

Tough Tech Today with Meyen and Miller

Bringing heroes home (TTT007)

featuring Caleb Carr



In one sentence...

A helicopter rescue mission gone awry fuels this man's mission to bring heroes home safely with drones built for aircraft load stabilization.

Overview

As a Black Hawk helicopter's rotors *whop-whop-whopped* overhead in their fight for command of the winds amid a stormy – and ultimately failed – rescue mission, a teenage Caleb Carr had a life-shaping experience that led him, many

years later, to launch Vita Inclinata, a mission-focused company pioneering aerial load stabilization.

Whether for medical evacuation, construction, firefighting, or many other applications, tethering loads to aircraft has always suffered from issues. Pilots of rotorcraft and fixed-wing aircraft alike must balance opposing forces to hoist humans and cargo safely. We learn from Caleb about the difficult decisions he's faced in building a tech company with one mission: bringing heroes home.

Show Notes

- Episode page, transcript, and podcast listening links: <https://toughtechtoday.com/bringing-heroes-home/>
- Caleb Carr on LinkedIn: <https://www.linkedin.com/in/cbcarr/>
- Vita Inclinata (company): <https://vitatech.co/>
- Subscribe with your favorite podcast service: <https://www.buzzsprout.com/1169378/6210472>
- Watch this show on Youtube: <https://www.youtube.com/watch?v=lc1NHift1sM>

Topic Timecodes

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Tags

tough tech today,jmill,Jonathan Miller,Forrest Meyen,deep tech,hard tech,startup,entrepreneurship,venture capital,tough tech,tough technology,technology,podcast,Caleb Carr,Colorado entrepreneur,Vita Inclinata,search and rescue,vita inclinata technologies,helicopter load stabilization,hanging load stabilization,drones,ducted fan,load stabilization drone,AFWERX,tech stars airforce

Transcript

<https://otter.ai/s/vSr13QS3TQOYtH4Av7dwog>

Caleb Carr 00:01

When my team walks into the building every day, they see our mission statement that we build technology that brings people home every time. That is exactly what I want every one of my team members thinking every single day when they are working here. And that's the exact same mentality that is so critical aa an early stage entrepreneur to be able to get you across all those lovely humps that come with building a company, where you just want to give up and you just want to be done.

Announcer 00:28

Welcome to Tough Tech Today with Meyen and Miller. This is the premiere show featuring trailblazers who are building technologies today to solve tomorrow's toughest challenges.

Forrest Meyen 00:43

Welcome to this episode of Tough Tech Today. Today, we're here with Caleb Carr. Caleb Carr is the co-founder of Vita Inclinata Technologies, and his company's primary product is a dynamic load stabilizer for helicopters. Welcome to the show, Caleb.

Caleb Carr 01:01

Great to be with you guys.

Forrest Meyen 01:02

The first question I have for you today is tell us a little bit about your inspiration for this technology. Why do you think that this was a passion that you were going to pursue and build into a company trying to solve this problem with stabilizing loads on helicopters?

Caleb Carr 01:21

Yeah, so the crux of Vita and where Vita really came from was a search and rescue mission that happened in 2009. I was a member of a search and rescue team in Portland, Oregon and one of my team members went down with cardiac arrest. And so we ended up calling in Oregon National Guard Black Hawk helicopter to come rescue him. And when they were trying to lower the basket down to us below, the basket kept swinging back and forth, because of the high winds that particular night. And so after multiple attempts, the helicopter pilot and eventually ended up calling off the mission, and we ended up calling time of death. And so that was the impetus that led to now what Vita is. When a simple professor heard that story at CU Denver, my freshman year of college about a month in and said, "Well, why the hell don't you fix it?" And that was kind of the driving force that has now led to what Vita Inclinata is today.

Forrest Meyen 02:11

Well, so that's pretty powerful. It took... there's something that you're thinking about for a really long time, but it finally took that professor to really be the catalyst to make you think why don't I fix it? What were you thinking about doing before that, like, what was your...? You were just thinking about this in the back of your head and then once he said that...? How did that change your your life path?

Caleb Carr 02:39

I wasn't even thinking about being an entrepreneur. I mean, I was a sophomore in high school when I had this experience to undergrad; I had no interest in building a company. I just wanted to go to med school. That was my big thing. I love medicine, I loved all that kind of trauma type work that I got introduced to with search and rescue. But the real big thing for me was, "Okay, wait, this could be something." But to be frank, in 2012, I thought it was just a resume booster. I didn't think of it being actually a company, I didn't think about entrepreneurship. I didn't even know what entrepreneurship was in 2012. And so the evolution of Vita had very much also been my journey of learning what entrepreneurship is, and actually figuring out that this could not only be a career path, but also something to really, truly execute a mission to solve a real problem across all search and rescue operations.

