CLOUD REALITIES

CR105

How little we still understand about GreenOps with James Hall, Green Pixie

Capgemini

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[00:00:00] You're more likely to get struck by lighting in anywhere, wherever you are, than win the lottery. They, they do call it The Idiots Tax.

Welcome to Cloud Realities, an original podcast from Capgemini This week, it's a conversation show, exploring green ops and not just green ops, but. Data, how it sits in the middle of an engineer, creating new digital futures and what information they need to demystify what's going on at the back end and the impact it's having on the planet.

I'm Dave Chapman. I'm Esmee van de Giessen. And I'm Robert Kernahan.

So welcome everybody. How are you doing today, Robert? How are you doing? You well, it's very excited. It's Friday, Dave, isn't it? Everybody's always a bit happier on a Friday. Esme, are you happier on a Friday? Absolutely. [00:01:00] And it's finally raining after a hot day. So I'm very happy. Well, it's been unseasonably.

Well, as you say, unseasonably warm is the summer, but it's been almost too warm, isn't it? Yeah. That's a classic British, British expression, isn't it? Well, so is that British thing, right? So we always complain about the weather, but if it's 23.5 degrees Celsius, everyone's happy. And if it goes hot, right, that's it.

It's too hot. And if it's below that, it's too cold, isn't it? So we've get, we could probably get the perfect temperature for three hours a year. I hate to disappoint you, but the Dutchess do exactly the same. Ah, is it, is it a Northern European thing? Have we hit on a trend? It could be a Northern European have, have the, uh, Dutch got any good expressions for it?

Esmee, uh, wow. That's a good question. Raining cuts and dogs. We also have that in Dutch, but no, we're just, we, we need something to complain about. I think that's it. It it creates a bond and we use the weather for it. Yeah. You always unite behind a common enemy. Yep. And it's often the weather. There you go.

That is the, that is the truth. Anyway. Robert, what are you confused about this week? I. This [00:02:00] one's quite a big one, Dave. I'll be honest. And it was a three o'clock in the morning type thing that shot through my mind. I went, hang on a minute. How is that gonna happen? Did, did you, uh, did you wake up and sat balled, upright and then have to have to sort of cinematically walk around your house in the moonlight?

Just like this bowl RiNo? Yeah. There was one that, that, uh, uh, played on me a bit. There was a, so we talk about, we have ai, it's not really, you know, it's Biro, parroting, et cetera. It's getting better though, right? And there's a lot of conversation going on about. Artificial general intelligence and it's, it's, it's not if it's when, and the distinction is what, for those who, who, who are not familiar with the phrase AGI is where you have basically created an entity that can reason and think, I.

Learn autonomously. So essentially what we see humans doing, the computer can start to do that is the definition. So it becomes like a human. It's not the same as a human, but it has the traits of a human right. Learning, reasoning, decision making, et cetera. Can create novel anger, anger, [00:03:00] frustration, well maybe emotions, who knows?

But the ability to reasons the main one, right? And so. When that happens, is it gonna be somebody pulling a cloth off a computer and saying hello to the world, this is the a GI, bob, right? And ta-da, we've created an artificial being. Or is it gonna be somebody in a lab somewhere going, oh, it's an a GI, uh, because of the something, the system does something and they go, oh.

Wasn't supposed to do that, and it's new and I can't work out which way it's gonna, are we gonna fumble in to a GI or is it gonna be a ta-da type moment? And I'm confused about it.

Dave, my take on this is we are definitely gonna fumble into it. In fact, we might have already fumbled into it. We just don't know yet the Terminator story that is the AI's out permeating through the system before it reveals itself?

Well, you know, the, it's it, it's things like some things that have already happened that. That aren't a GI, but perhaps give us insight into how we discover A GI, which is to remember that example we talked about on, I think it was on last season where [00:04:00] it might have even even been with GPT three, right? So it wasn't even the, the most recent wave of tech and the AI had been given a hundred pages of, I dunno, scientific journal or something along those lines to sort of work its way through.

