

Smart, Sustainable Buildings with TÜV SÜD's Dr. Dr Hannes Raoul Endriß Transcript

Welcome to Green Building Matters, the original and most popular podcast focused on the green building movement. Your host is Charlie Cichetti, one of the most credentialed experts in the green building industry and one of the few to be honored as a lead fellow. Each week, Charlie welcomes a green building professional from around the globe to share their war stories, career advice, and unique insight into how sustainability is shaping the built environment. So settle in, grab a fresh cup of coffee, and get ready to find out why Green Building Matters. Hey, everyone. Welcome to the next episode of the Green Building Matters podcast. Every week I interview a green building professional somewhere in the world. And this next guest I've gotten to know really well all of this year. And I've got Hannes on. He's coming to us from Tussud, based in Stuttgart. We've traveled the world together this year. Hannes, I can't wait to tell the world your story. How are you doing today?

00:55

Hannes

I'm doing good, Charlie. It's a pleasure to meet you today. It's getting cold, it's getting rainy in Germany, but I'm looking forward to the more quiet season of the year coming very soon.

01:07

Charlie

I know you and I recently or even in Istanbul, and you did a great job on that panel and just bringing this, not just sustainability knowledge and encouragement and challenge, but technology. We're going to unpack that with your role within the large global organization. But I love to ask all my

podcast guests Hennis, take us back. Where did you grow up and where did you go to university?

01:29

Hannes

I was growing up in a small city in Germany called Balingen, which is at the Schwäbische Alb. I enjoyed a lot growing up there and this is also where I started my career as a draftsman. So I did an apprenticeship to start with. I enjoyed it a lot, producing different types of planes and then I moved onwards to Stuttgart, which is the next biggest city here in southern Germany. And I studied there at the University of Applied Science in Stuttgart, my Bachelor in Civil Engineering. Then I moved onwards, I was working for one year and I continued studying again at the University of Applied Science in Stuttgart and did a Master in Project Management. That was a combined degree actually that I did then jointly with the LGMU in Liverpool and where I continued doing the MBA Master of Business Administration and then also the DBA Doctor in Business Administration also at the same university. And meanwhile I came back to the University of Applied Science and I am a member of the advisory board and Also an interim professor in this semester for the Master Studies in Project Management.

02:52

Charlie

I've seen what Dean, one of our colleagues, calls intrapreneurship. And it's amazing. Even in a large company like TÜV SÜD you have this kind of internal entrepreneurship opportunity. I see that a lot with your business line. We're going to unpack that. But those advanced degrees before we talk about sustainability, I'm always fascinated by that. You were driven to go get those advanced degrees and the master's and the doctorate. So what really propelled you to go through all that additional work?

03:22

Hannes

It just started to flow. I always combine it with work. I have been working since my apprenticeship. I always worked. I worked during my studies. I also studied my masters after working for one year and I continued working during my masters and then the doctors I did also in a setting where I would like to work a hundred percent in parallel. So I really like the combination between academics and also the real working life, the professional working life and bridging this good topic that are being researched in the academic environment and try to address them in a real professional and practical context.

04:08

Charlie

Now you did the drafting early and then BREEM. It's something that I've seen all over your resume and LinkedIn and you even were a chief technology officer at a BIM company. So what got you so fascinated with the idea of technology in the built environment, but particularly bim.

04:27

Hannes

In the build environment we are definitely still lacking with great technology. So we are working on implementing it and I think we are lacking behind also in comparison to other industries. And I think BIM can be a very valuable tool in the early design stage, or let's put it this way, from the early design stage onwards over the building life CYC to address specific challenges and use cases. Also around sustainability.

04:57

Charlie

And you and I share a fascination with digital twins and real time feedback running our buildings better. We can get to that. All right, so sustainability Hennis, I love to ask my podcast guests, did you have an aha moment when you're like, you know what? For the rest of my career I'm going to do

something with green buildings or where did you kind of first get that exposure to sustainability in green buildings?

