

# Computer Aided Decarbonization with Rohan Rawte of IESVE

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, everybody. Welcome to the next episode of the Green Building Matters podcast. I'm your host, Charlie Cichetti, and I've got an easy job. Every week I get to interview a green building professional somewhere in the world. And today I've got Rohan with us. He's in Singapore. We actually saw each other not too long ago at a building conference. I was fortunate to go there, and we definitely have a connection through energy modeling, green buildings, and decarbonization. Rohan, welcome to the podcast today.

**01:00**

Rohan

Thanks. Thanks so much for having me, Charlie.

**01:04**

Charlie

I hit it off with you and your team there. It was such a good conference, the Bexasia conference. And I. You know, our sustainability team at sig, I told you has been using IASVE for many years. Can't wait to see where our conversation goes. So for our listeners, we always need that kind of

starting point. Take us back. Where did you grow up and where did you go to university?

**01:25**

Rohan

I'm originally from a city called Bombay, or Mumbai as it's known today. I'm born and brought up in that city. I grew up there. I did my engineering there. And after that, the year I passed out was a recession year, and there were not many organizations that came to the university to offer a job. So the UNI that I was studying at, we had one company come in, and they selected two people from our class, and I was one of the fortunate guys to get the job. And that made me move from the city of Mumbai to a city called Pune, which is about 200 km from Mumbai. And that's where I started my career. And I kind of liked the city. I liked the people, the atmosphere, the weather, and so many things. I ended up moving to Pune a few years later. And as of today, I would say my permanent address is Pune, although I'm based in Singapore now for about six years. In the early years, I was in a different industry. To be honest, when I started off, when I started off my career, I got into a domain called CAE or Computer Aided Engineering. And this is really about simulation technology, analysis and simulation technology that helps someone design better products. Right? And mostly products in the mechanical engineering domain. My first job was an R and D engineer with an engine, a diesel engine manufacturing company. I've come a long way from being a guy who would design diesel engines to now being in the sustainability domain and lead on green buildings and sustainability and decarbonization for over a decade. It's an interesting journey, full circle.

**03:31**

Charlie

CAE, and then tell us a little bit more about early career. What else were you doing? Because we're going to fast forward in a minute to what you're

doing in most markets with the top software. But what were you doing at the time there?

**03:44**

Rohan

Initially it was all about CAE. It was really more on optimization of products, optimization of design. And the focus was really about bringing down cost, improving productivity, and improving reliability. These are the main issues that I was going after. My specialty was failure analysis. I would look at why components fail? Of course we don't want to have components failing before the end of warranty. So you want to make sure you have the appropriate reliability life. And that was kind of what I did for a decent amount of time. For almost a decade I was doing that. And to be honest, it was quite through some connections. There was a time when I was running. I was running an operation in India with one of my partners from the US and were trying to sell a few different products, mostly from the mechanical side of India. And I came across the IES solution. And I thought, oh, look, this is something interesting. This is a product that's linked to CAE. It's Computer Aided Engineering, but it's also linked to green buildings. It's also linked to sustainability. And this was around 2008, was the time when the sustainability and decarbonization movement was just about getting started in a place like India. And there were not many people who were really talking about sustainability or doing sustainability. And I thought, oh, here's an interesting opportunity. It's a product that I can work with, I can understand, and it's a new domain, it's a new market where there are not many players. I said here's something I can get into and give it a shot. And of course, if it doesn't work out, I could go back to doing the old thing that I was doing, which is looking at engines and trucks and different components. For transmission systems and whatnot. So I took it more as a challenge and as something different to do, but something in line with what the future would be like. Sustainability and climate change related solutions. And 15 years later I'm.

**06:00**

Charlie

Here now, there are lots of territories. It's amazing, man. It's okay. So that's kind of how you got into sustainability, energy efficiency, energy modeling. And I'd like to also ask though about any mentors along the way as you've been putting this career together. Sometimes Rohan, a mentor, is someone we just read their material, we see them on stage at a conference, they inspire us. It's someone that meets with us and maybe challenges us, maybe opens the door for us. Have you any mentors as you've been building this sustainability career?

