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TAG Infrastructure Talks: S02 Ep04, Creating the Digital Infrastructure Career Path With Carrie Goetz

Alan Poole:

Welcome to a new episode of Tag Infrastructure Talks. I'm your host, Alan Poole. I'm a partner at Troutman Pepper. I'm the Vice Chair of tags Infrastructure Society. This is our very first remotely recorded episode, and I'm very excited. This is going to open up some great content starting with my guest, Carrie Goetz. Carrie, welcome.

Carrie Goetz:

Thank you.

Alan Poole:

How are ya?

Carrie Goetz:

I'm doing so well.

Alan Poole:

To get us started, tell us a little bit about yourself and how you got into the infrastructure field.

Carrie Goetz:

I've been in and around it most of my career. I started out in architecture and then I started teaching that in college and then they had a project to tie a bunch of campuses together.

They asked if I would take that on since I wasn't afraid of a computer. And I did and started back in networking when it was in its infancy, and I started that division at that consulting firm and went on to do that at a couple other places. Then I had a bunch of kids at the time—some take-ins and some actual kids.

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And so I wanted to get off the road, so I went to work for a local company and started running their services and systems and a lot of that included data centers. That kind of fell under my purview and I've been doing that kind of ever since. I started a data center division for a company after that and took that global and got to do that on a global scale.

So that was a lot of fun. So yeah, that's kind of me in a nutshell.

Alan Poole:

You just described how you got into IT and we've had interesting conversations about that. IT seems like when folks get into it and, let's take data centers as a good modern example, it always seems that the best people fall in backwards.

Carrie Goetz:

Exactly.

Alan Poole:

And that can make the pathway to working in data centers a little confusing at best.

Carrie Goetz:

Sure.

Carrie Goetz:

And part of the problem is that the curriculum really hasn't kept up with the industry. Most of the people that come into the data center industry come in through an adjoining industry, or it's their first job out of college and they have a completely unrelated degree.

It's funny. As part of the research and such that I do, the last time I checked 31% of the adult population had a four-year degree or better. Now 14% of those are doctors and lawyers. So if you take what's left, that's what everybody's trying to fill all these data center and IT positions with, and I've always held the belief that you can teach anybody in a million different ways That it doesn't have to be a college curriculum, to get people in the industry.

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And I think that really opens up a lot of doors. We've got 300,000 open positions that need to be filled in the next two years in the industry. And we've got to start opening up these on-ramps and making it a more welcoming industry for people.

And the other thing is, college has got to catch up. There's only about six colleges that have data center programs at all. Most of those are in the operations side because these data center operators are starving for talent as well. But I think it's just not on a lot of people's purview when they're in school, they go to a coding academy.

That's their introduction to tech. And if you don't like coding, you just assume tech is not for you, even though there's, millions of jobs around that, that don't involve writing code or being good at math, so I think we have to really open up this industry and make people more aware of a lot of the jobs in it.

Alan Poole:

That's a really excellent, but also big, goal. Can you, and I know you're working on this and we'll get into some specifics, but can you tell us how you figured out what the steps were to get from here to there in what you're trying to execute now?

Carrie Goetz:

There's been a lot of steps along the way. I've definitely spoken at a lot of conferences, worked with a lot of people I've mentored. I couldn't tell you how many people I've spoken to trying to get them into the industry. And then I just got fed up. I was talking to a bunch of students and I wanted to figure out something that I could give their class as a giveaway, right? As a takeaway. And there wasn't anything. There's one industry book that is about 800 pages co-written by 59 people in the industry. And I thought: "nobody's going to read that." Well, if it's part of their classwork, but nobody's going to read that just to figure out about the industry and, to be fair, it is a bit of a self-inflicted wound, working in data centers for a long time.

Nobody wanted you to know where they were. It was nondescript, it was not secret, spy, hush stuff. And it's hurt us. It's definitely hurt us all the way around. And I finally just got fed up and said: "you know what? I'm just going to write something. I'm going to make it 200 pages that explains the industry in really layman's terms."

I'm getting all the super techie stuff and all the super mass stuff. Not that. Because there's a lot of jobs where that's not even necessary. And just put something out there that explains the ecosystem. So for teachers that are teaching coding academies, for instance, this is where your code is going live.

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You'll write better code if you understand the implications of how it sits in a data center. You'll write better code if you understand sustainability. You'll be a better consumer of technology if you understand what that burden is for how much power you're consuming and what that looks like and where it lives.

