[SQUEAKING] [RUSTLING] [CLICKING]

STEVE DEREZINSKI: Well, welcome all for a wonderful, warm January. What better to warm yourself than by the fabulous thing of free government money? I'm Steve Derezinski. I've got a bunch of background that I'm going to go through in a second. But I wanted to give you guys a little bit of the history of this particular lecture. A couple of years ago, I looked around MIT and I said-- said, why is it that we don't have anything on really winning SBIRs and what the process is to win them, not just how to fill out forms. And it turns out that most people like provided as consulting and some people aren't really allowed to say the things that I want to tell you guys about. So I decided to just put this together. I did it last year. We had-- the ones that I know about, the three people that applied all won awards, and actually one company decided to just go and raise venture capital. And they just closed a $5 million round. So hopefully you guys will be in that same boat shortly. OK. So I'm Steve Derezinski. I've got my undergraduate in Mechanical Engineering from MIT. I was originally a roboticist, which kind of gives you a certain mental model of the world that everything works in feedback loops. And every time you're trying to control something, you always have to get the feedback on it and make it kind of correct what it didn't do. I've got a patent on the space shuttle's robotic arm. So when the space shuttle's robotic arm was trying to remove solar panels, they would vibrate like crazy. So we came up with an algorithm to move it a lot more quickly and with a lot less vibration. I Then went back to Sloan and got a Sloan Fellows degree. So I have both that kind of weird engineering viewpoint, and then also an MBA. And in between those two, I was down at Georgia Tech and I created what I call the first faculty venture studio. And yes, it was formed before the Deshpande Center at MIT. And this is basically a process that you go through the university and you look at all the technology they have, and you say, this is great. What are the commercial applications for it? Our innovation was basically bringing in fundable CEOs into the university so that they could form companies within our VentureLab. So it was like a university lab, but it was for venture creation. And that's still going today. You can look it up online. I think they've done about $2 billion worth of startups now. And today, I'm running a cofoundry in Kendall Square, forming multiple companies from that technology. But in terms of this class right now, my experience with federal contracts is about $40 million roughly-- sorry. This is the $23 million list of all the federal contracts I've done. And I will tell you that I was either the PI or the primary business person on all of these contracts. So I have interfaced with NASA, NSF, DOE, ARPA-E for all of these things, as well as DOD, which is not on the list, but I've done a ton of work that way. And over the years, I've discovered this all money is not equal, right? There's different colors of money, and there's different motivations for the funding that you get. And understanding that before you get into it is really critical. I wanted to make a specific characterization of disruptive technology. A lot of people talk about-- or I did my MBA actually on technology innovation, which was focused on thinking about, how do you commercialize incremental technology advances? And how do you commercialize radical technology advances, or disruptive technology? And the classic example, and you always see these pulled together, is if you have an incremental technology, then it's very easy to just go and talk to your customers about, what do they want? I mean, if I just took a generic customer and I said, what do you want? They would say, exactly what I have right now, but cheaper, faster, and with better quality. I mean, that's like an easy thing to sell because it doesn't disrupt their model. So commercializing incremental innovations should be fairly straightforward. What I really want to get into, and what I think the SBIR program is uniquely designed for, is disrupting crazy innovations, or-- sorry-- commercializing crazy technology, and it's uniquely positioned in funding those kinds of activities. So to this point, one of my favorite quotes from Henry Ford, "If I ask people what they wanted, they would have said a faster horse." Because they all had horses at the time. They just wanted what they had right now, just a little bit faster. They wouldn't have said, I want a vehicle that has four wheels that I have to start up every day and stick gasoline in. Along those lines, Steve Jobs, another quote I love, which is, "What we have found is that, in general, customers don't know what they want until you show

