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Tune in every week as we react to the latest in innovation and reflect on how short-term news impacts our long-term views.

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Welcome to episode 14 of The Brainstorm.

We are talking about SpaceX today and Visa's integration of stablecoins.

Let's dive right into it with SpaceX.

And Nick, I'll see this one up and then fire questions away.

So there's a company, Bryce Tech, they do great space reports and they publish quarterly reports on UpMass, so the amount of stuff being launched into orbit by each company.

And the most recent one looks very similar to the first quarter of the year, and that

is SpaceX just absolutely dominating the amount of mass to orbit.

And so for the first half of the year, you have SpaceX, I'm just going to pull up the exact number here, with like 447,000 kilograms to orbit over 43 launches.

That's 80% of all spacecraft UpMass, so that's four times as much as the rest of the world combined.

And that alone is pretty astounding.

But the interesting thing here is kind of to look forward and see what that actually means.

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So for the full year, you just double that roughly.

That's 900,000 kilograms to orbit, a tremendous amount of stuff going to space.

But then if you step, I don't know, one, two years forward and you think about what that means for Starship, that's just nine launches, right?

So you have Starship capable of doing 100,000 kilograms to low Earth orbit, in theory, per launch.

And the Starship is supposed to be more reusable than the Falcon 9.

So right now you have the Falcon 9 launching every three to four days.

Once Starship is up and really going, maybe that's every few hours, maybe that's every day.

And so it's like, wow, SpaceX is already dominating 80% here.

But this is just the beginning.

And then you look at what are the business implications for this?

And I think it's interesting to look at the end state of, say, something like Starlink.

So Starlink is the low Earth orbit constellation.

It was in the news a lot.

You just had Earthquake in Morocco, Starlink's providing internet access there.

It's often used in emergency situations, but it's also just used for rural internet connections and making the world connected.

But since these satellites are closer to the Earth, they come out of orbit roughly every five years.

And so if you're going to have a massive mega constellation, you need to have mega launch capability as well.

And so if you just do the basic math and you say 100,000 kilograms to orbit per launch and you launch that, let's just say every other day for five years, that allows you to get to roughly 73,000 satellites in orbit.

So that's a huge amount.

You put it into some context.

Right now SpaceX has plans for 42,000 Starlink satellites over the medium term.

And so crazy numbers, but we think this is really just the beginning as we get to Starship. So you mentioned Starlink as a customer.

Who are some of the other customers for SpaceX?

Where is this demand coming from?

That is the key question to all of this.

There are other customers out there.

SpaceX has launched for, I mean, really, if you look at anyone putting satellites into space except for Amazon with Project Kuiper, oftentimes they'll look at SpaceX and potentially use SpaceX as a customer, a radium used SpaceX.

I think there's a TeleSat announcement recently.

When OneWeb had issues with their launch provider, SpaceX stepped up and even though it's competition,

they said we're happy to launch.

But I think to exactly what you were kind of leading to, SpaceX is driving their own

demand for launch capability with Starlink.

So the business model right now as new customers roll in.

Starlink is the main customer for SpaceX.

And then they're driving subscription revenue off of Starlink.

And that's just going to be a kind of self-fulfilling prophecy as they are able to put more satellites in the sky.

And are there competitors to Starlink?

Are they using SpaceX or do they have their own kind of vertical integrated launch platform? So there are competitors out there.

OneWeb is one of them.

You have Amazon, Project Kuiper in theory could be competition here.

I wouldn't call them necessarily direct competitors, but you have kind of the more traditional satellite from geosynchronous like Viasats capability.

But no, no one is as vertically integrated as SpaceX is here.

And I think it kind of gets to the fact that launch is not interesting in its own right. And maybe that's controversial to say.

There's a lot of companies that are doing rocket launches, but that's in my opinion really a first step to enabling more interesting business models.

And it is kind of crazy that right now you just have SpaceX, who's the only one in the world that's capable of re-landing rockets.

I would hope for humanity down the line, hopefully in the near future you have other companies that are doing something reusable as well.

But it is crazy.

I mean, Nick, you're in the software space, so things happen I think faster than in the hardware space.

But this is something I think we're now on like seven or eight years of them being able to land a rocket and no one else in the world has done that.

Is there anything in your space where you get such a crazy lead like that?

Well, I'll say that I'm amazed by how fast SpaceX launches rockets.

I think it's pretty impressive what they're doing.

You meant what is it?

Every three days they're putting up another rocket three to four days.

I mean, I think that is incredibly fast.

And if you look at just the progression of only a few years ago, they couldn't re-land rockets and now they're trying to re-land Starship.

