

Katherine Boyle, Acquisition Talk

[00:00:00] **Eric Lofgren:** Welcome to acquisition. Talk a podcast on the management technology and the political economy of weapons systems acquisition. I'm your host, Eric Lofgren You can find this podcast and more information, including links, commentary, and articles on acquisition. talk.com. Thanks for listening. .

[00:00:36] I'm pleased to be talking with Katherine Boyle. She's a general partner at Andreessen Horowitz, a venture capital firm, where she invests in a range of companies that includes national security and aerospace sectors. Katherine, thanks for joining me on acquisition talk.

[00:00:49] **Katherine Boyle:** Thanks so much for having me. It's great to be here.

[00:00:52] **Eric Lofgren:** So in a recent article, you talked about the stagnation in American government. I'd like to ask you, much of this do you think is due to the gridlock in politics and how much is the inability for government to actually build useful products like healthcare websites, Public transportation and even defense systems,

[00:01:08] **Katherine Boyle:** It's an interesting question because I actually take a little bit of a different angle as to why I think it's very difficult for Silicon valley and technologists to work with government.

[00:01:16] Some of it is structural. I think when anyone who's spent time in Washington, I spent 10 years in Washington. Anyone who's been there for a long time, realizes the nature of Washington is very zero-sum. There are elections every two years, presidential elections every four years. And there is a whole class of people who win in those years.

[00:01:33] And then there's a whole class of people who lose in those years and people understand that every few years you're going to be running the same system running the same. And that there will be winners and losers, and that is not how Silicon valley works. Silicon valley has a rising tides lift all boats mentality where a sector can grow enormous companies, all working in the same sector, even if they're somewhat tangentially related.

[00:01:54] The reason why you see young people come to Silicon valley and be able to meet extraordinarily powerful people or meet with billionaires to get

funded because there's a sense that someone is always going to come into Silicon valley and build something new that surpasses every expectation and becomes bigger than what existed previously.

[00:02:10] So there's this positive sum mentality in Silicon valley that leads people and incentivizes people to help each other. And that does not exist in Washington. So I think there's fundamentally a structural difference between the two ecosystems that makes it very difficult to work together because they're playing very different games.

[00:02:26] I also think there's a huge difference between the talent that goes to Silicon valley and the talent that goes into Washington. And this is something that I mark it as changing truly in 1973, with the revocation of the draft. There used to be an ethos in this country where every person, no matter whether they were rich or poor, no matter whether they had a successful family or whether they were a movie star, like Elvis Presley, everyone went to serve their country.

[00:02:49] And there was pride in that. And it was a way for people also to get to know other types of people. Everyone was equal in the military and that changed in 1973. And we had a bifurcated system where we no longer demanded that the most successful and the wealthiest people in our country had a public service ethos.

[00:03:05] And so you do see people who used to be the privileged class used to go work. Uh, The CIA was built by people out of Yale and Princeton. And now those people go to Wall Street . Or they go into technology. And so I think the kind of financialization crisis has also led to a bifurcation of the types of people that go to Washington and the types of people that go to Silicon valley.

[00:03:24] And that has changed how they work together as well. And so when you look at who's in power in Washington, we do have this sort of aging bureaucracy class of people who, you know, potentially. A different type of person would have gone into the bureaucracy of Washington 50 years ago.

[00:03:40] But now it's just aging. And you can see that in our elected officials both the Republican and the democratic side many are in their seventies or early 80s. And I think that is a problem for this country, especially as technology has become the most important part of the commercial sector and also very important to defense.

[00:03:56] When you think about our leaders in Washington, so many of them spent more of their life alive pre-internet than post-internet. And that means that they have a very different vision of what the world should look.

[00:04:07] **Eric Lofgren:** Yeah, you definitely see those. I guess polls that say like most congressmen, like a vast majority can't even define what a firewall is.

[00:04:14] Right. And that's scary in a respect in terms of them kind of making a lot of resource allocation decisions on behalf of the nation. So you're investing in a lot of, like maybe these gov tech verticals, that kind of do business with government they're private companies.

[00:04:27] And they're trying to actually solve. A lot of, public sector issues, using technology. And you've talked a lot about this before, but what are those like verticals and then is defense itself particularly hard or overly regulated compared to other verticals like healthcare education, or how do you think about that?

[00:04:44] **Katherine Boyle:**

[00:04:45] I very much love that you called it gov tech because that's explicitly what we are not doing. So we say, we recently announced our new practice American dynamism. And one of the things that we were very vocal about is that this is not gov tech. This is not technology that's selling into government to make incremental changes to how bureaucracy works.

[00:05:01] There's a lot of companies that try to do that. They're well meaning. But there's a reason why they can't become very large venture scale businesses. And there's a reason why they don't really fix the status quo very much. And that's because it's really hard to work within the incentives of government that have been outlined.

