work for a company called pritvic, and they make some of the drinks that we, you know, we use Robinsons, Robinsons, you know, fruit juice and everything. So I went and we've got a bottle, and I went over, and I was like, look, look, that suits

E Emma Knowles 03:53

me, quite cool. And I think that actually it's really cool from a STEM AMBASSADOR point of view, because it's so accessible is food and drink, and I think especially with girls, when you speak to girls about the things that they're not supposed to be excited by, like rockets and f1 and things like that, when we talk about engineering, it can turn them off, but they've all been to a shop with their parents, or they all, you know, drink Robinson squash after school, or whatever it is. So it's really accessible for them, and it's a really proud point as well. So products that I've made on the shelf, what?

M Mark McBride-Wright 04:29

Yeah, what products do you do you work on? Like, is it everything? Like, what does your plant make it? Do you make cat pre sun as well? Am I right?

E Emma Knowles 04:39

Um, sorry,

M Mark McBride-Wright 04:43

but no, that the Robinsons one. There's a bit of a story behind that. Actually, we, I mean, my kids just we used to go through liters of it every month. But since moving to New York, because I recently relocated here, do. Know, squash or diluting juice, as we call it in Scotland, it just isn't really a thing outside of the UK. So they've just been having apple juice or but I water it down, you know, with, with, with water. But we did find a British shop, and they did have Robinson's squash, and it's $8 a bottle. There was a bottle.

E Emma Knowles 05:24

I remember when I lived in Cincinnati, I had the same problem, so I was working as an engineering manager out there, and so I ended up going to Kroger and buying those tiny little bottles of the diluting, super concentrated that you can put straight into water. So they did have those, but they didn't have squash, as we know it in a bottle.

M Mark McBride-Wright 05:42

I forgot you make those, don't you? The little portable ones, the ones that you can carry. Oh, might need to make it. Yes,

E Emma Knowles 05:51

yeah, but it's Robinson's j2 Oh, around main brands tango as well. And then we also bottle for Pepsi in the UK. Yeah, we've got lots of high speed filling machinery, wow. So, yeah, nice to work. So

M Mark McBride-Wright 06:09

all of PepsiCo drinks operations are bottled through.

E Emma Knowles 06:15

Oh, right, wow. Britvic in the GB, yeah,

M Mark McBride-Wright 06:18

didn't know that well. So let's come back to this stage in your life in a moment. But let's go back back to the past, and so tell us a bit about the young Emma and your journey into engineering. You know? What inspired you were? You always destined to be an engineer. Did you stumble upon it? You know? Yeah. Take us back.

E Emma Knowles 06:40

Yeah. So I grew up on a dairy farm in Cumbria, that's where my accent is from, and I wanted to be a vet when I was younger. So I was interested in maths and science. I was good at other subjects too, but had an affinity with maths and science. So I did my A levels in mass, chemistry, biology, and then I didn't get the grades that I needed to do veterinary. And thought, What should I do now? And so I applied to go and be a chemical engineer. Right in the meantime, I was actually working in hotels in Cumbria as a chef, and I really enjoyed being a chef. So then I spent, actually a gap year being a chef in in the late in a hotel in the Lake District. Oh, cool. And then decided I started my mvQ three in kitchen and larder. Then decided, actually, know I'm gonna I'm gonna go to university. So I got my place at Manchester to do chemical engineering, but I hadn't studied physics, so I actually really struggled at first, but then ended up with a Proctor and Gamble Scholarship, which was brilliant. I was straight into FMCG and and loved working for PNG, and then I also ended up with a first class degree. So I did, all right,

M Mark McBride-Wright 08:09

no, very good, very good. And were you able to within your degree? Were you able to, like, tailor and fine tune your experience to food and drink through your projects that you chose, or electives that you did,

E Emma Knowles 08:26

not necessarily just a little bit, but I was able to do a year in industry. So it was an integrated masters. So I actually wrote my my master's dissertation on improving cleaning of shaving gel storage tanks at a factory in reading a Gillette factory, actually, for Procter and Gamble. So, yeah, I was, I was kind of in amongst it. I really wanted to be in industry. And I think because of my teenage years, having spent them, you know, doing Saturday jobs from being a young teenager and then working as a chef as well, I just wanted to be in industry, in work, and I could bring lots of skills through from my past work experience to do that. I love

M Mark McBride-Wright 09:07

the golden thread that's there from, you know, your years as a commie chef working in the hotel hospitality sector, and then you know that will have influenced your subsequent decision making as well, about because, because I'm a chemical engineer as well, and when you, when

you start off, you don't, you don't actually really realize the vast array of areas that chemical engineers can go in and be employed. You're kind of told that it's oil and gap. Well, you know, 1015, years ago, you were told it's just oil and gas, but, but so I imagine so much has changed even in the time since, since I graduated the diversity of options that are open to you is so much greater, but, but food and drink was never really up there or equally promoted alongside other sector opportunities. It is I've found anyway in my experience.