05:19

Hannes

Well, it was actually not too long back to be honest. It was like I was always working in the building industry and the topic arises for me when I also did research, when I did my research in the context of the building industry. And I noticed that we have a problem in the building industry with this really significant carbon footprint and that our industry is contributing a lot to the carbon footprint. And once I've heard that, I recognize, 'okay, I want to change something and I want to shift my career from a general, from general work in the building industry in various fields and positions to a more specific job where I can impact this industry in a better way and work in the field of sustainability and have a positive impact on the whole movement towards sustainable buildings.

06:12

Charlie

I've noticed that about you. You're able to step back, think and then jump back in. And sometimes we're so kind of overwhelmed with the day to day, but I can tell you can step back and philosophize just a little bit and I appreciate that about you. As you're putting together this career, we're going to talk about smart buildings and sustainability. Did you have any mentors along the way? Sometimes a mentor is someone you read their material, their books, and you see them on stage. Sometimes it's someone that you meet with, they challenge you, they open a door. Have you had any mentors along the way?

06:45

Hannes

Definitely. I have to say a lot of people were like coaching me, impacting me and providing professional feedback. Actually, I think it's very important

to know that you can learn from everybody. This is something that I also wanted to understand. You're never the smartest person in the room. You can really learn from everybody. But of course there are some people that impacted my life or my professional career also more than others. And I was hooking a lot on the leaders that I previously had, all with a different skill set, but everyone was very impressive. And I always try to look at what they do very well. But also what will work for me in future and what will I do differently in future.

07:36

Charlie

That's important with a mentor. A coach is for all of our listeners. I think sometimes people give advice and no one likes to be told what you should do, whether it's your kid or whether it's another person. But instead if someone's just sharing their experience, sharing their wisdom, and you can opt in and maybe learn from that, maybe change things, maybe avoid something. I think that's the difference, right, between someone just sharing wisdom and their stories. And someone said, oh, you should. No one likes to be told you should. So thank you for that peek. Okay, let's talk about how you first discovered Too soon as a large global company? Tell us about some roles you've had there and if you would like our audience that don't know Tsud, tell us about Tsood and especially your business line.

08:23

Hannes

I detect too suite like three years and two months ago when I still was working in another company and I enjoyed the work actually a lot. And then I got a message from a recruiter from Tiffsuit. It was very nice, sounds very good, like an interesting job description. Then I just had a first talk but I never had the real intention to change my jobs. But the talk went super interesting. I noticed how big this company is and how many face aides it definitely has. Also what I enjoyed a lot is the international footprint. As I have a global rule I am very privileged to work with different regions,

different cultures, different people. And TÜV SÜD has so many different businesses related also to sustainable buildings with BREEM, with LEED with all different green building certification systems but also portfolio rating systems. And we have a great team dealing with different type of technologies with drones with also the building automation system and how that can work, how that can improve and bringing all of these different technologies together, the use cases together and the real extreme domain know how together. I think that is my favorite job. And meanwhile we are 250 people or over 250 people associated to the business line And I like it a lot because there is so much expertise there of each individual with a fantastic background and a fantastic story. Fantastic know how working on super projects and it's just a pleasure to work with these people every day.

10:12

Charlie

It takes an amazing team and I've seen your leadership there. So too soon. For those that don't know, it's just a very large global company. As Hennes mentioned, there are a lot of different business opportunities. Over 30,000 employees. We're north of over 3,3 billion euro revenue and growing. And we actually formed a partnership together. That's how we met Hannah. TÜV SÜD wanted a better answer for sustainability in the Americas and they actually earlier this year acquired SIG and GBS, my two green building companies of 15 years. And so we've just formed this amazing partnership. I think the possibilities are endless. Part of your role and my role now, right Hannes is to plan the next five years and where is everything trending so we can go ahead and invest there. And I'm just so happy to.