[00:05:14] It is much more advantageous, I think, to society, for companies to work outside the bounds of government or to be with a mission critical focus. So we look at things like aerospace and defense, obviously classical sort of companies that are going to have to sell to government. But we also look at things like public safety and some of the most interesting public safety companies started out as consumer companies. Education, education is seen as a public good, but at the same time, a lot of the most interesting education companies are bypassing public education altogether and teaching via the internet.

[00:05:45] And I think we're going to see much more of that. Given the kind of two year lockdown we just saw with COVID that has put students behind. So we look at a lot of different verticals that we call American dynamism. It's everything from aerospace, defense, education, housing, industrials supply chain, critical issues that the U S government is focused on that we think are deeply in the national interest.

[00:06:06] But a lot of those founders have different ideas of how you would build to solve these problems. And we actually think. That is what makes them unique. That's what makes the mix, these companies great businesses. And that's what ultimately solves the problem is that these founders think about it from a first principles perspective, rather than thinking that they have to work directly within the confines and incentives of a government.

[00:06:24] **Eric Lofgren:** Yeah, I had um, an economics professor once said he said something interesting. He was just like, technology can actually solve some of these public good problems and bring them out of the public sector into the private sector. And then he actually gave one for defense because defense is always like the classic public.

[00:06:39] Good. And he was like one day in the future we'll have such advanced anti-missile systems that we'll be able to. , where is the missile going? And then we can say these guys did or did not pay, the private dues to be part of this defense zone. So we'll just let that house blow up, but we'll save these houses.

[00:06:57] And I thought that was just a little bit, strange and ridiculous, but like for the defense sector, at least, you still have to go through the procurement. I think you call it like the procurement maze, right? Like how do you get around. the defense, establishment in that respect,

[00:07:10] **Katherine Boyle:** just to go back to the story you told, I think that, that professor's a little ridiculous, but I'm not sure I would definitely disagree with the way you just framed what he said.

[00:07:17] In terms of you will have to work through procurement processes, if you were selling to the department of defense. And I think this is something where, I've been involved for the last five years. I'm trying to do my part of educating the department of defense and how Silicon valley works and what I love about what the DOD has done.

[00:07:33] I think they're one of the most forward forward looking organizations within government is that they recognized in 2015 that they had a crisis of technology. They've recognized this talent problem long before anyone else. And they former secretary of defense Ash Carter under the Obama administration stood up DIUX it turned into DIU defense innovation unit.

[00:07:51] And there was I would call like a Royal tour that the DOD, started doing in, in the mid 2010s around Silicon valley saying, Hey, we need you to work. We know that you have great technology. We know that the best engineers are going to work for private companies, and we need you to work on these important missions.

[00:08:07] And I think where the DOD was somewhat pleasantly surprised over the last few years in particular, is that Silicon valley heard that. Like they very much heard DOD asked for help and responded with we are here to help. So the hardest part of, I think building is getting people aligned and to want to work together.

[00:08:23] And so that's been done. Silicon valley, there's so much capital that has gone to defense related companies over the last five years that would have never happened five years ago. So there's definitely an interest in working with DoD. And I think there's also an understanding that the procurement laws, there's a lot of discussion in Washington around acquisition reform.

[00:08:40] And I think a lot of us who understand. Procurement say that's not actually where the focus should go. The focus needs to be a cultural shift, like the laws that are in place and the procurement policies that are in place. Those are fine, but there needs to be an incentive structure that allows hardworking procurement officers who really understand technology and understand the needs of the groups that they're procuring for.

[00:09:00] That they're able to make decisions that are bold, that they're able to work with new companies versus the incumbents. Because right now there is a system that rewards people for working with Lockheed Martin. And if we had that system in Silicon valley, IBM would still be the number one company.

[00:09:13] And that's just not, that's just not how things should be. So I think there's just an understanding that there's going to be a new crop of software enabled companies that are working with hardware and software, working with the department of defense that are utilizing the talent of the best and brightest in this country that are not companies that were built literally a hundred years ago before world war II.

[00:09:33] So I think that is been the conversation. And what's great is that I think everyone is aligned that we have to find a solution.

[00:09:38] **Eric Lofgren:** Great. Well, You're skipping ahead on me to some of, some of the issues that you actually brought out in a viral tweet that you had at the uh, Reagan national defense forum.

[00:09:47] So I want to pivot there and then maybe circle back to this culture question. So at the Reagan national defense forum, you said that there was like a two year window before founders actually start walking away and private capital dries up in defense. So this kind of seemed like a little bit of like a shocking statement, time is running out.

[00:10:03] There's been all these kinds of the small little front door, contracts and OTs and SBIR and all that kind of stuff that we've talked a lot about on this podcast, so we know how we got here and you said, the DOD was out ahead in 2015, trying to bring in, the tech companies in Silicon valley to start investing in this space, why is it two, two years in what is the dire need right now?

[00:10:23] Like why sound the alarm? Yeah.

