

## ***The Social Radars***

### ***Peter Reinhardt, CEO & co-founder, Charm Industrial; CEO & co-founder, Segment***

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Jessica: Carolynn, I'm so excited. Today we have Peter Reinhardt on the show. He was the founder of Segment, which went through Y Combinator in 2011, and now founder of Charm Industrial, which is a carbon removal company. Hi, Peter.

Carolynn: Welcome, Peter.

Peter Reinhardt: Yeah, good to see you both.

Jessica: Thanks for coming on the show. It's been a while.

Peter Reinhardt: Yeah, it has been a while. It's good to see you.

Jessica: I cannot wait to hear more about Charm, but first I want to start with Segment because you went through Y Combinator in 2011, in the summer, but not with Segment. I mean, Segment, it's a story of a pivot. And so I want to start with ClassMetric and your application. Can you tell us a little bit about that time?

Peter Reinhardt: Yeah, it was fun. Yeah, I mean, we were students at MIT at the time or MIT and Rhode Island School of Design. And the idea was to give students this button to push to say, "I'm confused." And the professor, they'd all have their laptops open or whatever, and the professor would see this graph over time of how confused their students were. We had this notion that professors really wanted to improve their lectures or that they at least wanted to be able to answer questions in a real time and that students would prefer anonymous questions and so on. So it was a nice idea.

Jessica: You would think they'd want to.

Peter Reinhardt: Yeah. I think it's a good example of building something that seems right in theory, but people may not actually want.

Jessica: And what made you want to move forward with a startup and apply to Y Combinator anyway? You were juniors at MIT.

Peter Reinhardt: We were, yeah. Actually, I think we started reading PG's essays maybe a year or two before that, and so we were pretty amped at the idea of building a company together as roommates. Spent a lot of time talking about it. We spent MIT's independent activity period hacking on ideas there. So I guess it was in the water at that point, but I think it was initially kind of fomented by Hacker News and some of PG's essays.

Carolynn: Was it just two of you or there was more of you, right?

Peter Reinhardt: Well, there were four of us. Yeah.

Carolynn: The whole time?

Peter Reinhardt: Three of us from MIT and then one who joined right at the beginning of Y Combinator from Rhode Island School of Design.

Carolynn: Got it.

Jessica: So you got invited to interview and I remember everyone really liked you, the group, and you were hotshot programmers. And I know you were an aerospace engineer technically. Did you program too?

Peter Reinhardt: I did, yeah.

Jessica: Okay. So you're all good programmers, but no one really loved the idea. And actually, I got a kick out of this because I looked at the notes and in it, Paul's note was "Proposed resuscitating Etherpad," which was an old YC startup that didn't really take off. And so it was clear if Paul's pitching new ideas during the interview, that says something about the idea. Do you remember the interview?

Peter Reinhardt: Oh yeah. No, I do remember the interview. And I remember very specifically one part of it where PG was like, "Yeah, I always wanted this as a student." And I was like, "Thank you. Yeah. " And then he turned to ... Is it Rob?

Jessica: Robert. He turned to Robert.

Peter Reinhardt: Yeah. And he's like, "Rob, would you use this?" And we had specifically gone through Rob ahead of time when we were doing product discovery, we'd asked Rob, "Is this the thing you'd use?" And in person when we were in his office at MIT, he'd said yes, and then in the interview, he looked PG in the eye and he said, "No." And I was like...

Carolynn: The betrayal.

Jessica: No way. [inaudible 00:03:47]. I was just going to say the betrayal. So you actually met with Robert at MIT when he took the meeting with you.

Peter Reinhardt: Right.

Jessica: That's a fascinating...

Peter Reinhardt: Just as a professor because he was a potential customer and so on and so forth. Anyways, I don't think he was that amped on it, but he definitely had a change of tune.

Carolynn: That's hysterical. That is funny.

Peter Reinhardt: We thought we were toast at that moment.

Jessica: No, you weren't toast.

Carolynn: I would think that too.

Jessica: Because everyone, we knew at this point, because it's 2011, we'd sort of realized it's not always about the idea if you have a great group of founders who get along well and have good instincts and are good programmers, fund them, fund for the pivot. But you guys must have insisted you're still going to do the classroom idea when we accepted you.

Peter Reinhardt: Yeah, we're more stubborn. Yeah. And so we spent the whole summer basically building out the application, and we just tried testing it in some summer classes at Stanford and so on, which didn't go great, but we decided, okay, we're going to give this a proper trial kickoff with some classes. And we were going to move back to Boston because Boston has so many universities that we actually figured it was a pretty good place to launch it. And also my girlfriend was in Boston, wife now. So it was the right move.

Carolynn: Really?

Peter Reinhardt: Anyway, so we launched it in a whole bunch of classrooms. We did demo day. We raised 600K. It was a bit of a grind. I was sleeping on the floor of the Codecademy guys who were out meeting VCs on jets and I was scrambling for meetings and forgetting to eat. It was terrible. It was awful. Anyways...

Jessica: Wait, were you sleeping on the Codecademy guys' floor because you had moved back to Boston and were [inaudible 00:05:27].

Peter Reinhardt: Yeah, the other guys had moved back to Boston.

Jessica: And Zach Sims is on a private jet?

Peter Reinhardt: Yeah, exactly. Zach Sims is, I don't know, meeting [inaudible 00:05:38] on the tarmac or whatever, and he's got term sheets coming out of his ears and I was struggling to pull together 600K.

Carolynn: But did you tell VCs, universities are going to pay for this? Your customer was actually the university and they were going to pay for your software, that's how you were...

Peter Reinhardt: That's right. Yeah. We were competing with Blackboard really. We wanted to become a learning management system.

Carolynn: Oh, got it.

Peter Reinhardt: And this was an entry point to dislodge Blackboard.

Jessica: Okay. Why didn't anyone adopt your software?

Peter Reinhardt: Well actually, we got, I don't know, six or so classrooms, professors, to adopt it in the fall. It wasn't terrible. We had maybe more signed up, a couple at MIT and a couple at Boston University and so on. We'd worked pretty hard on the go to-market side. And then the problem actually was that we started putting it in the classroom and we stood in the back of the class and we were like, "What are students actually doing during class? Are they using it?"

And what we found is that they weren't. It was a total disaster. At the beginning of class, 60% of students would be on Flickr and Gmail and Twitter and whatever else, shopping on eBay. And then by the end of the class, it'd be 80%. My conclusion was just like, oh my God, get the laptops out of the classroom immediately. This is terrible. No one should have their laptop open.

Jessica: The students weren't even paying attention to the lecture.

Carolynn: Of course they were confused. They weren't listening to the lecture.

Peter Reinhardt: A hundred percent, yeah. Around this time, an article came out in New York Times that was like, maybe we should make sure that every student can have a laptop in lecture. And I was like, oh my God, no, we got to shut down the products, we got to get all the devices out of the classrooms. So we did a complete 180 on the role of technology in classrooms over the course of about a week and a half.

Jessica: And then you had office hours with Paul, didn't you? Because he was saying he remembered that office hours when you were walking, talking.

Peter Reinhardt: That was a year and a half later.

Jessica: Oh, whoa. Okay. Whoa, whoa, whoa. So what happened in this year and a half?

Peter Reinhardt: Well, we were pretty embarrassed, but we called back all of our investors from demo day and we told them, "Hey, we're going to pivot. We're going to build an analytics tool." That was the best idea we had, classic tar pit idea. And anyways,

we were going to compete with Google Analytics and so on. So then we disappeared into a hole and started building an analytics tool for a year, which turns out to be a reasonably hard technical problem to allow people to query data any which way.