And it's like the guys that do the power lines, right? Everybody knows we need the guys, the linemen that take care of the power lines. Most of the time you don't even think about that person at all until your power goes out and then he becomes the most important person in your neighborhood.

And I think that we really have to start. Doing better at addressing students at a younger age and attracting kids at a younger age into the industry and just giving them an idea of some of the depth and breadth. And I think it's probably more true today than any other time, because all these kids missed two years of career days and going to work with mom and dad and everything they did because of COVID, not to any beneficial manner, where you see interactions and those kind of things. So I think we just have to make these tools available and really plain speak. We have got to take the scary bit out of technology.

Alan Poole:

Where are some of the places that you think information are best used today to open up these opportunities?

Carrie Goetz:

I think for sure if we talk about the book, anybody that's teaching it, any kid that's in school that wants to consider technology, the trades veterans. So the book really features resources for everybody. But there is a highlight for women trades and vets in tech. I say that because we are nowhere close to gender parity and technology.

The attrition rate for women in tech is 67% last time I checked, which is deplorable. And that's not to leave a job. That's to leave an entire industry. Gosh. And I think that, in some parts that was a little self-inflicted too, because women end up being caregivers and that kind of thing, and we haven't really made a lot of those tools available.

And I think a lot of companies have realized whether you allow people to work remotely just when they need to, or on a full-time basis. People realize that while maybe not ideal remote work does work. And so we do have a lot of those tools and things to help women out to help. Veterans out that may want to work remotely or that are transitioning or have the spouses that need to work in the industry, or need to, need to have a job, but it has to be remote or it, it has to be somewhere else. And then of course, trades. I think we owe the trades everything. If it

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weren't for the trades, nothing would be built. And I think we've done a terrible job in this country uplifting and supporting the trades.

And to be fair, my, my generation probably started a lot of that because that's where the good paying jobs were. The good paying jobs were when you went to college, and now it's the opposite. The good paying jobs are for people that work with their hands because nobody does that anymore. Those are some of the areas that I think vocational technical education schools, certainly Boy Scouts, girl scouts, the coding programs, the tech badges.

All of those are great places just to introduce this concept and get people learning about it.

Alan Poole:

It sounds like you, you mentioned earlier we're on the precipice of a potential job explosion and maybe at least in terms of need, if not in fulfillment. And at that type of precipice. I'm always sensitive to the needs of avoiding disparity in let's say losing sight of diversity in the types of populations that we serve.

What are some things you're doing to look at that? You've mentioned women and veterans and trades or great example.

Carrie Goetz:

To me, I view diversity as fingerprints, right? So if you think about data center specifically and technology. Data centers hold every digitally known, documented thing on Earth. It lives in at least one data center, which means that there's information about all of us, all of our fingerprints are in those data centers. All of our needs for what those data centers hold about, our fingerprints are different. You can identify with anybody on any appearance level, demographic, any of those things, but it doesn't mean your needs are the same.

And I think it's very shortsighted to think that way. I think we have to view diversity as fingerprints and as long as...data centers need to serve every individual fingerprint on earth. We need to make sure that there's representation from a whole variety, a whole spectrum, of people that support this industry.

And for veterans for instance, that's one thing that...veterans, a lot of the work that I do with them trying to get them into the industry, they talk about how they really need purpose. That's one thing the military provided them, it provided them that sense of purpose, that drive. I said we need you int tech because we need the Guardians of Galaxy.

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We need the people to make sure that groupthink doesn't take over and that everybody is represented and it's fair and it's kind. Look at the suicide rates in kids right now. The internet is not a kind place. And we need the grownups in the room to step up and make it a kind place. So I think when we talk about diversity, it's way beyond what in the press.

Nobody cares about most of the things that people try to pin diversity on. To me, diversity is fingerprints, and as long as we attract as many people as possible, I think a lot of the problems sort themselves out. But we just have to get in front of those people. And [00:10:15] at an early age, we need to be in the inner cities and we need to show.

Kids that there's jobs besides coding academies in tech, and we need to, we need to use tech to foster some of those things. So I think we've got a ways to go, but I think we're definitely on the right track.

Alan Poole:

Can you tell me a little bit about some of the things that you've done or seen others do to tackle this problem the past five years that have worked and maybe some things that don't work so well?

Carrie Goetz:

I think some of the great things are the professional organizations that are stepping up with internship programs. So for instance, over in Northern Virginia (NOVA), they have a big intern program with NOVA over there, and they're helping. Kids get trained up to be in operations. They're working through some of the electrical programs and just to give you a good example how important it is. So I was talking to a guy that's a professor for a lot of the electrical programs at Northern Virginia, and one of the problems he said is that, when he talks to kids about stuff in a data center, there's a lot of terms they've never used and that they gloss over and they don't understand what they are.