So I feel like they are moving incredibly fast.

So I don't know that it's fair to say that this isn't a company that's moving fast and it's not comparable to software because some software companies, their lead time for new products is multiple years.

And I think SpaceX is progressing at that kind of same rate.

My one other question for you, Sam, just to go back to one stat that I thought was extremely impressive here is on that 80% of all spacecraft up mass, SpaceX accounting for that 80%. Who are the other players?

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Is this SpaceX competing against countries as in Russia and the US and NASA? Or are there other private launch companies even worth talking about? Yeah, and so we'll flash this image from Bryce Tech. And so you have SpaceX, then coming in at number two, you have China Aerospace Science and Technology Corporation in number three spot for the second quarter. You have the Russian Space Agency, then you've got the China National Space Agency, then vou have Arian Space. That's another company. And, you know, I say this is, you know, second, third, fourth place. You'll see, obviously this is a huge gap even between SpaceX and the number two spot, China at like a tenth of the mass that SpaceX is putting up. And then after Arian Space, you have the United Launch Alliance. So that's Boeing and Lockheed Martin. And then, you know, you have other people as well all the way down. And so, you know, some of them are national enterprises, like you're saying, other of them are specific company efforts. But right now all of them just dwarfed by Starlink and what SpaceX is putting up. And then my last question for you is on Starship. I think we're getting another launch soon. What do you think the timeline looks for Starship being commercialized, being ready for, you know, mass use? What are your thoughts here? Yeah, so the drama currently unfolding is FAA said, you know, fix these 63 things. Elon response saving, what are they? But today, you know, they sent back and it looks like they've addressed all of those items to what you were saying, right, SpaceX loves to move fast. I imagine we'll get another test launch in the next two to three months. Based on nothing other than a gut feeling there. And then it'll kind of evolve from there. I wouldn't expect that launch to go perfectly either. I imagine there's going to be another explosive learning moment that will come out of that. And then maybe on the next one, it starts to work. So I'd say, you know, in a year's time, I wouldn't be surprised to see it functioning and then same thing with the Falcon nine and really all, you know, rocket development and Elon Musk companies here, it will work and it will be constantly iterated upon. And so the first iteration might not be up to all of the specs. And then I guess is by the time they're done with it and really rolling with it, the specs are going to exceed what was initially originally announced. Yeah, my one last point just in hearing you answer these questions is and to tie this all back to your guestion around software to think that SpaceX is able to move this aggressively in a highly regulated space.

If you talk about software companies, you know, that isn't as regulated as what SpaceX is dealing with.

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So just another point to, you know, a point of comparison, right? Elon is working in a highly regulated environment where software companies are moving, you know, fast, but they don't have anyone that they need to check in with every time they launch a product and there's a bug, right? They're just checking with their their own internal developers. So just, yeah, super interesting to see all this progression with SpaceX. I think it's just fascinating what they're doing. I'm a huge fan of SpaceX Starlink, all of it. Yeah. So pretty crazy. What they're doing already today, impressive. And to sum it up, we think it really is just the beginning, as far as the amount of mass going to orbit and the lead that SpaceX has. And hopefully we see other companies successful in landing rockets so we can, you know, progress humanity into the stars even more, but not even, you know, just those Starlink is a service for Earth. Last thing I'll wrap up is, you know, I was saying this in our brainstorm. People think the world is connected today. And I think we go forward 10 years and look back to where we are. And people are like, wow, it was not connected at all. Like even this past weekend, I went to a friend's wedding and is in an area and you're like, sell services body. And it's like, you know, five G just, I don't, yeah, five G was a promise that I don't think has delivered. So hopefully Starlink can move the needle forward. I want perfect coverage everywhere I go. Exactly. All right. Moving on. We're joined by ARCS crypto analyst and director of research, Frank Downing. Frank, we're talking Visa and stablecoins. Can you kind of set the stage for us? Yeah, exciting things going on to, to kind of paint the picture before I go into the announcement that Visa had, you could look at the total supply of stablecoins that are out there. And if you look at a chart from 2022, the total stablecoin supply peaked at 180 billion and is now about 122 billion. So it's down by roughly a third and it's been kind of down into the right since it peaked. And there's a few reasons for that. They're kind of crypto specific. One of them being the algorithmic stablecoin UST that really was a failure,

a \$20 billion failure that kind of blew up and disappeared overnight.

And then the other was numerous crypto lending companies that were all, it

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turned out lending to each other and taking these excess risks to generate yield also went bankrupt as the crypto market sold off last year.

And I think the naive view would be to look at the decline in stablecoin supply and say, yep, that was, that was a fad.