Jonathan 03:41

The experience that you had as a youth or young adult. It sounds it's heart wrenching. And unfortunately, I imagine that this is not a unique experience to you, that there are the people

who who've had these kinds of experiences where someone was not able to be safely airlifted out. Why has this kind of problem, in terms of stabilizing loads, why do you think it hasn't worked in the past?

Caleb Carr 04:12

Yes, so the big thing about why loads haven't been able to be stabilized is really focused on a lack of focus on the actual problem. So all the big OEMs, Boeing etc, have spent millions of dollars trying to stabilize the load from the helicopter. So but baseline physics would tell you the longer the line gets, the more you have to move the helicopter or to stabilize the load. Well, at that point, you're flying the helicopter, you're not hovering the helicopter. And so it kind of takes away that entire mission set and to be frank technology innovation, specifically around thrust profiles, and also motor controllers, batteries, etc. really haven't been a thought until the last decade and with the evolution of eVTOL and all these different markets that has helped drive a lot of this drone industry, now that Vita is leveraging to be able to be successful in the space, but everybody else still had their eyes beam set on trying to manipulate that helicopter about that load.

Jonathan 05:11

Is that also a path that you had taken earlier on? Maybe when the physics professor prompted you that why don't you go and fix this problem, that you also kind of take the path that maybe the big OEMs, or defense contractors had also taken initially?

Caleb Carr 05:26

Oh, yeah. In fact, I had a stupider idea. And my stupid idea was to put a rail system on the side of the helicopter and move the hoist left and right, up and down the helicopter, great when you're, what 1819 years old, that have no concept of engineering, but absolutely horrible for the center of gravity of a helicopter, and it would have never worked, and was completely dead on arrival. Great idea.

Forrest Meyen 05:52

At what point did you realize that was a stupid idea? And how did you convince yourself you need to think of something else?

Caleb Carr 05:59

So that idea was really driven all the way through 2016. So we actually worked with this idea for years. I ended up firing my entire old team and bringing on my co-founder Derek Sikora, who's my VP of technology, who came up with the idea of what we call the low stability system, or LSS, which is this drone type technology. So it wasn't really until 2016/2017, that we actually started to pivot away from a rail system to actually the technology that you see today.

Forrest Meyen 06:32

Can you describe that? Is it like a drone holding on to like a rope? What is it? What does it actually look like?

Caleb Carr 06:39

So essentially, it's a series of four fans that we attach either to the load or to the cable itself below the aircraft, and provides counterthrust in the direction of the swing to bring the load to center. So think of it basically as an individual drone that you're just attaching to the load and then each fan is independently operated to be able to sense where it is in space and bring that to rest directly below the center point of whatever it's attached to — crane, helicopter, I don't really care, anything that's suspended off of a line we're able to work with. And then you can scale that up so we have some products that are for LIDAR systems, so 750 pounds, and then some systems that can scale up to 66,000 pounds. And so it's just a question of, what type of mission you're trying to go after and what type of application marketwise that you're trying to focus on.

Jonathan 07:31

Did you feel that this was...? I mean this was years in the making on a hands-on level and maybe a decade plus in terms of it being in your mind and trying to try to get it out of solution? What could you attribute as some of the pivotal periods since your professor had challenged you? I mean, you had the initial experience when you're a teenager, and then your professor had challenged you to solve it. What are some other pivotal plot points that got us here to today?

Caleb Carr 08:04

So one of the ones in my undergrad career was when the University of Colorado claims 75% equity of Vita when I was a student, and so...

Forrest Meyen 08:12

They sent you a letter or something and said, "Hey, give us our shares."

Caleb Carr 08:17

Oh, you would think they would be that nice? No, they just sent me an email. Really, that was great. By the way, by you being a student, you are you adhere to this IP policy of the university.

Jonathan 08:30

What was that experience like when you got that email?

Caleb Carr 08:38

I mean I had no concept of what IP was or what equity was, I mean, I was still kind of in the early infant stages of being an entrepreneur. And so when the university came after us, we responded by saying hell no. And so we ended up creating two more nonprofits a 501(c)4 and a 501(c)3, one called students for intellectual property, and the other one called the Ideation Foundation that actually pushed state and federal legislation to mandate that undergrads who

innovate on campuses actually own what the hell they create. Sounds like a practical concept, but apparently the universities really hate that idea.

Forrest Meyen 09:17

Aren't you paying to be there?