**06:32**

Rohan

I would say if I look at overall throughout my career, throughout my life, I would say that there are probably two people who I would say are mentors like me, one of them is my grandfather, right? Because, I mean, I've never met the person because he passed away much earlier than I was born, to be honest. But what inspired me about him was the history, the legacy that he created and left behind. Because growing up, anyone who I met who had interacted with my grandfather or worked with my grandfather, or been friends with my grandfather had fantastic stories to talk about the man. And I thought, oh, wow, this is something fantastic. This is some legendary character. And this. And there's so many stories and so many different types of stories. There's work related stories, there's friendship related stories, there's social related stories that kind of became a bit of an inspiration for me that here's someone in my family, very near to me, who has touched a lot of people throughout his life and throughout his career. And I would like to be like that. I would say growing up he was kind of an inspiration. And in my career, to be honest, other than Don McLean. The person who is the founder and CEO of IES, I would call him one of my mentors today. He has been a mentor for me for more than 15 years. He is a current mentor for sure. And he's a very good inspiration for me, for my

life and for my work as well. His entire life's work of developing these kinds of solutions and technologies to try to decarbonize buildings has been very inspiring as well as his approach, his work ethic, they inspire me a lot. These are probably two people who I can really call mentors. My life in Korea, amazing.

**08:42**

Charlie

Thank you for going there. I love asking about mentors and it's great you also went back to your grandfather there. One more kind of look back and then we'll get to the present day. I'd like to ask what's on the highlight reel? What are some of your proudest accomplishments so far?

**08:56**

Rohan

I would say I think one of the things that I'm always very happy about is the way that some of the, let's call them, risks I have taken have panned out. Because if you look back at what I did throughout my, almost throughout my career, right. And if you read it from a perspective of, let's see what this chap has done throughout his career, many of the things that I did wouldn't make sense. They're not the, into inverted commas, the right thing to do because they were very boring or risky bets that I made on myself in terms of what I could try to do or what I could try to achieve or new things, new challenges that I would take up. And to be fair, in many of these risks that I took and challenges that I took up, I've come out fairly successful, let's put it that way. I think that's what really makes me proud that I've tried to take the beaten path not the highway. Everybody says you should stick to the highway. I've said Warren, I've been on the highway. I like this beaten path. Let me go down this path and see what's here. And more often than not, it's led to happiness, led to success. I'm very happy with that overall.

**10:32**

Charlie

Oh man. Beautifully said. Thank you for sharing that with us. Okay, so now let's talk about the present day. So tell us a little more about your company, a company I've known for a long time and I saw you at the conference, you and your team were talking about even some new innovation. So tell us about the company. What's kind of keeping you busy today?

**10:52**

I work for a company called IES. IES stands for Integrated Environmental Solutions. It's a 30 year old Scottish company. We develop technology that helps users design better buildings or operate buildings in a better way, in a more efficient way. That's I would say probably the one line definition of what we do. But there is so much more to unpack in terms of what we do and how we do it. My CEO, his name is Dr. Don McLean. He is one of the pioneers of this kind of technology where you want to look at how computers can be used to design or operate better buildings. And this is essentially his life's work. He's been doing this since he was in university. It's basically 45 years and counting of work that Don has done, starting from the university and then leaving the university in 93, setting up the company in 94. And we've been out for 30 years and we have world leading solutions for high performance building design. And that's our flagship product which is called the version or virtual environment. And this product is used by typically the large AEC consulting companies, for example, the AECOMs, the ARUPs, the WSPs of the world. They are the ones who would use this technology on a daily basis to help them design high performance buildings or help them achieve compliance for maybe a local building rating system or maybe a global program like USGBC Lead. And we are the world leaders for this kind of technology.