10:58

Charlie

I've landed our two green building companies within Tucson and the global reach and standing up these sustainability hubs around the world. So for those curious that's how this partnership has formed and just very excited again about what's possible. Let's talk about schemes and LEED and

DGMB and Greenmark. I thought I had to have a lot of credentials and LEED and. Well and here you are having to know all of the international green building programs because Tucson has reached all around the world. So can you talk a little bit about green building certifications to suit? Of course is a BREEM specialist in certain countries. Tell us about maybe your top three or four programs around green buildings that you focus on.

11:43

Hannes

But first let me quickly elaborate on the partnership that we previously had that you just mentioned. I enjoyed it a lot. Also the process talking to you in the early stage showed me really the big value that SIG and the GBS team can bring to the company. Related of course the footprint in the States where weren't so strong in the area of the building sector at the moment but also related to capabilities know how digital too. I added I think this adds a lot of things up and I have to admit I'm not too much in detail for all of these building schemes. My job is more to understand the landscape rather than having so many impressive credentials compared to you Charlie.

But I still love it, I still like it and maybe one day I will work particularly on getting into LEEDs with the GBS platform. Get me trained and prepared for the exam. And this brings me to the point. I think LEED is the world's number one green building system. It's impressive. It's a very nice and smooth setup I think good to work with globally recognized. So I think it makes a lot of sense for global companies to target a LEED certification. The other one where we are also very committed is Breem. We are working in Breem as you mentioned it briefly as a national scheme operator. We are training making the QA qc making system adoptions that adapt to the German speaking markets are Germany, Austria and Switzerland.

We try to customize the system a little bit to the market. I guess Breeam adds also big value in customizing towards different markets and it's well known in Europe as well. So it is a very valuable system also on the global

scale. And the third system that I like a lot is Greenmark. It's from Singapore but it's adopted in some other tropical regions. It's in specific a big value when you look at the tropical region because it was developed for those types of countries. It covers also the major categories and also how bca, the Building and Construction Authority in Singapore, tries to implement the system and brings it continuously on a new level. I think they do a great job with this song. Well, this would be my top three systems that you asked me for.

14:20

Charlie

Well, those are amazing programs. I've just been fascinated to see how TSU can go to an entire country and say, hey, we can help you with that probe with that scheme. And that's just, it's amazing and it's important. Some of these programs want to scale. They have momentum, but they need help even on the auditing and verification side. So that's been exciting. Of course we're doing some work with. Wow, probably some lab work, some performance verification in the field. We want to help the international community. Building Institute scale. There's some great programs out there, but yeah, a lot of our listeners are lead professionals. It's good for them to hear from you too with your international travels. That LEED still really is that number one recognized program to be stamped.

15:06

Charlie

Yes, this is a green building, whether it's new construction, you design a building green, whether it's existing buildings and you operate green day to day. I think one thing I've noticed within our partnership is I'm starting to dream a little bigger. Not necessarily because there's resources or capital, just because you can actually plan years ahead. It's like, hey, what needs to be done? What problems need to be solved? So can you give us a peek into how that works within an organization like TSUD and especially within your business line? How do you plan ahead about a solution? You might

want to adapt, a solution you have, you might want to invest in. How does that work?

15:48

Hannes

We are continuously reviewing the market trends obviously and try to deliver new solutions to the market. And I am very convinced that the solution in future will consist out of two aspects. Out of a professional service that is applied and by technology. And the technology has also two different aspects and it should enable the experts to perform their work better. So really reviewing the overall process and see it as like a supporting tool. And on the other hand, it should really enhance the experience for the customer by delivering like data in a digital form that can be further progressed via an API or via any different solution so that it's getting more like an integrated solution approach rather than like inbox individual service.

16:44

Charlie

It's amazing just to see how you do that Planning and secure investment. So let's talk about the future. I love asking a green building expert like you what's exciting, what's coming at us, what's next in the green building and technology side, the smart building side, what's next? What are you excited about?