And in there deliberately, there was a line about pizza. In the middle of like a hundred pages of kind of scientific stuff, and the AI came back with the summary of the hundred pages that had been asked for, but at the end it said. What was the line about pizza and therefore, are you trying to trick me?

Oh, that's quite cool, isn't it? Yeah, yeah. There you go. But the, and the, the other thing is we assume we are going to create it, and it's not gonna land from space. That's the very sci-fi version. But it depends. A c it could lump onto us from, uh, a surprise as well. But yeah, the, the, the, the i and there's that one where the AI's created their own language when they attempted to interact.

'cause it was more efficient. So we see traits of what we consider reasoning. Is it proper reasoning? Don't think we're there yet, but it [00:05:00] will arrive. It's just, I'm just, it's the, it's the, what's the event and I'm, I'm probably siding with you, which is, we'll all be surprised when it happens. A lot of students will be bumped though if that happens.

You know, we all try to, you know. You get through it with a paper that was made up half of it, and then you still got a good grade and then it actually just points out the pizza part. Well that's, that is the truth. What, what do you think in terms of like it a GI revealing itself, do you think it, it will choose to reveal itself to us when it is good and ready.

Thanks very much. Or do you think the humans will tadda the moment? I think it's not gonna happen overnight. It feels a bit like we're, we're watching Kid the Car, or I don't know, star Wash. So I think we'll, we'll be there. Right? Or maybe that's also, hopefully we are there and very consciously. So I think step by step.

Same with Green Ops for 55 years. I think we will, it will go fast, but no, I think we're, we're there. [00:06:00] Yeah. Talking to Green Ops, let's get onto the main subject of the show today where we're gonna examine a little bit about Green Ops, both where it's come from and what the state of the art is beginning to look like.

I am delighted to say that joining us to talk about that is James Hall, who's the head of Green Ops at Green Pixie. James, how you doing? Thank you for joining us. Do you always wanna introduce yourself and say a word about green Pixie? Hi, thanks for having me. I'm James. I've been head of Green up at Green Pixie for a couple of months now.

I think, um, a lot of people do ask, what, what does the head of Green Ops actually do? Still working that out myself. But you know, a lot of it is working on, you know, our methodology of how we work, how we work out this emissions data. But it's also how do you create an actual business case for companies to, to get Green Ops involved in their companies?

How do they actually, why should they do green Ops and ultimately how do you make Green Ops practical, not just. You should be more [00:07:00] sustainable, but is how'd you become more sustainable and why is it actually worth it? So James, just give us a bit of background on

green Pixie. I understand you're in startup mode at the moment.

You know, where are you up to and what's your mission? So our mission, I think I'll start there, is to. Essentially get high quality data in front of the people who need it and ultimately enable engineers to, to reduce thousands of tons of emissions from behind their laptop. Because we saw a really interesting opportunity in cloud where it's really easy to emit by mistake that you can make a mistake in your code and accidentally emit a thousand tons because you've got 20 terrible servers running at the same time.

But it's just as easy to fix. And our mission is to. Enable these people to get the, get some visibility on what the impact of the cloud is and also help them, help them come up with reduction strategies around it. So if I'm an engineer in that particular one, I, I, I [00:08:00] entirely applaud the pointing this specifically at engineers and trying to deal with the code issue, which is.

A very key aspect of sustainable technology and, and something that, you know, we're only emerging into. So how does that show up to engineers? How does the fact that you unveil data to them s show up differently from just say, like a flat dashboard? Well, I mean, the. The, the whole emergence of hyperscale cloud kind of made the buying cycle and the decision making cadence go from a couple of months having to sign paperwork through procurement to, you know, whoops, I've just spent 10,000 pounds, so.

The, the level of data that engineers need to make decisions kind of completely changed from, you know, needing a once a month dashboard to essentially needing hourly data with a lot of nuance between like, what's the different type of servers, all these different locations you can choose from just by accident.