E Emma Knowles 10:02

Yeah, completely agree. And then when I ended up working for Asahi and then Wright Vic later in my career, it felt like a real full circle moment, coming back to businesses that actually had agriculture at the start of their supply chain. So I find all of that really interesting. You know, when I go back back home to the to the farm, then, you know, I'm interested in the engineering on the farm as well. Yeah,

M Mark McBride-Wright 10:29

that's an interesting point with, with, like agricultural engineering and mechanization and process optimization of of, you know, the dairy farm. I think you said, you know, like, have you? Have you been, have you been some free labor for your family to do some consultation on them, making it

E Emma Knowles 10:50

more efficient? I did. So I did. I did an energy study on the farm. So we put in a, yeah, we take the waste heat off the off the milk now, right? So we put that back into the heating, for the water, for the cleaning of the milking parlor, and I SPECT up some solar panels too, but they're yet to make the investment.

M Mark McBride-Wright 11:13

Wow, you've got some waste heat recovery already. That's great, but, I mean, we're laughing, but you know, that's, that's, that's, that's what we all need to be doing, isn't it? For, for sustainability and for, for energy conservation, you mentioned there then a little bit about your role at Asahi, and I believe that is a beer, isn't it? That is sold? Yes, I remember people that being their preferred drink when we used to go to the pub after work. It's a Japanese they used to be served ice cold from a very specific I remember being something special around it, when, when, when, when the when my, I'm not a beer drinker, so, you know, I'm sure it's lovely, but I remember there being something special about it.

E Emma Knowles 12:05

Yeah, it's a Japanese beer, but Asahi also own Pironi, so that's one of their biggest brands. And then they've got two breweries in the UK now. So Meantime, you'll know about and Griffin, the Griffin brewery, which produces London pride cask beer, is the most famous of those brands,

M Mark McBride-Wright 12:27

okay, okay, yeah, more of a gin and tonic or or a glass of wine. Person, so you've worked in so it's very much been the the drink of food and drink that you've been been working within. But the you you mentioned that Procter and Gamble so, so have you done, have you done much work in the in the food sector, or food products?

E Emma Knowles 12:54

No, not in food as such. And probably the closest I got was in when I worked for Kramer, who's a contract manufacturer to PNG. And so we were producing lots of intermediates, so for the laundry business, but also in audio chemicals, so oils from above the ground, and we were mostly processing them into chemicals, so lots of bases for creams, for example, but also products for pet food. And pet food in the USA, because I was working in the USA at this time, has a lot of the time a higher FDA approval than food products for humans. So it was really, yes. It was really interesting that one for you to remember now you're in the USA, so it was really interesting to understand how all of that, all of that works, yeah.

M Mark McBride-Wright 13:51

Oh, lovely, yeah. I think I'll be probably not ordering that burger next time I go out to a restaurant. Do so you've worked in different company sizes, then, by the sounds of it, from from startups to large multinational corporations, how? How have you? You know, you've got to a very senior level. How have you, has that been sort of on active career management and making a decision. Have you got a little, pardon the pun off a recipe? Have you got, like, a little, a little, a little sheet that you use to go through when, when, when you're just making decisions on what to do next? Or, Yeah,

E Emma Knowles 14:39

I wish it feels like it's happened via happenstance. I was talking to talking to my recruiter about this recently. So actually, one thing is that I have had a really good recruiter over the past few years who has encouraged me and helped me into into applying for roles that I probably wouldn't have gone for. But. Is pushing forward, and said You can absolutely do this, you would be up there. So for anybody early in their career or looking to make a move, I'd say, find yourself, find yourself the best recruiter in your industry, and get to know them and get them to push you on. So So I've

M Mark McBride-Wright 15:16

never it makes sense. I've never heard anyone offer that advice before. So this is actively searching someone out who is a specialist recruiter in your field, and almost like you would a mentor or a sponsor, build a relationship with them, so that they then keep you in the loop with exciting opportunities that come along. Yeah, and then it's essentially, I mean, head hunting

tends to get done at the much senior executive level kind of roles, because, you know, companies don't want to go public with what roles they've got available, because it's such a niche little, little area. But you essentially are making yourself securing your subsequent roles in future by building that network or investing in that relationship with one or two people who you trust, and then they'll they'll pick up the phone to you. That is really good advice. Yeah.