it to them." So now what we're here today talking about is, great, I've got this cool technology. And I want to reduce it to a product that I can show to a customer. But where do I get that funding? Let's see. Over the years everyone's talked about the Valley of Death over the years. And I have a unique view of this. And one is that governments and universities, there's a ton of money available to do research on the next cool thing. If you have no application, but you have really cool research idea, there's a ton of money at the National Science Foundation and DOE to go discover neat things. But if you're in the university, there's a certain vector that your funds have to go in. And they have to go towards finding new interesting things, new interesting research. As soon as you start doubling down on the same money going after an application and going after commercial, that's considered not the right use of funds. You have to get different sources of fund to move it towards the commercial landscape. And then you go on the other side, in the private sector, Wall Street has a ton of money. So if you have a customer that wants to expand, or if you want to expand your operation and you've got 10 years of financials, there's a ton of sources to do that. But it's that gap in between, and how do you fund that gap in between that's the real challenge. And I know there's a bunch of solutions out there, but I've looked around at foundations, and angel investing and VCs and really, what I've come to over all of these years is that the SBIR is really the best program to fund that gap. And often, when you go and talk to end customers, they'll say, hey, this is great research. Where can I buy the product? And then you have to gulp. There's a lot of work between this paper that I just got published and actually having a product that you can play with and understand how it works. So what I found is if you talk to end customers about a disruptive technology, and you don't have it reduced to practice or don't have it reduced to something that they can use and try, you're going to just talk to a lot of customers that don't understand, or they're going to be nice to you, or other things. So that's really where the SBIR comes in, and specifically, a lot of the programs that we're going to talk about today. And the way that we look at the Kendall Square Cofoundry is by focusing on these two blue squares. I call them a technology project if it's a technology that has a lot of interesting research dimensions to it, but there's no real customer that either understands or has been engaged or really knows how to purchase it, or how to even interact with it at some stage. So in that mode, you're exploring new applications. And if you're in this mode of exploring new applications, the worst thing you can do is take recourse funding, in my opinion. And this is a little bit controversial. So right between these two-- and then on the right-hand side-- sorry-- on the right-hand side, we have company projects, which are, OK, we've got them-- we've got a demo and we've got things that people can use. And we now just need to understand how to fund them more so that we can refine them, debug them, and get them in a package that the customer really wants. But that's only after you have clear customer focus. And a lot of times, people, especially around MIT, there's a ton of funding available for equity funding. Angels and VCs, that's all recourse funding. And I want to caution you all that crossing that line when you're in this exploration mode can be a little bit crazy, because when you're in this exploration mode and you take recourse funding, it's like, I have an obligation to somebody, but I don't really know what direction I'm going yet. And keep in mind, I've been doing this for many decades, so I've seen a lot of oopses in this space. So if you're on the left side of that line, grants and nonrecourse funding, absolutely. That is the perfect source of funding to reduce things to practice. And if you're on the right side of the line, where you have customers and you've got traction, then getting recourse funding is OK. I mean, it's absolutely the way to go, and especially if you need growth capital. So I know I have a lot of-- I have invested, I have a lot of investor friends, and a lot of them say, oh no, no, we like to take technology risks. And then you realize that maybe that's not such the best idea for your technology because you still don't know what direction it needs to go in. I can tell you that they love to invest on the right-hand side, when you have customer traction and you just need to-- the pump is already going and you need to just jam more capital into that pump and keep cranking it out. As you look at all the sources of funding that are out there, what you come to is that SBIR is the best source of funding for this exact stage, being in this sort of deep technology space. Yeah. So don't take recourse funding at this stage.

And I'm sure you're getting lots of angels who are like, oh, no, we'll give you $100,000, oh, we'll give you $200,000. You can still take it, right? I mean, I don't have any control over you, but I don't recommend it. So perfectly designed for this. It's about $4 billion of federal funds every year. And that's expended every year. That's given out every year. So if you were to do the math on what size venture capital fund that would be, venture capitalists give out about a fifth of their total capital under management in their new funds every year. So that would be about a $20 billion equivalent venture capital fund. And the expectations are simply that you will do the good-- you will do the work. There's no expectation of getting paid back or that you'll be commercially successful or anything. And I want to point out that some equity investors do actually view winning an SBIR as a positive for their due diligence. So especially if it's-- sometimes there's a lot of DOD people that have some deep, deep technology expertise. And if they decide to fund you, then that's an indicator on the outside that says, oh, well, you must know what you're talking about, because we know these guys at the DOD, and they know if you're just not-- if you don't really have what it takes or if you do. So that's a good thing. And I wanted to go into, real quick, on the incentives of the different funding sources. Charlie Munger from Berkshire Hathaway has another favorite quote of mine. "Show me the incentives, and I'll show you the outcome." A lot of times, if you already know what the incentives are, there's no point in asking the question. So you guys probably-- I'm sure you all know about angel investors and VCs. The biggest distinction between an angel investor and a VC is an angel investor is investing their own money. So they can write a check whenever they want to. There's no-- it's like, I feel like-- you seem like a nice guy. I can I write you a check, no problem. A VC actually technically gets money from limited partners. So they have someone else up the chain that they respond to. And so what I'm going to say might sound a little crass, but it's absolutely true if you think about the structure of the relationship. So their motivation is to maximize return, get a big piece of equity, and get to a fast exit. Now, I've talked to a bunch of VCs, and they've all of them say, no, no. We're slow investors. I can tell you that that may be true, but the question really is the limited partners that have put money in them, do they actually feel that they're slow investors, too? Maybe there may be a couple out there that do actually do that. But by and large, the whole reason why limited partners like big pensions funds allocate a little bit of money for the VC is because they expect those really high returns. And the only way you get returns is that it's return versus time. So if you stretch the time out, the return has to go through the roof in order to meet the obligation of that sector. So I still stand by these two motivations of a VC. Now, let's talk about SBIR program manager. Does anybody want to take a guess at what their first motivation is?

AUDIENCE: Science?

STEVE DEREZINSKI: Science?

AUDIENCE: Getting innovation ideas into the market [INAUDIBLE].

STEVE DEREZINSKI: That would be great. What do you think their first motivation is, though?

AUDIENCE: More jobs?

AUDIENCE: Creating jobs.

STEVE DEREZINSKI: Creating jobs. Yeah, those are good motivations. Those are good-- anybody else?

AUDIENCE: Use the fund.