And so it took a long time to build, which was a bad idea, and we didn't really test the go to-market that well. We didn't know how to do B2B sales, so we weren't out trying to really get customers that way. Yeah, and I guess there were two investors that took their money back at the pivot. It was kind of a rough pivot, and then we disappeared into a hole for a year.

Carolynn: And all four of you kept working on this for the entire year. You just slogged it out. No one got other jobs. You just kept working.

Peter Reinhardt: Mm-hmm.

Carolynn: Wow.

Jessica: With the 600 grand or less if some of them took their money out.

Peter Reinhardt: It was 450, yeah.

Jessica: Still, you could last for a year if you're living cheaply. So at what point did you say this analytics thing isn't working? What are we going to do?

Peter Reinhardt: I think by the time we'd built something that we thought was pretty interesting, and then we actually started launching it and we finally convinced ourselves, we got to just get over this and start putting it out. It's a year, it's been long enough, we have to just get off the bench here and do something.

And what we started to find is all these people who had told us, "Oh, that's really interesting. I'd love to learn more," et cetera, it was really idle interest and there was not any real interest behind it in terms of a business actually purchasing anything, which was brutal. It's the sort of ruinous empathy feedback from customers. And so that was October, November of 2012. I had just gotten married and went on honeymoon and came back and we're like, okay, this is probably not working. So what do we do?

Jessica: Oh gosh, your professional morale must have been pretty low at this point.

Peter Reinhardt: Extremely low. I mean, I was getting panic attacks about once a week. I was in the hospital.

Carolynn: Oh, no.

Peter Reinhardt: Yeah, it was bad. It was really bad.

Jessica: What ... Gosh. [inaudible 00:09:54]

Peter Reinhardt: I was already pretty lightweight, I was...

Jessica: You didn't have any users, right? Or did you?

Peter Reinhardt: Yeah, that's why I was so anxious because I was like-

Jessica: That was causing the panic.

Peter Reinhardt: ... this is not working. Yeah.

Carolynn: But Peter, you were probably only 25-years-old, right?

Peter Reinhardt: Well, I was 23.

Carolynn: 23. So it's like you're not a failure at 23. You did get your degree, right?

Peter Reinhardt: Nope.

Carolynn: Oh, you dropped out. Okay.

Peter Reinhardt: I mean, I couldn't gone back.

Carolynn: So you're having panic attacks.

Jessica: And in the hospital for them, no less.

Peter Reinhardt: Well, because I thought they were heart attacks or whatever, and then it turns out it's not, but whatever. You don't know what to do, right? So yeah, it wasn't good. It was pretty miserable.

Jessica: Okay. So what had then happened? What was the next big turning point?

Peter Reinhardt: Yeah, the next big turning point was when our co-founder, Ian, the one from Rhode Island of School Design, wrote this analytics.js manifesto. It was a one-page markdown file on GitHub. And he was basically like, look, we built this little library called analytics.js A little over a year ago. We built it to use just inside of ClassMetric because we wanted to send all of our analytics data to Mixpanel, to Google Analytics, and to Kissmetrics, so it had those three kind of services that it could route data to. And he's like, "I think there's a big business behind that. Look, it's an open source library. We've given it no love over a year and a half, aside from just putting it up on the web and it has 50 stars or something on GitHub. So clearly someone is doing something with it. It's the best thing we've done. We should double down on it as a business."

I was like, "Dude, it's an open source library and it's 200 lines of code. I just do not understand how you could possibly build a business around this. There's nothing there. Yeah, maybe people want to use it, but I don't understand how to turn it into a business." Which is funny because that became my problem for the next decade. But anyway, so that was my argument against it. And I couldn't shake him off of it. I couldn't shake Calvin off of it. I think Ilia was neither here nor there on it, but was like, it's probably the best option we have. And so I went home, my wife Erica and I were talking about it and I was like, "Help me figure out how to kill this idea. It's getting momentum and it's a terrible one." And so I think we stayed up late brainstorming how we could freaking kill this thing.

Jessica: That's funny.

Peter Reinhardt: I think I stayed up all night or something, I don't know, I was exhausted. Came in the next day, I was like, "All right guys, let's build a landing page for analytics.js and let's put it up on Hacker News. Let's not disappear into a hole and build something for a year. Let's just launch it and see what happens." And so we could all get on board with that. We're like, "Okay, yeah, we don't want to repeat the last year. Let's do that." So then we put it up on Hacker News and it went straight to the top, sat at number one all day, got 3000 stars on GitHub or something like that, a few hundred up votes on Hacker News, a few thousand email signups. So it just exploded on Hacker News. So that made the decision easy.

Jessica: Hold on. Was your and Erica's plan that you spent thinking, how do we thwart this was to say, okay, let's just make it happen now so that we can move on. It will fail.

Peter Reinhardt: Exactly.

Jessica: We can move on quickly.

Peter Reinhardt: Exactly. We'll get no attention on Hacker News and we'll move on. And it was totally the opposite, yeah.

Jessica: Totally the opposite. That's hysterical. Okay. So then you said, okay, there's something here that people seem to like. So you sort of moved forward with this manifesto.

Peter Reinhardt: Well, I think then somewhere right around this time, might've been right before or right after, we had office hours with PG, I think it might've been the day after that or something like that where we were like, should we do this thing? Or Ilia has another idea for how to find things to do with your friends.

Jessica: Oh!

Peter Reinhardt: I know.

Jessica: I know what Paul said.

Peter Reinhardt: Yeah. Yeah. Paul was like, "Oh my God, no." So I think his advice was basically like, I don't know, it seems like there's something here. You should just go after this. This is my vague memory of it. I don't know if you have notes in front of you.

Jessica: Didn't he... Well, he remembered that he said to you something like, "You've spent half a million bucks and you have nothing to show for it."

Peter Reinhardt: Yep.

Jessica: Did that seem harsh at the time?

Peter Reinhardt: It felt real. I mean, it hurt, but it felt real. Yeah. We definitely were carrying a lot of shame about that, but we hadn't quite put a pin on it.

Jessica: Okay. So he put the pin on that one. And so you guys launch it on Hacker News, get some traction, you get some signups, and you're off.

Peter Reinhardt: Sort of, except it's this open source library, and so I'm like, what do you do with it? So I mean, this became the challenge forever of like, okay, well, what do people actually want that's a paying service around this concept of routing customer data? First thing it turns out is people don't really want to use the open source library, they want to use a hosted version where they can push buttons to say where they want to send the data.

So that was what we built and that became the product and the service and the company. And then we kind of focused on growth for six months. And I think the next office hours we had with PG, he was looking at the growth graph and he was like, "This is the most linear, straightest growth graph I've ever seen." He's like, "They always bend one way or the other, but this is just ..." He's like, "Are you guys doing paid acquisition or something? I don't understand how it could possibly be this straight." It's like, "Nope." It was just a virality loop or whatever of one, exactly one.

Jessica: Can I just go back to this analytics.js manifesto thing? Did Ian have the idea in response to something you had been working on before or was this just a separate standalone idea that he had?

Peter Reinhardt: It was adjacent to the analytics tool that we were building. And maybe it came from an idea of, oh, maybe we could make it easier for people to adopt us if they could send data to both us and Mixpanel and we could get a bake off going. That's my memory, but yeah, it was just sort of complicated and marinating, I think, for a long time.

