DR: [00:00] What's your take on the telcos trying to get in on this AI game by selling AI workload capacity in their edge data centers?

Charles Fitzgerald: [00:08] There are a bunch of very basic questions we can ask. Where are they on the allocation list for NVIDIA GPUs? When will they have a gigawatt of incremental electricity for AI? Who's going to write the software that manages their different data centers?

DR: [00:23] Right.

Charles Fitzgerald: [00:24] And explain how you're going to really compete with those hyper CapEx companies that have been doing this at scale, are spending hundreds of billions of dollars, and have the technology chops to make this stuff work.

Announcer: [00:44] This is Telco in 20, a podcast that helps telco execs achieve a competitive advantage with AI in the public cloud. It is hosted by Danielle Rios, also known as DR. Today we're talking to Charles Fitzgerald, managing director of Platformonomics.

DR: [01:03] Hi, guys. I'm DR. It's official, the three big hyperscalers, AWS, Microsoft and Google Cloud, have now collectively poured more than a trillion dollars into CapEx in the 21st Century. Last year, they spent almost $200 billion on CapEx altogether with each company hitting an all-time high.

[01:24] What's driving this massive investment? Two little letters, A and I. These companies aren't just building data centers anymore. They're racing to secure the chips, energy, and infrastructure needed to dominate the AI revolution. To understand what's really happening with CapEx investments and what it means for telcos, I brought back my favorite expert who follows the money.

[01:47] Today I'm talking with Charles Fitzgerald, managing director of Platformonomics. He tracks hyperscaler CapEx spending with his annual Follow the CapEx Report. We're going to dive into the trends driving CapEx investments, how AI and nuclear power are changing the game, and listen to his funny take on why telcos should pump the brakes before they bet big on their ability to monetize AI workloads at the edge. So let's take 20.

[02:16] Charles Fitzgerald is managing director at Platformonomics. Hi Charles, welcome to Telco in 20.

Charles Fitzgerald: [02:22] Hello.

DR: [02:23] So great to have you back. I think this is the third time you've been on our podcast, and I don't know if you're a Saturday Night Live fan, but they have this five-timers club. We're going to have to get you like a cool velvet smoking jacket.

Charles Fitzgerald: [02:33] Yes.

DR: [02:34] Yes.

Charles Fitzgerald: [02:34] I'll add that to my collection.

DR: [02:37] So we always catch up with you because you put out this really awesome annual report called Follow the CapEx, which tracks and analyzes hyperscaler CapEx spending. And so we just closed out 2024. What happened across the three major hyperscalers?

Charles Fitzgerald: [02:54] Well, given AI's kind of become the central driver of the cloud capital expenditures, this year I've broadened the group to track not just the three hyper clouds I've been tracking, which were Amazon, Google, and Microsoft. But I've also added Meta even though they don't add cloud services for third parties. So I'm now thinking of these four companies as the hyper CapEx companies and collectively they spent over $250 billion on CapEx in 2024. That was up 62% from 2023, and all four of them posted all-time highs for their CapEx spending.

[03:32] And if we look at the individual companies, Amazon returned to CapEx growth after two down years where they were essentially digesting the huge CapEx spend they made during the pandemic. In 2024, Amazon spent $83.9 billion, up 57% and only part of that actually goes to data center infrastructure because they also have this $500 billion retail business that requires some CapEx.

[03:59] So if we look just at the Amazon Web Services infrastructure, their CapEx spending there was $53.3 billion, and that was up 114% over 2023. They'd actually seen their first-ever decline in CapEx spending for AWS in 2023. So there's

some bounce back there as well as some growth. And maybe the most interesting thing about Amazon spending is AWS is now close to two-thirds of Amazon's overall CapEx spend, and that's a new high for them.