Caleb Carr 09:18

That was that was the main argument both with the White House and with Congress, when we were pushing this in 2015, which was, look, if you pay for a service, can't you get the products of the service that you pay for? And that seemed very practical. But we fought against almost every university lobbying team that you could possibly imagine, but we were able to pass three different states' legislation and the state of Colorado ultimately relinquished or helped relinquish the IP claim by the University of Colorado, and we were able to move forward with that. So that was kind of one of the major motion moments for me I really drove kind of where Vita's at because it forced me to get into entrepreneurship real quickly in the form of advocacy. And then from there Vita was continuously able to grow after that.

Forrest Meyen 10:11

Sure. And I imagine the other real critical moment was that moment you decided to fire your whole team and bring on your co-founder and restructure your company. Can you tell us about what that was like?

Caleb Carr 10:27

I mean we were a whole bunch of biology and chemistry majors to be blunt so we have no engineering background whatsoever. But the glitz and the glamour was there. I mean, the IP narrative around Vita was very strong. And so there was a lot of camaraderie between the old team, but also a lot of opportunity, not for really Vita's mission, but more for others. And I kind of sat down in late 2016, and said, are we serious about this, or are we not? And so because of that, I ended up firing the team of which one of them was my roommate at the time, which that did not go as well as I would have hoped. But July 4 of that year, brought on Derek, and Derek was the driving force to actually take the engineering from nothing to something. And I would do that focus. And I would do that process all over again, if I had to, in order to make this company successful,

Jonathan 11:25

That takes so much courage to be able to say that, though the work that they had done to date and the team that you had assembled to acknowledge that it wasn't going the way that you wanted it to, and that certain people were not a fit. Were there allies that you had that were helping to say to support you as "Caleb, if you're going to do this, here's a way to go," and how did you sort of bring yourself up? Or was it by your bootstraps, so to say?

Caleb Carr 11:58

So a lot of it was still by bootstraps. So I had now my wife at the time, came kind of support me through the thought process and ask a lot of those questions, but other than that, that was basically it. And it was kind of just that reality check of our do we care about this mission, or do we not and really executing from there?

Forrest Meyen 12:23

So can you walk us through... it seems like your company now is growing really quick, and is now starting to starting to get into some real success, and what was the path like, basically building from that initial kind of restart to where you are today?

Caleb Carr 12:42

It's been amazing, but also one of the worst times of my life. And the reason being is that with the rapid growth, there's so much opportunity. But I mean, when you talk to early stage entrepreneurs, when you're a seed company or pre-seed, you make a screw up, who cares, you move on, you pivot. Now, when you have 32 employees, you've got all this capital behind you, you've got 1800, or 18,000 square feet of space, and all these different moving parts, one screw up has massive impacts, both from an HR perspective, a legal aspect, and also from a company direction aspect. And because that mentality shifted so quickly for me, it added a lot of stress, it had a lot of sleepless nights, because the moment you start realizing "Holy crap, one small failure now is amplified 10 X, versus what it used to be pre-seed." And that is a very scary position to be in as a founder who has never taken a business class in my life, and is learning this thing as we go to try to figure out how do you actually build a company and make it successful?

Jonathan 13:53

Have you participated in maybe like a CEO roundtable or other to be able to talk with other folks who are in this position that are at a relatively young age, leading quite a big ship that you have employees and thus, the work that you're doing successful or sometimes the occasional error that slips by is helping to put food on the table for families.

Caleb Carr 14:20

Initially, you would go to YPO, or some of the other types of organizations that you hear about, but so many startups don't get to the stage that Vita's that. And so being able to share that struggle is hard and trying to find those people that have that. And then on the flip side, you get seasoned early-stage advisors to kind of work with you through it, and one's already suing me, because I didn't give him enough equity that he believes that he deserves. And so that's the kind of reality and it's made me learn especially as Vita's continue to grow, that you've got to be very careful with who you trust and what you don't and who you are skeptical with etc. and even with that process and thought, the reality is for me that I needed to find another outlet. And it wasn't until I really got to a crashing point over the last couple of months, that I realized, for the first time in my entrepreneurial career, that actually go into counseling, and actually having someone

that has more of a professional relationship with you to actually work through stuff is one of the best things I could have done, to be able to not only get my emotions and stress in line, but also to get my thinking clear, and focus on where is the future of the company going? And how are all these different failure points, or struggles going to come in and potentially impact that?

Forrest Meyen 15:43

So what sort of things have you taken up to, I don't know... to kind of balance... what you do in your spare time, you have a new new hobby or something?

Caleb Carr 15:52

So I got kicked back into firefighting, which has been nice so I'm still a volunteer firefighter.

Forrest Meyen 15:58

Way to relieve stress, right? Put your life in immediate danger.