Jessica: Okay. But what I'm sort of getting at is that it wasn't a complete and utter waste of time that year that you spent working on the other company because it sort of planted the seed for Segment.

Peter Reinhardt: Sure.

Jessica: Okay.

Carolynn: Peter's not totally on board with that.

Jessica: And so then was it all smooth sailing for you guys? I don't remember.

Peter Reinhardt: I mean, maybe it's close to smooth as startups get.

Carolynn: Did you raise more money?

Peter Reinhardt: Oh yeah. Yeah.

Carolynn: Okay.

Peter Reinhardt: So I mean, we were starting to run out of money. So when we had a month of cash left or something, I kind of emailed our investors and I was like, "Hey, we have something that's working." And they were like, "Who the hell are you again?" Because I hadn't been sending updates or anything, whatever, that was a huge mistake.

Jessica: Oh, you went really quiet.

Peter Reinhardt: Yeah. You know a company's dead when they stop sending updates, right?

Jessica: Oh, yeah. Carolynn especially, but we know when you don't hear, it's never good news.

Carolynn: Not good news, right?

Peter Reinhardt: We're the one exception to that maybe.

Jessica: Yeah. Then it's a happy surprise. So can you explain for our listeners what Segment's product did and the problem it was solving?

Peter Reinhardt: Yeah, I mean, there were all these software as a service companies that were exploding onto the market at the time, all these new software offerings hosted in the cloud or online in the browser, and all these new mobile apps getting launched. This is like 2012, Facebook's mobile app had gotten big and mobile phones were becoming just everywhere. And so all the mobile applications were flooding into the market.

And so you had all these new software services and apps out there, and they all wanted to understand how people were using their apps or their websites, web apps. And in order to understand that, they wanted to get data about people clicking things and buying things and opening emails and all that data about how people are interacting with their apps. And they wanted to send that data into an analytics tool where they could look at charts of what people were doing.

They wanted to send it into their email tools so that they could send smarter emails to people based on products they had bought or not bought. They wanted to send that data into their advertising tools so that they could see which ads were actually converting into close-won revenue. They wanted to send it into their data warehouse.

And so they had all these different places where they wanted to put their data. And to your point, they would have to go and ask their engineering team every time like, "Oh, I have a new tool that I want to put my data in. Can you integrate this thing?" And then after a little while, the engineering teams were like, "Screw off. I already did this 10 times."

Jessica: Yeah, laborious.

Peter Reinhardt: Yeah.

Jessica: So you were the one-stop shop, just give your data to Segment and then we'll handle it.

Peter Reinhardt: That's right. Yeah. And so instead of the engineering team doing the integration, a marketer or whoever could push a button to say, send my data to Salesforce, send my data to Adobe, send my data to Google, send my data to wherever.

Jessica: Okay. One of these sort of unsexy things that consumers don't really know about, but the companies are desperate for.

Peter Reinhardt: That's right.

Carolynn: This is kind of random, but how did you decide what to charge the customers? Because you were obviously building something that they really wanted, but how did you decide what they were going to pay you?

Peter Reinhardt: Oh, we had no idea. So we started at \$10 a month.

Carolynn: Wow.

Peter Reinhardt: Which was very clowny, but we were coming from this open source MIT world, so we had no idea what to charge to your point. It seemed like it should be free because it was an open source library, so we very awkwardly asked people to pay \$10 a month. I'll never forget, we got this email back from Eduardo, like

Maxi Store or something like that, some Brazilian company, I think. And he emailed back and he was like, "I'll take \$10 a month, but if you don't raise your pricing in general, I may decide to migrate off because there's no way that you can support this service at \$10 a month."

Jessica: Because I don't respect you.

Peter Reinhardt: Yeah. Well, it's just like...

Jessica: He thought you'd go out of business.

Peter Reinhardt: Yeah. It was like 100% you're going out of business if you're charging \$10 a month. So he's like, "I really want you guys to succeed, but \$10 a month ain't it." So that was very kind of him. And then we hired a sales consultant, Mitch Mirando. I forget how we got connected with him, and he was like, "Peter, you should be charging \$120,000 a year, not \$120 a year." And I was like, "That's the most bananas thing I've ever heard."

Jessica: You're like, "Whoa, dude."

Carolynn: Yeah. And this was 2013, around then?

Peter Reinhardt: 2013, yeah.

Carolynn: 2013.

Peter Reinhardt: Yeah, summer of 2013.

Carolynn: Did you charge that?

Peter Reinhardt: Well, so we went to our first sales meeting, which was with Nat Friedman when he was running his company, Xamarin, and they were using us, I think, on the \$120 a year plan. And before we went in, this is in downtown San Francisco, he's like, "You have to ask Nat for \$120,000 a year." And I was like, "I can't do that. That's crazy. It's 1000 X increase in price." And he's like, "Well, then I quit as your sales advisor." And he turned around and started walking away. And I was like, "Okay, okay, okay. I'll ask for 120K."

Jessica: Tough love. Yeah.

Peter Reinhardt: So we went in and I asked for 120K and it was at the end of the conversation and I was excited or whatever, and I just turned just deep red, was very embarrassed, and I think he asked for 12K and then I asked for 18K and we settled at 18K. Which was very nice of Nat.

Jessica: How did the sales consultant feel about the 18K?

Peter Reinhardt: He was like, "Well, you'll do better next time." But in my mind, it didn't really matter because in my mind it was already up 150 X. And so my mind was blown. I was like, never in a thousand years that I think that it would be ... And so the whole idea of value-based pricing where, I don't know, we were probably saving Nat 500K a year or something on stupid integration stuff that his engineering team didn't even want to do. And so for him it was a great ROI, but this concept of value-based as opposed to the cost-based side of it's an open source library, took a long time for us to really learn.

Jessica: And you slowly raised your prices?

Peter Reinhardt: Well, I just more confidently asked for 120K the next time. And lo and behold, we got 24K and then I was like, okay, well now it's a repeatable thing and then we got 36K and then we got 54K and then we got 108K. And then Andrew's List was the first over, it was 240K or something like that.

Carolynn: Wow.

Peter Reinhardt: So I kept going.

Jessica: Wow.

Carolynn: Not too bad.

Jessica: Peter, this is so random, but I want to ask you this story. You talked about how you hired this new sales guy who was not someone you thought you'd hire because he was very slick, but you learned a lot from him and he crushed his sales numbers. Can you tell that story because it's sort of counterintuitive?

Peter Reinhardt: Yeah, it was definitely one of the more humbling, of the many humbling experiences in building the company, it was definitely one of the more humbling ones. So our first sales guy, Raphael Parker, who was incredible, could sell anything to anybody. And he was really successful, we got to, I don't know, a million or two million ARR, and then we was like, "Okay, it's time for us to hire our second sales rep." And I was like, "Great, Raf, you hire." I don't know anything about sales, you should just hire this person. So he came in and he brought Chris Surdi in for an interview. Born and raised New Jersey, slicked back hair, real bro-y attitude, tatted up, but in a suit, it was a vibe, a real vibe.

And I was like, "I don't think this guy can sell to developers, Raf. I'm not seeing it." And he's like, "Just trust me on it." And I was like, "Okay, let's do it. What do I know about sales?" So we hired Chris and yeah, he beat the number every year, I think he was the top sales rep for six of the next eight years or something like that. And the whole thing really didn't make that much sense to me even for a year afterwards until I started going on sales trips with him to New York in particular. And what I started to notice is that some of the conversations were a little awkward, but he actually just was more aggressive about understanding

what the customer's pain point was. And he would push through the awkwardness of trying to get to that, sometimes in very awkward ways.