So they assume that's not for them because that's something else they have to learn. And it seems so far outside of what they learned to start with when really it's a simple explanation. It's a matter of exposure. We're all ignorant till we know and so some of those programs where it's just introducing the concepts and how they work.

Electricity flows the same way, right? There's not a whole lot in electrical theory that's gonna trump you unless you use the wrong gauge wire or the wrong breaker. But realistically, electricity is pretty simple. It's AC or it's DC and different currents and the systems that they go through and the pieces and parts they go through are a little bit different, but the electrical theory is the same.

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And so I think marrying some of those programs like that, like what NOVA did. Is spectacular. I know seven by 24 has some scholarship programs and things that they're working with trying to get, bring more students on, and they support students through the industry. Some of the organizations really work more on the collegiate level.

I personally am a bigger fan of the ones that support certifications as well. If you take a single mom with three kids, a certification...can be a life-changing thing for her, right? To be able to better support her family and give her career and directions and a chance to get that education maybe without college debt.

So those are the kind of programs that I think are doing exceptionally well. And even, you see some of the big hyperscalers now, they're running their own internship programs and they're trying to build and grow their own workforce because there's just not enough people to fill these jobs, and there's not enough curriculum to support people going into these jobs.

So if you're gonna have to train them anyway, why don't you train them to start with? It seems, it's simple, but it works.

Alan Poole:

There's this tension between the dream of the college degree versus the trades. Is there a place for standard colleges to improve their end of the bargain. And are you seeing that happen?

Carrie Goetz:

Oh, a hundred percent. So there are a few colleges now that have data center programs. I personally have worked with infrastructure basins, are doing some capstone projects with some of the different universities to tie the data center piece of that into it. The problem with curriculum is it's a very slow-moving machine, and especially in technology.

By the time the curriculum comes around, it's probably outdated anyway. Now, core principles, core concepts, just like we talked about with the electricity, are pretty simple and they're gonna apply. Throughout the industry, if we take some of those and then add a data center component, now it becomes a little more relatable and a little less scary and a little less different because that data center component sits there, in that spectrum.

So I definitely think that we've got a lot of work to go on the university level and. You know what starts in universities here and in Europe and in some places in Asia, trickle out to other countries and the more developed university systems can feed the less-developed university systems.

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So I think as it starts, and there's a play for it to roll downhill, that's definitely gonna help. To me, if you're a kid and you're thinking about what you're gonna do for a job, how do you know that you wanna go into data center facilities, operations? You've never been exposed to it if you don't know what it is.

That's why everybody falls into the data center industry because they come in through HVAC or construction or project management or the military or something else. It's not really a taught subject. And so I think we definitely need to change that and have more programs around that. And we have to introduce it to kids that would wanna take it.

If I go speak to 1,500 people, I can say, "Hey, how many of you knew what a data [00:15:15] center was before you went in the industry? Last time I did that, it was an audience of about 150, so much smaller audience. There's one guy that raised his hand. I said, okay, who do you know that's in the data center industry?"

My dad. We gotta stop that. We've got to really, people are consumers of that tech, but they don't know where it comes from. Just, we were talking about the power company, people know that lineman's important. You might see that lineman in your day-to-day job, but if you've never been exposed to that and you're just a consumer of electricity, you don't, that's a piece that you're missing on.

You don't realize there's a career there. So I think, from sustainability and cloud and all of the construction stuff, and there's so many avenues that people can go into, and I think we just have to introduce it as a concept and as an industry.

Alan Poole:

I'm trying to think about the different pieces of this puzzle. It in the more recent news some governmental efforts to try and increase workforce development of, come across my inbox. Have you been tracking any of these? And do any approaches work better than other to your knowledge?

Carrie Goetz:

Yeah, I'm actually working with some in California right now, believe it or not.

The government has definitely taken that stand to try to get...they just signed a deal to do 10 million feet 10 million miles of fiber, I think, throughout the state. It's kinda an astronomical number. All right. So here's a contract. We're gonna run 10 million miles of fiber. Somebody is, so there are programs, they're trying to get more fiber installers and teach those as a skill. Even some of the hyperscalers are doing that, they're doing their own programs or re-skilling their

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workforce. So I think, with all the infrastructure bill money that's out there earmarked and a lot of the grants that are out there, they're gonna come along for sustainability and renewables and carbon capture, carbon sequestration, things that we can do that are really low hanging fruit in this industry. Those are all great avenues for students that they might not even realize, sure. Yeah. Di a question just came to mind that I think we've talked about before and I wonder if you'd like to share, are there any particular success stories that are near and dear to your heart that you'd like to talk a little bit about?