Caleb Carr 16:02

Love it, anytime the tones go off, and you get to drive the red truck, that gives you a high more than anything else you can possibly imagine. I absolutely love it! But also, snowboarding during the winter, rock climbing during the summer. And being in Colorado, I get a good fix of that. Unfortunately, I'm still on quite a bit of planes even with COVID, which makes that a little bit more difficult. And so trying to take at least a day to enjoy wherever the hell I'm at has been a good focus for me over the last couple of months, as things have been naturally stressful with COVID and all the different changes that have been going on for companies through the entrepreneurial journey.

Jonathan 16:44

Have you seen then that with COVID? And of course, it's both a terrible time and perhaps a great time to be running a startup during an environment like this financial economic, pandemic-wise... have you found that some of your customer demographics that some have been sort of more able to either keep going with the contracts that they're setting up with you or even maybe doubling down with support, whether it's maybe from the Department of Defense, or from the private sector? Can you walk us through how that may have shifted for you over the past couple of months?

Caleb Carr 17:20

Sure. So we actually have been hiring more, we have never... we haven't laid anybody off, we never even approach that reality, thankfully. I never wanted to be a founder that had to be in that type of position before. And I'd like to keep it that way. From my general perspective, though, a lot of the support of Vita and where we are going has been because the DoD is not shutting down. So defense spending will always continue. We've actually been awarded contracts, as things have gone on with COVID and everything else. But also even on the

commercial side, I mean, we work a lot in wildland fire. We all are very aware of what's happening currently in the United States, when it comes to wildland fire. So that doesn't change us for us either. But one of the coolest things that I would say is when COVID hit our main business model was licensing. We were going to license our tech, I didn't want a manufacturer that sounded like hell just license this stuff, call it a day, move on. Well, that didn't work. COVID kind of put that all to shit. And so the reality was is that, alright, how do we get this moving. And so I decided to move to DC drop everything, and go and push congressional appropriations and authorization to get systems deployed to the US Army in the Congressional Budget. If it weren't for COVID, the budget would have not been delayed, the authorization would have not been delayed. And we wouldn't have been able to complete that in about eight weeks, thanks to the team that we were able to build out in DC. And if it weren't for COVID, we would have missed it by about three months. Because of COVID, we actually... literally the one week that we started that initiative was the date that they actually started discussing these bills.

Forrest Meyen 19:08

So a blessing in disguise.

Caleb Carr 19:10

Absolutely.

Jonathan 19:11

You appear to have a streak of advocacy and and challenging regulation to try to make it more favorable for not only you but a lot of other sort of classes of small companies or students. Is that... I guess that wasn't necessary part of the the job that you signed up for, but it's become the responsibility that somebody needs to take on.

Caleb Carr 19:36

Absolutely. This message is not from my perspective: every entrepreneur that's got a defense application or a tech application or hardware application needs to go lobby Congress. Stupid, don't do it, it costs way too much money. But more importantly, the real focus is it's bringing the discussion of how do we support early-stage entrepreneurs from the federal government. And that is something that has not been a discussion, because frankly, no startups have been able to be successful in receiving congressional appropriations. It's always the big companies, the Boeing's, the Lockheed Martin's, etc. And now we're starting to turn the discussion back to: okay, how do we support these small companies that are growing and also make the investor community aware and also validate that this is a realistic strategy to supplement — not be the primary — but to supplement the B2B or B2C type markets that every company's tasked with going after?

Forrest Meyen 20:37

I read that you attended TechStars Air Force? Can you comment on these new startup incubators you're seeing everywhere now? Are they valuable? Are they worth it for you guys?

Caleb Carr 20:54

So we've gone through five.

Forrest Meyen 20:56

Five, wow!

Caleb Carr 20:59

And the thing about incubators of which, by the way, Vita owns one of them already that we went through. So it's called AeroInnovate. The reality though, is that incubators are great, when you have no idea about what your market segment is, where you're going, all those kind of things; so to help put the baseline infrastructure in place. After that, shorter connections, they provide no real value, in my opinion, and maybe capital, that always helps, but really it's the connection base. And that's really what TechStars provided to us. We were already into our Series A and actually closed it the first month of TechStars. That basically put us on a map of, okay, where are we at? And how do we fit into this cohort? And a lot of it was to drive connections. I mean, we had a valuation of over an 85 million post-money, and how do you how do you fit into these early stage kind of discussions? And so one of the things that I've noticed is really good, though, is when you think of your entrepreneurs that are with you, you've got a whole bunch of people that are usually under 30, not much experience, either dropped out of college, or just what got out of college. Accelerators are awesome to teach them, to train them, to actually make them business professionals. And so I have taken some of the earliest employees that we've had that frankly, had no business experience, post graduation, and sent them to accelerators, hey, you're going to go live in Boston for four months, I had one who lived in Scotland for four months, I had one that lived in Erie in Pennsylvania, for three months. And they go live there for a period of time. And they learn business, but also they learn how to be isolated, they learn how to work remotely, they learn how to build a network, like those are all critical things that when they come back here are that much more valuable to me as a CEO. And so that's kind of my perspective. And from the perspective of AeroInnovate which was the first accelerator we actually ever went through, we ended up acquiring it from the University of Wisconsin last year, because the university was going to shut it down. After 15 years, we kept it going with the main mission of doing exactly what I was talking about helping early stage aerospace entrepreneurs actually figure out the basics. And then after that, empowering him to go forward. But after you figured out the basics, I really don't see a value in them.