There was one conversation in New York where he had done some cold outbound to get this person to take a meeting, and we then got there. It was me and him and a sales engineer, and we sat down and the guy was like, "Cool, welcome. Energy is on you to start pitching yourself." And Chris started is like, "So why are we here?" And my heart stopped. I was like, "Oh my God, what is going to happen next?" And everyone from Segment was just mortified and there was this very awkward 10 seconds of recalibration happening in the room.

And then the person that said it was like, "Well, I guess it's not easy to integrate software." And Chris Surdi is like, "What do you mean?" And he started digging in and doing all this discovery. And so he ended up doing 20 minutes of discovery, sales discovery, asking questions about his problems before he was finally like, "Okay, well cool. Let me show you what Segment is." And I went from mortified to then 10 minutes in, I was like, "Oh shit, I see what's happening, guys."

Carolynn: Cold outreach. Yeah. He went in knowing nothing and he very cleverly got all the info he needed to pitch the right thing. That's [inaudible 00:25:31].

Peter Reinhardt: And it's fair. They took the meeting, so why'd they take the meeting? Why did they set aside an hour to talk about this? But he was almost incensed of like, why are you using my time this way? The whole thing was just totally reversed.

Jessica: But that's so interesting because I'm not a very good salesperson at all, but it's interesting because by the end of his questioning, he could then say, "Well, this solves your problem and this and this and tailor the pitch."

Peter Reinhardt: Yes. And in fact, someone who looks like they're doing sales, who comes in and gives this really hard pitch, totally missed the mark with the customer, the customer's not going to feel heard or listened to. It's not actually good sales. And so for whatever reason, he's got the energy to push through the awkwardness of discovery and customers actually then love it because then he's speaking to their needs because they've told them what their needs are.

Jessica: Was Chris Surdi at Segment the whole, did he ever leave?

Peter Reinhardt: I think he was there the whole time and he turned out to be a huge culture carrier too. Teamwork makes the dream work was tattooed on his leg and it was like a thing inside Segment.

Carolynn: Wow.

Jessica: Oh, my gosh, I love that. I want to ask about when you thought about getting acquired or did you think about it or did you just get approached by Twilio?

Peter Reinhardt: Yeah, Jeff for a couple of years prior to the acquisition had been reaching out once a quarter or once every six months being like, "We'd be better together. We've got the communication layer and you've got the data layer." And turns out communication plus data is ... Communication is how you action the data and data is what makes the communication better. It's like these two layers are better together.

And for a long time I didn't really buy it and then in 2019, beginning of 2020, I started to see customers actually asking for that. And so that was the key shift for me was customers actually were starting to view these things as being adjacent to each other. They were wanting to integrate them in interesting ways. So that shifted things in my mind.

Carolynn: Sorry, just to go back, we sort of skipped ahead six-ish years, right?

Jessica: Sorry.

Carolynn: Well, no, no, just more like I was thinking to myself, you had this really rough start. You got married, you were super stressed out, all this stuff. Those six years, obviously there's all these stresses that come from running and growing a company, but for the most part, were these happy years because things were going well and you weren't going to the hospital anymore and all this...? Just generalize it.

Peter Reinhardt: I mean it's definitely better than that month. Yeah.

Carolynn: Yeah.

Peter Reinhardt: That month was about as bad as it got, thankfully. Yeah. I mean, I think there was another period in 20, let's see, I don't know, 2014, 2015, something like that, where we, I think in 2014, we launched a new product where you could send the data not just to analytics tools and email marketing tools, but you could send the data to data warehouses. And that was a new category, cloud data warehouse, Redshift and so on was a new category that was growing really explicitly. And the type of data that we were handling for people was exactly what they wanted in there.

And actually, I believe it was a trip with Surdi, the sales rep we were talking about before where we realized that this had product market fit, and we had five meetings in New York over the course of the day and every single one was getting their data out into a particular format of just storing the raw data somewhere. And I was like, "Why would you want that?"

Now I was getting this vibe of more aggressive discovery from Surdi. And so I just started really drilling into these customers like, "Why? Why are you putting the data on S3?" And it turned out they were all doing the same thing, which is that they wanted to load the data into a data warehouse, cloud data warehouse, and

specifically Redshift. And so it was five for five meetings. And I came back from New York and I was like, "We're building an integration into Redshift." And so actually to wrap up on Surdi, actually not only with helping me understand sales, but actually also totally changing how I think about doing product by doing much more aggressive discovery of what customers really want.

Jessica: I'm glad I asked about Surdi. I knew that he played an important role.

Peter Reinhardt: For sure. And I think at any rate, that was then started growing explosively. So the next year we went from two and a half million in revenue to 10 million in revenue.

Jessica: Oh, wow.

Peter Reinhardt: Yeah. For SaaS, that was great. I know, AI companies are doing crazy things now, but at the time that was pretty quick. And then it all suddenly decelerated because everyone was coming up on their renewals and we had a pricing and packaging issue. And so we were going to go from 10 to 20 the next year was the plan, and by the middle of the year, we were at 12 and we had actually shrunk 500K in the last month of the first half. And so I was like, oh crap, this is not good. And I had this feeling that everyone was there just because it had been growing quickly and so you didn't want to really share the problem that much. And so I was getting pretty frenetic and stressed about how do we solve this pricing and packaging problem? And I felt like it was really on me to figure it out.

And then our part-time CFO and part-time chief HR officer basically shunted me into a room and they were like, "Peter, nobody knows what to do." I was like, "What are you talking about?" And they're like, "Yeah, nobody knows what to do. Nobody knows what the goals are or whatever. You're holding it all inside and you're not telling people what needs to get done." And I was like, "That's crazy. Everyone knows what to do." And they're like, "Well, why don't you go talk to 10 people and ask them what the top priority is right now?" And I was like, yeah, nobody had a shared understanding of what to do.

So that was a real tough leadership learning moment for me where they were like, "You need to get up in front of all hands. You need to tell people exactly what the problem is and what you expect each of them to do to solve it." So I did that. I felt very guilty almost of putting the burden on the people in the company as opposed to shouldering the hard part myself. In particular, I felt very guilty that there were all these people on the product team. I was like, "I need this particular product team to go ship a pricing and packaging update and I'm really sorry, but because it's now the 11th hour, I need you basically to stay up nonstop and just deliver it in the next four days so that we can turn things around." I felt so guilty about that for years.

Carolynn: Wow, years?

Peter Reinhardt: Yeah, to jump to the end... Well, because it was asking a lot, it was a very sudden massive disruption in their personal life. And then jumping forward several years to the acquisition, after the acquisition was announced, we did phone calls with a bunch of the early people. Every single person who was on that team said that that moment was their favorite moment in the whole company.

Carolynn: Oh, I love that.

Jessica: No way.

Peter Reinhardt: And that blew my mind. Blew my mind. But it makes sense in retrospect because it was like they got to rescue the company. They got to be the heroes.

Jessica: I feel like I'm going to get a little emotional over that.

Carolynn: It's crazy that you carried all this guilt and they were, meanwhile, this was the best moment ever.

Jessica: Stoked, that was awesome.

Carolynn: Yeah. And that's a crazy disconnect. That's a really cool story though.

Jessica: Do you remember what you said at this meeting? How did you present this? Do you remember any of the sentences you used?

Peter Reinhardt: I remember it feeling pretty dark and basically being like, we obviously aren't growing very quickly. We're in negative growth. This is a big problem. It was just like, here's the problem, we're not going to hit the goal unless we fix this thing, and so all the pressure's on you, this team of four or five people to go fix this thing, which felt terrifying.