[00:10:25] **Katherine Boyle:** A bunch of thoughts there, but let me start with a kind of common misconception of how venture capital works. So if you're someone who's new to venture capital, and you're S you're given a certain pocket of money, one of the kind of rookie mistakes that you see in venture capital for, from investors earlier in their career, is that they'll employ a spray and pray mentality.

[00:10:45] They'll take the capital and they'll say well, I have, say I have \$10 million. I'm gonna invest in a hundred. companies. And I'm going to, I'm going to spray and pray the capital all over the place, and one of them will work. But the problem is that you don't actually have buy in to any of those companies.

[00:10:58] You don't have ownership. And so when you actually look 10 years down the line, the return is minimal. And so the best venture capitalists take a concentrated strategy approach because everyone knows in Silicon valley that one company will return an entire fund. The best companies scale beyond our wildest imagination, they become very large.

[00:11:17] And a concentrated approach where you're not spraying and praying across an entire category, but where you're investing capital and continuing to work with the best companies, the top, say the top five companies in any given

space that is the best strategy to make sure that those companies not only are successful, that they have access to capital and that ultimately you are aligned with what they are doing.

[00:11:35] And the problem with the DOD is that it is always taken a spray and pray approach to everything. So even when we've been talking about how great it is that the DIU exists and that, now there are different mechanisms, OTA, SBIRs all of these different contracting vehicles that allows DOD to work with Silicon valley. In every press release.

[00:11:54] I see about this it's we've invested in 2,500. That number is insane to a venture capitalist. There are not 2,500 good companies there. We're lucky if there's 50 good companies, let alone five great companies that are going to be the most important and a portfolio strategy. And so the idea that there's that many companies that are getting funded means that the DOD is not taking a concentrated approach on the requirements it needs.

[00:12:16] And so I think the way that you fix that is one by changing culture. By saying we have this capital. And instead of taking, \$10 million is nothing in DOD land, so let's say instead of taking a hundred million dollars and giving it to a thousand companies, we're going to take a hundred million dollars and give it to five companies.

[00:12:34] We're going to give \$20 million production contracts to the five best companies where we know that these are the best technologists where every time that we've had them, try to meet some sort of requirement. Instead of taking two years, they've taken two days. And we're going to give capital to them, even if they are a small company, even if they are a company where we're not sure that they're going to turn into the next Lockheed Martin, because if we give them that contract They will then get more capital from Silicon valley because people say, wow, there's a \$20 million production contract that DOD must really want them.

[00:13:02] And the DOD has then king made the company that they think is the most important. And we're when we talk about cultural issues. And I, I talk about this in the tweet storm which was not meant to be a story by any means. It was more meant to explain sort of what venture capitalists are thinking.

[00:13:15] Picking the winners is something culturally that the government does not like to do. And unfortunately, it's what it's going to have to do. And the reason it will have to do it is because it is what China always does. It is what our adversaries always does. They pick the best companies and they force.

[00:13:28] To work with the state. And so we have to use the means that we have available to us, which is capitalism, which I think is a superior system which ultimately says, Hey if we want companies to work with us, if we want the best talent to work with us, we're going to have to pay for that talent and we're going to have to do it and make sure that, that the, those engineers are committed to working with the DOD.

[00:13:49] I think that is actually a simple change. It's a cultural change. And sometimes, changes are cultural changes can be the hardest, but it doesn't require us changing procurement strategy. And it certainly doesn't require anything but a mindset shift. And how DOD does daily business.

[00:14:04] **Eric Lofgren:** One of the things that seems to be, very different between my outside view of what the venture community does, and then what the department of defense does.

[00:14:12] And I think this gets back to your culture question is that, it sounds like you're like let's just double down on the best firms. And like the best teams. And I remember I was I listened to a podcast with you where you're talking to. Your decision to actually, go invest in, Anduril.

[00:14:26] And I just want to read this quote from you. You said "the most extraordinary founders are also historians. They know everything about their industry. They know everything about their competitors. They read obsessive or talk to people, obsessive really to get information because they're so paranoid that they're going to miss something and that's not something that can be faked."

[00:14:42] And it feels like a lot of times, on the venture community, on the private side, you're like, I believe in the founder and their ability to pivot and figure it out along the way, and then get to greatness as opposed to the DOD, which is like, people are interchangeable. We don't care about people, they just rotate in and. We care about the project. What is this specific, timeline of deliverables and execution that will happen over the next 20, 30, 40 years. And then we'll say go, and it gets to this weird, the DOD likes to analyze things to death. So how do you think about this difference between making project-based decisions, whereas in the, venture community, it might be more talent-based decisions.

[00:15:18] Do you think the DOD might need to align itself with just looking at teams and believing in, their ability to get things done? Or what do you think about that dichotomy.

[00:15:26] **Katherine Boyle:** So I would not recommend that the DOD get in the business of trying to seed invest teams. I could sh I could share it is very difficult.