So [00:09:00] it's about how do you get really high quality data that's very detailed and nuanced specifically for the cloud. In front of these people because that's the kind of data they're used to looking at from a usage and cost perspective. So you need the sustainability data to match. And I suppose when you think about good efficiency in cloud, it starts with before you've cut a line of code, you've got a pattern that's efficient, et cetera, and you go down and then you can observe in, in live and repeat.

Do you think it's that people want to be efficient but they haven't got the information they need? Or is there a cycle where you have to push it to 'em and then educate what, what, what's the position you find when people get hold of this and how does that maturity cycle work from becoming aware to being able to take action and then sort of get all the correct.

Decisioning in the right place? Well, I mean, from my perspective, efficiency people know what it is. It's, it's quite intuitive, you know, reducing emissions in the cloud. I think it is quite intuitive. Like what? What's more emissions? 10, 10 [00:10:00] big servers, or like one small one because you kind of right sized.

But I think there's a problem with the. With the incentives or essentially how engineers are kpi because you've got finance teams worried about budget and costs and reducing the, the bottom line. Uh, but the engineers are told to make sure that the app performs well and there's no latency and there's no downtime.

Yeah. Experienced is king in that. Yeah. De Yeah, and they're, and they're kind of the antithesis of each other, unless they're like, really well communicated. But I see sustainability as that kind of gap because a well cost performing application is most likely gonna be, uh, highly optimized from a carbon perspective.

And a well performing application is also gonna be, well, actually saying that it, but yeah, if

you want the engineers to, to take. The amount of usage and the performance into account, [00:11:00] there's a balance you need to strike between like what is a cost effective, but also well performing application And finding that balance, I think takes a lot of time.

And engineers typically don't really care that much about cost when their KPIs around performance. So when you're putting that sustainability data in front of them. You are kind of changing the way they view their usage and making the, the units essentially more meaningful to them. 'cause they want a well performing app, but they also don't want to emit with everything they do.

So it kind of creates an incentive to find that balance between not just going overboard with performance, but also scaling it down to something that that hits both marks. So dipping into that data a little bit more deeply then, what is it for you that characterizes a. An interesting data set beyond, Hey, you're using X in instances on the cloud.

Well, I think there's, there's almost two, there's two avenues that I've [00:12:00] discovered when, when kind of looking at green ops, because you can get and the data to the engineers, but ultimately an organization won't really adopt CO2 data unless it's. Been approved by the ESG teams and likewise, ESG teams, ESG, uh, the environmental social and governance team.

So essentially, what is a sustainability team in this case? Yeah, so the sustainability team have certain data requirements, and if anything it's got CO2 written on it. You can expect a company to want the sign off from the sustainability teams, but likewise, if you want engineers to. To actually make decisions with this data.

They have certain data requirements. So you know, the, the kind of principles we follow from a sustainability perspective is just, is making sure that the data is as. It is kind of follow what the, the greenhouse gas protocols pillars are, but it's ensuring that the data's transparent, accurate, [00:13:00] consistent, relevant, and, and complete are the, are the main pillars of, of what the greenhouse gas.

We'd recommend. Right. And you know, thi this, I think a lot of people focus a lot on the, on the accuracy piece, but actually all of the pillars are equally as important because if you are an engineering team looking at one product and a couple of resources, and all you've got is the total CO2 of your entire environment, that detail is not.

Really particularly relevant to, to you and your and your team. So just take us through the five pillars. Again, we skipped over that quite quick, but I just want to just take us a little bit more deeply into that and then. How do you actually shape the data to support those five pillars? Like are, are you getting that data freely from say, like cloud service providers?

Are you having to do, you know, some form of magic in the middle to try and get it into that sort of shape? Just Robert smirking. I love it. Magic, magic in the middle. I'm gonna use that. That's the new terminology [00:14:00] for middleware. And that's my new sales pitch. It's not middleware anymore. 'cause that sounds dead and boring.