E Emma Knowles 16:16

So ever since I left PNG, and the only reason I left png was because there was a factory closure, and so needing to find my next role, I got in contact with a national, international recruiter, just through a friend that I knew, who put me in touch with the top person in the industry. And I remember him calling me and saying, I really want you to go for this role. And I was in TK Maxx at the time, and I was like, I can't do that role. Like I was, I was 26 it was project managing a factory build. I was like, I can't, I can't do that. He was like, No, yeah, you can go, going into Go, go and interview for it. Do it. I think you can do it. So I went and interviewed for it. I got the job. And if I hadn't done that factory build project, it was a 26 million project. I was 26 then I would never have done that project. I then wouldn't have gone to America. I then wouldn't have got the role at Asahi. I then wouldn't be director of engineering at Britvic. Yeah, so that

M Mark McBride-Wright 17:13

set you on that course, didn't it that? Yeah, amazing. That's amazing. I'll be meeting up

E Emma Knowles 17:19

with him at Christmas soon, and, you know? And now we've kind of got a little network as well of myself and some other women in manufacturing, and we all meet together. And I can call out Colin's name, right? So he is a Yeah, so, so Colin is a real champion for women in manufacturing. So, yeah, actively gets us all together. Colin Roop, so,

M Mark McBride-Wright 17:41

well, I mean, yeah, you know, there needs to be more columns or in this network needs to get bigger, because, you know, retention of women in manufacturing, it's just it's stagnated, hasn't it? It's just not the numbers just aren't shifting at the rate they need. They need to shift. Yeah. And, why? Why? What I mean, have you got a view on that, on any reasons, like, what's not being optimized?

E Emma Knowles 18:11

Yeah. So it depends on where you are in your career, right? And, and I think we just haven't shifted fast enough on that leaky pipeline. We've got a we've got a problem right at the beginning as well, in terms of shifting the perception of manufacturing and the perception of engineering as well. And then we've got that leak, leaky pipeline. And, yeah, you know, I'm at

the age now where statistically, I will be, you know, potentially dropping out of the industry soon. And I really don't want to do that. But the senior roles in this world, they're not flexible. And, you know, I've got friends currently going through this in different companies.

M Mark McBride-Wright 19:04

Question, have you got any other peers in your friendship group that, or people that you graduated with a similar time that sort of pulse going through now? Is it happening? You know, yes, yeah,

E Emma Knowles 19:14

it's so one in particular, who is a production director at a large also drinks company, and she's managed to negotiate a four day week, which is fantastic, but it's the first time that company has ever done it. So it's been a battle, but fantastic that they have. So, yeah, I think, I think the women before us and our and our generation as well. You know, we're continually going to have to have this battle and yeah, and work out what we need to do to make it work. I think, as well, in terms of getting more women into manufacturing, we have to start way younger. Yeah, yeah, it's. About getting women into technical all altogether. And that's why I'm so passionate about STEM ambassadors, is that we've got to get into schools. We've got to get talking to girls in particular. And when I first signed up as a STEM AMBASSADOR, I went on the training course, and the person leading it said to us that the the person we've got to get to, actually, to get girls to go into engineering, is girls mums before the age of 10, because if girls moms don't think that those girls are technical, then they'll steer them down a different, different path. So we've, we've got to get to those girls before the age of 10, and we've got to get to their parents.

M Mark McBride-Wright 20:44

And how, what? How are you doing that? Then what have you been at any events or sessions, and then seen that penny drop in real time with this target audience. And then you think, right? Small win there, the likelihood of that influencer not influencing them in the wrong way, but But keeping us here, or engineering still going to be on the list of recommendations, or thing they'll talk about in the car or at the dinner table or whatever, you know, it'll it'll still be at the talking point, rather than being shut down. Do you see, do you see that happen and when you when you have that conversation? Yeah,

E Emma Knowles 21:23

so I had a real good example earlier this year. So I generally spend my volunteering days, you know, generally get one or two in the in the multinationals that I've been in. So I spend those going into schools. And so in January of this year, I actually went back to my old Primary School. So it's a rural primary school, 22 children when I was there. It's now got about 60, which is brilliant, so, but it was the first time I'd ever spoken at a school where I know the kids parents. Okay, I'm still friends with all my old farm girls back there so, and they've now all got kids at the school. So I did the presentation. Talked about why I love engineering, why I love manufacturing, the different roles that I've had, being able to see the products on the shelves.