[00:15:34] And the people who are best set it have been doing it for a very long time and they're working venture capitalists. And so I would not recommend that the DOD start incubating and trying to match teams. It's a very, it's not their skillset. But what I will say is that you cannot divorce a great company from a great team.

[00:15:48] Everyone in Silicon valley knows this. , if you look back at great companies that have been built. Massive companies, the earliest investors, the reason why they're taking the bet is because the team is so compelling and because of the early traction, that team has been able to produce it, it confirms that this is an extraordinary team.

[00:16:04] That's going to be able to continue recruiting talent talent begets talent. There's a reason why the entire world the smartest people know the smartest people. I think in some ways we don't like to say that the, that, talent is the most important thing or who, is the most important thing.

[00:16:17] But smart people know smart people. And so I think what people misunderstand about Silicon valley is that it is a network. It is a network where knowing people having access to capital actually. Impact success. And so that is, I think the understanding sort of whether things businesses can be built understanding from the team stage, the napkin stage of a business, whether something can get big, that is pure venture risk that venture capitalist should take.

[00:16:40] No one is saying that the department of defense should get in on that business where the department of. Should look at, is that if I believe I've invested in the best teams and I have invested in the best teams, they're going to be able to deliver on requirements, set forth by the DOD in five days versus five years, because they move fast.

[00:16:58] There's a totally different way of building companies and quote unquote, Silicon valley th the place Silicon valley, or no, the idea, Silicon valley not necessarily the place. There's a totally different way of building companies that allows for better execution. It allows for teams to grow faster. It allows for incredible scientific.

[00:17:16] Even if you're looking at something like space X, incredible engineering feats that just could not be done with the types of teams that are at legacy institutions. And so the team is all that matters in many ways. Because the team is the reason why a company will be able to execute. But no one is saying that the DOD should start investing purely in teams.

[00:17:34] They should invest in companies that are meeting their requirements. And that are, being able to show that they are the best technology right now, what happens is you will have companies that can deliver on every requirement that are able to build in five days versus five years.

[00:17:49] And those contracts will get contracted to the Lockheed Martins of the world. And Lockheed Martin will then go around and look for a company that can actually deliver on those requirements. And that is just not how Silicon valley works. Silicon valley is not going to invest in companies that subcontract to Lockheed Martin.

[00:18:03] So that is the fundamental problem that we have is there is a incentive misalignment where the incentives of the procurement officers is to go with those primes versus to go with the best tech.

[00:18:13] **Eric Lofgren:** And as you said before, right? No one got fired for, awarding a contract to IBM. And so there's that really big asymmetry of like payoffs and risks for a procurement officer in that respect.

[00:18:24] They don't really get any upside for making the right choice, but they'll get certainly a lot of downside if they make that wrong choice. So you guys are making those kinds of talent based decisions.

[00:18:34] They grow the technology, then they meet requirements that they can demonstrate to the department of defense. And then that allows them to signal that they can scale. But it feels like a lot of times, we go with brochuremanship. What does someone say that they're going to do?

[00:18:48] And then we start this whole like long program of record and contracting process and like testing actually doesn't come out for years usually. And so how do you think about actually proving, people say, oh these companies have the technology and they're just leaps and bounds better than Lockheed. Like does there need to be more test events or have you seen these tests events that kind of prove it? , how do you think about that proving

[00:19:11] **Katherine Boyle:** stage test events?

[00:19:13] And there are bake-offs and, you often see new technology companies when those requirements, as they're currently written often are so detailed. It's it's this is how we want the thing to be built. And that is also not how Silicon valley builds, but saying we want to solve X problem and then opening it up to a large swath of companies and seeing which ones actually are able to deliver.

[00:19:31] I think that is important, but the DOD also needs to be a little bit more forthcoming about what actually matters. There's oftentimes a lot of different initiatives within various teams. And various branches where, there's 25 things that are of great importance and there's bake-offs and various OTAs and, small business contracts that are awarded to small venture back companies where it looks like there's movement.

[00:19:54] And this real problem is that even if you're winning the bake-offs, even if you are in contact with someone who you think is an authority figure, who you think is going to move the procurement office, that you're going to get a production contract, we just haven't seen production contracts. For the vast majority of venture back companies that are getting through that stage.

[00:20:12] So again, I don't necessarily think that we need to change any of the things that we're doing. There's just decision paralysis. Like the real problem is the decision paralysis of, okay, we know this team we've gotten to know the team they've delivered for us. They're working really well. The technology works and now we're going to give them a \$20 million production contract like that.

[00:20:31] That is the hard thing. And the dragging of feet there, the reason why it should go back to your earlier question. Why I said we really have two years is because companies run on 18 to 24 months cycles and in this fundraising environment and this, just glut of capital coming into private companies from all over the world.

[00:20:48] But because we're talking about DOD, let's just talk about us capital, just this glut of capital. Like it's 12 months, that accompany that is doing well can go back to investors and continue raising at a higher valuation and continue growing the company. And so you can't tell a startup, that's a series A startup you're going to have to wait five years before you get that contract because that company is going to die.