Jonathan 23:24

That's an interesting point of view and my experience is like that. That's an effective strategy that you developed in terms of being able to seed or place some of your maybe less experienced or differently experienced folks into into these accelerators. And so then now, is it a plan that

with incoming employees that you have sort of built in training programs that don't necessarily need to have to do the opportunistic, like placing employees at different accelerators that you can get a new person up to speed internally?

Caleb Carr 23:57

So my main focus as CEO is during the first week or two of an employee's employment is I burn them out. That's my goal.

Forrest Meyen 24:07

Tough to work for you.

Caleb Carr 24:13

Well, the purpose is, is doing it in a safe place. Because the reality is, is that at the end of the day, I might send you to go open up an office in the Middle East, which I'm sending one of my newest employees, who was a line cook prior to coming to Vita and never had gone to college, to the Middle East to open up an office. But the stress that comes with burnout, and being able to overcome it is something that I need to control and to be able to work with my employees, especially my new ones, in the same building, to be able to work through those mental struggles to be able to work through all the different types of feelings that one gets — stress, etc. — when you're getting to that point of burnout, which we all hit at some point in our entrepreneurial journey. And so by doing that, it's a safe place and then when they go to the UAE and they hit burnout there because they will, then they have some type of baseline that they can go back to. So what I do is I say, great, you have to review the entire company, tear it apart, tell me your top recommendations, your risk points, anything 50 pages, go, give it to me by the end of the

Forrest Meyen 25:17

50 pages?!

Caleb Carr 25:18

Yeah, 10 pages a day, and I don't read it, I let them present it. But the point is, is that it forces them one to learn the company really well. They learn every aspect of the business, because we've got all the materials that they could possibly ask for. But most importantly, they're walking away knowing I can do this. Now I can do anything else. And that is one of the most empowering important things, especially with early stage companies to be able to empower each one of your employees to have that feeling. So that then when they are thrown crazy situations, which, frankly, they're thrown, because they don't have a support network, because you're don't have a company that has the infrastructure for a support network, that they can figure it out.

Jonathan 26:07

If I recall, in college, you had some foreign study abroad experience, including at the UAE, is that correct?

Caleb Carr 26:15

Yeah. So part of my student government work was to try and create new programs... I think a lot of kind of this entrepreneurial idea. So I came up with a program called CU International Ticket, which was really a way to get 70 grand out of the university to pay for me and a couple other students to go to Rwanda, and to the UAE for about two months. With the main focus of trying to get students professional development experience, and get a lot of these kind of struggles that now I see in today's industry, kind of addressed in undergrad. The program ultimately didn't go anywhere, but I was able to, thankfully, to both go to Africa and the Middle East for a period of time in my undergrad years.

Jonathan 26:58

Do you feel that that that exposure is what helps you be able to guide this new fresh employee, as you challenged this individual to go set up an office in the UAE? That because you have some of the context for it that it can help when you're giving so much responsibility to someone for this kind of a job which sound intimidating for anybody, experienced or not?

Caleb Carr 27:24

Yeah, no kidding. And absolutely, I believe traveling globally, especially in business is important. And aerospace is one industry, where you travel for everything. The amount of time I traveled in 2019 was insane: it was about 85% of the year. And the reality was, is that you had to just engage with different cultures, because that was just where the industry takes you. So from my perspective, that was kind of the core focus, to be able to take all a lot of those learnings and then push them on to my team as they continue to grow. And I know that he's going to have some successes, I also know he's going to have a heck of a lot of failures, it's going to be a culture shock, etc. And with all of that, being able to provide a little bit of that foundation is going to be critical to make sure that he is successful.

Forrest Meyen 28:14

Yeah, you mentioned like one of the challenges of your company, as you've hit this growth phase is there's so many opportunities, and it's difficult to pursue them all. Can you explain how you decide what opportunities you pursue?