The girls are going, oh my god, especially when you talk about beauty products, they're also influenced by social media and Tiktok and everything these days, that when I talk about the fact that I used to work in manufacturing perfume, they're like, Wow. They didn't realize that engineers were part of that, yeah, so. And then two of the girls in particular had gone back home to their mom and said, I want to be a chemical engineer. Wow. And that was the first time that I'd ever had feedback from the parents, yeah. And it was just fantastic. I loved

M Mark McBride-Wright 22:38

that good and they say, they say that you need to have like, seven or eight touch points to even influence a change in mindset or decision making across, you know, many, many, many years so you're, you are going to now be one of those. You're like, you're you're frozen in time in their minds. You know from that experience that they'll that they'll reflect upon and might, it might even be a strong enough influence to at least inquire or research. You know what chemical engineering is, and so that. So then linking that in then with what the institution of chemical engineers can do in engineering institutions than general. How do you find where are we good as an industry, at joining all that up and making it easy for the messaging to come across that anyone can be an engineer. How do you find it?

E Emma Knowles 23:35

I was quite lucky back when I was 1718, so when I didn't get the grades to go and be a vet, somebody who was a chemical engineer came to a chemistry lesson in my sixth form and did the why not Chem eng talk, yeah. So I feel like there are people doing this, and actually now it's really exciting for me, because I get to influence that. So recently, I got to take my team to the Big Bang event in rugby at the Ike me headquarters. And so we represented food and drink engineering there. We had six of my team there. Two of them were new graduates that we took on in October. So that was brilliant to show the early careers people. And we talked to 300 children that day, and that was via the Ike me. So I was really proud that we got to, got to take part in that, and the impact that we will have had will have huge.

M Mark McBride-Wright 24:32

Yeah, that's so good. That's so good. It's, it's really, you know, the you know. So you should think that, you know, you're not just impacting those young people, those kids, students, pupils, that have come along to that event. You've also impacted your team, because to have a leader like yourself that's saying, Well, yeah, we're going to do this like, you know, I know there are some engineering leaders. That would be like, well, I can't take six people out of the production site for a day, or that's going to be too difficult logistically to coordinate shift patterns or whatever on holiday leave. And no, no, we're not doing that. No, you know. And then the more people that have that attitude, the less frequent these moments happen. And therefore the less inspiration moments there, there are so so no and what you will have inspired then in your team, they had a good time doing it is, as they ascend and become leaders, and then these opportunities come up in the future, they're more likely to offer their time, but also then champion future people that they leave time to commit to that, that's, that's really, really good. Yeah, it plays into the the idea of diversity and inclusion as well, doesn't, you know, just just getting more engineers in or people interested in engineering,

never mind diversity. We just, we just need more engineers. How this so in terms of, like, skills perspective within food and drink, are you seeing a constraint in skills provision, you know, a scarcity resource, web applications, or, yeah, how robust is the food and drink sector? Yeah,

E Emma Knowles 26:17

it's, it's a difficult time we find on an apprenticeship, apprenticeship level that we're com, where we've we're competing with the likes of, you know, our competitors in Coca Cola and and other food and drink companies and and it can be quite difficult and competitive after people have finished, finished their apprenticeships. That's something that we're very aware of. And when it comes to degree level engineers. So we actually had 110 applications for our recent grad scheme. So that was fantastic. And when we first went into the grad scheme, I was like, we're going to, we're going to get the applications in at the beginning of the year. And I want people who have got a first or a two one, and then someone in HR actually said to me, we'll probably get a more diverse cohort of applicants if we leave it maybe a little bit later in the year. And we do it for people who don't necessarily have a two one or a first, yeah. And we open our our our hiring up, and we did that, and we have got the most fantastic four graduates who are able to influence as well. And they're able, they're real characters. They're fantastic. They're producing a quiz for us next week for our final engineering team day of the year, and they're doing an awards ceremony, and I can't wait to see what they do. It's gonna be fantastic. So, yeah, we've, we've been really conscious, and I was really glad to work with our HR team and our early careers recruitment team to help me, you know, be more inclusive in that hiring practice. Yeah,