STEVE DEREZINSKI: Using the funds properly? Yep. Yep. I would argue that the first motivation of

an SBIR program manager is to not get fired. And I say this sort of tongue in cheek, but it's important to remember when you're interfacing with them that they're not in it to do you favors and cut a deal and all that stuff. It's interesting to me to interact with both VCs, angels, and SBIR program managers because it's a very different ballgame. When you're in it, you're both in it to make a lot of money with VCs. You both want to make high returns. And with SBIR program managers, they're like-- so this is the argument for why, when you go out and you look to find all of those things about how to win an SBIR proposal, they talk about filling out the proposal correctly. And you're like, come on. I know how to fill-- I know how to read instructions and fill this out. But the reason is, because if they get a proposal, that's awesome, and there's something wrong with it, and you didn't read the instructions correctly, they can't technically go back and ask you to correct it, even if it's a minor glitch. So they have to reject you. And it's like heartbreaking to do that, because if they do, then they'll run the risk of losing their pension or other things. So that's the number one motivation. The second motivation is to not be embarrassed by their decision to fund you. And I say this also a little bit tongue in cheek, but it's really important because if you come across as a little bit flippant or not quite professional in like the use of funds, then it's going to be like, well, you know what? There's like 10 other guys behind you that I can give money away to. Why should I spend a lot of time on this guy? And then the third is to fund interesting technologies to progress their agenda. And there's probably also create jobs and everything else, too. So I wanted to lay that out so you understand when you're going through this whole process, like, why is it so bureaucratic? And why do I have to fill out all this stuff? And why do I have to fill it out again? And why is it taking so long for them to make a decision on anything? So now, now hopefully you understand a little bit of a perspective on their motivations. So this is-- I like to do a little market study. Like what are we talking about here, SBIR program? $4 billion. This is just the phase I awards from 2022. And I did look to see if there was new information available. This is the latest data we have from the federal government. And just to give you the idea of how many each agency funds, and how much they have obligated, so I said $4 billion. For those of you paying attention, this is only $838 million, but it is only phase I. And you can see here that the Department of Transportation funds 12, probably not a big program there. They have a pretty small budget. And you can see the DOD is the big beast here with the maximum amount. And also it's interesting just to see the Department of Commerce, 39 awards and 39 companies. Nobody doubled up. But some of these other ones like DOD, there's quite a few doubling up there. OK, so let's look at the phase II. Phase II numbers look pretty similar. And this is where you get the $4.4 billion total, phase I and phase II. You can see the average award size from that from 2022 as well. So hopefully, all you guys saw the notice that the prerequisite was to watch that video by Ben Schrag of the National Science Foundation. If you didn't, you can go back to the calendar, the IEP calendar, and click on the link there. It's about 20 minutes long. It's perfectly-- he just goes through the basic stuff of what you got to do. He answers all the questions about the administrative process, what sites to register with, how long does it take? And how does the NSF do their applications? So as we'll talk about in a second, there's a big difference between all these agencies and their SBIR offerings. We will have next-- this is the intro class. And then on Wednesday, we're going to do the advanced class where we're going to talk about a lot more cool stuff about review process and about AI use in application process. And Ben has agreed to call in on that. So if you guys want to get your questions ready for Ben Schrag, he's been at the National Science Foundation for 12 years, I think, maybe longer. Great guy, and very open to helping out. I did send him the registration list of all you guys. There's about 70 of you that signed up. And he said, very impressive. So he's also a nice guy, too. So let's talk about the federal funding aspect of it. The point that I want to make with this federal funding-- and if you don't know, it's like 3.2% of anybody who has extra-- any agency that has an extramural R&D budget, blah, blah, blah-- it doesn't matter. As long as you look at the agencies, you see how much they've got, that's all that matters. But for you to know it's a law that was written that says it has to be 3.2% for SBIR. And then down here, it's 0.45% for anybody over a billion for STTRs. And that's the university-focused one,