[00:21:10] So it's really not about, oh, investors saying we're gonna, pull back our capital, in, in 24 months, if things don't work out, like most of the

companies that we're investing. In this previous generation, if there are no production contracts, we'll go out of business and investors will say, I'm not investing in a dead category.

[00:21:25] So that's where the 24 months thing is coming from. It's more just the reality of how business growing or business building works in Silicon valley.

[00:21:33] **Eric Lofgren:** And we definitely have seen like with Palantier and space X that took well over a decade until they really started like breaking in and everyone says they had to Sue right.

[00:21:42] To get in there. But it feels like, this issue here of getting towards the production. There's that chicken or the egg problem, in these institutions. Is it the regulations that are holding the workforce back or is it the informal norms of behavior that just needed to be changed?

[00:21:57] And of course, one of the things that stands out, right? Is that it takes three to five years to get any kind of money. It's even if there's, you have these huge champions that love this firm and the technology, and just want to get that requirement onto contract, they're like the process is, I'm going to have to go, Palm for it.

[00:22:14] And then it's going to have to go through the president's budget and then Congress might have a CR and that might take a year or more and all this kind of stuff. So when you say we just need to change the culture of procurement. You really think that's the one key thing? Or do you still think that there's like some regulatory aspects that need to be

[00:22:30] overcome?

[00:22:31] **Katherine Boyle:** I think there needs to be a change in the culture. And I do think that companies are listening and they're very smart. They know that, okay. As a seed stage company where they've raised a few million dollars of capital, if they're really sought after, by the DOD, that they're going to be very lucky to get an OTA that they'll, get an SBR grant.

[00:22:48] So that'll be some revenue that ties them over. And the number of those contracts that they get will signal how many potential customers they have for a series a, investors are willing to take on the risk that a company might die. So if a company looks to be building a great team and they have those contracts and it's very clear when you're talking to the advocates within the DOD, that

there's an interest in the technology, you will get series A investors, the place where companies die Series B because the number and series B means, it's when they go out, usually say a three, two to three year old company, maybe three to four years, if they've really been capital efficient. And they've built an amazing team, they have an amazing product working. They believe they have product market fit, usually series B in commercial land.

[00:23:27] They have product market fit, but they believe they have it because they have these government contracts. And everyone in Silicon valley says, okay, great. Where's the production contracts You have all this R and D capital, but where's the customer saying we're going to buy your widget or we're going to buy your software.

[00:23:42] And so many companies can't get to that point because the production contract is something that's reserved for the big five primes. So that is the problem that we are going to have in the next 12 to 24. And it's not something that requires any sort of regulatory change. It just requires people to say, okay, there's five companies that we really don't want to go out of business and we need to give them contracts.

[00:24:03] And and this is the other thing that I actually think is really important to stress. It can be overwhelming if the DOD thinks that they have to keep all 2,500 of those businesses in business. Silicon Valley's not going to walk away with five companies or 10 companies get production contracts.

[00:24:17] That is going to be a signal that the best companies have been chosen and that people should spend more time in the sector, but it has to be a handful of companies. It can't just be space X and Palantir and companies that were founded by billionaires that had unlimited access to capital themselves that can wait through the process.

[00:24:35] We have to see some companies succeed. That, that don't have that model of, okay. Elon Musk is going to put his entire net worth and it would just wait until the government response.

[00:24:43] **Eric Lofgren:** Yeah. Trey Stevens, he brought this up where he said you don't need a hundred new entrants to transition to production over the next year.

[00:24:50] You just need a couple to demonstrate that it can be done. Is that all it takes? Like how would you measure that adequacy of transition success? Are

you just of the companies that have gotten significant venture capital, like how many have gotten 20 or \$50 million contracts, if it's five, then I'm good.

[00:25:06] Or like, how do you think about that?

[00:25:07] **Katherine Boyle:** Again, going back to this spray and pray, mentality everything that is good. So everything that is good, becomes larger and your concentration is actually a good thing in our world.

[00:25:15] Like you want to see one or two players that are doing things. And so if it is five, like five is fine. It really is just showing that there are companies that have been able to get through the valley of death in the DOD. So like that is really the thing that I think people are waiting to see.

[00:25:30] And if that signal is there, you'll see a lot more private capital from across the U S flooding into the sector.

[00:25:35] **Eric Lofgren:** One of the criticisms that I've been hearing from some folks is that a lot of the new companies just don't even have the capability to handle large production contracts straight out a SBIR or prototype OT contract.

[00:25:47] Now some of these companies have gotten, hundreds of millions of dollars of venture capital, , or private self-funded type of work. . How do you think about being able to prove that they are ready or should they, instead as a lot of defense people say.