M Mark McBride-Wright 28:00

no, definitely, definitely, that that is really good advice. I know some clients that did that few years ago, and yeah, had it had the effect that you're now seeing on your on your application process, definitely, and, and actually being one of those former students who was on that 2221, border line across my my undergrad, you know it is so like, it really, really makes you feel like your self worth is so low when you're looking at like, percentage points, and when you're relying upon your tutor to give a predicted grade, and you're like, is the waiting In my final year great enough that it's going to, like, get me over the line for this 2221, boundary, you know? And then, if, I mean, if you're, if your tutor wasn't willing to say, yes, it's likely they'll get the two, one, that magic line in the sand, you know, then, then that affected your ability to get internships, and yeah, then if you didn't get an internship, then that affected your ability to get a grad role. And then you role, and then, you know, so it just has this sort of knock on effect. I mean, I don't know. I mean, I don't think they do this now, but I remember every engineering student who was on a two, one or above on their grade average in second year got a B piece paid for a copy of Perry's. Yeah, we had the same or something, and, yeah, but I didn't get one because I was on a tutu after my, after my first year, or I was and so I just, like, looking back on that, I'm like, What are really, well, I probably shouldn't swear, what a really bad practice, you know, like, just really, really demoralizing to I know, but for 20 to 25% the student cohort, then, you know, it just Yeah, yeah, no, don't know, yeah,

E Emma Knowles 29:52

completely agree. I was really, I was really proud of my first because I. Experienced a lot of,

probably, imposter syndrome at university, especially, you know, being a state school skit, state school kid from a farm, and being around being in a red brick University, around a lot of kids who come from private school. And I didn't do the right chemistry a level. I hadn't done physics Right, yeah. But what I what I was immediately good at, was leading the design project, yeah, getting everyone to do what they needed to do to push this thing forward. I was good at getting a scholarship, because P and G weren't just looking for the kid who could do who was really good at doing physics and chemistry. They were looking for different skills, yeah? So, yeah, I think, yeah, it's, it's we, I think we're, hopefully companies are much more rounded and how they're looking for students, especially in areas like food and drink as well,

M Mark McBride-Wright 30:55

I think, so, I think, I think they definitely are, certainly from, from what I've seen, and you know, even to those that are still in that if that practice does still happen, or people are, you know, if you're doing your degree, and it's depends on the degree you're doing and how the weighting is across the years and all that, you know, Imperial it was split into nine ninths. And your first year was worth a ninth, then it was two ninths, then it was a third and a third, like year three and year four. So your your trajectory was all made ready, pretty much set by the time you got to the end your third year, because you could only really gain another 33% on your on your degree and so, so, yeah, you know, although my husband, when he did biochemistry, I remember like 60% of his overall BSC was in his final year, and it was across four exams that in the combination that he'd chosen. They happened in the same week, Monday through Friday. Can you imagine the

E Emma Knowles 32:09

brutal Oh,

M Mark McBride-Wright 32:10

I remember. I remember that Yeah, it wasn't Yeah, it's not Yeah, it's not really good inclusive practice or risk mitigation if you get unwell, on the part of the convenience, I wanted to, I wanted to just explore a bit more the the agricultural background than agri tech. And you know is that where you know it's, it's a, it's an area of engineering that Well, I mean, it has a professional engineering institution, the institution of agricultural engineers. So it is a sector that employs engineers. Where do you see EDI agriculture engineering? Given your rural background coming from, I can't believe we've been talking about Cumbria, by the way, for nearly 30 odd minutes. We haven't mentioned nuclear. We're more most people work, where do you see those various parts of your identity coming together with, with respect to Ed and I,

E Emma Knowles 33:14

yeah, this is a, this is a key part. You know, when in in Stephen Bartlett's podcast, he begins, or used to begin by saying, what is it in your teenage years that set you off on the path that you that you do now? And for me, it was the fact that on our farm there was me, my brother and my sister, my mum and dad, my granddad. And it was all about the farm. And for me and my

sister, who weren't necessarily, we weren't going to take over the farm. My brother is going to manage the farm. We had to have the table laid ready for the men to come in. We had to empty the dishwasher. We had to when it was silage time, and we, you know, all the contractors were around. You know, it's a great time of year. I love it, even now when I'm when I'm back home and it's silage time. But, you know, Come on, girls, we've got to, we've got to get the, get the meal ready, ready for the men to come in at one in the morning or whatever. So I grew up with that and and you just feel like you're not fully valued unless you're doing something for the farm. And so for me, I took that in my teenage years, and I'm still working through this. Yeah, imagine I took that to mean, well, actually, you won't get respect unless you do the most masculine and the MO, what I perceive to be masculine and productive thing that you can do. So for me, I took that as right, I'm going to go and do something involving the farm, which was veterinary science, kind of masculine, or I'm going to go and do and then I then decided to go and do engineering, and I've. Kind of took, took that with me. So, yeah, the farm has, and my family has instilled, you know, great values in us. So my sister is really successful in Unilever. So we've, we've both ended up in FMCG. And yeah, we've, we grew up reading the grocer magazine, which is kind of the industry magazine for, for, you know, for for this area. So yeah, it's, yeah, it's really interesting to look back and think about how, how our child sort of have informed that for