and I've got some more detail on that. The other thing that I want to go into is that even though it's called SBIR, and I call it SBIR because the National Science Foundation calls it SBIR, and they were the first agency to have this program, the DOD guys call it "sih-bur." So if you hear that "sih-bur," it's like they pronounce out "sih-bur." "Sih-bur" and "sit-ur" I think, STTR. And that's just an example that says, just because it has the same name doesn't mean it's the same in all agencies. In fact, it's very different across all agencies. I think the only thing that's the same is the percentage of the budget that's allocated. So whatever the DOD's extramural budget is, they got to allocate that percentage to that program. And then I think it carries the name within the DOD, but then how it's implemented is very different. And I've got a bunch of slides on that as well. So just so you don't know, it's phase I. You have to win the phase I in order to qualify to apply for the phase II. Typically, it's like a 10% to 15% success rate on winning the phase I, and then it's about a 50% success rate on winning the phase II after you've completed the work on phase I. And then commercialization. And so there's federal money at phase I, federal funding at phase II, and there's no federal funding at phase III. So a lot of people are like, what's the point of commercialization? The point of commercialization is to track the data on how you've performed so they can report back later. NSF has a similar model, and a lot of programs have this. And I just want to point out this phase IIB, which is even though I said there's no federal funding at phase III, with the exception of phase IIB, which isn't technically phase III, but it's shown here on the phase III side. It's a 2 to 1 matching of private investment. And you have to get at least $1 million of private investment. And I actually did this a few years ago, so I'm familiar with the process. And since we were just talking about nonrecourse and recourse funding. That million dollars does need to be recourse funding, because you can't do things like, hey, I'll just loan myself $1 million, get a half million dollars from the NSF to match it, and then I'll pay myself back immediately. They figured that out. So you can't play games like that. You actually have to get-- and there are letters of support that have to come from the investors that show how they actually structured the investment and put it into your company so that you can get the half a million dollar match. And it's up to a half a million dollars. So if you only get $250k, you get $125,000 of match from the phase IIB. Eligibility, for profit. You can't be a nonprofit and get SBIR. Fewer than 500 employees, owned or controlled by US citizens, and a startup or established companies are fine. That's all fine and good. That's what the law says. But let's look at who actually wins them. And this is the number of employees. This is from FY '01, and it's the DOD winners. But it's still relevant today. So occasionally, they'll fund a one-person company. So if you're one person and you have a crazy idea that you want to do, there's a chance. More than likely they, want to do 2 to 9 person company. That's kind of like the sweet spot. Somebody that does the business side, somebody that does the technology side, or maybe you're two technology nerd founders that happen to be social. Social nerds. Those are always good-- by definition. Let's see. So this is where I want to really split the SBIR program into two parts. When you start to dive into the agencies to really get the solicitations that you want to apply for, I want you to think about them in two buckets. One is market-driven agency and the other is mission-driven agency. So a market-driven agency does not have the customers internally to the agency. The marketplace is the customer. So a great example of a market-driven agency is the National Science Foundation or the Department of Energy, where they see the technology you have, they understand how great it is, but they need you to go out and sell it to somebody. That's an important distinction between a mission-driven agency like the Department of Defense. The Department of Defense is like, we're at war. We have a theater of war. We have immediate needs of super awesome batteries for our troops. And we are the customers. Well, we and all of our defense contractors are the customers. So we are going to define exactly what we want. So what you find, what this boils down to is that in a market-driven agency SBIR program, you'll get these kind of like do something in optics. Do something cool in optics that customers really love. And then you get on the DOD side of things, you get things like, we need a battery that fits in this pack, that has this kind of temperature controls on it, that it will last for this long, and only weighs this much, or is below this number of things. So it's far more specific in

its offering. So it becomes a lot more challenging for you guys to match kind of whatever you're working on with the solicitations on the mission-driven side of things. The opportunity, though, of course, is if it's harder for you to match, it's harder for everybody to match. So there's probably fewer competitors in that. And in fact, I mean, if you look at the numbers, you'll see that in a very specific solicitation, if there's a broad offer-- sometimes they have these broad announcements where it's like, hey, we want to do something-- propose something really cool to us. And you find that it's a lot harder to win that because there's just so much more applications in that space. And of course, NASA is a mission-driven agency too, because trying to go to Mars, right. They're trying to get stuff up in the air.

AUDIENCE: Steve.

STEVE DEREZINSKI: Yo.

AUDIENCE: [INAUDIBLE]

STEVE DEREZINSKI: Yeah, go ahead.

AUDIENCE: This is your interpretation, or is it on their website somewhere?

STEVE DEREZINSKI: This is America's Seed Fund's interpretation. Yeah, that's right from the website. And this is also from the NSF website. Yes?

AUDIENCE: Are we going to receive the slides?

STEVE DEREZINSKI: Yeah. I'll post them to the WhatsApp group. And I apologize, I blocked out the middle section here because it's really old information. But this is really good. So the other side of it that I wanted to talk about is the contract award type. And what we've got our Cs and Gs here, Contracts and Grants. The difference between a contract and a grant is important only in that when you receive the funding as a grant, it just becomes kind of-- you wrote this scope of work, and we all agreed that this is the right thing for you to do. Here's the money. Go do your scope of work and then write us a report when you're all done. And you already have all the money, so hopefully the money was spent properly and everything else. A contract, on the other hand, is OK, we agree that this is the work that we want you to do. Why don't you go ahead and get started, and here are some milestone payments that we're going to make. Or it's a reimbursable contract, where you actually have to do the work, submit an invoice, and get paid. The reason why I make this distinction is because when you guys go to apply, when you talk about like, why does it take so long for me to get this grant approved? And it's because once they say, here's your award, here's the money, there's not a lot of recourse. So there's a lot of due diligence up front before you get to that grant point. On a contract, there's still going to be due diligence up front. But once it's engaged, it's kind of like if something happens midproject, they can easily pull the plug if they need to, and there's not so much money expended on that. So that's an important distinction as well, that you should take note of as you go through the process and decide who you want to review things. The review process for a lot of these, No surprise. If it's a mission-driven agency, it's going to have internal reviewers. And if it's a market-driven agency, they're going to get external reviewers. So that means when you apply for one that's a market-driven agency, they have to go and find reviewers that aren't conflicting your proposal, and that process takes some time. But it's also important for you to remember that it's not just going to be the program manager that's going to review it, it's going to be people who understand the industry. And you have an opportunity in the application to say, these are our direct competitors. Do not get anyone on the review panel from that. And they take that extremely seriously. So I would include that in your application if you're worried about that. And then I mentioned the research topics are Specific, S, or broad.