Caleb Carr 28:32

So my general view is that every opportunity you apply for, every opportunity you go after, it's not until you get the opportunity to say yes or no, that you even get a right to determine whether you're going after that opportunity or not. And so it's still very much the entrepreneurial mentality of throw a million darts at the dartboard and see what sticks. And so my team focuses on that mentality as well. If even if it takes 12 hours a day to be able to execute said mission, the ability to be able to say, "Look, I've looked at all of these different things, but these are the things that are working, great, let's run with them." And that allows us to really be able to refocus on

opportunities, but also not forget about the fringe opportunities, which is what I fear a lot of companies do when I mentor them or work with them is that they get so siloed into one opportunity, they're missing the fringe ones. That could be a massive pivot for us. Cranes was a massive market opportunity that we didn't even think about. I don't care about construction. I never thought about construction. Now I really care about construction. And the reality being is that this had this industry had the exact same problem of being able to stabilize loads and people being injured. We would have had no idea if it weren't for looking at the fringe opportunities.

Jonathan 29:48

You had been at Uber as well, right? For plenty of entrepreneurs or wantrepreneurs or just people, they may think that okay, Uber is a cool company or Facebook, Apple, any any of those, that people have told me that that's a special position to be in a company like that. What prompted you to say, you know what, I'm going to go down this different paths, having had that experience.

Caleb Carr 30:21

So I mean, the big thing for me was corporate America was not my cup of tea. And I wanted to go do something else. And so I ended up applying for law school. And my wife at the time, was also supporting us. She was an Air Force officer, based that McChord Air Force Base. And the focus was to really try and see if this thing could actually get legs and actually run with it. So went to law school, was able to live off student loans, also had support at home. That was a perfect kind of recipe to be able to try this. And thankfully, it kind of came together in late 2018, as we continue to build the business to see something that was really successful.

Forrest Meyen 31:06

So you're building the business while in law school. And using that as almost a way to give you a little bit more time to help build the business?

Caleb Carr 31:16

That, it allowed me to play for business plan competitions. That was one of the best things that really worked out in our favor.

Forrest Meyen 31:24

And why law school, not like business school or something else like that?

Caleb Carr 31:29

So I like litigation. I love the courtroom. That's one thing that I will always continue to enjoy. The reality though is that as Vita was growing, what's one of the things that you deal with as an early entrepreneur? Yeah, business? Sure. I mean, no one as a early stage entrepreneur, talks about a P&L or budgets or whatever. We had no money, it doesn't really matter. But what you deal with all the time is contracts, NDA's, advisory agreements, equity... oh, my gosh, you can

just keep going down the list. And so from that perspective, being a lawyer actually provided me a heck of a lot of background and understanding of how to approach this industry, but also how to navigate a series of troubles that could naturally come and not have to pay an attorney 600 plus dollars an hour to figure it out for me. And that really worked out well in Vita's favor.

Forrest Meyen 32:21

Awesome. So hopefully, our audience listens up. Maybe that's another path. You don't just have to go to business school to learn to be an

Caleb Carr 32:32

Damn straight.

Jonathan 32:36

Are you studying an MBA now with Penn State?

Caleb Carr 32:39

Yeah, so I started my Penn State MBA in January, where there I will be pursuing both small business and entrepreneurship focus, to kind of complement the law school degree, but really to not pay student loans. It's kind of the main focus.

Jonathan 32:58

Well you will be joining one of the largest alumni networks in the world.

Caleb Carr 33:04

Oh, my God, I'm looking forward to it

Jonathan 33:05

On the path of working with the Department of Defense, which... my understanding is that they are more recently providing considerable amount of the acquisition sort of funding to Vita Inclinata. How have you been thinking about managing some of the nuanced needs of the DoD with the other opportunities that you're seeing of firefighting, of construction, etc? Or are they have you found a way to sort of make it sort of one... on engineering level, sort of one drive train, one chasis, one set of algorithms. And then as a business, it's kind of a different way to sell I would imagine.

Caleb Carr 33:49

So I would argue that it's actually rather synergistic. So a lot of the development that's occurred on the military side has directly impacted the commercial side, the systems we sell for the DoD are exactly the same as the commercial. And a lot of that has to deal with DoD regs. In order to keep your pricing structures, you need to make sure that your commercial market also recognizes the same pricing structure. If it's similar tech, and only at what point when it's