Jessica: And they did.

Peter Reinhardt: And then they did. And then we actually hit 20 million in ARR at 11:50 PM on the last day of the year, and it was a crazy, crazy scene.

Carolynn: That's kind of familiar. I feel like I knew this story from ... Someone told this story about that timing and everything.

Jessica: That's crazy. At 11:50 PM on December 31st.

Peter Reinhardt: Yeah. I think we had a deal-

Jessica: You hit your goal.

Peter Reinhardt: I think we had a deal in Asia Pacific that closed technically on their Jan 1 and on our December 31st. And everyone was still at the office waiting, waiting, waiting for the signature.

Jessica: On New Year's Eve. Oh, that's a great story.

Carolynn: Yeah.

Jessica: Oh, wow. So I remember Paul and I came to your guys' office in San Francisco just to visit and check in and things seemed really flourishing and good. I forget what the year was.

Peter Reinhardt: That was probably the next year.

Jessica: Probably the next year after that. Okay.

Peter Reinhardt: Yeah, after that. And we had told the company that if we hit it, we would take everybody to Harry Potter Land the next year. So that's what we did. We all flew down. We all went down to LA in January or something and celebrated in Harry Potter Land.

Carolynn: How big was the team at this point?

Jessica: Oh my God.

Peter Reinhardt: Oh, probably close to a hundred.

Carolynn: Oh, that's a crowd to take to an amusement park.

Jessica: Did everyone want to go there? Is that where...?

Peter Reinhardt: Oh, yeah.

Jessica: That was the collective choice?

Peter Reinhardt: By the time we won it, everyone wanted to go there, yeah.

Carolynn: That's funny.

Jessica: Oh, I love that story. And I bet it was sort of a growing moment for you too. Because a lot of founders, I think, do sort of internalize all the problems and sometimes you need to, but sometimes you do need to say, "Look, team, we need to do this."

Peter Reinhardt: I mean, for the most part, people sign up, good people, sign up to be at the company because they believe in the thing that you're trying to do, and so they want to be part of it.

Carolynn: Yeah, that's right. We should go back to Twilio.

Jessica: We should, because we have to get going on Charm.

Carolynn: Yeah.

Jessica: So any highlights that would be interesting in the acquisition process? And I also want to know what point you were thinking about doing Charm because I do know that it was that Segment in 2015 that you were buying offsets and realizing this all sucks, this is very opaque and this doesn't feel good. Can you tell us, I know that's about 20 questions in one, but see what you can do with that prompt.

Peter Reinhardt: Yeah, in 2015, I started buying these offsets and then 2016, as I started to inspect what happened a year earlier, it was like Earth Day 2016, I was like, "Hey, we bought that stuff at Earth Day last year. What did it add up to?" I was like, "Oh crap, nothing good." And specifically, I was like, "Hey, there's these fires raging in the Amazon and in Indonesia," where we had nominally set aside forests, "are they still any good or did it burn down? I just want to know." It's impossible to find out. And so that was like, "Oh, I don't really trust what happened here."

So then we did something slightly different. We started buying things that aren't really scalable, like refrigerant destruction, but I had a bit more of a tangible supply chain that you could audit, which I maybe feel better from a climate perspective, but it's like refrigerant destruction is only, I don't know, it's 0.1% of the problem. It's not going to get you very far. And so 2017 then, I started spending my Saturdays around Segment trying to figure out if there were pathways where you could take an existing industrial process and turn it from being an emitter of carbon dioxide into a sink of carbon dioxide.

And that morphed into the idea for Charm Industrial. And the name is Char Farm Industrial condensed, and the idea is that we would take biomass off of farms, leave behind the char, and then you would have this bio oil, this liquid biomass, if you will, that could be used as an industrial feedstock to replace natural gas and coal and so on. And economic models looked promising, still looked good, and that was that.

Jessica: Were you doing this on your own on Saturdays?

Peter Reinhardt: Yeah. One other friend who became a Charm co-founder, and then we hired two engineers that I funded mostly, or I guess I put in about half the money, and angel investors to start hacking on it who became co-founders as well. So that was the kind of group.

Jessica: The core Saturday crew. And did they have jobs too, and this was all just sort of a side project to see if...?

Peter Reinhardt: Yeah, it was a side project for Kevin and I for 2017. And then we formerly incorporated in February 2018 and brought on Kelly and Sean as full-time engineers and co-founders.

Carolynn: How far back does your interest in this particular topic go? Has it always been a hobby that you were curious about it or was there an event or what happened?

Peter Reinhardt: Well, I was always more a hard tech, hardware person than a software person. I fell backwards into software mostly because my roommates were core six software engineering in MIT, and I couldn't convince them to do something on the hard tech side, which was probably wise. And then I somehow found myself having to solve the business problem of how do you make an open source library into a good business for 10 years, but that was very accidental.

So really more hardware is what I had done previously and internships and stuff like that, but climate specifically was relatively new and I actually felt like I understood it as a customer. I mean, I would've loved to build something in space. Satellites are very cool, but I just could never find a compelling business model. I think Elon found the only compelling business model in space, which is Starlink, but I don't know that I would've had access to five billion in capital or whatever to get Starlink started.

Carolynn: Few do.

Peter Reinhardt: Yeah.

Carolynn: This is so random. So sorry for the weird tangent, but how did you guys decide that you'd be the CEO of Segment? Just because you just described how you were so different than your three co-founders and it was a SaaS company ultimately.

Peter Reinhardt: I think the other guys didn't want to talk to investors.

Jessica: Oh God.

Carolynn: So fair. That's so fair.

Peter Reinhardt: Yeah. They didn't want to do sales. It was the business stuff that they were just like, "I just want to code, but I want to start a company." And I was like...

Carolynn: So you basically drew the short straw, you're like, "I don't want to talk to investors or do sales, but okay." Make the hard work, I do it.

Peter Reinhardt: And I think that's true. I think I also had some ego bound up in it. I don't know, maybe more than some of the time, but anyways, I wanted it.

Jessica: So how did the acquisition overlap with Charm then? Because it was 2018 you incorporated Charm.

Peter Reinhardt: Yeah, and I talked with my Segment board members and I was like, "Look, at this point, this is a stamina game. The thing's growing 60 to 100% a year, the longer that I've got stamina to just keep running, the better this outcome is going to be and so the way that I'm going to survive and mentally be able to handle doing enterprise software here. It's some people's thing, I was like, look, it's not my thing, but I'll keep pushing, but you got to let me have a little bit of fun."

And so that was the deal with the board. And it was funny. It was sort of like, "Yeah, it's fine, but don't ever talk to me about it again. I don't want to hear about it." Not really, but that was the vibe, which was fine. So that's how it was. It was probably a half day to a day a week for most of the time. And then what ended up happening in 2021 post-acquisition was I was upfront with all my LinkedIn profile and so on, and eventually it came up in conversation inside Twilio where it was like, "What's going on here?" And I was like, "Well, I started in 2018. It comes to part of the package." And they're like, "Okay, well, it's a little unusual, but Godspeed."

And then I hit the limit where my own ability to do both started breaking. I was able to do both really well. I think even inside Twilio, I got promoted to manage more of the organization and run the SendGrid business unit as well, so clearly I was doing well, but I hit a breaking point in fall of 2021 where I needed to be at COP 26 for Charm in order to meet with potential buyers, and I had the opportunity to be in the room with a bunch of regulators and policymakers and so on. And it was like, COP 26, all my meetings were on the day that we had our all day Twilio leadership team meeting every week. And I was like, "Guys, I can no longer execute these two things. They are physically in conflict, and so it's time for me to leave."