And then whether or not they provide gap funding and whether or not the communication can be restricted, like specifically on mission, or if it's open. So kind of lines up naturally with the mission-driven/market-driven balance. Any questions on that? This is just a more updated view of the real numbers of what the agency budget is. And this is on-- I mean, sbir.gov has a lot of this information automatically, but I wanted to give you this information and then give you my experience and color on top of it. So if you want to go back and redo these slides, you can go back to the sbir.gov and get all the data from there. One of the strategies we're going to talk about on Wednesday is kind of thinking about the timing of things. So the benefit of SBIR is you don't give away any equity funding. But the challenge of SBIR is that time is a vacuum. It's like, are you guys done reviewing that yet? What's going on? There's so many things going on in the world of federal government. But this is kind of the pace they operate under. And if you don't know, the federal government's annual budget closes September 30 every year, and then a new budget starts October 1-- at least it's supposed to. And typically, a lot of these processes are driven towards making sure that all the awards are allocated by September 30. Not always. Sometimes they spill over. But if you think about how these solicitations come out, and when you want to apply for them, just keep these things in mind, because the last thing you want to do is say, oh, I'm ready to apply for that NIH grant, and like, oh, well, the window just closed like last week, so now I've got to wait another six months or something to do that. As you think about these dates, we can also talk about applying to multiple ones, so you can see how they ramp up and whether or not you want to hear from one before you apply to another one. I usually don't recommend that. I usually just recommend you just go for it. Yeah. Yep?

AUDIENCE: Can you talk more about those three stages?

STEVE DEREZINSKI: Oh yeah. Yeah. So specifically for the DOE and DOD, and some of the ones that are mission driven, they're going to have very specific topics or solicitations. I mean, topic and solicitation are kind of the same word. And they do what's called a prerelease, so the yellow and the green areas. They'll send out kind of these are the solicitations that we want to officially open on the official date when the green bar turns-- when it turns fully green. And that's to test market their solicitation ideas. Sometimes they pull them back because they realize oh, somebody else-- like I think, frankly, inside the DOD-- I don't know this for a fact, but I think what happens inside the DOD is they post solicitations, and then some other agency over here is like, hey, we already have that solved. You don't need to fund that. Because there's such a gigantic operation, they don't necessarily talk to each other. So there's all kinds of things like that. So that's why they have a presolicitation period. And then when it's open-- so I should say that when the topic is-- when it's like on prerelease, or if it's a topic release, you have the opportunity to talk to the program manager directly and talk about the solicitation a lot more freely and openly. As soon as it's locked down, they say, you can't ask me any more questions. Or any questions you ask have to be publicly posted so everybody can see all the questions. So that's kind of your opportunity to talk to them about specific issues you might have or specific opportunities. Yes, sir?

AUDIENCE: [INAUDIBLE] as two different ones, would you apply-- is there a way to apply to both the R&D contracts or the other option?

STEVE DEREZINSKI: Good question. All of these things are constantly changing. So I like to take the approach, especially for stuff that takes a long time, to just be aggressive, and like, apply for as many as you can and then pull them back. I know a lot of people are like, oh, that's a lot of extra work for potentially no gain. But you'd rather be in the game and then decide to not play than to just like step aside from the beginning.

AUDIENCE: Is there any penalty for applying multiple?

STEVE DEREZINSKI: We'll get into that in one second. There is some certain-- there's some federal laws that you have to be aware of. As I said, you don't want to go to jail, and your program manager doesn't want to lose their job. Yeah. And actually specifically to that point, eligibility-- and usually I do this talk for MIT students that are currently in school, or maybe a postdoc, so you have a current situation right now, but you're looking to start a company and you want to apply for one of these things. Eligibility is determined at the time of award, which is not the time that you submit the proposal, and it's not the time that you hear back from them on the reviewers. And it's not the time that they're asking you for due diligence questions. It is the time of award that you have to be employed, or whatever you say in your application. And it's totally fine for you to say, I'm at the university, and my plan is to start a company once I get out, and I'm applying for this, and here's the team that I've put together. That's important. The other one is the PI is not required to have a PhD or MD. A lot of people think that's true because the data shows that often the PI has a PhD or MD, because they're required to have expertise and oversee the scientific, and technically, the project. You have a statement of work, you have your R&D plan, and somebody has to oversee and manage all of that stuff. And if they're not technically kind of well known within that space that you're doing the work in, then you're not really qualified. So typically, the easiest way to do that is to have a PhD. But it's not required. So this is to your question. Applications may be submitted to different agencies for different work-- for similar work. But you cannot get an award from different agency for duplicate projects. In fact, that last bullet lands you in jail. So it doesn't really give it much-- that's really bad. When you apply to multiple different agencies for the similar stuff, it specifically asks you, have you applied to other stuff? And there's a strategy that we can talk about on Wednesday. But I will just tell you, I don't usually recommend doing that unless there's a lot of synergy, unless it totally makes sense that the NIH has this cool thing, and I need the NSF to fund some software part of this biotech. Like if you have some related technology, and you want to really be aggressive and apply for both of them to fund two different parts of the same product, that you can put things together like that. So you can totally apply the same technology to two different agencies. You have to disclose it to both of them. And once you get under award, you have to make a decision, am I going to take that one or that one? So I mean, I guess you're upping your game. If it's a 15% success, then you got two of the same thing, then maybe it's 30% success. Yes, sir?