radically different tech, then you could have a radically different price point. So from our perspective, we were able to leverage the AFWERX, the xTechSearch, the NSIN, all these kind of innovation vehicles of the US military that everybody keeps hearing about, especially in hard tech, hardware type companies. And we went through that: we were one of the first companies to go through the Air Force cohorts in 2018, received our first phase one, we've now received three OTA phase twos out of these contracts. And now we're moving on to our fourth. So from that perspective, it's actually completed and helped streamline a lot of the R&D but also enabled a lot of venture capital to come in and match those dollars to be able to drive more SBIR dollars over the whole. So from our perspective, that was great. That worked really well. Now, where those two paths diverged, is exactly where it is at now. So it's great for R&D, because R&D, you need a dual-use purpose. Great. We talked about cranes, firefighting, etc. AFWERX is happy, you also got the military aspect, the medevac side. Okay, but selling directly to an individual helicopter shop, versus trying to sell in the DoD, completely different ballgames. And that's exactly why we went to Congress. The idea of creating a program of record and requirements and operational needs statements and all these buzzwords that most people have never heard of before, are actually the integral parts of being able to get procurement in the DoD. And those things can take anywhere from one year to five years. And because of that, that's why you see a lot of the bifurcation of companies going towards the DoD and then going away. So from our perspective, we've really focused on trying to see how can we bring those two things together and that's really why you saw us make a massive congressional push, which works really well for technology that saves lives and has a very clear application. But that's great, it's not going to work for every other entrepreneur who has a specialty product for cyber, or for some other type of tech, that isn't that intuitive. It's going to be an interesting journey to see how that bifurcation ultimately comes back together, to be able to support these type of AFWERX and other types of companies as they go through all these different wickets to ultimately move to production and procurement within the DoD in addition to their commercial.

Forrest Meyen 36:40

So as of now, you're still pursuing both paths, both commercial and defense?

Caleb Carr 36:45

With the congressional appropriation, it provided us the path for procurement in the DoD. However, if we didn't get that, our warfighters would have been at least delayed receiving systems, if not a year, if not two, for the same type of technology that Congress was able to help us move forward.

Forrest Meyen 37:07

So one thing that's interesting about your company, and it's beyond the technology, but it's driven by this life experience that you have. It's very mission driven to save lives. What can you say to other entrepreneurs that are searching for their purpose behind their company? Like how important is it to find it? Or is it just something that's nice to have?

Caleb Carr 37:36

Yeah, so my main focus is get away from market. Everybody wants to be the next Uber, or the next Airbnb, etc. And especially in hardware businesses, that doesn't work. If you say, Oh, we've got this great market, we want to go after it. That's cool. That worked for six months. But unless you get rapid funding, or you have the capital behind you already, good luck. Because what's going to be that thing when you start crashing, and burning when... it happens for every entrepreneur, to make you get through all of those struggles, to not just say, "oh, I should go back to the other life that was living"? And so from my perspective, it's always mission first: what was that pain point you were trying to solve? Was it a personal pain point? Was it something that you saw? And then make sure that that core mission set is the crux of your pitch, is the crux of your elevator pitch, it's the crux of literally everything you do. Because that's going to be the only thing that actually gets you through all of those hard points. And so when my team walks into the building every day, they see our mission statement: that we build technology that brings people home every time. That is exactly what I want every one of my team members thinking every single day when they are working here. And that's the exact same mentality that is so critical at an early stage entrepreneur, to be able to get you across all those lovely humps that come with building a company, where you just want to give up and you just want to be done. And so from my perspective, being able to drive entrepreneurs to really define that in the early stages is one of the most critical things that mentors or I could provide, as advice, to be able to bring entrepreneurs through those early stages to ultimately stages of where Vita is at today.

Jonathan 39:22

As you were looking for more funding to be able to help sort of grow this out... it certainly would have been as a budding entrepreneur and now an absolutely serious one, you would have been looking, I imagine at venture capital as one of those sources of funding, which is starkly different than to the non-dilutive investment that a government source would provide, or even like a different kind of work with an angel investment... so how did you figure out the ratio, the willingness to work with a venture capital versus some of these other kinds of funding sources and what was the right fit for both you and overall Vita Inclinata vision?

Caleb Carr 40:05

So in the early times I hated VCs, did not want to deal with it, did not want to give away board seats. My board stayed at two all the way through Series A. We're now just pursuing a Series B, where we're actually looking at VC dollars. We had one corporate VC come in, which was Kanematsu in our Series A, but that was it. And the reality was is: okay VCs, there's all these stories about them, right? There's all these realities of, okay, are they going to take your board, are they going to ask for erroneous terms, etc.? And so I kind of went at this with a different mentality. I went in it with the angel community, raised our first series seed raised our Series A, primarily based off of angel dollars. Now, most people would tell you that when people want to

write you a check, you take it, however, my mentality was completely different. I am a firm believer that when you go into a room, investors look at you and say, it's a privilege, or it's a right for me to invest in you. I've got the money, I get to put it into you. No, as an entrepreneur, it's a privilege for you to invest in me, there's one of me, and there's thousands of you. There's not just one of you. And that's a mentality that I tell every entrepreneur I ever talked to, because it changes the entire dynamic. It says no, you're not manipulating terms on me, if you want to get in on this deal, great, this is the terms put up with it or get lost. Because guess what, there's going to be someone else coming down the road, that's going to be able to support me. And that was something that worked really well, to not manipulate terms, to keep our board at two, to have no erroneous terms in any of our cap table and investments, and that allowed us to really pursue a lot of opportunities and have a lot of flexibility that one normally would not have as a growing entrepreneur. And so from my perspective, the core element, as you look at VC versus angel, etc., is making sure that you see it right, where it's very much a privilege for people to invest in you and it's not a right. And that is something that I fear has been lost, especially out of the Silicon Valley mentality of... we've got all these millions of dollars that we're willing to throw at you, but it's got to be done our way. Not the case.