Jessica: And you were happy about that presumably. You were ready?

Peter Reinhardt: Yeah, I was ready. Yep.

Jessica: So tell the listeners a little bit more about Charm, what it does.

Peter Reinhardt: Sure. So at Charm, we are putting carbon back underground in the form of a liquid biomass, oil if you want, so putting oil back where it came from. And we also in the future, we'll use that same bio oil as an industrial feedstock to take really heavy emitter, hard to decarbonize sectors like steel making and cement, potentially aviation fuel, shipping fuel, really hard to decarbonize industrial yucky kind of things and decarbonize them by using biomass as a feedstock into those processes.

I guess to make it very concrete, the business model is Stripe or Microsoft or JPMorgan shows up and they're like, "I've got some emissions that I can't deal

with through reductions. Would you please take these tons of carbon out of the atmosphere and put them underground?" And we say, "Sure." We then go procure right now, we procure wildfire residues in the front range of the Rockies, and this is stuff that would otherwise burn in pile burns, and we take that material, that biomass logs, we cook it into a liquid, then we today ship that liquid to Louisiana. We do the conversion in Colorado, then we ship it to Louisiana where we inject it underground.

Jessica: Wow. Deep underground, right?

Peter Reinhardt: Yeah, almost a mile. Yeah.

Carolynn: Wow. This seems like a biochemistry company, right?

Peter Reinhardt: Yeah. I've learned a little biochemistry along the way.

Carolynn: I bet you have.

Peter Reinhardt: But we have a much more talented team of petroleum engineers and organic chemists and so on. Yeah.

Jessica: Yeah. It didn't start out as bio oil though, right?

Peter Reinhardt: It started pretty close to this, yeah. The idea was to, which is basically still what we're doing, which is to take the biomass and leave behind the solid char. So when you cook the biomass, you end up with all these vapors that come off and you're left behind a solid char charcoal basically, and you get all these vapors which you can condense. So the condensed smoke is the bio oil. So it's pretty much the same idea.

What we discovered along the way, we thought that we would originally only be able to do this for the industrial use cases. We thought that the bio oil would only have use in steel making and so on. And so we were trying to angle for those use cases out of the gate. What we found along the way is that there were a lot of people who wanted carbon removal. So that was the unexpected sort of pivot, which turns out people really want carbon removal. And that started with Stripe actually, and then quickly spread to Shopify and then to Microsoft and then banks and other tech companies. So yeah, we're under contract for 200 to 300,000 tons of material that we need to put underground for them over the next five years.

Jessica: Which is a pretty high percentage, right? The percentage that you guys are dealing with, if you will, that's a high percentage of the total, right?

Peter Reinhardt: Yeah, we're definitely one of the leaders in actually putting stuff underground and I guess also one of the leaders in total contracted tons.

Carolynn: Is there a point where you can no longer use Louisiana as the place where you're going to put all this? Will it fill up, for lack of a better word, and you'll need to get permits or whatever to go to some other state, or is that not the way it works?

Peter Reinhardt: Yeah, I think that the biggest shift that we'll make pretty quickly is that we'll be using biomass that's very near the place where we're injecting. So right now we're doing this kind of weird thing, which makes no sense economically where we're transporting from Colorado. So very quickly we'll transition to using sugarcane bagasse and rice straw and other timber thinnings and so on in Louisiana that are getting sequestered in Louisiana. The underground capacity is shockingly large-

Carolynn: Oh, [inaudible 00:45:48].

Peter Reinhardt: ... so basically, no. This particular well probably has half a million tons of capacity, so a lot. And it's the section of geology that sits underneath one farm via this one well bore. What's cool about this well bore is it's an old oil and gas well. So it's an orphaned oil and gas well, and what happens is the major oil companies go and they drill new fields. They take the sort of primo easy to get oil, then they sell it to the next guy who maybe shows up and pumps down steam or whatever to get out the harder to get oil. And then they sell it to the next guy and so on down the chain until it gets to these fly-by-night operations, they run out of money and then they go bankrupt and then there's no one there to cap the well and seal it and sort of leave it in a clean, non-polluting state.

And so the state basically accumulates all of these orphaned wells that they are effectively a liability for the state and they don't have enough money to plug them either. So these wells just sit there and cause problems for a long time. So in Louisiana, there's like 22,000 or so of these wells that target the specific formation that we're looking at. And across the United States as a whole, there's somewhere between two and five million of these orphaned oil wells.

Carolynn: Wow.

Jessica: Perfect.

Peter Reinhardt: Yeah, exactly. There's an enormous capacity, like trillions of tons.

Carolynn: And ideally, they're in the same place where you have the biomass.

Peter Reinhardt: This is the trick.

Carolynn: So it's not very efficient to ship from Colorado, but I take it Colorado doesn't have orphan wells necessarily that you could have leveraged just to make that super...

Peter Reinhardt: They do actually. They just have a slower permitting process.

Carolynn: Okay. Louisiana has a more hair on fire problem, it sounds like.

Peter Reinhardt: Yeah.

Jessica: I was talking to Paul a little bit. I'm going to quote him. "Charm is a bullet sitting in the chamber ready for fusion to fire the gun." What do you think about that quote? He said this

Carolynn: He said this in conversation or he actually wrote it down?

Jessica: No, he said that in conversation. He didn't say it that dramatically. I just said it. He said it in a PG way. I just said it because it's dramatic. Do you agree with that once electricity gets cheaper?

Peter Reinhardt: I think electricity isn't going to help us that much because we basically get all of our energy and carbon from the biomass itself. So we're mostly dealing with this feedstock. Maybe what he's getting at is we have to go decarbonize all this other stuff, the grid, vehicles, which will presumably go via EVs, which means more energy on the grid, so on and so forth. All these things that we need to turn into electrical processes and then decarbonize the electrical side. Hopefully fusion will do that. Maybe solar can do that too.

There's really cool people like Fervo working on geothermal as well. So there's a bunch of... Maybe that's what he's getting at, and then once that is decarbonized, we're still going to have overshoot on the amount of carbon dioxide in the atmosphere. So we're still going to have to remove a trillion tons of CO2 from the atmosphere. So if you look at the IPCC report from 2018, it basically says at current pace and projection, we're probably going to need 10 billion tons a year of removal by 2050, and then it's going to have to run for a while after that. So that's...

Jessica: 10 billion tons. And what's it now?

Peter Reinhardt: Yeah, it's a lot. All of oil and gas extraction today is five to 10 billion tons. So think about the entire oil and gas industry in reverse. The entire carbon removal industry today might be approaching a million tons, maybe in order of magnitude less than that, maybe a hundred thousand tons a year. But on that scale, it's like, oh my God, when are we ever going to get there? But if you look back a few years, it was nonexistent. 2020, I think we delivered the first ever permanent carbon removal in 2021. We delivered a few thousand tons.

Jessica: You did?

Peter Reinhardt: Yeah, I think so.

Jessica: Charm did the first permanent carbon removal.

Peter Reinhardt: Maybe Climeworks delivered a few, but the first thousand ton delivery, yeah, was almost certainly Charm in 2021.

Jessica: Oh my God.

Carolynn: Is your biggest hurdle, time, technology, money, what's stopping you? What's the thing that stops you the most?