[04:31] For our other three companies, the spend is overwhelmingly on data center infrastructure. So Google spent $52.5 billion. That was up 63%. Meta spent over $39 billion. That was up 40% and Microsoft was our biggest spender on infrastructure at $75.6 billion, up 83%. All four of these companies have forecast even higher spend for 2025. And if you look at the absolute numbers, Amazon and Microsoft now outspend every non-Chinese company on CapEx. They're bigger than any company in the auto industry, energy, semiconductors, or telecom. And those are all the industries that historically have been the biggest CapEx spenders.

[05:18] But maybe the craziest number is that if you take those three companies collectively in the 21st Century, they have now spent over a trillion dollars on CapEx. So we're starting to talk about real money here.

DR: [05:30] Yeah, I think we passed the real money marker a long time ago, but absolutely. And so you noted that even the telcos have been surpassed in CapEx spending by these guys. And so the telcos still really want to be part of this game. So what are the telcos doing wrong?

Charles Fitzgerald: [05:46] Well, they used to definitely be some of the very largest CapEx spenders, but they've been surpassed. I mean, if you look at Amazon, Google, or Microsoft, each of them individually spent more than AT&T, T-Mobile, and Verizon combined in 2024.

DR: [06:01] Yeah.

Charles Fitzgerald: [06:02] And those three telcos collectively, their CapEx actually declined by 5% in 2024, which is kind of ignominious. The telcos have always had ambitions to get into the latest compute-centric businesses, but they never quite seem to pull it off. CapEx is necessary, but not sufficient.

[06:23] The real issue is these companies may not understand who they are and what they do. They operate networking technology, but that doesn't make them technology companies,

and that's a super important distinction. They don't create technology, they buy it, and they usually have to pay consultants to configure it and install it and everything else. So these technology aspirations really need to be calibrated with what the companies are actually good at.

DR: [06:50] Yeah, I totally agree with that. I think that's a really important insight. I hope telco execs really listen to that sentence because a lot of times they do think it's a natural extension that we can sell it and monetize it, but I think there's a big missing component of really creating new technologies and new capabilities. And that's where I see the big difference with the hyperscalers. It's not just an infrastructure play. It's software and some other capabilities.

Charles Fitzgerald: [07:12] Yeah. They not only operate the infrastructure, they actually build it too.

DR: [07:15] Yep, absolutely. And so there was a really big announcement with the new Trump administration coming in in January into the United States, this new project called Stargate. It's a $500 billion investment led by SoftBank, OpenAI, your favorite Oracle, and MGX, an investment firm out of the UAE. And the idea is to help keep the US ahead in the AI race. And so it's stated, primary goal is to build out 20 new mega data centers. And since this kind of falls into your realm of tracking CapEx and certainly data centers, what's your take on the Stargate Project?

Charles Fitzgerald: [07:50] Well, CapEx has been a great way to separate the real clouds from the clowns over the last 10 years. We saw a lot of companies that talked a good game but didn't put their money where their mouths were. IBM and Oracle were the poster clowns. So much talk, so little CapEx.

DR: [08:06] Exactly.

Charles Fitzgerald: [08:07] IBM continues taking its clown show into the AI realm where they talk about AI, but keep cutting CapEx. Oracle has finally realized they need to be in the cloud game after poo-pooing it early on. They're really struggling to ramp their teeny CapEx. They're in a situation where they're trying to catch up to the hyperscalers, but they're a few hundred billion in

investment behind each of those companies. They're not likely to catch up, but they're talking a good game.

[08:36] I think they've done a pretty good job at getting the PR benefits of Stargate without committing much money. They're sort of subletting to Stargate this Abilene data center that they in turn have rented from Crusoe Energy. So I don't think they have a lot of actual skin in the game. And the trick is deploying CapEx at large scale really requires a very sophisticated manufacturing capability. To turn tens of billions of dollars a year into cloud capacity and do it efficiently, do it at scale is an extremely complex multi-year process. There are all kinds of component shortages today, starting with GPUs. They're very long lead times for whether it's permitting or construction or especially connections to the grid so you can actually get electricity. And the process you need, the big hyper CapEx companies have been honing that capability for a decade or two. It's very, very hard to ramp it overnight or even in just a couple years.

