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Architecting the Cloud, part of the On Cloud Podcast

Mike Kavis, Managing Director, Deloitte Consulting LLP

Title: **5G holds promise, but IoT and edge revolution is now**

Description: 5G promises big gains in connectivity and access to information, but how much is hype, and how much is reality? That might be hard to distinguish, but what is real, now, is that new technologies, such as miniature drones, are leveraging the edge and IoT to radically change industries, from agriculture, to construction, to security. In this podcast, Mike Kavis and his guest, Deloitte's Robert Schmid, discuss the potential impact of 5G—the hype versus the probable reality—and how companies can leverage it effectively. They also talk about the use cases that companies are employing for IoT technologies to change the way business and industry view technology. Robert argues that now, most technology can be viewed through an as-a-service lens, and that this as-a-service concept could save organizations both time and money as they begin to employ it.

Duration: **00:17:05**

Operator:
Welcome to Architecting the Cloud, part of the On Cloud Podcast, where we get real about Cloud Technology what works, what doesn't and why. Now here is your host Mike Kavis.

Mike Kavis:
Hey, everyone. Welcome back to Architecting the Cloud podcast, where we get real about cloud technology. I'm your host Mike Kavis, Chief Cloud Architect over at Deloitte, and today I'm joined by a special guest, Robert Schmid, aka Mr. IoT from Deloitte, who's seen it all from the IoT space, and he's been here for about 20 years, going through various transformations, global Fortune 100s and startup companies, and he has a new title that I'm going to let him talk

about and what that means. So, let's get right to that and tell us about yourself, your background and then tell us about this new gig you got and what it means to us.

Robert Schmid:
Yeah, thanks so much for having me. It's great to be here. I have to start by saying the more I see, the less I think I've seen all of it. So, there is something about learning over time that the more I learn, the less I know. Thank you for the introduction. Appreciate it. And, yes, I have a new title. They just made me Chief Futurist in our group, and so I'm still trying to figure out what it means but I look forward to talking about cloud, IoT, AH and all those fun things.

Mike Kavis:
Yeah, and we will. And so the first topic I want to talk about, you know, we've both been doing some work in the IoT space – you more than me – but there's a lot of constraints out there on the edge, whether it's bandwidth or what have you, processing power, but there's a lot of buzz about 5G coming. I've read a lot about the impacts, but I'd like to get your take on what do you think the impacts of when 5G is regularly accessible by everyone, or by most people, how does that kind of change the game for IoT?

Robert Schmid:
So, a few caveats and a few thoughts on this. Number one, I have to admit I am a little bit waiting for the hype to become reality, I want to say. There's been a lot of talk about 5G, but in reality, it's going to take some time before we can see the benefit. You know in order for 5G to really be widely available, lots and lots of things need to be installed, there's a lot of capital expense that needs to be done, and in reality, it's more antennas than we have today because it's all about density and having that high speed. So, I'm holding my breath a little bit in terms of when we can get that and when we kind of get the exciting promises because this is a little bit like we heard about 4G a couple years before. We can really only—now do I have 4G everywhere I go on my phone. That's number one.

Number two, I spend a lot of time in industrial IoT, and so in industrial IoT, 5G isn't as important as people might think. And what it comes down to is that still we do a lot through networks or through wi-fi by connected to that then connected to a wired connection. And so will 5G really be that full connectivity for everybody and anybody and are we really going to disconnect the wire? Or wi-fi for that matter, I'm not sure. And so I think 5G will really be beneficial for applications such as AIPR, public spaces. It'll be really great in giving high bandwidth required in those spaces, but today we can do everything we want to do today really through other means. There's just some really unique examples, particularly for the city, or out on oil rigs where 5G will come in handy but for what we do today and the use cases we generate a lot of value from, we're doing okay. So, I'm kind of holding my breath, exciting promises, but probably still a few years out.

Mike Kavis:
Yeah, it's kind of interesting to hear that take because a lot of people who write about this stuff don't do the work, so you know, they put glitter and all kinds of stuff on it and everything's going to solve world hunger, so it's good to hear something grounded in reality. But you mentioned value, and one of the things I saw, one of your talks, one of the challenges companies have when they're getting in this space, is, they do a lot of proof-of-concepts, but they don't go anywhere. And you talk about proof of value, so what do you mean by that and why is it important that people look more at the value of these demos, these proof of concepts?