To me, I've been asked, how do you know if your book's been [00:17:30] successful? How many copies have you sold? I don't look at that. And I'm never gonna look at that number. I judge that success by the person that reaches out on LinkedIn and said, Hey, I read your book. It really helped me.

I'm good to go. Or reach out with a [00:17:45] question. I was on this page and I didn't quite understand this. Can you explain and I'll explain it. Those to me, that's how I measure my success. So when I think of. People that I've mentored over the years that now have a great career and they're now mentoring other people and [00:18:00] paying it forward.

I, to me that's the best part about this industry. It is the largest probably apprenticeship program ongoing ever. You think about the medical industry, it used to be that way. It was all done through handwritten [00:18:15] notes and things passed to each other, and then there was college curriculum for it.

In the data center industry, we're still very much at that apprenticeship stage and I think for a lot of our jobs, they're gonna stay that way. We just have to get people into the apprenticeship program. So to me, [00:18:30] defining success and when I. See things that make me really happy. That's what it is.

It's when that light bulb goes off for somebody and their life changes and now they learn something new or I. I had an admin in the past that ended up being going into [00:18:45] data center operations, which meant that she could buy a house for her kids, all of those stories, and there's so much low hanging fruit out there for people to help each other, and it's such a giving industry anyway.

I think when people get into this industry they'll realize that, [00:19:00] and, the sky's the limit at that point.

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Alan Poole:

Fantastic. Love to hear that. And that's near and dear to TAG as well and I might need to make sure you're talking with us about that because we have our own workforce development program and internships and whatnot.

I don't know if you've had any interaction with tag on that, but it's been a while. Yeah. It's one of the reasons we were excited to get this podcast on the books. Let's, you know as we start to get towards the end let's turn to the future. You've identified the problem. There's a 300,000 job gap and we need to get that filled. What, and we need to do it in the right way, What kind of progress do you hope to see in the next five years?

Carrie Goetz:

I would love to see scouting take on data centers. I would love to see a lot of these coding academies introduce data centers in their curriculum. I really think that just the opportunities in this industry are so vast that we're not doing the right thing by not.

Pulling them forward, I would love to see college curriculum take off. I would love to see a lot more work workforce development coming out of the hyperscalers and some of the other folks. The nice thing is when you start down those paths, if you wanna go get your college degree, most of them will pay for it.

So you can do it without college debt in most instances. And I think that's also a benefit that a lot of people just forget exists. But, to me, I would just love to see, I. This industry, boom. And I would love to see it take off more in developing countries so that, because it's a great enabler. It's such just the ability to access information now.

Most of us consider that just something you do. There's a lot of countries that that still doesn't happen. There's still a large significant portion of the United States that is disconnected and people without technology even after COVID. So I think, we really have to do a better job.

Of fostering the industry and its use. And the other thing I would really like to see is for it to be a kinder place, I would like there to be safe places for kids to participate on the internet without parents having to look over their shoulder and worry about it. And I've done some work triaging kids phones for parents and looking through to find out hidden programs and all that kind of stuff. And it's a scary place and I, I would love to see more Guardians of the Galaxy out there.

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Alan Poole:

I love that. That's a good term I stole in the movie, but it's that old thing huge comic book nerds over here, so yeah. I'm on the same page as you. I'm very excited about the things that you've been doing, and I know TAG is as well. Anything you'd like to cover in closing before we wrap this up?

Carrie Goetz:

I would just like to say that everybody in this industry needs to do a better job of reaching out to people not in the industry, and talking about what they do, what their career is, bring those people along, get engaged, get involved with young folks, get involved with veterans. If you're a woman in the industry and you need support and you don't have it, reach out. I've got several groups we can put you in touch with, but I think, we're on the precipice of doing amazing great things.

Alan Poole:

Exciting. We are lucky to have you in our corner and I can't wait to see the fruits of your labors and where your journey takes you next. And hey, thank you so much for your time. Absolutely. Thank you so much for having me. I enjoyed it. This is our first, that's a wrap on our first virtual.

Podcast episode of TAG. Thanks very much for joining us. Make sure to follow us on LinkedIn and wherever else you get your podcasts and we look forward to seeing you next time.

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