17:07

Hannes

I definitely see that we have a continuous trend in green building adoptions. For instance, in Frankfurt, every second building is a LEED certified commercial building. We are getting there in a more continuous or in a more closed landscape of certified buildings. And buildings still can stay competitive if they get certified and if they make measures to improve their performance in a stepwise approach. I definitely see this landscape

growing also in Singapore where we have in certain parts like green building certification even being mandatory. So overall, globally in countries that are more on the wide side of green building certification, there is an emerging trend of getting certifications done and making real estate assets future proof. So this is the first one then like continuous growing green building certification.

18:08

Hannes

The other one that also the two of us chatted about is the portfolio and organizational perspective of this. So you start not only from the individual asset anymore. You try really to install portfolio ratings such as grass. And also the organizations have requirements to illustrate that they are sustainable and acting sustainable. So they're having really measures installed from the top down instead of like bottom up as it was previously. And therefore this can add a lot of value, especially if you can cover the different levels from an asset to a portfolio to an organization to make the whole construct more sustainable. And the third one that I would like to mention is the immense degree of digitization that can enable transformation in a smooth way.

19:09

Hannes

For instance, if I look at our technical monitoring service, we look in a building and interpret the data that we can get out of the building automation system. I see that we have so much potential to improve simply because buildings are not running smoothly because the commissioning was maybe too long ago and all of these different individual components are not running smoothly and interacting smoothly with each other. So this really gives some opportunity to improve building operations without big investments. And generally with all the simulation and stuff like this, we can also simulate bigger construction related measures in a very precise way.

This is of course also an important tool. So the third one would be the digitization aspect that we can add to the building life cycle.

20:13

Charlie

That's the work we're doing now. I'm starting to use that phrase a lot more in building lifecycle services, smart buildings, right? It's great that you literally specialize in that. I think some of that was lost during the pandemic and then healthy buildings, but now green buildings and oh, we still need smart buildings, right? It's all come back, it's all on the table. Two things I want to follow up on Hannes in a minute. I want to talk about green finance and mandates, but let's set that aside and let's talk about that perfect scenario. I think sometimes people just realize, don't realize. Like hey, what would be the perfect scenario? If you had a magic wand, how would we put together a smart and sustainable building? What does it look like? And maybe you've already worked on some of those. What are some of your favorite projects?

21:07

Hannes

Fair question. So as one of the lighthouse projects that we of course always would like to highlight is our ASEAN headquarter that we built. It was Greenmark Platinum certified and we applied all digital technologies from the very beginning on our own building. So I think that was a really amazing case studies where we really started from the very beginning doing different simulations but also getting no live data out of the building, having predictive maintenance systems running for the elevators and getting live data out the building automation system to really double check on a continuous basis if the building is performing as per simulation defined. So this is really for me a blueprint with the BIM technology having the right planners in place to also perform these high performance buildings to using the digitization to fulfill sustainability objectives.

22:10

Hannes

However, this probably also what I would like to highlight. This is not the scenario that we have very often, especially if we look at the European Union, we see 85 to 95% of the buildings will exist by 2050 when we want to reach our climate targets. We will focus more on the Brownfield projects and we have to define solution sets for the brownfield project. There is still room for improvement when it comes to BIM technologies for existing buildings. And how can that be applied to have a laser scan and then to remodel the original shell to see what improvement measures can be put into place for green retrofitting or even individual measures on this building.

I think this is where the journey has to go and this is where the focus needs to be on the existing building stock.

23:07

Charlie

So much needed there. I at any given snapshot only 2% of the square footage, square meters of our buildings are under construction. The other 98% are existing and we're just seeing a wave of mandates there. I think with technology, one more thing there. I've spent a lot of my last, say, four or five years of my career on technology and still in the built environment and still in sustainability. And I think people are just intimidated by technology. While I think you love it, I love it. It comes naturally to us. We're buying. Well, I know I'm buying the latest gadget and stuff. Probably should slow down on that, but I don't know, it's not too intimidating.

23:45

You just need to immerse yourself in it. Any advice to someone that just thinks this technology is just tough and I'm not going to be good at it. I don't know if someone has that limiting belief. Ennis, what have you seen for people to kind of break through that so that they say, okay, I can do technology in my buildings?