Robert Schmid:
So, people have turned this – the proof of concept, it's this place where people do -- some people call it science experiments. They're important right, you need to prove sometimes, very new technology. But what we find, it's not just proving technology, it's actually proving technology generates value and it works in the environment it goes in. So, that also includes process and people. And so, when we start working with clients, really, we don't start with technology we actually start with seeing what are people trying to do, what are their processes and where can we actually generate value by connecting things. And so what it then becomes is it really improving the value of what we do? And that always includes technology, so it is a proof of concept that it improves the process aspect, so how is the process going to change because of the connected systems and things? And then obviously what value in terms of reduced maintenance cost or, you know, many other things. How do we quantify that? And so, with all of those things coming together – strategy, operations, process and technology – at the end, you're going to have a number – those numbers are high.

Mike Kavis:
Yeah, I mean, there's nothing better than a working demonstration that has real business context, right. I mean, it's one thing to show flash and boom, but like you said, if you show something that solves a problem for them and it has value tied to it, like you said, it'd be pretty hard to turn your head and not pursue that, right.

Robert Schmid:
Exactly.

Mike Kavis:
Yeah. So, like I said at the beginning, you've seen a lot and you've kind of made – I may have seen a lot, but I've only scratched the surface on it, but what are some of the most amazing use cases that you never would have anticipated that you saw customers or people in the industry take on and solve real problems? Something that you never would have thought of and people are just disrupting industries or moving the needle by leveraging these technologies?

Robert Schmid:
So, let me start by talking about the examples that are very common now and that really are the bread and butter of everything, and really this is around particularly with maintenance, connected service, so really being able to predict machine failures and maintaining them rather than on schedule, maintaining them just in advance of something happening. Often that means you have extended maintenance rather than what you did before, or you actually maintain it before it fails. So, that's a great example. Very often used today. The other example is connected service, which really how do I interact with the machine that's out there and how do I do support on those machines. So, those are some very, very common examples that you see a lot of. One of the more amazing examples I've heard was about drones. I talked with a CIO about smart agriculture and, you know, I fly drones for fun at home. I love it, I build them, and yet for work I haven't really seen the application for it. But what he told me was really fascinating. They work with people who fly drones

over agricultural areas, and they take video and analyze plants – individual plants, not just areas, not just a whole field, but individual plants. And then they come up with individual plant feed schedules, water schedules and pesticide schedules. And if you think about this, this is an amazing finding, right, because now you can actually really target each plant and give it what it needs, rather than sort of like butter spread it across. It's an interesting conversation that was—that he said to me, so what the problem is, "What does this do to our business model?" Because now instead of selling fertilizer or pesticides, you actually have to really think about, "Do I sell the health of a plant?" And that's just a fascinating concept for me, this idea of anything as a service. And so this is one of the really fascinating use cases for me is smart agriculture where really a variety of different technologies come together and make a huge difference, not just from a business point of view, but also from a human impact point of view, you know, making more food and so forth.

Mike Kavis:
Yeah, the whole agriculture industry is becoming technical. You know, when I grew up, there was nothing technical about farming, right. You just got the pitchfork and you went to work. And now you've got, you know, these tractors loaded with sensors, you've got sensors out in the field looking at atmosphere. Like you said, you have these drones, you know, able to look at a stem and figure out if it needs more water or if it's sick. It's just blowing my mind the use cases, and drones themselves, like you said, you think of drones as people racing drones and you see people like using drones for inspection for like mines or power lines and stuff like that. Where else have you seen drones being used?

Robert Schmid:
Here's another really fascinating example for me, which is have you ever heard of Tiny Whoops? Literally they are these quad copters that fit in the palm of your hand. They are really small. They're called Tiny Whoops. And they have cameras on it, so you have actually, not just a camera on it to record, but it actually sends the video signal away, and someone sits there with goggles and watches – it's called first person view, FPV. And you fly in these quad copters like you're in there. So, I have these things that I fly around and there's Tiny Whoops and they come in all sizes, but what they did with the Tiny Whoop, which is really, really fascinating to me, is they use them actually for security. And I've heard how our government used it in security, in terms of going before protected people go into buildings. They use them to fly into certain areas such as AC, big pipes, or they fly underneath the building, they fly into attics, and they look around without actually going in there. And you know, the thing that's so fascinating about this for me is that you can go out and buy a Tiny Whoop with everything you need for I think it's $199 now, and this is what we today use to keep people that are important, that are under danger safe by our security folks using this technology. So, just another drone example that I think is fascinating.