But if I talk to you about magic in the middle, you're gonna wanna buy that, aren't you? My friend, my view of those auto magical transformation autotag, that's you. We need to start our list again. We need the season four list of crazy good words. Yeah. And phrases. So you take us into it and, and just unpack the magic for us a bit, James.

Well, it's funny, we actually did used to call the green pixie magic. That's kind of why we landed on green pixie in the, in the early days. Look at that. Because what we did was, was magic in the middle? Yeah. But yeah, I mean, ultimately looking at these, at these five pillars, it's all about, you know, making the data as as useful as possible.

So to kind of unpack some of the, or to dig into each one, the, the transparency is, is super important because ultimately people won't make decisions on data. They don't understand. Where it's come from, essentially, because if you, you can give someone a number, but if there's no [00:15:00] paper trail as to what assumptions have you made, where has this data come from?

How does it actually align with kind of what data I'm already looking at? Then. It, it won't be used to drive, to drive different decisions. And in terms of consistency, you know, it is gotta be the same methodology across teams, across departments, even across different cloud providers, which is why kind of where, where we've come in is, is built our own methodology that we can actually use across different cloud providers, even apply it to, to someone's.

On-premise and there are other environments to ensure they've got some kind of apples to apples comparison across what they're doing. How does the data show up then to an engineer? So what I'm trying to get to is you're abstracting the information, you're using a model like the five columns as your, as your model for what the right data is.

How is it showing up to me as an engineer and how do I integrate that into my dev flow? So we. Basically deal in [00:16:00] that raw data. We've kind of designed it to align. Exactly with the data they're already looking at. So these are the, the extremely detailed usage reports that come directly outta the cloud providers.

Is this gonna be a bit like reading a manual? You know, like, you know, like when you, you get something new and you're like, well, I could read the manual, or I could just go directly into fiddling with it and try and make the thing work and then, you know, if I really need to, I'll go and read the manual.

How do you get past that kind of human, you know, the, the human nature of not wanting to. Read all of this stuff before you just crack on. Well, I mean, there, there isn't really a Green Ops manual, to be honest. I kind of mentioned earlier green ops and cloud sustainability. It, it is intuitive, you know, do is do you think that, you know, getting a 50% discount on your cloud would reduce emissions?

Probably not, but would changing storage tiers, turning off unused servers, will these things push the needle towards more sustainable and [00:17:00] less, less wastage? And it's that kind of, that kind of, that kind of showing them the data almost flick a switch there where you start associating, okay, these are things I've actually been asked to do.

You know, build in serverless, reduce, or right size servers. And I can see that there's actually a carbon impact. So I'm gonna start focusing more on these kinds of things. Have you, have you got a couple of case studies that kind of illustrate both the green impact that doing this can have in terms of your emissions as an organization, but also perhaps some of the developer culture, like how the, their developer culture might have changed as a result of getting access to this stuff?

Oh, we're doing some interesting work at the moment with. Cabinet office and and government digital service, and they've got a cloud first approach. But since they're public sector, they've also got very strict net zero goals. But they're an interesting case because they had an [00:18:00] efficient ByDesign policy from the start.

So the work we're doing with them is actually almost justifying their decision. They've already built. In serverless from, from the get go. Um, what we're doing now is kind of measuring and seeing how much carbon they've actually avoided from the start and encouraging more, more departments to adopt this more serverless approach.

You maybe not be able to share the exact numbers, and that's absolutely fine, but maybe you can help us with percentages or something like that. Just give us a, a sense of scale like. Are organizations saving 5% of emissions or is it more like 75%? What does it look like? I'm just trying to get a, a frame of reference.

I. It kind of depends on how, how mature and how optimized they are from the start. Because also you're, you're within your organization's bounds of what you can actually do. Like, it'd be great if everyone could move all their regions to France because they've got mostly nuclear energy in their, in their [00:19:00] grid.