24:05

Hannes

It's a fair question because we are still struggling, in a lot of use cases of technology related to the building. I definitely see it as a transformation because when I started as a draftsman, I was still drawing in like 2D autocad and this time, and I think now, like over the years, 2D is not that popular anymore. It goes really in the direction of 3D. And the same transformation had been also when we shifted from car 2D to like 2D by pen. It is really something continuous and we can't stop it, but we can contribute. I think this change comes and we're now talking online via video chat over different time zones in a very easy way. Everything gets faster, gets together and that can be intimidating. Absolutely, yes.

25:06

Hannes

But meanwhile, there are so many great tools. The user interfaces get better and better. The AI component supports it as well by making it easier to interact with technology, finding fast solutions to technology as well. There is no need to fear and also to make others aware on this change and make others, like, supportive as like a holistic industry to move forward, applying change methodologies together and improve the performance of our industry together. I think that will be a future.

25:43

Charlie

We have AI coming. And you're right, the pandemic, in a way, it forced us all, everyone, even students, right. To figure out, oh, I can use technology. So that's a good point in our timeline. Okay, so let's talk about mandates in existing buildings. You and I share a common agreement that, okay, cities like New York City have led the way. There are local laws, there are mandates that your existing buildings have to benchmark. Be transparent. How energy and water efficient are they? Oh, if you're not upgrading over

time, you're going to get fined. You have to do this work to reduce your impact. These huge buildings, and not even huge buildings over 25,000 square feet. And you and I have tracked a lot of cities, not just in the US but around the world that they're starting to mimic. Hey, New York.

26:31

Charlie

That we need to follow their guidelines. And so any additional insight into just existing building mandates as they start to pop up around the world? Any insight there?

26:42

Hannes

I think it comes from various angles. For instance, as you mentioned, New York, with Local Law 97, we have a defined decarbonization roadmap or a defined roadmap that we need to work against because otherwise, as you mentioned, you get fined. But it's only half of the portion. The other half is like fulfilling it. Defining measures, quantify measures towards decarbonization and time it. So define a clear timing strategy and do also the project management for this. And it's very similar in other decarbonization frameworks like the Grand Path, the Carbon Risk Real Estate Monitor path that is developed out of the Horizon project from the European Union and describes a similar curve. But again also the demand for energy modeling and model approaches towards decarbonization objectives and implementing them on existing real estate assets.

27:48

Charlie

So for all of our listeners, I love greening up existing buildings. It's so important. Just make sure, if you're a new construction person, that's your specialty. Make sure you know how to benchmark a building here in the US Energy Star Portfolio Manager or the Lead ARC program. Just make sure you know how to benchmark a building. It could be a new opportunity for

you to go to those green buildings that you helped build. Designing green, designed and built green. But now you can go back and help them benchmark. How are they doing? Because these mandates are coming to a city near you. Okay, Hannes, that was fantastic. Let's shift over, talk about you. We kind of have a rapid fire section to get to know you more. What would you say is your specialty or gift?

28:30

Hannes

I think I can work with people and motivate them quite well.

28:34

Charlie

Love that, love that. Any tips for those that maybe don't understand the difference between management and leadership? Management. Someone follows you because they kind of have to the org Chart says leadership. Because they want to. What have you done for them? Any tips on how to shift a little more towards motivation and true leadership?

28:55

Hannes

Leadership is definitely staying in the front line if things go right and not stepping back when things go wrong. When things really go wrong and reverse. So if things go right, stepping back and giving the spotlight to the others.

29:11

Charlie

Beautiful. That's amazing. Thank you. Do you have any good habits or routines that help you stay on point?

29:18

Hannes

Too little. I should implement them more. But one of my habits is that I like

to play soccer every Monday. And that is my time really to reflect on them and forget everything about work. But I should install more habits in my working week.

29:36

Charlie

That's a good one there. Thanks for sharing. Monday football. I love it. I'm a fan of the bucket list. Not everybody has a bucket list. I know you've already traveled to some amazing places, but a bucket list could be travel, adventure, maybe write a book. IWhat are a couple things on your bucket list?