Mike Kavis:
Yeah, that one's pretty amazing. People probably think there's like a dragonfly flying by, like get away. That's a really cool one. Another thing I've seen, you know, with the drone example, another one I use a lot, the whole – there's a whole windmill. The company that used to produce energy from windmills and, you know, they built this platform so they can ingest the data and be more smart about how to adjust the blades and all that, and they turned into a software platform company and sold that and, you know, they're servicing the rest of their industry. And I saw one company I talked to years ago was doing what you just described with drones, and at the time, they were rigging these drones, but the guy – the CEO said when someone can provide this to me as a service, I'm going to get out of it. So, what's happening is these new business models are popping up, a lot of people are becoming – who are in the field are becoming more the platform. A lot of people are starting to commoditize the drones for specific use cases. It's really a lot of dynamic stuff going out there and I just found so many companies that were in a field became software companies. Thought that was cool. I don't know if you've seen anything like that.

Robert Schmid:
Yeah, I mean, one of the questions I get asked a lot is, "How do I start?" And I carry even on my signature at the bottom this tagline of think big, start small, scale fast. And when I talk about thinking big, I often spend time talking about how to not just think about what you do today, but actually think what does this mean when you suddenly directly connect with your customer, and you actually provide services and product that you couldn't provide before? Is there an opportunity for business model change to provide your product as a service rather than sell the product and have no follow-on revenue behind that? Or sometimes it actually might even mean that someone didn't consider a competitor might actually be suddenly a customer of yours or might become a partner of yours because you have actually complementary things that you want to partner up on and become stronger together. So, thinking big doesn't just mean sort of like, what's the biggest value I can generate, but it also goes back to what you said, what's the business model impact and what does that mean when my customers suddenly get – measure much more work the product does and so forth?

Mike Kavis:
Yeah, and I saw on one of your presentations or videos was talking about a lot of people going to this, especially in manufacturing industry, to save money, to optimize. But what you're finding is a lot of times they're actually – those optimizations are actually helping them create more revenue.

Robert Schmid:
Yeah, so I spent a lot of time with one of our manufacturing clients, and their problem was they had more demand than they could fulfill. So, they were on their way to actually create a full other production line, which is a significant CapEx investment. We're talking here in the tens of millions of dollars. And so what we found is, through sensorizing the machines, understanding the process that goes on, and strategically changing some of those together, that we can often achieve operational efficiency gains of over 10 percent, sometimes as high as 20 percent. And so as a result, yes, they increased revenue without actually investing that into that new machine line and, yeah, that gave them a top line growth rather than just bottom line.

Mike Kavis:
That's cool stuff. So, before we let you go, I know that you have a pretty popular – I'll call it a podcast, but it's really a webcast, right. It's a podcast with video.

Robert Schmid:
It's a YouTube show.

Mike Kavis:
Tell people how to find that and kind of about your show a little bit.

Robert Schmid:

Yeah, so it's called "Coffee with Mr. IoT." If you go on YouTube and just do a search for "Coffee with Mr. IoT," you find that we've done about 150 of those. They vary from talking to analysts within Deloitte that have made various different speakers talk to each other and respond to each other. Then we have some fun stuff going on all the way to a few weeks ago I talked with Adam Savage on stage at a conference about the impact of technology, a bit of his show, "MythBusters," and so we had a fun conversation. You can find any one of those. We release them every Friday, and I'd love to both have you listen to it, and if you think you want to be a guest, please look at the show. At the end, we have an e-mail, and send us an e-mail. We'd love to hear from you.

Mike Kavis:
Cool. Well, thanks again for stopping by. That's it for our episode today on Architecting the Cloud. You can follow Robert on Twitter @RobertSchmid. I'm going to spell that. R-O-B-E-R-T-E-S-C-H-M-I-D. Or, you can visit him on LinkedIn as well. To learn more about Deloitte and read today's show notes, you can head over to deloittepodcast.com, and you'll see more podcasts like this by me and my colleague, Dave Linthicum just by searching for Deloitte on cloud podcast on iTunes or wherever you get your podcasts. I'm your host, Mike Kavis. You can find me on Twitter as always, @MadGreek65 or you can reach me e-mail mkavis@deloitte.com. Thanks for listening. We'll see you next time on "Architecting the Cloud."

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