But 90% of companies. They can't do that because of policy or it's too expensive to do that. So what can you actually do? And I mean, there's some stats around there. Like I think Flexera found that around 32% of, of cloud usage is waste. So I'd say if you are, if you're just 32, yeah, that's what they say. You think it was more or less.

Robert, when you talk about. Waste, uh, that's quite a strong word because it is completely superfluous. Mm. So 32% in production environment, overhead is one thing, but waste is completely unneeded. Even that, and it's like, that is, that is excessive. That's still very high. I would've thought I, I hoped somewhere.

Deep inside my mind, uh, that it would be less than that. But, 'cause there's the total cost of ownership argument where it's human efficiency and all that sort of stuff, which also helps in this space. But the actual cloud consumption, 30% still over spec. Do you think, I would imagine giving, we're on the, um.

On the precipice of scale, [00:20:00] ai, that number is, you go smaller in comparison to where it's likely to end. Well, I can actually absolutely understand that on C level, this resonates very well, uh, with cost reduction. And if you hear like the numbers like, wow, waste 30%, how is that gonna, you know, bring me back money.

What is your key stakeholder that you have your first conversation with about these topics? So we would typically kind of engage that cloud cost optimization team because ultimately the, the way I see. You know, finops and cloud optimization is there like kind of a, a culture thing? So you're essentially marketing, you know, efficiency to your, to your engineers and.

Sustainability just becomes another tool in the tool belt of the people trying to shift the needle with the people who make decisions. So, you know, ultimately you can have all the top level exec buy-in and best practices all you want, but if the people on the ground are not interested in. Making [00:21:00] different decisions or, or spending a bit of time trying to do something different, then ultimately it's not gonna move the needle.

So how do you incentivize them? How do you market the idea of more efficiency? How do you market the idea of, you know, building efficiently from, from the get go? And just on your, on the topic still of um, kind of what is the potential, I think in terms of like reducing and waste. You're pretty much capped at like 30%.

But the interesting part comes in how much carbon can you avoid by looking at this kind of data from the start. That if you've got a choice between building in serverless or building on standard servers, and you know, the easy option is to go straight from monolithic, but you know. You could save 90% of your carbon if you put a bit more time into planning it around serverless, could that be enough to to shift the needle for the people building the future products, not just the people going in and trying to fix what's already been built.[00:22:00]

Esme, what you've been looking at this week? Well, obviously the Green Ops triggered me as well to to dig deeper on the topic itself, and I'm quite a media archeologist by heart. I'm just

fascinated about how, sorry. A media archeologist. Archeologist. Yeah. What's, what's what up? I don't dunno whether I'm learning.

This is a whole new level we're getting into. I'm learning. Please. I'm practic. I know, I know. Turing, Indiana Jones. Is that accurate? Yeah. Accurate. All right. But But go on address differently. Yeah. Right. Esme, what is a media archeologist? Let's start with that. Yeah. That's just digging deep on how media.

Emerges and also more of the cultural aspect of it. The social aspect, right? When electric electricity was just there, they were actually afraid of electricity to people because they thought it was something [00:23:00] Christianity or that it was God, uh, you know, punishing them. I dunno, he's telling me it isn't.

Also on the warning of electricity was dangerous still. I would advise you not to stick your fingers in sockets. There's, there's still a warning. I've done that five or six times and it hurts every time. Oh gosh. There's learning there, David. But also if you look at green Ops, you know that, uh, those terms are, at least the first signs of it has already been like 55 years old.

Whoa. And so it's the same with ai. It's already 50 years that people are doing research and that it's. Starts to emerge. But I think now with technology taking such a fa fast pace, we actually start to see it more often and it really integrates in everything. Hang on. You, you found the first use of the term Green Ops 55 years ago.

Is that right? Yeah, in 1970s, this is almost the level of. Breakthrough definitional stuff as, as Rob's breakdown of the derivation of the word toilet. [00:24:00] I know an older, older version of green ops because if, if you go on the Wikipedia page, it's actually the name of some kind of ancient trilobyte that's multimillion years old.