[00:25:59] Be actually working with those larger firms, because some of these companies, like defense loves to put out a requirement. That's build a whole system of systems. And then we'll fund it to like tens of billions of dollars. And it's just some of these companies are like, they might be providing subsystems or other things like that.

[00:26:14] They don't like naturally fit as a program of record themselves. So w what's your reaction to that?

[00:26:20] **Katherine Boyle:** My reaction is that the DOD over emphasizes process under emphasizes speed. And anyone who knows anything about theory of war, which a lot of people in the DOD do realize that a very fast adversary is that an advantage.

[00:26:35] And so I think there is an understanding, at least with the many conversations that I've had it with, officials within the department of defense, that we are at a disadvantage. If we can not act quickly, especially as we come to these crisis moments or anticipated crisis moments that many are anticipating.

[00:26:51] So my reaction is it's great if, I'm sure Lockheed Martin is a lot better at process. I'm sure that the big primes are a lot better at dealing with requirements, but it'll take them 10 years to deliver on the technology. Oh. And by the way, they'll deliver on hardware very well. They're not going to deliver on software and we are, competing against adverse.

[00:27:08] That are very good at software and very good at artificial intelligence. And that is not the forte of a hundred year old companies that were built before world war II. So I think everyone knows this. I think everyone would prefer if every talented engineer in America, graduating from the best engineering universities went to work at Lockheed Martin and could just solve problems instantly.

[00:27:26] I'm sure that would be an amazing, daydream for everyone, but that's just not how the world works. And so we actually have to figure out how to work with people who are, who are different, who built in a different. We have to change how we procure. This is not, this is not the middle of the 20th century anymore.

[00:27:40] We are, we have entirely different technologies and we have an entirely different adversary. And so I think there's a recognition of that. And I'm excited and hopeful from the conversations that I have had with procurement officers with officials within the department of defense who understand that there is a community, a growing community in Silicon valley that really wants to help solve these problems.

[00:27:58] And that I think we can find common ground.

[00:27:59] **Eric Lofgren:** For some of these companies that are trying to break into the department of defense, under what conditions do you think that some of these startups can really be dual use, simultaneously go after commercial and defense customers? Or do you think they really have to like, at some point, just like I'm going with one.

[00:28:15] **Katherine Boyle:** Yeah. So I think this is a really important question because this is something that I think even, a lot of people have misconceptions

about how companies are built. So I think in cybersecurity, it's a perfect example. Companies that start out building for commercial, they built for large enterprises, and then they, once they become very successful or once they're hitting their stride, they've raised capital.

[00:28:34] They have a team of say 50 or a hundred people and . They've got their go to market motion on the commercial side, completely down. Then they bring in a head of federal and that person is a separate team, starts building a separate team and selling to department of defense or selling to.

[00:28:48] And I think that's a perfect example of dual use, but it's a very cybersecurity focused example of dual use. If we're talking about AI companies, that are going to, start with defense in mind or start with, okay, how do we solve big problems?

[00:29:01] The number of companies that can handle two missions, I can't even point to a company that can handle selling to defense and selling to commercial at the same time as an early stage companies. And so one of the things that I think is interesting is that we've seen so many founders and this is I think one of the biggest kind of narrative violations that people are really surprised when they hear is that a lot of young people coming out of the best engineering universities and engineering programs around the U S they very much want to work on the department of defense's problems.

[00:29:29] And so they want to build companies to solve those problems. And they're not thinking about dual use. They're not saying actually I'd like to sell to enterprise customers. And then if we're successful, five years later, I'm going to bring in a head of federal who knows how to sell the government. That's not how they work.

[00:29:42] They want to solve a very discreet problem and they want to solve one problem. And that usually means then they're going to be selling directly to the department of defense. So the wisdom of Silicon valley is that you can't solve two problems at once. You can't have two different go-to-market motions at once.

[00:29:56] You can, if you are a scaled company, But it would be very difficult to have two at once. And so that's why dual use is actually a very hard thing to talk about when we're talking about these.

[00:30:07] **Eric Lofgren:** Yeah, it seems to be in the department, a lot of people talk about, dual use as this gold standard.

[00:30:12] And the reason why the department is looking after these firms, but really you're saying no, some of these firms have to focus on defense, but they're using the processes, technologies and types of talent that would otherwise have gone to commercial firms. Since 2015, if it just feels like a lot of the leadership in the department of defense has just been saying the right things. And even in Congress, they've been saying the right things in terms of trying to drive tech into the. But, you know, we're six years on here since DIU was founded, but it still seems like that next step is we're waiting for it to happen.

[00:30:45] Where's the disconnect between what leadership is saying is it's just not driving down to the lower levels. Is that the culture problem or is there something leadership really needs to do to focus in on this.

[00:30:55] **Katherine Boyle:** I think there's something about aligning the incentives as we've talked about.

[00:30:59] Making sure that there is a cultural shift and I think that's something that, speaking about it is one thing. And I do think that there's been, these conversations are important and I think there's been a lot of good work done. I'm not saying I'm definitely not saying that's not the case, but I think where we have the bottleneck is at the production contract in the procurement.