AUDIENCE: First point [INAUDIBLE] on the board. I really struggled with the answer to this. You have to have an incorporated company when you submit the application?

STEVE DEREZINSKI: So if you watch Ben's video, you have to register with all of those agencies. And I think part of that registration means you have to have some kind of an entity. It can be your own sole source, Schedule C company. So you can do it under your Social Security number.

AUDIENCE: That's what we're saying-- so then following up on that, you might-- for students and postdocs, how do you recommend people navigate incorporating and dealing with the conflict of interest office at institutes? Something that I've really butted heads here-- or not butted heads, but it seems really difficult to navigate.

STEVE DEREZINSKI: OK, so I'm going to repeat that question, and then I'm going to not answer it. So the question was, how do you navigate the conflict of interest office? That's really challenging. And that's a subject of the lab you're in, the department that you're in. Some departments are like, hey, that's great. That's kind of what we want to do. Other ones are like, no, no, no. We have plans to commercialize that already. You can't take that on your own. So it becomes this huge, huge challenge. So I don't have a good answer to you. I think it's always difficult. We're trying to get technology commercialized here, and not deal with politics, but unfortunately, humans are involved in everything, so there's always going to be politics. Yes, sir?

AUDIENCE: I would like to ask about the PI. Do you mean to be national permanent resident in the United States? Or can it be can it be under a visa?

STEVE DEREZINSKI: So I'm going to answer that question in two ways. And I'm totally going to caveat it, meaning I could be wrong. But the company itself, as I mentioned in the eligibility stuff, has to be 51% owned by US citizens or permanent residents. The PI, the work needs to be done inside the United States for most agencies. And I've seen some exceptions to this sometimes, but it's been kind of weird, and I didn't really understand. Like I've got a guy who's going to be in Israel for the summer, and he wants to do some-- he's not a US citizen, but he's one of these key guys. So that's a hard question. Good, hard question, which I don't have the answer to. Yeah. So one quick thing on SBIR versus STTR, I don't want to go too far into this because we'll talk about that on Wednesday. But the SBIR permits you to have a research institution partner. And the STTR requires you to have a research institute partner. So I've done both. I can tell you that the overhead associated with engaging with the university, kind of to your point about conflict of interest, how do you resolve that, how do you get a clean license, becomes very challenging. So I know we're sitting here at MIT-- love MIT. I think if you took a $300,000 phase I and you took 30% of it, which is like $90k and you gave it to MIT, it would quickly cut down to about $45k, maybe even less for the actual researcher to do the work. So it becomes really challenging to do that, unless if you really want to engage a university, and they have some fantastic equipment or some fantastic people that you can't get access to otherwise, in which case, you can view that kind of process as table stakes. If you want to get in the game and you want to use this great equipment, then that's the-- I mean, that's the reason why we're here, because they have-- it's not cheap to run this place. So what I usually recommend people do, if you do want to engage in a university, is to apply for an SBIR, and then you can actually take 33% of the phase I and outsource it to your research institute if you want. And you can do that through consulting agreements and other things that are a little bit easier to get through. But you probably still have the same conflict of interest challenge with that one as well. The award is always made to the small business. So that's a great thing, because then that puts you in control of receiving the funds and then paying the university as opposed to begging the university to make its payments. Yes, sir?

AUDIENCE: I've seen some SBIRs where there's a clear difference with the STTR. so the STTR is like 30% more.

STEVE DEREZINSKI: Oh, like the award amount is 30% more?

AUDIENCE: Yeah. Like you make 70% or something, and then they put in more-- 30% more. But I've seen others where it's like you choose, but it's the same budget. So it's kind of like, OK, to go the SBIR route. But at the same time, I've heard that you're more likely to get awarded if you have an STTR. What's your take?

STEVE DEREZINSKI: Yes. So you took the words right out of my mouth. So it is more challenging to get an STTR, but the same thing I was saying earlier, if there's more hoops to jump through, there's going to be far fewer applicants because most people are going to be like, forget this. And then, in fact, I've heard rumors that there's a lot of sources of funding that have to go into STTR, they just can't get anybody to apply for, because it's just not a lot of money and it's challenging. So it's like if one person applies for it, they'll win it. I mean, it's got to be meritorious and all that stuff. It can't be-- I'm not talking about just like putting together a napkin or anything.

AUDIENCE: [INAUDIBLE] the same for phase 2 or phase [INAUDIBLE]?