So you can find green ops artifacts. Wow. Hidden in stones in the ocean. If you look hard enough. That's fascinating. Right? So the topic itself, I think that the, so you always see already first signs of, of green up. So that was something that, uh, that you know, makes my heart pump. 'cause I really like how we think things are so fast and arising like yesterday.

But, you know, if we really dig deep, there's already signs way, way, way back. Just to point out though. Dave is still older than the phrase you've used just to bring that to everyone's attention. I didn't wanna, you know, you didn't wanna say did you? But No, it's true. It's amazing. I've been, I've been thinking about growing up since I was eight, Rob.

Right. I'm, I'm on top of it. I don't think it's as a discipline, it hasn't moved as fast as I hoped it would though. What was the original inception of it? Esme? Did you get [00:25:00] to that? Like, why did it come about? Yeah, industrial activity. So especially, you know, with all the factories and the impact on the environment, that's that, you know, the green operations, that that's where it came from.

And now that we see technology, you know, move into everything that we do, you see green ops slowly turning into each and every company. So that's when it emerges more, um, environmental, um, impact back in the days already. It does amaze me that it's taken us, you know, on, on a serious note. As long as it has to get here.

And the fact that in the world of it, I mean, up until very, very recently, and I'm gonna say maybe the last five years, it might be slightly longer than that. Things like, you know, how much a search on the internet, you know, costs in terms of processing power and carbon emissions, just wasn't really well understood.

Right. So, Rob, I'm gonna put you on the spot. Uh oh. Don't do that. What is a search on the internet equivalent to in a [00:26:00] carbon emission, right? Dave, why don't you think of

the most impossible question to answer and then ask me on a podcast? Because if you think about that, just just think about the sprawl of that.

So I'll take you through what asked Adam. So there's the cost of you running your computer and clicking the button and taking ages on. And I know a few times, Dave, I've had to use, let me Google that for you. Yeah. Uh, that then has to go across as an ISP impact, and then there's a whole data model in Google that has to be searched.

If it's a simple search, it'll be pre-cash and it's popular. So if you are talking about Taylor Swift, then they'll have that in the thing. But if you ask something totally obscure, it's gonna go down in the annals of some search, take a bit longer storage, just a were up and everything and bing, and then it all comes back.

So to answer that question, I'd need to have deep insight into the architecture that's Google deployed. So I'm going to politely decline and say, I don't have a Scooby Doo. You'd need to know which location as well. Exactly. It's like what esmer, have you ever, have you ever heard a longer duck than that?[00:27:00]

No. That was just a way of, I have no idea. In long words it was Right. And then obviously you times that by the billions of searches going on each day, and obviously you going back and I'm sure Google have a good idea of that and they'll want to optimize because you, well, it's a fairly well known sort of apocryphal, you know, measure of it.

I wonder if anyone else including you, Marcel. No, go on. Surprise us. Same as boiling a kettle. What each, each search is supposedly takes the same energy as boiling a kettle. I, I suppose it's an interesting stat to where did that come from? What's the efficacy of that stat? I have lots of questions. That's a lot of energy.

Don't, don't come back to me, to me, with your fact-based nonsense, Robert. Basically considering all the data transfer. The data storage. But I mean it probably wiser to say it's the same electricity because you know, doing, as I said, body and kettle in France, you're probably kind of. Tiny amounts of CO_2 because the, this is true all [00:28:00] new, isn't it?

It's all lovely and clean. It's good doing it, you know, in the Middle East. Probably a different story, but it, but what, what really struck me about that, and I, and on a serious note, I can't remember, we'll, might try and dig it out for the show notes, but the, what really struck me was it you do searches with literally, without even thinking about it, right?

WE even worse, Dave search behavior is moving from a traditional search engine, which is massively optimized across to AI engines, which use dramatically processing. Power, but you do get a, a better, more verbose answer and it provokes a conversation. So actually changing search behavior is going to make that worse, not better, because we're seeking the, the better results Exactly.