M Mark McBride-Wright 35:35

us, yeah, that that that sort of flame inside that one, and that, that that rooting, that that that grounding, that comes back when, what's the cult really? You know, when you all come back together at any time of the year, or for Christmas, or whatever, you go come back, you know, you hear that there's often we all revert back to type of what we were like, growing up. Is it like that in the north household, when you all come back, are you, are you having to get the get the meals ready and all that for your brother and grandad and dad?

E Emma Knowles 36:12

So only last week, so I ended up, I was traveling in the North for work. I was in Leeds at one of our sites. I was in Liverpool for the manufacturer awards. So I decided to spend the weekend up on the farm and a couple of days working from home there as well. And on the Tuesday, no the Wednesday morning, despite going to the manufacturer awards in the evening, the most important thing I had to do that day was make bacon sandwiches for my brother and dad in the morning, because the vet was coming, and it was really important that they had their food to go

M Mark McBride-Wright 36:47

smiling and doing it without love, and you don't mind doing it. But then I yeah, I know, fine. Well, my daughter, if we had that culture in our household, she'd be like, No, which, you know, I kind of want to feel like that anyway.

E Emma Knowles 37:04

Yeah, absolutely. But you see it from the angle of an SME as well, right? So we have lots of big

Yeah, absolutely. But you see it from the angle of an SME as well, right? So we have lots of big conversations at the kitchen table and the family farm kitchen table. And, you know, my dad's managing a small business, and so for him, he outright, he says, I couldn't employ a woman of a woman of your age, because what if she was to go off on on maternity? What would I do then, you know, he'll say things like that. So we do have discussions about this type of thing. What if a guy did that? You know, I was working at a sustainability consultancy for a year in about 2020, and two guys, two engineers, went off and had six months shared parental, brilliant, brilliant, and, yeah, so we need to make that the norm so that it's not just me getting penalized for That, or my, you know, my cohort of girls. It's, it's got to be the men as well.

M Mark McBride-Wright 38:05

Totally, totally. It's that, that perception that any worker, any employee, any employee, might need that that time off, and it's good. Well, I mean, I've got a four year old and a six year old, so I know I can completely relate. But then, yeah, I mean, I'll be open. That was one of the reasons why I wanted to set up my own business. Because I I knew I needed that ultimate control over the flexibility that I would need when the process of two men having a family is a bit different as well. So I needed to be available for for whatever that was going to involve, you know, with our surrogate journey and stuff. So I just, I just knew it wasn't going to work, like trying to juggle full time job, both of us working full time. Yeah, and, and, so yeah, I, yeah. I put in my request to part time work, planning to, you know, test out entrepreneurship and get some contracts. But the day that I did that, that was when we found out we were, you know, going to the journey to starting Parenthood was starting sooner than we thought. Shall we say so all my time. Then went and, you know, building relationships at surrogacy UK, and all that kind of stuff. And, yeah, you know running, I can, you know, the stresses of running, running a small business, but also running a small a business unit within a big business, it's, it's the same kind of stressors, you know, you've got, you've got opportunity, but you've also got to think about your team and their well being and make sure there's money coming in to be able to pay salaries and or work allocation, make sure there's that. It's just that constant life optimization problem, isn't it? I think that's why engineers are quite good at this stuff. You know, we're, I like to think we are. Maybe we're not.

E Emma Knowles 39:59

Yeah, but. Engineering brain says, take it back to system level. So, yeah, why? Why? Why? Why? Why? Right. We need to take, take that flexibility issue and back to system level and help sort it out for everybody. But,

M Mark McBride-Wright 40:12

but that's, that's the problem in engineers like to think that we are systematic in thinking, but then actually, we're human beings, and we are emotional and we are we make judgments based on emotions and on and so I always find that the eye that the ultimate irony. When talking to organizations about EDI change within engineering, you know you have people that want baseline data and data driven decision making. And you know, assuming that the current status is the benchmark of good practice, and we're doing it right now, which clearly we're not, but then when it's presented back to them that, well, look the way we're doing it is then

causing these inequalities or these inequities, and that these outcomes, you then get the knee jerk emotional response being like, well, you know, so, so they're sort of contradicting themselves, you know about when it's when it's reflected back. So,