**12:50**

Rohan

We have well over 10,000 organizations around the planet that use our technology and we count more than 60, 70,000 users who have used the technology currently or in the past. And the numbers are only growing on a

regular basis. We have now kind of also started looking at other domains where we can take our solutions. And aside from building design, we also look at building operations. We look at digital twins, which is really creating a digital replica of an existing building so that you could operate the building more effectively or indeed you could suggest what changes could be done in the building so that this building could achieve, let's say net zero or decarbonize as much as possible and understand the risks behind that decarbonization program in terms of cost, in terms of carbon, in terms of the whole life cycle of how the program would kick in. This is kind of what we do as a company. I manage the Middle east and Asia business for IES. I've been with the organization for 15 years now, so it's been a long journey. Initially I was only looking at India as a market. We have an office in Pune. But then as time went by, I picked up the Middle east division, I picked up the Asia division. Today I kind of manage half the world in terms of population or is quite a fairly large territory. There's quite a few countries in the list.

**14:39**

Charlie

You've Been there a long time. You've supported programs, obviously everything from, and obviously Greenmark and all these great programs. It's a trusted tool for that. And for those listening, check it out. Because it's not just the energy modeling, right, the operating carbon, but I know you can also use your or embodied carbon, which is clearly a big part of the future of our sustainability in our buildings and then digital twin. So yeah, so in your role, I mean you've got a team, you've got a big geography, but it's a relationship role, it's a sales role. Tell us a little more about your role.

**15:16**

Rohan

So my role is there's two parts to what I do. There's of course managing the P and L for these territories and making sure we generate a good amount of revenue, we make a good amount of impact, we have a decent number

of users and customers in these territories. So that's one part of what I do. And then the second part is of course on my own. My role is to be the ambassador for the organization in this part of the world. Business development for Asia, mostly as a territory. Look for partnerships where we could have either regional partnerships or global strategic partnerships for the organization. And depending on the type of engagement, it could be handled either. If it's a regional partnership, it'll be handled by myself.

**16:07**

Rohan

If it's a global partnership, then maybe I'd simply get the ball rolling and then it would pass to somebody in the global team and they would kind of take the partnership forward themselves or with the global team. So that's kind of what mostly my role is. I would say what excites me the most about my current role is two challenges that I have taken up this year. One challenge is of course to look at the new market, which is the North East Asian market. So particularly China, South Korea, Japan, these are the locations that I have added as a specific focus market. This FY for myself. So that's something that I'm really looking forward to seeing how I can grow those territories for our solutions. And the second thing that excites me the most is what you talked about there, Charlie, are our digital twinning solutions. I can see a fantastic response, fantastic traction in markets like Singapore, Hong Kong, even in locations like Dubai and India. Also there is a fantastic response that's now coming in for digital twinning solutions and arguably we have one of the best digital twinning solutions in the world when it comes to looking at decarbonization and sustainability solutions for buildings. I'm really kicked about Taking this solution to the market, having discussions with people to see how we can go to their portfolio and improve the performance of their portfolio so that they can achieve their decarbonization on net zero goals.

**17:47**

Charlie



So important right now. It sounds like you're a busy guy. You got some great technology, and it's just about decarbonization sustainability. You and I discussed. There's all these new umbrellas, but let's talk about the future. I love to ask someone like you just, hey, what's kind of exciting coming at us down the road? Where do you see green buildings, sustainability, even energy modeling, shifting a little bit?

**18:10**

Rohan

I think green buildings now have been around for a fair amount of time in most markets. There are probably very few markets where green buildings as a concept, as an idea is fairly new. I was in Jakarta last week, and that's a place where I feel there's a lot of potential for green buildings as a base solution. It's a very large country. In fact, Jakarta as a city is a very large city itself. But the number of green buildings in Indonesia are very small. So, of course, that's one market where I feel. Now there's been work going on for about 15 years in the green building sector, but the growth is not really there compared to other, mature green building markets like, say, Singapore. But in most markets, green buildings as a concept are now in. It's fairly understood, well understood by the market. And there's a lot of work that gets done in green buildings, for sure. Having said that, I think we have reached that kind of top level of what could be done under the umbrella of a green building program. And I think in most cases, if you look at any program such as LEED or DREAM or even Green Mark, it's kind of reaching the limits of what could be possibly done under new building design and under looking at this idea of green buildings for any new building. So I think the market is now kind of thinking about what next. And there are a few areas where I can see a lot of action that's taking place in these top markets. Right.