There's, there's not real value happening there.

And maybe those peaks that there wasn't a ton of real extra crypto world value happening.

But what we've seen really since then are underlying demand and underlying use cases start to be billed out and, and usage continuing to grow outside of that total supply number.

So there's, there's a couple of good charts will show that, that Nick Carter tweeted at the end of August, which speak to the total addresses or you could think of a surrogate for people using stablecoins has to continue to grow in the millions and the total number of actual transactions that are being sent on stablecoins has also continued to grow, even as that total supply has, has come down.

So we view this as kind of this, this signal that, that the actual use cases for stablecoins are strong outside of what was this kind of speculative crypto yield bubble that happened last year.

And we're starting to see more and more institutions, both crypto native and otherwise, even companies like Visa, who we think could be disrupted by stablecoins or blockchain native payments in general, start to integrate and kind of find their way into this ecosystem.

So last week, Visa announced a partnership with Worldpay and Nuve, which are merchant acquirers that basically help companies expect, accept different types of payments online to integrate stablecoins into their payment network.

So this means rather than settling a transaction through the normal credit or debit card routes, which typically are, have long settlement times and higher fees, you can actually Visa will enable you to send and receive stablecoins, which are more direct, more peer to peer and cut out intermediaries to, to reduce fees into this, into their card network or their, their settlement network, I should say.

It feels like this is kind of a big deal.

I feel like people are always like, Oh, what's the actual use case?

What's the actual use case?

Now we have an actual use case.

I feel like it kind of flew under the radar.

Is that just because I'm on space Twitter?

And I didn't, it didn't pop up for me.

Or, or was, do you think this was under reported?

I think it's a, I think it's a big deal.

I think I spent a lot of time looking at crypto.

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And I think you can quickly jump past stablecoins and go into all these different things in DeFi, like decentralized exchanges and lending, which I think is all really interesting, but as like a fundamental technology for payments and supporting many other things, like I just mentioned, I think stablecoins are already a big deal and being integrated into the traditional world and having a traditional payments company willingly integrating into these public blockchain networks.

They're supporting Ethereum and Solana is a signal that the technology is, is ready or getting close to ready.

And the companies that are potentially at risk to being disrupted are looking ahead into the future and trying to find their way to stay relevant. Really.

Frank, I have two questions for you.

One, what is the business model for stablecoin companies?

How are they driving revenue?

And two, why are they so disruptive to a company like Visa?

You kind of mentioned it in one of your answers about, you know, the

interchange fees and, you know, how these companies process transactions.

So just help us understand a bit more about, you know, why stablecoins are becoming so popular and why they're such a threat.

Yeah.

So how, how stablecoin businesses work?

So Circle is the, the issuer, the creator of USDC.

And basically you can go and give Circle \$1 and they will give you one unit of USDC, which is a token that exists on a blockchain.

And the reason why you want that is because you can then transfer that value over the internet without the use of intermediaries.

It's basically instead of having somebody like a Visa is what I would say.

Um, helping you transfer money to another party, you can send it directly peer to peer, because everybody can be connected through the Ethereum network or the Solana blockchain.

Um, and what Circle does with that dollar is basically take it and invest a portion of it at about 80 cents into short-term treasuries.

And they make money from the yield, uh, that those treasuries provide.

And so for every dollar that goes into Circle, they're generating some interest income from it.

And so you can imagine that as the, the interest rate environment has, uh, interest rates have risen, uh, Circle's business has been doing very well.

Even though the total supply of USDC has come down, um, the total interest income is going up.

And is the business model entirely dependent on the interest rate environment, or are they deriving revenue in other ways? Are there transaction fees? Do you think there will be if there aren't today?

Yeah, there's really like three things.

The first is the total supply of USDC out there impacts the, the total amount of capital that they have to invest.

And they actually have a revenue sharing agreement with Coinbase, where they basically split the amount of, um, interest that's generated because they're both helping to promote and circulate kind of USDC out into the world.

Uh, so that's the number one factor is the total supply of stable coins.

Uh, the second is the short, the interest rates, uh, how much yield

they're able to generate on the backing.

And then the third is any kind of value added services that they provide on top. So maybe it's, um, uh, any sort of lending around the stable coins, uh, facility, facilitation of receiving and sending payments.

Uh, they could take transaction fees on circles, actually, um, shifted their, uh, business model over time where it, where it once was heading towards adding all of these value added services and in particular, uh, lending businesses,

uh, to now promoting the kind of like this ecosystem adoption of USDC, USDC,

to, to capitalize more on lever one versus lever three.