E Emma Knowles 41:13

yeah, I think as well, in FMCG, fast moving consumer goods were probably from what I've experienced, probably worse at that as well, because it is so such a fast moving environment, and we get, from a from a project engineering point of view, in particular, we get asked to do things on a super fast schedule, so we will break ground and have a facility built and have a line running within 11 months. Wow. So in that type of an environment while, while we're still continuing to run as business as usual and get and get product out the door, next door to it. So in that type of an environment, I think that was my biggest takeaway, actually, from a training I did, training course I did last year, the inclusive leadership course through lead network, right? And it was to slow down, yeah, yeah. Because if we don't slow down, we are operating in, you know, with bias all the time. I read Thinking Fast and Slow, and that was a long read, but it's a it's an eye opener.

M Mark McBride-Wright 42:12

Yeah, yeah, totally. Is that the one? What book is it? I think we read similar books. I've got a whole bookshelf over there behind on them. The is it Amy edmondson's book, or what was the book where they talk about failure? I mean, Amy Edmonds stuff's all about failure and failing fast, and it's okay to fail and failing in the right way. Or maybe it's rebel ideas. Matthew said, There's one in the books where they use FMCG as an example about detergent and powder and powder size and particle size, and like the needing to actually fail, to learn to then optimize, versus the scientists who were given all the time to perfect and engineer the best solution that still ended up failing, whereas If they just did some of their earlier stuff faster, they would have got to the conclusion better, and that that's essentially the ethos in FMCG. It's like test and trial fail, do things multiple, multiple times, until you learn the Wright and no speed at which the bottles need to go through the conveyor belt, or rate of pressure for putting on the lids, you know? And that's only learned through test and trial, right? Yeah,

E Emma Knowles 43:27

yeah, yeah. There is an element of that definitely, yeah, yeah,

M Mark McBride-Wright 43:30

yeah. It's not just like, let's wax and bottles through and like, smash, yeah. Take more than 11 months to get your so so you've moved through FMCG, and you're now working in food and drink, in the drinks part, what it sounds like manufacturing is, is something that you that you love. You know, it's been a strong part your identity, your professional identity, what are your longer term aspirations as a leader in manufacturing and sustainability? That's

E Emma Knowles 44:12

a really good question. And taking it back to kind of the career question, and where did I want to get to? I was on a course about squiggly careers this year in Wright, yeah, Helen Tupper, and they talked about, you know, have your five year plan and have your goals. And I've never had a five year plan. And, no, never, never, and what I, when I, when I, I actually do the circle backwards. So, so it was, you know, work out what you want to do, and then learn the skills towards it. Learn the skills, you know, see if the next unit ready for the next role, right? Going that way I go. I seem to go, Oh, what am I interested in? So, when I was working in America, I had a. Yes, I had a really good I had a year there. I had a really good summer in the in the sunshine in Cincinnati. Yeah, was really enjoying manufacturing out there. I was engineering manager in an audio chemical facility. Then the winter I found really, really tough, and I was missing my boyfriend. I was, yeah, it was minus 11, and it was really, really hard. And so I ended up going to a life coach and getting some life coach coaching about and the thing we leaned into was values. And what are my values? And how I could lean into those more and that probably what I was doing in America was actually less aligned with my values than I thought interesting. So I was working as an engineering manager in a facility that was had no sustainability strategy behind it whatsoever. And I became really unease with myself. I was like, I do. I don't enjoy this. I'm just creating more product. All it's about is more more more product. It's not about necessarily helping anybody in any way we're using we're burning loads of gas to make this product. We're using loads of palm oil to make this product. And I just became more and more aware of how it just didn't fit with my values at all. So yeah. So then I decided to make a change. And so I decided to move back from America and move into sustainability consultancy, because I'd identified that one of my values was sustainability and and having an impact as well. So that made that change. I realized I didn't like consultancy. I did a year of it, and it wasn't for me. Leadership was really important to me and and the buzz of manufacturing and been able to have lots of relationships. And so then, since then, my roles have head of UK engineering, Director of GB engineering, they've kind of grown in that way. And then next for me, at the moment, I am looking at, yeah, I'm just kind of learning this role in particular, and I'm just open to learning new things and and developing, especially in, especially in my financial acumen, things like that is on my My Learning Plan for myself. And so, yeah, we'll see where it takes me. But I don't necessarily have have a big goal. Well,

M Mark McBride-Wright 47:48

it sounds like what you have been doing has worked for you. So, you know, there's diversity in approach, and we don't always have to have five year plan work the skills get to that. You know, if what you're doing marks and then I mean, it sounds like Colin will come anyway at some point and be there, as I say, if you

E Emma Knowles 48:10

because I Colin.