**20:02**

Rohan

One of the areas where there is a lot of action that's taking place is on the

embodied carbon side where it's not just about the now and the operations, but it's also about what's in the material. And I think this is a very green area for exploration, for growth, and for really getting into depth of understanding how we produce, how we use and how we recycle. And I think there's great potential and great future for looking at this embodied carbon space. The second area, of course, my pet area is digital twins. Right. I can see that digital twins is also maturing.

**20:47**

Rohan

It's coming out of being just a concept to being something that many markets are starting to pull the lever in saying that this is now essential and we need to have some standards in place, we need to have a protocol, we need to have a methodology. IUT's going to the next level and it'll follow the green building movement. You have a green building. The next step would be to have a digital twin to make sure that your building actually performs to what you had designed that building for, making sure that there is no performance gap. And I think that's an area where there is significant potential. The third area where I see a lot of action is of course, AI for the real estate industry. Traditionally the real estate industry is considered to be slow moving to adopt new technologies. And I think it will be the same when it comes to the adoption of AI. But there is a lot of action. There is a lot of traction today thanks to a lot of movement that's coming from the buzz around digital twins. Because now you have a lot of IoT systems, you have a lot of sensors, you have a lot of BMS systems that are getting upgraded. Most high performance buildings now have all the kit in place which allows you to get a good quality data set that can lead to usage of some AI techniques or AI tools to see how we can optimize that data set, how we can do some predictive modeling to improve the performance of the building for the future. I see that as another sector that has a great future in this domain. So that to me is what the future will be like. It's the next five to ten minutes.

**22:39**

Charlie

I look forward to working with you on it. I think we've got some digital twins that we can talk about. But then really the AI, our tool schema and just hey, let's make sure you and I follow up on that. And I agree with you that we have to lean into AI. It will help with decarbonization. It will be suggesting we're laying out a design. Hey, I've learned from your previous best buildings. And what do you think about this? This is what I suggest and it just speeds things up with the best practices. Let's get to know you a little more. I like to go to the Rapid Fire. Part of my podcast interview. Fantastic. Rohan, is your specialty or gift.

**23:21**

Rohan

When I was a young boy growing up, my specialty at that time was my memory. I had a fantastic memory. I'm not going to say I don't have a good memory now. It's quite decent now. But growing up I had a photographic memory, which meant I had to read something twice. If I read a book two or three times tops, I could repeat that book word for word. If it had complex engineering diagrams, I could reproduce those diagrams. So that was a good skill to have. Especially when you're in school and you have to ace your papers. Having that skill was very good. But of course it's kind of dull now. I would say now what really helps me is this ability to connect the dots. That's what I would say really is my, the advantage that I have. I can see things a bit earlier than others and connect the few things that happen around the things that happen earlier than others. And that really helps me in my career, in my life.

**24:38**

Charlie

Oh, man, Fantastic. All right. Connect the dots and great memory. That does help. Well, habits or routines that help you stay on point.

**24:48**

Rohan

I'm going to say that I think I am a very fan of having things structured, planned. I like to plan most of the things I do. I have a very immersive routine for my work. I pretty much work all the time, but that doesn't mean that I work all day. Maybe I should redefine that. I'd get up early in the morning and usually by 7am I'm on my laptop and I'm doing something. But that doesn't mean that I'll get up only at seven or eight in the night. I get in at seven, I do a couple of hours of work, then I head out for my morning walk. I come back, have breakfast and I again do a few hours. I tend to do a couple of hours and then I take a short break. I find that helps me a lot. In the old days I would do long sits, I would do four or five hours and then I'd take a break. But I find that doing an hour and a half or two hours and then taking a short break, not a long break. You take a 15 or 20 minute break, that helps my mind reset and declutter and then I can get back in and be more productive. I do that and I do seven, eight, nine sets, whatever, like this, over the day as needed. And I do work on Saturday, I do work on Sunday. I think it's in the. When I was younger, I was very much convinced that you need to have a work life balance. And as I get older, I think there is no such thing as work-life balance. I think there is this work. And work is part of your life. And if you can weave work in an ideal way into your life, then your work and your life both are balanced. You don't have to separate them out. I think those are my routines, those are my rituals to make sure that I'm successful.