Peter Reinhardt: Over the last five years, the biggest barrier has been regulatory, which is actually quite depressing because a lot of the point of these regulatory environments usually is to protect us as civilians. And I've pretty strongly come around to a viewpoint that a lot of regulatory stuff is now actually actively hurting the society as a whole, which is pretty rough. But I mean, just look at, to give you one example, I have a blog post coming on this, which makes my policy people very nervous.

Carolynn: I bet.

Jessica: Yeah.

Peter Reinhardt: So from the time that we said we want to inject bio oil. And by the way, bio oil is the active ingredient in barbecue sauce, it is the smoke flavor. So you've eaten it before. Literally when you get a bottle of barbecue sauce, look on the back and you'll see liquid smoke or natural smoke flavor, that's bio oil.

Carolynn: Yeah. Okay.

Peter Reinhardt: All of our sites smell like barbecue. We make large amounts of this stuff and...

Carolynn: Doesn't sound that bad.

Peter Reinhardt: Yeah, it smells nice actually. The sites all smell like barbecue. We're like, we want to inject this stuff. What's the pathway to do it? Getting permits is slow, but actually figuring out which permitting pathway you should be on is brutal. So it took four years for the agreement to happen between federal EPA and state EPA and so on as to what permitting pathway it should be. Is it a class one underground injection control well, or is it class two, class three, class four, class five, or class six? I can bore you with that, but the point is it should have been class five. Within three months, everyone in these conversations is like, yeah, probably class five. But it took four and a half years to get to a place where it could be written down formally that yes, it is a class five. Great.

Okay. Then we filed the first permit, first [inaudible 00:52:02] permit in Louisiana because the Louisiana Department of Underground Injection Control is extremely well respected, would set a good precedent and they can move

quickly because they have a lot of expertise. Took them 14 months to issue the first permit. It's awesome. So grateful for them to push that forward, would love to see it faster than 14 months, but hey, it's a first of kind well and establishes a precedent.

So five and a half years from the time that you're like, "Hey, we all agree that this is safe and that it should be in a class five until you're actually allowed to do the first injection. We figured out other hacks to do into class five salt caverns and we did all this crazy workaround stuff to figure out how to operate in that time window. But if you say, what is the total cost of that window? To Charm it's probably, I don't know, approaching half of the total capital that we'll have to raise as a company is effectively going into that delay.

Brutal from a company perspective, but also from a human health perspective. And this is where I think that regulations have really gone off the rails, which is all of that tonnage that could have been going underground for the last five and a half years, didn't. And so what happened as a result? Well, it was pile burned. But what happens when you pile burn? You get a bunch of PM 2.5, you get a bunch of NOx. If you look at the human health impact of that, it's actually way in excess by a factor of 10 or 100, way in excess, of the cost to Charm as a business.

So I actually think we're in a place now where the regulatory environment and the sort of risk aversion that has been created because they can get sued all the time by everyone is really doing a disservice to the American people from a health perspective, let alone all these other things. So that's the biggest impediment. I think we had a really big breakthrough on that in August when this permit was issued, and so now the bottleneck is kind of shifting more towards our own capacity to produce bio oil.

Jessica: Do you have tons of policy people on staff at this point?

Peter Reinhardt: We have a few very talented people, yeah. But yeah, another way of looking at it is maybe we were severely under invested. Maybe a \$5 million a year budget on policy was not enough. Maybe it should have been \$20 million a year.

Carolynn: Dang, that's a lot still.

Jessica: Will it get easier with a different administration someday or is this nonpartisan?

Peter Reinhardt: The regulatory side, I would say is actually making significant progress this year, which is maybe countervailing to some of the vibe around climate. But the current EPA, new EPA political class of administrators, they're very eager to find ways to accelerate innovative companies doing interesting things. And so we actually are seeing some progress there, which would be pretty exciting.

Carolynn: I was going to ask the same question, Jessica, I was like, is this a partisan thing? But then when you said lawsuits, I was like, ah, this is just what our society is. If

you make a misstep, you just risk decades of litigation basically, which is obviously tied somewhat to policy, but yeah, I can see how this is really just about that more than anything.

Peter Reinhardt: That's a huge structural component. I would say that the current administration seems much more interested in removing barriers for businesses to scale. And at least in this case, it's deeply aligned with good health outcomes and good outcomes for the American people as well. Yeah.

Carolynn: That's good. It's encouraging.

Jessica: Founders always say they're changing the world, but Peter, you literally are. I mean, it must be a huge change for you to be doing this and heavy on the hardware than the B2B startup. Are you happier?

Peter Reinhardt: I love it. I love it. It's so much ... All of our engineering and operations, not all of our, most of our operations and all of our engineering are in Colorado. And I get to go out there once a week and basically spend the day, catch the 5:00 AM United Flight out and catch this 8:00 PM United Flight back or whatever. And it's awesome. You just get to walk through the plant and see the incredible progress that the engineers are making, watch bio oil being made and every week it gets better.

I love the physical manifestation of the work that we do, as well as obviously the mission, but just the fact that it's physically manifest is so much cooler to me than when we are flipping bits. I mean, it was cool at the end of Segment where we had Fox I think was hosting the Superbowl, and so we hit a million clicks a second or something like that, which is like, holy shit, that's a lot of data, but didn't hit home in quite the same way.

Carolynn: I was wondering if your backdrop, which is obviously we're a podcast here, but it's lots of science on your whiteboard back there. I'm like, Peter, put that up just for podcast backdrop or is that something real?

Peter Reinhardt: No, it's not real.

Jessica: And what are those photos of? [inaudible 00:57:02].

Peter Reinhardt: Yeah, the photos are all just ... Yeah, this one is someone running a pyrolyzer, a few of pyrolysis things. That's the production of the bio oil.

Carolynn: That's very cool.

Jessica: What's the top one?

Peter Reinhardt: This one is me and one of our first operators, Adam. We had a breakthrough two and a half years ago where basically I had a bet the company moment where

things weren't really working and we were probably six weeks from out of cash. And so I personally put in another, I forget what, I don't know, two or five million, something like that, and was like, "I think we're going to figure it out in the next two months." So I bridged the company a couple of months, and then we got a new pyrolyzer and we started running it. We had never run for longer than four hours, and on the first run, we were going to try to run for 12 hours. We were eight hours in and I was like, "I think it could go for 24 hours."

And so head of engineering, Grace and I were here in San Francisco, that was running in Colorado. I was like, "Grace, we need to go to Colorado and we just need to get on the next flight." And so we were like, "Guys, just hang on and you just sit and spend a few hours late. Grace and I'll take the overnight shift, graveyard shift." And so we just flew out to Colorado and this was me learning how to run the pyrolyzer, and then we ran it overnight and then they came back in the next day and kept it running. So it was a huge watershed moment for the company where we actually got the equipment running.

Jessica: How long did it go for? I mean overnight [inaudible 00:58:30]

Peter Reinhardt: We shut it down at the end of the next shift, so it was 36 hours or so.

Jessica: Whoa. Okay. So that was a big moment. And you were six weeks to running out of cash?

Peter Reinhardt: Yeah, I think so. Yeah. And I mean, then I put in another two months of runway personally and then-

Jessica: In the amount of millions.

Peter Reinhardt: ... and then we landed that. Yeah. And then we ... Well, I'm much deeper than that at this point on Charm. But yeah, we've got a lot on the line with Charm. But yeah, then we had a whole bunch of other milestones land at the same time. We got the pyrolysis working. We landed a big contract with Frontier and da da da da. All this stuff landed and then we were able to raise the series B.