And I think that's worked out well for them, particularly as you can see all the, the crypto lenders that haven't, haven't done so well, um, over the last year.

And then it's essentially, I mean, it is the digital dollar.

What is the geographical overlap look like for USDT users versus US?

Like, is this just bringing a lot of access to the dollar to other places?

Or is it kind of people in the US already who have kind of access to dollars? Just going digital.

Yeah.

So it's, you mentioned USDT, which is Tether, which is the largest stablecoin out there.

Um, and I think there, there is a geographic difference between those using Tether and those using USDC.

So Tether is really the first really popular stablecoin.

And in particular, its use cases have been giving access to a US dollar like asset for companies or individuals who haven't had access access to it in other means.

And so what this means in the crypto world is a lot of international

exchanges like Binance have built their trading functions and a lot of, a lot of things that go on on their exchanges around USDT, Tether, because they don't have good on-ramps and off-ramps into US bank accounts or access to, to US, US dollar custody in other ways.

Um, so it's been a good way for them to get USDT exposure or USD like exposure. Uh, and then you also have people that are sitting in highly inflationary or hyperinflationary, um, regions, uh, like Turkey, for example, or Argentina, who

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have access to USDT, even though they don't have access to US dollar, that could be, or it is preferable to hold over their local currency.

Um, so we've seen regions, um, experiencing currency inflation also be adopters of stablecoins and USDT, because of its kind of, uh, tight relationship with those international exchanges has been the logical asset for, uh, people in those regions to hold.

Uh, USDC has been more US focused, uh, partially because circles in the US, but also because circle goes through, I would say, higher level of, um, regulatory hurdles and transparency around their holdings and what's back in these assets. Um, and was even seeking to become a public company.

So they kind of had to really have a really tightly buttoned up, uh, business.

Uh, and because of that, uh, US institutions like Visa feel more

comfortable using a USDC versus a tether, which is more offshore and opaque and how it's operated.

That being said, circles trying to change that, um, not necessarily

reduce any focus on the US, but make USDC and some of those benefits of being maybe more trusted and regulatory compliant, um, available to those outside the US.

So they also recently announced a partnership with Mercado Pago, which is a, uh, a digital wallet in South America, uh, to make USDC available to customers in Chile.

Uh, so they're trying to take basically the same reason why people are attracted to USDT, uh, give them a USDC option in some of these regions. All right.

So as let's wrap this up, what are the two key takeaways here?

Is this make visa less disrupted by this?

And I don't know.

You, you, you're the one, you're, you're the expert here.

What are, what are the two big takeaways?

Um, I think, I think visa is at least humbly admitting that they need to find a way to integrate into this future payment system.

Uh, the, the reality is that, is that these are open and decentralized networks where anybody can participate and you don't necessarily need a traditional intermediate intermediary like visa to facilitate a payment.

Uh, there are still conveniences that a merchant may want to have and maybe visa can help settle or reduce risk in some way where they'll still have a piece or at least a merchant isn't going to flip a switch and all of a sudden only accept USDC over an Ethereum wallet.

They may want to accept USDC and, and credit and debit cards. Right.

So, so aggregating those could be a service.

So there's probably still a role that a company like visa or even the, the acquirers they're partnering with, uh, world pay and new day where they have a

role, I just think their ability to extract a take rate, uh, gets diminished over time as stable coins grow in adoption. Okay. Frank, Sam, thank you both. Yeah, both had great topics today. Um, I think that's, that's our show. We appreciate everyone listening. Um, and we'll, we'll, we'll be back next week. Yeah. We had, we had the one comment. Someone said, wow, shorter episodes better and it got 11 likes. Someone else said, Oh no, you know, I don't mind those longer episodes. Only two likes. We, we got the message. We go with what the people want. We got, but, but Nick, we got to make a longer term sports forecast, given that our last one was so quickly, I didn't. I didn't, I didn't make the right pick. I know, but so, so we'll, we'll go F one. Everyone talking does first stop and win every single race for the remainder of the season. Yes. Frank, you're, you're also in on this cause you're an F one fan. I say yes. Actually, no, I'm going to say no. Just odds that something out of his control goes wrong. Mechanical failure. That's what I was thinking. I was like, yeah. Red Bull is so good, even on that side, have some optimism. Have some optimism. Yeah. All right. I'll go, I'll, I'll, I'll go with the yes as well. So, so two yeses to one, one, but Frank, I agree. That's a good line of thinking. If it, if it were to happen, I imagine it being some type of accident or failure. All right. I'll come back for my victory lap when it sounds good. All right. We'll see everyone next week.