STEVE DEREZINSKI: Well, you have to have a phase 1 to get a phase 2. So however you came into phase 1-- if it's SBIR, STTR-- then that would define how you go to phase 2.

AUDIENCE: Thank you.

AUDIENCE: So we heard this. We are in an SBIR right now, and it's phase 1. And then it seems like we can apply for phase 2. We got the invitation. But then someone came from an institution and said, no, you have to go with the institution. And we were like, well, but this is an SBIR [INAUDIBLE]. We were not sure that we could even migrate to an STTR. It made up in a matter of budget.

STEVE DEREZINSKI: Yeah, I'm not sure, I'm not sure. But, I mean, that situation, there's a lot of those situations. So you've got the SBIR program and the STTR program. And-- excuse me-- as I said, they get whittled down and converted into however the agency wants to run them. So it may be that there's a specific challenge that somebody has in a department and that they need this funding to do-- I don't know. So that may be what you're running into. So I wanted to go into the proposal submission details, how to win these things. And it's typically a 25-page proposal. They usually don't accept unsolicited proposals. And they evaluate it, number one, based on the technical merit. So you guys are going to love this if you're a technical nerd. And then, number two, on the other commercial merit and the firm's qualifications. I will say that-- I say this to all the-- I'm going to do a lecture on the nuts and bolts class too. But a lot of times, I do some mentoring at MIT for student project teams, and a lot of times, when people look at grant programs or awards, and they're like, well, we could get this award for $5,000. Yeah, but we need 300 grand to do this thing. What's the point in doing that award? If you're a team that's just getting together and you're just a bunch of individuals, if you can do something together under a cohesive unit and say, we won this award as a team, that kind of adds credibility to this next phase, which is kind of like-- we're talking about the firm's qualifications, right? Well, if you just come in with three people that just put the firm together, the firm doesn't have any qualifications. It's just three guys that decided to come together and put a name on top of our heads. So I would say I wouldn't necessarily pooh-pooh some of the smaller ones, just to give you guys a chance to put together a business. Yeah, OK, let me keep going here. So this is directly from the National Science Foundation research.gov proposal preparation process. There's a whole bunch of stuff in here that you guys can all figure out how to fill out. It's all details around it. But what I wanted to focus on was the project description, and then the letters of support. And this is specific to the National Science Foundation. These two areas are the most important things for you to spend most of your time on. Everything else, you should be able to just plug and chug. I mean, read the instructions and do it correctly, of course. So a project description is 15 pages. It has an elevator pitch, it has a commercial opportunity, company and team, a technical solution and a technical merits R&D plan. So this is for a phase I. This is the first time that an agency would fund this project or this technology. So the focus of a lot of the work needs to be on the technology solution and the technology merits R&D plan. So there's a bunch of other stuff that we put together, right-- commercialization and all kinds of ideas. At the phase 1 level, it should be a technology demonstration project. So you don't necessarily know who the customer is. You probably have some ideas, so you want to talk kind of through who could potentially use this. But you really want to focus on the technology differentiators at that phase. And then letters of support. Good letters of support are customers who would buy after phase 1. So if you can figure out how to explain what your technology does and you've got a good customer that says, that looks interesting. I would buy it if it were reduced to practice in this way. That would be great. Investors with serious interest in the outcomes. That means we read their business plan. We love what they're trying to do. We see a huge opportunity in the marketplace. But they have some significant technical challenges, and they are just the team to do it. That would be the ideal letter of support from an investor, and proving that they actually know what they're doing. And then partners who would invest after

a successful outcome. So if you need a path to market and you need a serious couple of partners in order to get to that marketplace, those guys along the way saying that you talked to them is a great letter of support. So what are bad letters of support? There's way too many consultants who get paid from the fund, and it's kind of like what's the point in telling me you support this project? Of course you do, right? An investor with no knowledge of the technology. So some people are just like, yeah, you should fund these guys. They're a friend of mine. And then a senator or congressman who want to support the companies in their district. There's plenty of these. I don't recommend them, but they don't hurt. So if you want to do them, that's fine. I mean, I consider them a bad letter of support, but maybe this is Steve's opinion here. OK, questions? Oh, sorry, I had to take this spam likely or scam likely call. Questions on any of that stuff so far?

AUDIENCE: Yeah. So [INAUDIBLE]. The question is [INAUDIBLE] speak Spanish?

STEVE DEREZINSKI: Yeah.

AUDIENCE: case 1 and then 50% case 2.

STEVE DEREZINSKI: Yeah.

AUDIENCE: Is that to outsource the research institute up to that point after that markup?

STEVE DEREZINSKI: Yeah. So good question. So on the SBIR side of things, you can only outsource a maximum of 33% for the phase 1 to an outside research institute partner. In other words, 66% of the technology and the innovation has to be with the small business firm. That's the reason why it's an SBIR. When it's an STTR, some of the technology expertise can be with a company but a lot of it is probably at the university, which is why there's a minimum 30% for the research institution. Which means the small business, it gets 70%. And then the 40%-- So there's some gap between those two. If you hit the minimums on both sides, you have some gap to fund other things. But that has to be in the budget. So a lot of times it helps with negotiation. So if you're engaged with the National Lab, for example-- I've done a bunch of work with DOE's National Labs. You kind of go through the-- you don't have to worry about negotiating. You'll just be like, well, this is defined in the SBIR. That's how much we're going to do.