Jessica: Paul, you probably know that Paul and I, are customers.

Peter Reinhardt: Yeah, thank you.

Jessica: We offset our flights. So when we get on the BA flight from London to San Francisco, we offset our CO2.

Peter Reinhardt: Yeah, thank you so much.

Jessica: You're welcome. But I love that. And I feel like someone said to me here like, "Oh, those things don't work." And I said, "But Charm does." So I feel like everyone should try to do that just to be good citizens.

Peter Reinhardt: Yeah. Well, if you want, you can go on [charmindustrial.com/ledger](http://charmindustrial.com/ledger) and you can probably just see the exact delivery date and so on of the tons that you ordered. The main thing that I wanted as a customer was extreme transparency and a FedEx style delivery history. We have a crappy [inaudible 01:00:04] out right now that you can see some of that history, but it'll get better with pictures and everything over time.

Jessica: If someone was thought, oh yeah, I want to do that, is it easy to do? Because Paul handles this?

Peter Reinhardt: Yeah, you just go to the website and sign up.

Jessica: You just go to the website and sign up. And so every time you take a flight, it'll be calculated and do that for you.

Peter Reinhardt: You have to do your own calculation right now or choose a subscription model, but yeah.

Jessica: Okay. But it's pretty easy?

Peter Reinhardt: It's easy.

Jessica: Okay. I feel like I want to encourage people to do that.

Peter Reinhardt: Yeah, thanks.

Jessica: You're still feeling good and energized and doing exciting things? What's next?

Peter Reinhardt: The August permit was a huge transformation point because the agency shifted internally. The ability to execute on the opportunity went from, well, hopefully someday a regulator approves this thing, which is very painfully going through this process to like, okay, no, great, the regulators are good with it. It's approved. And it's a wonderful thing for that community getting a well cleaned up and it's a wonderful thing for the other community in Colorado not having to deal with wildfire residue and smoke. And so now it's like ours. It's ours to seize now. We just have to make it cheap. And that's an engineering problem. So love those problems, love when it's a problem that we are responsible for.

Jessica: The engineering problem versus the regulatory problem.

Carolynn: Regulatory, yeah.

Peter Reinhardt: So much...

Jessica: Oh, that's great.

Peter Reinhardt: So yeah, it's a pretty, I think, significant inflection point for the company right now. And now we get to go figure out all the things to drive down costs, just like shorter transportation distances and larger throughput machines and more of the machines and so on.

Jessica: Do you have a lot of YC startups that are your customers?

Peter Reinhardt: [inaudible 01:01:58] startups. A lot of tech companies though, like Figma, Stripe, Shopify, et cetera. I think there's a good number of companies...

Jessica: Well, Stripe's one. Stripe's a YC.

Peter Reinhardt: Yeah.

Jessica: I still call them a startup. Sorry. Do you have any YC companies?

Peter Reinhardt: For sure. Yeah, I mean, Stripe was the original. Yeah, and then Stripe organized this thing called the Frontier Coalition or Frontier Climate, which is an advanced market commitment. So they pooled a billion dollars of purchase power, and then they go and sign off-take agreements, purchase agreements with carbon removal companies. So we were the first one that they signed a purchase agreement with. So it's like an order of magnitude \$50 million purchase from Charm into that market commitment. And then I think there's a lot of other companies that can contribute 1% or whatever to their checkout flow with Stripe. And so a lot of that is flowing in to pay for part of that billion.

Jessica: That's great. If someone like me who's gotten a little bit more excited about this having prepared for this conversation, what can I do to learn more?

Peter Reinhardt: I think one of the things that is maybe most surprising and is probably one of the most important takeaways for the voting age population is how important deregulation actually is. I think I've found this to be surprisingly true across almost all the climate tech CEOs that I know that they are, for the most part, up against regulatory barriers far more than they get support from the government, especially... Just a huge amount of the opportunity is actually to just remove the barriers to build things in the real world. It's shockingly hard to build things in the real world given the regulatory requirements around it.

Carolynn: We're not even in Europe. It's worse elsewhere.

Peter Reinhardt: Totally. Yeah. And when you think about geopolitical competition with China, there are things that we should not allow. We should not allow the wholesale destruction of the environment, but we're so far from that. We've gone so far that now we can't even do the things that would fix the environment. And so there's a big turning point that I think has to happen politically, and I think that's where the [inaudible 01:04:12] man has the most power, which is to actually eliminate the barriers, reduce the barriers to building things.

And I think you see this even just with housing policy in California, it's the same thing. It's almost impossible to build anything. And so bills like SB 79 that just passed the California legislature and are headed to Newsom's desk to hopefully sign this week, it's going to allow building of an enormous amount of housing in California, which would drastically reduce the cost of housing in California. And there's the hard left that wants subsidized housing, which will never solve the cost structure. And then there's all the landlords that don't want it either. And we just need abundance of building stuff, and it's got to be from cutting red tape on building stuff. So that'd be my one ask.

Jessica: Peter, I loved catching up with you. I learned a lot about Segment and really excited to learn more about Charm. And obviously I wish you the best of luck with that and hope things move more quickly going forward. But thanks for your time. Loved it.

Peter Reinhardt: Yeah. Thanks so much for having me. Fun to see you both and catch up.

Carolynn: Thank you for coming. It was great.

Jessica: Yeah. All right. Thanks. Bye.

Carolynn: Bye, Peter.

Jessica: That was so much fun catching up with Peter.

Carolynn: Yeah, no, he's got a great story. I love that he just turned his side hustle into his thing. It's his passion and he's doing it and he's got so many intelligent thoughts about it and he's great.

Jessica: He said that he did this B2B software startup basically because he wanted to work with his roommates and they wanted to start a business and he devoted a decade of his life to it.

Carolynn: And suffered physically for it a little bit, mentally.

Jessica: Yes.

Carolynn: So there's some real...

Jessica: So I'm pleased that he was able to start Charm and sort of negotiate that into his contract with the acquisition and everything because it's changing the world.

Carolynn: Yeah. No, it's someone who's actually putting... Someone who's like, "I'm on to make a difference and here I am going and putting my own money in and my own time." And it's great. We need more people like him, honestly.

Jessica: Yes, Carolynn, we need more Peter Reinhardts.

Carolynn: Oh, and he said this after the fact, but he has three kids too, so he's actually raising kids and doing all this. He's amazing.

Jessica: I know. And I loved hearing the story of the pivot because that's sort of inspirational for people who don't feel like they're getting product market fit. If you keep going and stick with it, maybe you'll hit that idea.

Carolynn: Well, there's definitely a theme of that. Some of these pivots are serendipitous. So the message is, yes, if you keep at it, maybe you're not going to ever have one of these serendipitous moments, but maybe you will. And so you have to decide how long it's worth it to keep going until you maybe have one of these things that happens and whether it's because of perseverance or luck or you never know, but if you're into it, keep going.

Jessica: I love that. And I loved hearing about all he's doing with Charm. It's so amazing. And I hope it's a huge success because if you look at some of those numbers, what needs to happen? It's a lot.

Carolynn: It's daunting.

Jessica: Yeah.

Carolynn: It's very daunting.

Jessica: If there's anyone problem solving for this, I'm glad it's Peter.

Carolynn: Right, exactly. Me too.

Jessica: It's going to be a great episode. Can't wait for listeners to hear this one.

Carolynn: Me too.

Jessica: All right. I'll talk to you soon then, C. Levy.

Carolynn: Bye.

Jessica: Bye.