M Mark McBride-Wright 48:13

Right. Okay, quick fire question round. So what's your favorite part of working in manufacturing the people. Are you an early bird or a night owl? Night Owl, tea or coffee? Coffee? What's the

best professional advice you've ever received?

E Emma Knowles 48:38

Oh, probably just people telling me, go for it. Do it. You can do it

M Mark McBride-Wright 48:46

if you could master one new industry skill. One new skill, sorry, instantly. What would it be

E Emma Knowles 48:54

ability to get up more easily in the mornings?

M Mark McBride-Wright 48:58

What's the one tool or technology you couldn't live without in your work,

E Emma Knowles 49:03

I am loving co pilot and planner and how it all links together now in teams and how everything is now linked. It's brilliant.

M Mark McBride-Wright 49:14

You try that. What's a book or resource you recommend to every engineer? I

E Emma Knowles 49:30

I need how to think on that one. I recommend the safe leader by my

M Mark McBride-Wright 49:42

back up to be you've mentioned up you already on this, on this chat, you're covered on that one. What's your favorite sustainability initiative you've worked on?

E Emma Knowles 49:53

It would definitely be the heat recovery system that we now have working at our Becton site in Britvic. Because. As it's a full circle moment for me. So I worked on the front end engineering design and grant application for it when I was a consultant. Ah,

M Mark McBride-Wright 50:08

brilliant, brilliant. I thought you're going to see the one on your dairy farm. What's your who inspires you the most in your career? Oh,

E Emma Knowles 50:20

I think probably the women that came before me. So when I was in PNG, there was a couple of engineering directors who were who were ladies and just kind of, you know, you can see what you can be. Yeah,

M Mark McBride-Wright 50:37

totally. But a fun fact most people do not know about you.

E Emma Knowles 50:45

Lots of people know it. But a fun fact is that one of the wind turbines on the m6 at junction 37 has my name on it because I've won a drawing competition when

M Mark McBride-Wright 51:00

I was 10. That is interesting. If you last one, if you weren't in engineering, what career would you be pursuing?

E Emma Knowles 51:10

Oh, I may still be a chef. I might be a vet. I might have done software engineering. So even though I wasn't in manufacturing, I might have gone into software engineering,

M Mark McBride-Wright 51:22

yeah, well, squiggly careers. There's always time, you know, we'll all have to re skill and retrain. I think anyway, every five years I was reading, you know, the rate of progress now, yeah,

E Emma Knowles 51:34

maybe my five year plan should have technology how to get to a technology officer or something like that.

M Mark McBride-Wright 51:40

Well, you know, it wouldn't surprise me, Emma, I'm sure what you've achieved. I'm sure that as well, within your capability, as well. How, if so if? How do people get in touch with you if they want to find out more about your work or reach out if maybe something you've said sparked an interest, and they want to find out more about you or about the company that you're working at. How do they get in touch?

E Emma Knowles 52:06

So people can get in touch with me on LinkedIn. My lots of people in the company, in my company, actually have said recently, you're so active on LinkedIn. How do you do it? But the reason for that is because when I was at One Young World, which is a conference for young people wanting to make an impact in the world. A couple of years ago, I listened to a keynote speech by the R and D, Chief R and D Officer of Wreckit, Dr Angela, and she spoke about how, as women in STEM we need to be so visible, more visible than we can even think of to, you know, get that ripple effect going, Yeah, and get more just people thinking that women can have amazing careers in manufacturing and engineering. So yeah, LinkedIn is a big one for me, but I also have a engineering Instagram on there, as at engineering last so I just tend to put on what I've been doing, if I've been on site, I sometimes put put pictures on there. There's lots of pictures, actually, from when I was running a construction project a few years ago. And that one's actually more for, you know, lots of my family and friends follow it, but I'm trying to get them to do the ripple Ripple Effect as well. So people have just got to see women having great careers in in engineering and

M Mark McBride-Wright 53:30

manufacturing. Brilliant. Well, we'll definitely put links to your LinkedIn and to the Instagram page as well, in the in the show notes, if people want to come and give you a follow or a like or a whatever the phrases are that we use on all the platforms, a Connect, invitation, a follow. Yeah, thank you. It sounds creepy, doesn't it? I'm going to like the opposite of what we're trying to get away from the language. Cool. Thanks very much. Emma really enjoyed it. Thank you. Bye.