[00:31:15] And so I think there needs to be a way to change the incentive structure or a cultural shift that says, pick the companies it's okay. And I, think that can be done. And I just don't think that it has been done.

[00:31:27] **Eric Lofgren:** , is this whole strategic competition with Russia and China, does that play into it?

[00:31:31] Does that galvanize people or what's the right language to get people really thinking about it because, I can see, or I could imagine potentially people in the public or people in department of defense just saying why do we care whether the Silicon valley firms succeed or fail here?

[00:31:45] **Katherine Boyle:** right.

[00:31:46] It has nothing to do with whether Silicon valley firms succeed or fail. It has everything to do with whether the country succeeds or fails. And I think we can pretend and say, okay, yeah, the primes who were built a hundred years ago are building great technology for us to compete with our adversaries.

[00:32:00] But at a certain point, it will become clear. There will be a test of that. And no one can look at, software factories, no one can look at where the best recruits at the top 20 engineering programs in the country are going. They are going to Silicon valley startups, or they are building their own.

[00:32:14] And so the idea that we don't need to work with Silicon valley that, that idea, you could have made the argument 20 years ago. But it's not an argument you can make today. Just given the fact that, 20, 25 years ago, none of the top six companies by market cap in the U S were technology.

[00:32:30] Now all six are like that. That's an extraordinary statistic that shows that a lot of talent, a lot of dynamism and a lot of growth in America has gone. To companies that are working in software and companies that are working in technology. And so I think we have to be mindful of that.

[00:32:45] And I think that government knows that this is not something that needs to be reiterated.

[00:32:49] **Eric Lofgren:** Yeah, I think, that's actually a message. I think that resonates because everyone in the department of defense is always concerned about industrial consolidation and we've all seen that what sometimes called the fishbone chart where it's like every company is just merging into these big six over time and we've lost that kind of competition that used to exist.

[00:33:07] And even over the past 10 years, new entrance, was about 15,000 years. And it's even been like falling to 4,000. So even despite some of these efforts, the number of new companies doing business with department of defense is going down I feel like that kind of industrial consolidation, the dynamism we see in the private side that is just not reflected back in the defense side is a really key insight that I think most people resonate with.

[00:33:32] **Katherine Boyle:** And that's something that, it goes all the way back to the mid nineties, where there was such a fear after the fall of the Soviet union, that defense budgets were going to be cut. that there was massive consolidation in something like 10,000 companies left the sector over 10 years. , either fizzled out or were acquired by the primes.

[00:33:49] And so when you look at how the primes got to be as big as they are, and as dominant as they are over the last 20, 30 years, the reason is because there's just been extraordinary mergers and acquisitions at the top. And when you look at what those companies are buying, they're not buying R and D

they're not buying, young software companies that have been built out of Stanford.

[00:34:07] They're buying two guys in a at a office building in Bethesda who have contracts. That's not investing in innovation, that's shoring up the shoring up your book. And so when you actually look at what's happened over the third, the last 30 years, there's been no meaningful R and D inside of those companies.

[00:34:24] And what Silicon valley has had is a lot of change in R and D a lot of investment. On the commercial sector, which is why you see this extraordinary bifurcation between the tools that we use every day, whether it's our phones, whether it's our work tools, if we're in the commercial or the private sector or just what we use in order to live our lives versus what is being used currently in government.

[00:34:45] **Eric Lofgren:** And so why is software and why will historian say software is the most important tech innovation in all of human history? , because in DOD, we like things that have kinetic effects. So what's up with software.

[00:34:56] **Katherine Boyle:** It's funny because because I got a lot of pushback on that and a lot of people were like, but what about the wheel? And my argument about what about the wheel is you can't put a wheel on a book and make it useful. But you can put software on pretty much anything and make it useful. And so when I w when I talk about software, why is the most important it's because it's the enabling technology that can literally affect every object in society.

[00:35:16] When you look at what is space X, what is Tesla? They are software companies. And so that, that is why it is so. it is the enablement of not only the last 30 years of innovation, but going forward. You can even make the argument now that if you were to actually stop every time that you were touched by software in life, you would be overwhelmed by all of the software that exists in your daily life and going forward.

[00:35:35] That's just going to be just the, every aspect of our lives is going to be touched by software. And my argument is if that is the case, it is very unfortunate that government does not operate in that way. Just given how it already touches our private and personal and commercial lives.

[00:35:50] **Eric Lofgren:** Yeah. So software is eating the world and software native teams will figure out hardware faster than hardware native teams we'll figure out the software.

[00:35:57] Right. it feels the department of defense has tried to, take this on a little bit in terms of, this whole movement of defense software factories that are actually delivering software products themselves using government or military personnel.