**27:03**

Charlie

Thanks for giving us a peek into your world. And you're right. Just kind of being entrepreneurial and you can kind of control your own schedule. But sometimes our best work happens at odd hours. You know, I'm like that.

**27:16**

Rohan

Indeed, indeed. And that's something that I do. So if I wake up sometimes. I don't know if this happens to you, Charlie. Sometimes I'd wake up at three in the morning and the reason I woke up is because I thought of something or I got some idea. And then I don't sleep because you're excited about something. So if I go to sleep, then it'll be gone. I'd get up, I'd get onto my laptop, I'll put it all down and then once it's all down, it's out of my system, then I'll be okay. Now I can go back to bed. I tend to do that as well.

**27:52**

Charlie

They say even architects like Frank Lloyd Wright and others would do that. They would do the best design work in the middle of the morning and big naps. A few more questions here. This is fantastic. Getting to know you more and giving just a peek into your world bucket list. I'm actually a fan of the bucket list. What are your things maybe on your bucket list?

**28:14**

Rohan

I'd say one thing for sure. I've been a fan of NBA basketball for a long time. I've been a Michael Jordan fan. So one of the things on my bucket list is to watch a game live, which I haven't been able to do. Of course I have the subscription. I watch some of the games religiously, but I've never seen a game live. So definitely that's on my bucket list. To watch an NBA basketball game live.

**28:46**

Charlie

Well, I love that. And hey, you come to the States and I'd go with you. So you let me know when you're ready. That's exciting.

**28:54**

Rohan

I'm a Warriors fan.

**28:55**

Charlie

We'll go out there and we'll go see Steph Curry. Then let's do it.

**28:58**

Rohan

Yeah, that's it.

**29:00**

Charlie

Anything else on the bucket list you want to share?

**29:03**

Rohan

I think that's probably the only one because there were a lot of things on my bucket list. I've kind of hit most of them, and right now I'm more focused on getting things done, and I'm not sure when to write a new list.

**29:22**

Charlie

And you can add to it.

**29:23**

Rohan

I can add to it. This is one of the things I need to do. Absolutely.

**29:28**

Charlie

I like asking my guests, Rohan, about a book you've recently read or could be one from the past. Doesn't have to be about buildings or maybe a

podcast or document or anything you could suggest to our listeners to check out. Sometimes it's like a book recommendation.

**29:44**

Rohan

I will suggest a podcast. And the podcast that I really love listening to on quite a regular basis is something called Revisionist History. And I don't know if you've heard of this podcast, Charlie. It's by a chap called Malcolm Gladwell. So Malcolm Gladwell is the author of books like Outliers and Tipping Point and so many others, and I've read his books. But a few years ago, he started this podcast called Revisionist History. And I just got into it and it's now got quite a few episodes. You can listen to it for free on almost any of the places where you can find podcasts. But if you want an ad free version you need to buy a subscription. It could be you could give someone a subscription or. Revisionist History, the podcast is about Malcolm, looking back at things that were missed or overlooked. Something happened in the past and we forgot why that happened, or we don't know why it happened that way. So he kind of goes back and analyzes and gives us the full. Gives us the full history. And by understanding that history, we can first of all understand that incident and of course, use the reference of that incident into our own lives so that we can learn from it. I think it's one of the best podcasts that I have listened to in a while, and that's what I would recommend to the listeners.