Jonathan 42:32

Yeah, it takes two parties to make a transaction. And it's not just hopefully not just the transaction, but a relationship that can stand the test of time and go through the lumps and the humps.

Forrest Meyen 42:44

So when you're and when you're doing that fundraising process, do you have like a finish date for yourself, like when you want to close it, and try to line everyone up so you try to talk to like 1000 people really quick, so you have all those options? Or do you give yourself kind of a more open slate of whenever it's ready and we're ready, that's when we'll take the money?

Caleb Carr 43:11

So it's much more open, I don't I have an internal clock that I use. However, the main focus for me is get all the interest every... I mean, you should never turn down a call to have a call with an investor; get their email, etc. But what Vita does, and I think we've done well, is when we are ready to raise, we make sure that all of our milestones are either held and not talked about, until a certain period of time, or they're about to occur. And so every two or three days, I have a list of investors that are getting pummeled in their email, with four or five different updates, and four or five different things that Vita has done. And it creates from a psychological perspective that Vita's taking off, which we are, and it's being able to provide that story of this is where we're at now, this is where your money could take us and this is where we're going to go. So from my perspective, it's very much kind of similar to how you work with a jury: is you try and set the story and then you hit them with multiple punches in a short period of time to make them believe what you're trying to say. And that's exactly the mentality that I've taken towards

entrepreneurship and fundraising is making sure that a lot of our narrative and opportunity is really articulated in a short time window to really make a lot of interest, but also to be able to drive to that close.

Jonathan 44:32

You are a man who does as you say and says as you do with a company and a portfolio of products and services that are reliant on helicopters. Do you go up often? Have you learned to fly, to see firsthand how the physics behave?

Caleb Carr 44:58

So I have not been slung under a helicopter yet. I fully intend to be. My insurance team probably is not super happy with me saying that.

Jonathan 45:06

Depends on your key man clause.

Caleb Carr 45:08

Yeah, probably. But with that being said, we're able to go flying quite a bit. I am a working towards my commercial private pilot's license, which is just kind of a fun hobby for me. But more importantly, the opportunity for us to be able to start flying these things and actually have people under them and really save lives is something that I'm really excited to start seeing over the next couple of months.

Forrest Meyen 45:31

But we're about at the at the last bit of the hour, and we really appreciate your time that you've spent with us. Do you have any parting advice to entrepreneurs interested in tough tech or hard tech and something out there in the world things that maybe you would have done differently? What are your final words for our audience?

Caleb Carr 45:53

Tough tech is hard. Hardware is hard, hence the name. But most importantly, make sure your family's bought in. If your family has not bought in for you being an entrepreneur, you need to really think about it. Because the reality is is that the people that are the closest to you, those are the people you're going to take out all those frustrations on that stress, the hard times the questions of your value personally, or where you're going or your future, etc. Your family is going to be the only people that you really you have to lean on. And especially in hardware, where it's not something that you can flip a switch or change the code to make something work, there's realities that people could die, that we're building stuff that is dangerous, that we're working with tools that are dangerous. That is a stress on a CEO and as a founder that I can't even articulate. And with that, making sure that you have that support structure and making sure that in the early stages, that if it takes off or fails, that your family is 100% behind you. And

Show Notes

that's probably one of the most important things that I wish an entrepreneur would have told me when I was trying to set up a family and also build a company. Because when you don't see those two things as synergistic, it can completely fall apart. And that's one of the most critical things that I believe entrepreneurs should focus on, as things continue to grow. But most importantly, as you really focus on your mission, because your mission is both at home and also at work.

Forrest Meyen 47:34

Thank you.

Jonathan 47:35

Thank you so much.

Caleb Carr 47:36

Thanks guys. I'm Caleb, this is Tough Tech Today. Stay tough!

Jonathan 47:41

We hope you found this episode thought provoking and inspiring. Leave us a comment, and subscribe. Our next episode is with Justin Cyrus of Lunar Outpost. They are developing mobile robots and other space resource technologies. Sign up to get notified when the next episode drops. Thanks so much.