That.

I, I've done that noise again, but it is that, it's amazing that calculator, which is solar powered, can do that for you much quicker, isn't it? Right tool, right jobs. That's what we want. Because I also worry about the [00:29:00] hallucination from the Googles, from Geminis, like search. I would probably skip that. 'cause it's like, is that even true?

What? What kind of stupid article have you got that from? I want to go read it myself. Anyway. Well, so I asked, I asked it a question the other day. And it was about the Olympics and the medal tables and whatever else. And it, uh, I asked her, you know, to cut things down and do some DA and then I thought it would, I said, where did you get your sources from?

'cause you can do that now. So it sends you its sources. And it had used a really obscure paper written ages ago by some university to get all its data from. It sourced it, it sourced its response from what I would class as a, a rather eclectic source. And then you sort of go, well, hang on a minute. And then you sort of go down the rabbit hole of is that source good, good or not?

But you're absolutely even more eclectic than your magazine collection, Rob. Well, on a, on the history of the Olympics, yes, David, let's say it's that, did the source really exists? 'cause you also also see that it just makes up sources and [00:30:00] authors in, in this case it did, but it was an academic paper using Olympic data to do something.

I was like, I've gone to a really weird place to find the answer. What I think is interesting about that conversation is the fact that Green Ops has been around a minimum of about 50 years. Yet we still have this ossification between the use of digital technology and then ultimately the, you know, the impacts of digital technology and not least the costs sitting in there somewhere in the middle, but.

But more profoundly the impact on the earth. So I think, um, you know, sitting in the middle with some magic and some data and trying to expose that and make that much more well understood. It's got to be a step in the right direction. Yeah, absolutely. So James, thank you very much for joining us today and sharing the magic with us a little bit.

My pleasure. Thanks for having me. Now we end every episode of this podcast by asking our guests what they're excited about doing next. And that could be, I've got an exciting new record arriving in the post at the weekend, or it could be something in your professional life. So James, what [00:31:00] are you excited about doing next?

I. I guess I'm looking forward to dry August ending actually at this rate, perhaps. You know what? I would be looking forward to that too. I'm not gonna lie, you're only halfway through. I'm sorry to deaden the mood, but yeah, I've already had multiple drinks this, this week, eh, maybe. Maybe it's dry. August is the thing that sucked all the joy out your life, James.

Just, I'm just putting that out there. Maybe, maybe. But as you said it, it is your girlfriend saying you can't do it. So it's peer pressure, isn't it? Yeah, exactly. Well, it is good for you to, uh, to do that every now and again on, on a number of different levels. So we wish you the best of luck getting through the rest of August by the time the show goes out.

Of course August will be a distant memory. James. Yes. Lovely. If you would like to discuss any of the issues on this week's show and how they might impact you and your business, please get in touch with us at Cloud realities@capgemini.com. We're all on X and LinkedIn. We'd love to hear from you, so feel free to connect and DM if you have any questions for the [00:32:00] show to tackle.

And of course, please rate and subscribe. It really helps us improve the show. A huge thanks to James, our sound and editing wizards, Ben and Louis, our producer, Marcel, and of course to all our listeners. See you in another reality Next. [00:33:00] Week.

About Capgemini

Capgemini is a global business and technology transformation partner, helping organizations to accelerate their dual transition to a digital and sustainable world, while creating tangible impact for enterprises and society. It is a responsible and diverse group of 340,000 team members in more than 50 countries. With its strong over 55-year heritage, Capgemini is trusted by its clients to unlock the value of technology to address the entire breadth of their business needs. It delivers end-to-end services and solutions leveraging strengths from strategy and design to engineering, all fueled by its market leading capabilities in AI, generative AI, cloud and data, combined with its deep industry expertise and partner ecosystem. The Group reported 2024 global revenues of €22.1 billion.

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