**31:25**

Charlie

Wow. That's okay, everybody. Check it out. I'll put a link to that great podcast of course. Welcome Gladwell's amazing author. All kinds of great content out there. Thank you, Rohan. Last two questions as we start to wind down as you look back on your career, is there any advice you wish you would have known earlier?

**31:45**

Rohan

Actually, I already said it before. I think about the work, life, balance thing, when I was a young man, doing my first jobs. When I was not an entrepreneur, so to speak, I was more straight out of college, I'm doing a job, I work for a salary that kind of approach. I was very conflicted in this work, life, balance thing. Because I felt that I'm getting paid to do this job, and this job means I should be working for eight hours and that's it, right? And then after the eight hours get over, my life begins, right? So to me that's something that for many years, I kind of tried to separate out my life from my work.

### **32:34**

Rohan

And later on in my life, as I got into entrepreneurship, I started running my own companies. And once you run your own company, right Charlie, you know this, it's very hard to separate life from work, right? Life, Work becomes. And as I grow older, I also start understanding that life and work are actually together. In today's context, we are separating it out. We are saying we go to an office, and when we go to an office, work starts, and when we leave office, then work ends and life begins. But if we go back, let's say 200, 300, 400 years, when most of us were farming, right, or hunting, right, there was no distinction between work and life, right?

### **33:25**

Rohan

You lived where you worked, you took your produce, you made food out of it, you fed your family, and that was your work. That was your life. So to be honest, we had that thinking a few hundred years ago. And now because we've kind of changed the way we work or change what we work on, right? We've also tried to change our philosophy of how we should balance work and life. And I think that's the advice I would give myself. If I could go back 20 years and talk to myself, I would say, you know what? Don't be bothered about this work life. Focus on finding work that really pleases you. Find



work that you are passionate about. And if you can find work that you're passionate about, that work becomes your life, right? Then you don't have to worry about balancing the two.

**34:17**

Rohan

It's enjoyable. It becomes part of who you are, it becomes part of what you want to do. That's what I would say.

**34:26**

Charlie

Oh, man, that's fantastic. Last question. Let's say there's someone listening to this podcast. They're getting inspired by your story in your region, how long you've been at this company. That, heck, it might be even a software tool they use for their energy modeling and body coverage. And they're like, hey, I want to get into this green building movement. Any advice, Rohan, as we come to a close to someone that's just now getting into the green building movement?

**34:51**

Rohan

I'm going to say learn as much as you can, as quickly as you can, because we need it. The green building movement today needs hundreds of thousands of professionals, if not more. And I'll tell you why, right? We need some estimates in terms of how many large buildings were there around the planet. And there are quite literally millions of large buildings around the planet that need to be decarbonized, that need to be net zero. And all this needs to be done in the next five, 10, 15 years. So the current pool of engineers, architects, green building professionals, you name it, is far too few to really address this problem statement that we have at hand. Anyone who is just getting into the green building movement, I'm going to say you made the right choice. This is an awesome field to get into. It's a very challenging field, and it's a very large remit that we need to solve, but

it is a challenge that we need to solve as a species. If we cannot figure out how to reduce the carbon, make our spaces where we live more efficient, we are going to be in serious trouble for the long term. And we need you. We need more and more green building professionals. We need more and more experts on building physics, on H VAC systems, on facades, on architectural design to join the movement and make an impact. So get in as soon as you can, learn as much as you can, and go out there and start making some changes. That's the advice that I would give.

**36:42**

Charlie

Well, well said. You've got me fired up today. I think all of our listeners are going to love hearing your story and your region. Everybody make sure you go ahead and connect on LinkedIn with Rohan. Check out some of the new innovation there, especially around the digital twin that's coming out of the IES team. I'll be reaching back out soon. Rohan and I just want to say, hey, thank you for what you're doing for the Green Building movement and thanks for being on the podcast today.

**37:08**

Rohan

Thanks so much for inviting me, Charlie. We will stay in touch.

**37:13**

Speaker 4

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positive review on itunes. Thank you so much and we'll see you on next week's episode.