DR: [09:39] So they have the muscle to do it.

Charles Fitzgerald: [09:40] They have the muscle, and it's been a very painful muscle for them to build over time. Stargate is starting from scratch on all this. OpenAI has no experience yet. They just hired their first data center employee. Oracle runs these nano data centers. They actually brag that a region is just six racks. Contrast that with the hyperscalers who have buildings with a million plus servers in them. SoftBank's only qualification is pouring tens of billions of dollars into WeWork.

[10:11] So I think Stargate is a long way from raising the money they've talked about and even further off turning it into real-world infrastructure that actually operates. So I suspect they'll keep us entertained for years to come. I mean, if you just look at what's happened, the headline numbers have gone from 100 billion to 500 billion to Sam Altman in the last week is talking about five trillion. That's all in less than a month. Give them another month or two and they'll probably be the first project to promise to spend a quadrillion dollars. But I'm skeptical about their ability to transform that money into cold hard infrastructure.

DR: [10:50] Yeah, yeah. Interesting projects. We'll keep watching that. And so you recently introduced a new Platformonomics report called the Cloud Reactor Tracker. We started to see this dearth of energy and how are we going to get the energy we need to run all these AI workloads? And so you're starting to track nuclear investments by the cloud providers. What's your take on how the hyperscalers are stacking up in this area?

Charles Fitzgerald: [11:14] Well, cloud and AI data centers are really as much about energy as compute infrastructure, and maybe the scarcest and longest lead time resource for building these hyperscale data centers is electricity. It can take years to get a new data center connected to the grid, and we're moving towards data centers that'll consume a gigawatt of power. And there just isn't that kind of extra power lying around on the grid today.

[11:41] So a couple years ago I wrote a piece arguing the cloud vendors should embrace nuclear power, and that really happened in 2024 with all of those hyper CapEx companies embracing nuclear power. And some of those announcements are about connecting to or even reopening existing nuclear plants. And then they're also making investments to help bring new reactor designs to market. Particularly these small modular reactors, which the theory is they're cheaper and faster to build.

[12:11] So if you look, Amazon is doing both existing power plant deals and investing in new small modular reactors. They bought a data center right next to a nuclear power plant in Pennsylvania and are trying to connect directly to the plant without going through the grid. And there's a whole bunch of litigation around that as to whether they're going to be able to do that. Amazon has also invested to support the build-out of some of these small modular reactor plants.

[12:40] Google has a small modular reactor deal. Microsoft is kind of infamously paying to restart the second reactor on Three Mile Island. Not the one that melted down, which is still happily entombed in its containment vessel. But there was a second reactor there that was shut down a few years ago when we got confused and were shutting down perfectly good nuclear plants.

[13:03] Meta might be the most entertaining. They tried to do a deal similar to Amazon right next to an existing nuclear plant but somehow were prevented by some crazy issue with a rare and

endangered species of bees. They now have an RFP out for one to four gigawatts of nuclear power. So they're focused on it as well.

[13:24] And I think we're going to see more. The best time to build a new nuclear plant was 20 years ago. The second-best time is today, and all of these investments are going to take years to come online. Those new small modular reactors won't show up before the 2030s, but it's still very necessary. So I'm sort of fascinated to watch how these various announcements and investments will play out. So I created the Platformonomics Cloud Reactor Tracker to track that progress and that ought to keep me occupied for the next decade or so.

DR: [13:55] Awesome. So let's go back to certainly my favorite topic, the telcos. With all this stuff going on with AI, all the investment going on, obviously, Verizon's trying to get in on the AI game and has been making noise about selling network connectivity and infrastructure at the edge to support enterprise AI needs. And their argument is we have the edge data centers. They're already fitted out for power and cooling. We have the real estate, we have the electricity. All three are in demand now. And so what's your take on the telcos trying to get in on this AI game by selling AI workload capacity in their edge data centers?