29:55

Hannes

Actually, I thought about writing a book also, but I think one of my bucket list things is really to maintain giving some lectures at the university. I really enjoyed that. And as my internal professorship will end because we will have a new professor that is then fixed there, I will continue this lecturing. And of course I also like to maintain the traveling aspect as well. Specifically, I would like to go to the Middle East as my next holiday.

30:27

Charlie

Amazing. Let me know. We can co-author a book. Maybe we can split that one up. That would be fun. All right, let's talk about books or podcasts or documentaries. I love to ask my guests, is there a recommendation for a book? It doesn't even have to be about buildings, just something that you think would be a good read or a nice gift or a podcast or a documentary. Just something that's like, hey, I think you might like this.

30:55

Hannes

Yeah, very good points. Unfortunately, only German things are popping up in my mind right now.

31:00

Charlie

Okay, make a recommendation and then I'll put it in the show notes. We have an international audience here.

31:06

Hannes

International Orleans. I really love the series and I think it's the translation of Achzam Morden, which means like cautious murdering. It contains some tips for really being cautious. And it's a funny story. Meanwhile, we have five different things. It's a series of five different books and even it's on Netflix. So it may Even is available in English language on Netflix.

31:32

Charlie

Okay, I love that. I'll put that in the podcast show notes. So when we launch the podcast, we have these show notes. Everybody can click a link to see your LinkedIn. And I suggest everybody connect with Hennis, let them know what you thought of the interview. And then I'll put the book link. And hey, if it's coming out on Netflix, always read the book first.

31:49

Charlie

Just a couple more questions. As you look back on your career, is there anything you wish you'd have learned earlier or any. Any advice you wish you'd have learned earlier in your career?

32:01

Hannes

All right, you're putting a really tricky question on the table earlier. There are

a lot of things I would really like to learn earlier in life. But sometimes you get things taught in university, but it's really like real working life, making mistakes, learning from these mistakes, and that's so tough. Also learning about. Actually, there are really more things I would like to learn earlier. And one aspect that I think I mentioned before is about the build environment impact to the current footprint that I would like to learn earlier about because otherwise I may have switched earlier in the direction of sustainable buildings and focus earlier on how digital technologies can contribute to the decarbonization and the ESG compliance, the overall ESG compliance of the build environment.

33:03

Charlie

I love that. And I think I was a little fortunate in my career here since this is where LEED started and I got my lead at the AP early. So that definitely helped me get a little earlier peek into it. When I was getting out of the construction industry, I saw BIM growing in the mid 2000s in LEED. I went the lead path. But now I've had to learn a lot about Ben. We're talking 15. No, we're talking not that old, but 20 years ago. And these two things now are starting to come back together. So that's saying something. Sometimes life is just about timing. Final question. Amazing interview here. I've even learned a couple more things. Let's say someone's listening. They're listening to your story and man, just really loving what they're hearing. And they're just jumping into this green building, the smart building movement. Any words of encouragement for them if they're just now jumping in as we come to a close?

33:59

Hannes

Yes, absolutely. So green building, smart building, ESG compliance of the built environment will be the future. And there will be a lot of main diets. A lot of opportunities to shape careers and to make a real impact also on the industry and on the society because we spend 90% of our time in buildings

as per statistics. We can have a positive impact on people by generating smarter, greener and healthier buildings.

34:35

Charlie

Well said, Hennes. Thank you for sharing your experience. I look forward to continuing to work with you on really building up sustainability and smart buildings and all the work we're doing and SIG and GBS and just other technology we have access to. Thanks for being a guest today and I really appreciate it.

34:54

Hannes

Thank you so much Charlie for having me. It's so easy to talk to you and looking forward to working with you in future.

35:00

Charlie

Amazing. Thank you for listening to this episode of the Green Building matters podcast@gbes.com Our mission is to advance the Green Building movement through best in class education and encouragement.

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