[00:36:13] What's your take on this movement here and relative to everything else going on. So

[00:36:19] **Katherine Boyle:** I, I understand the reason why they exist and I understand there's okay. We know software's important. So I, in some ways I think it's an important thing. But it's getting around the harder issue, which is the talent question that we started with and that which drives everything in life, where are the most talented engineers who understand software architecture and where are they working?

[00:36:37] What are they building? And the reason why it is so important that we ask ourselves about talent is because our adversaries have a top down methodology where they work with private companies, they work, they decide. Who were the best private sector players and they forced them to work with government.

[00:36:52] And that is how authoritarian regimes work. And so they're working with the most talented people in their countries. Why aren't we? And so I think that is the it's the painful question. It's the hard question. It's the question. No one likes to admit. We'd like to all pretend that everyone is equal and that everyone is equal in their abilities to build companies, but the hard reality that we know in Silicon valley, There are huge differences and one's ability to build.

[00:37:16] And so we have to make sure that the best builders at the best engineers and the top most talented people are working with government.

[00:37:23] **Eric Lofgren:** You know, I've heard this phrase like 10 X, software engineers. And it's just like in government that just doesn't make any sense. It's like you have an average billing rate and that's what it is, right.

[00:37:33] There's just like, Engineer as a labor class and that's just like what we see. And that's what we go after. And I think

[00:37:39] **Katherine Boyle:** it will say I don't want to sound like I'm picking. When I talk about government the most forward thinking the smartest technologists, the people in the DOD who are making these decisions about technology are extremely talented and extremely smart when it comes to technology and the most forward thinking in government.

[00:37:54] So I'm definitely not saying that. But I'm saying there is a way of building companies and it is a ethos and a culture and an incentive system that allows really talented people in Silicon valley to build faster than possible and bureaucratic organizations. **And so a mix of talent.**

[00:38:11] **It's a mix of how we've taught these companies to grow and build. And it's not something that can be replicated by government.** And I also think that, I that's the fundamental reason why there is this kind of cultural divide between Silicon valley and Washington.

[00:38:23] **Eric Lofgren:** Yeah, it's interesting because it feels DOD used to be able to get things done on an in-house basis.

[00:38:30] You had Rickover in the nuclear reactors, Bernie Schriever and ICBM, McClain and the Sidewinder. You had 27 year olds running the Apollo program and the Manhattan program was mostly in-house Verner, Von Braun, and everyone else. And so I guess the question is you were kind of like, America's for builders, right?

[00:38:48] But why can't Americans build in government? And if they can't build in government, then what incentive do they have to build for government? When the best they could ever do is 10, maybe 15% profit. Okay.

[00:38:59] **Katherine Boyle:** So we don't have a culture of self sacrifice anymore. And going back to what we talked about 1973 was a critical year.

[00:39:05] Everyone will point to what happened in the seventies. That completely changed American character. I genuinely believe that the thing that changed American character was revocation of the draft, which a hundred percent of people were for. , this was one of the most important policy decisions that Nixon made.

[00:39:19] It was widely praised and still is widely praised today. But the thing that we lost when we did that was we completely changed what it meant to serve your country. And I don't know that we can get that back. So when we

talk about what happened in world war II, when we talk about the greatest generation, we have to remember that Elvis Presley.

[00:39:36] Left his acting and singing career in order to go to war in order to serve his country. We wouldn't see Timothy Shalimar doing that today. We wouldn't see any of our actors or Justin Bieber doing that for his country. I actually is he Canadian? I can't even remember. He might not be, he might not be the best example but the sentiment is we have to learn how to work with private companies.

[00:39:55] One of the things that venture capitalists know is you go where the talent is. You don't have top-down thesis where you say, we believe X is going to happen. And so we're going to invest in all these companies, even if the talent isn't interested in it, you go where the talent is. And so I think what's exciting.

[00:40:09] And what I'll leave you on is, I think everyone in Silicon valley heard the call of the DOD that we need to serve our country. And there are a lot of us who are pounding the drum. Yes. We need to serve our country and encouraging young people to do so. and maybe it doesn't look the same as going into government and doing inside government, but they're still doing it.

[00:40:27] And so we need to find a way to show that we can work together and that we can solve these problems and the new paradigm of the 21st century that exists today versus looking backward at what we used to have. And if we can do that, if we can work together and show success stories that have come out of this initiative, we're going to have more and more talented young people wanting to serve their country.

[00:40:46] And so that is my goal. I will consider it a massive failure if that doesn't happen on my part. So I'm going to continue pounding the drum and I'm hopeful that we can come to a solution where Silicon valley in Washington can work.

[00:40:58] **Eric Lofgren:** Thanks so much, Katherine for joining me on the acquisition talk podcast.

[00:41:01] **Katherine Boyle:** It was great. Thanks so much for having me.

[00:41:03] This concludes another episode of acquisition talk, if you have comments, interview recommendations, or just want to chat, please contact us @ acquisitiontalk.com. Thanks again. And until next time. .