Charles Fitzgerald: [14:33] Well, as you know, we've heard variants of this story for decades. The internet was going to be the telco's birthright because hey, it involved networking. And then remember when the telcos were going to dominate cloud. Verizon Cloud, I remember Verizon Cloud.

DR: [14:48] Totally.

Charles Fitzgerald: [14:49] They bought Terremark. They quickly failed. They sold off the remnants, and at the time they sold them off, they said they did that because they really wanted to focus on Yahoo. And then, of course, they disposed of Yahoo a couple of years later. For the last couple of years, they've been talking about edge computing with no discernible impact on the market.

[15:10] So there's kind of this congenital telco problem with over-promising and under-delivering. 5G would be another example of that. It was going to change the world and enable all kinds of new applications. Turned out to be a slightly faster

dumb pipe. So now we have the telcos talking about AI, and there are a bunch of very basic questions we can ask. Where are they on the allocation list for NVIDIA GPUs? Those are in very scarce supply. Or electricity. When will Verizon have 100,000 NVIDIA H200s? When will they have a gigawatt of incremental electricity for AI? Who's going to write the software that manages their different data centers? So I'm, you'll guess, kind of skeptical.

DR: [15:57] Yeah, yeah.

Charles Fitzgerald: [15:57] Verizon is the company that sold its fiber assets to Frontier for 10 billion and now is buying them back for around 20 billion. And I guess hope springs eternal, but I'm skeptical they'll be players. And the real question to ask any telco when they talk about AI is explain how you're going to really compete with those hyper CapEx companies that have been doing this at scale, are spending hundreds of billions of dollars, and have the technology chops to make this stuff work.

[16:29] And I think a lot of this comes down to they have the central offices scattered all over the country. It's a real estate play, which really seems to be at the root of a lot of these ambitions. And my suggestion for Verizon is maybe they should get in on the bidding for 7-Eleven because that might be a good use of their real estate.

DR: [16:49] That's hilarious. Well, I can't even top that. I'm not even going to add to it. Charles, this is such a great conversation as always, taking us through what happened in 2024, what we're seeing now in 2025, especially with AI. And so thank you so much for coming on the podcast. Great conversation.

Charles Fitzgerald: [17:04] Thanks for having me.

DR: [17:05] Yay. Stick around. We end each podcast with a Telco in 20 takeaway. I've got two minutes to tell you something you need to know. A few telcos out there have been batting around the idea of generating revenue by supporting enterprise workloads at the edge like Verizon, Telefónica, and SoftBank. Even our recent guest from NVIDIA, Chris Penrose, highlighted this as an opportunity for our industry.

[17:36] But Charles made an interesting point about telcos. Just because you can operate networking technology doesn't make you a technology company. And that's a super important distinction. He makes the very valid point that the key to offering the service requires a shit ton of AI chips and procuring them won't be easy. Last time I checked, telcos aren't exactly at the front of the line and you're going to need those sweet little H200s from NVIDIA.

[18:03] Next, where will you get the power? This is not a small hurdle. The hyperscalers are literally restarting nuclear reactors to get the electricity they need. Are you ready to go nuclear? And third, where are you going to get the software chops to manage all these AI workloads? Running AI infrastructure at scale isn't like managing a cell tower. You're competing with companies that have spent decades building infrastructure and have the best talent writing code.

[18:31] Instead, double down on what you do best, building and operating world-class networks. That's your superpower. Own it. Speaking of superpowers, have you taken a look at what Totogi's BSS Magic can do? Send me a DM on LinkedIn or X at TelcoDR and we'll set up a time for you to take a look. Until then, tune into more Telco in 20 episodes, like and follow and leave us a five-star review. Don't forget to sign up for my incredibly awesome totally free email newsletter on TelcoDR.com and check out our killer YouTube channel and be sure to smash that subscribe button. Later nerds.