AUDIENCE: The STTR, the 40% is for the small business concern. Is that a maximum or is that a minimum?

STEVE DEREZINSKI: That's the minimum for the small business concern, and 30% for the research institution.

AUDIENCE: [INAUDIBLE]

STEVE DEREZINSKI: Yeah, yeah. So the total is only 70%, and you have 30% of slop in between. So you could do 40% for the research institution if you want. Or you could do 50/50, right? That's within the range. Any other questions?

AUDIENCE: I heard that, basically, there is some kind of markup for the overhead?

STEVE DEREZINSKI: Yeah.

AUDIENCE: Until the end?

STEVE DEREZINSKI: Yeah. That's what I was saying. One of the challenges with the research

institution for an STTR, if you have a $300,000 phase 1 award, 130% of it goes to the research institution. That's $100,000. But then you got to multiply it by-- basically, take a half of it, and that's the amount that actually can go to do the research. The other half of it goes to overhead, typically. I mean, just rough numbers. Maybe even more than that in some places. I don't know. Does anybody know what MIT's overhead rate is?

AUDIENCE: I think it's 59.

STEVE DEREZINSKI: 59. OK, any other questions? Yes.

AUDIENCE: You're showing the timeline of different institutes.

STEVE DEREZINSKI: Yeah.

AUDIENCE: If I want to choose, how many months you suggest that is minimum for the first time writing a grant for the company?

STEVE DEREZINSKI: That's a good question. So if it's the first time writing a grant and you're going after a broad solicitation, I mean, you can get started on it, and it's typically like two months, I think, If you already have the technology, and you know what it is, and you want to put it in the right format for this, I think two months is about the right amount of time that people allocate for it. That's for a broad one. But if you have to go into the specific solicitation topics, then it becomes a lot more challenging, because you have to make sure that your technology matches whatever is in that solicitation. So it might take an extra month or so to make sure that it's focused on that, especially if it's your first time around. Any other questions on this one? Yes, sir.

AUDIENCE: So for the letters of support, let's say that you are in a phase 1, and this specific department is actually going to buy your technology, and you want to get more resources to actually finish that project. Their letters of support would be useful for the NSF SBIR, for example that the letter of support being from the government? It's a customer at the end. That's why--

STEVE DEREZINSKI: I think it would be fine. A lot of times, a lot of these things, it's like, did you actually talk to a customer in phase 1, which is kind of unusual, right? But a lot of times that's important. If that customer is so tight that they have a conflict, then that's a concern. If they're too close to the technology, then it's like, OK, well, this is just your friend, right? I've done several where there have been prominent professors from lots of universities around that have given letters of support, not as customers but just as technology advocates to the baseline technology, which has been great. Because one of the things that you'll realize is that the reviewers, when they sit in a room, they have 20 of these proposals that they got to read through. And, really, what they do is they just go through the proposal themselves. They don't go to a website and go do extra research on stuff. And that's probably the most important thing for you to recognize is that they've got to review 20 of these things. The easiest thing in the world is to say no. So they're just looking for reasons to say no on any of these items. And if it takes extra work to go and advocate for you, they're not your friend. They're there to just do the review. So what you want to do is make it very easy for them to say yes. So if there's a bunch of letters in there that say this is great technology. I'm a well-known person in my industry and I say this is great technology-- that's great, because then they don't have to go out and talk to anybody else. They just see it right there in the package. Yes, question in the white.

AUDIENCE: There is one agency of grants that you recommend us better than others?

STEVE DEREZINSKI: One-- which, what-- I didn't hear that.

AUDIENCE: One kind of agency of grants that you recommend us better than others?

STEVE DEREZINSKI: One agency-- well, I love the NSF. So what can I say? I mean, I have some funding from the NSF. But it's really a match. I wish they would rename it SBIR. Well, I guess SBIR has the brand name. So everybody knows what that is. But within each agency, there's a lot of different things. Like, for example, I know some people that really have done a bunch of research and have a bunch of collaborators within a specific Air Force Research Lab. And so, therefore, the DOD and the solicitations that come out that match their stuff are a perfect match for those guys. So it's like why would you go to the NSF and try and convince somebody that you have something commercial when I have something that's ready-made for that solicitation? So it's really kind of a custom question. If you are like, I have a cool idea, and it's super techno nerdy, and I think there's a commercial market for it, then the NSF is designed to fund that. I mean, that's the reason why they kind of came into this. I will tell you that they do like to fund, and they actually make a preference to, first-time companies. So if it's your first-time company and you want to do first-time funding, that's kind of their sweet spot. They prefer to do that. In fact, if you go back a second or third time, it's kind of like, uh, we already got you going. Now you're supposed to be on your own. Any other questions? Otherwise, we'll keep going. Yes. Yep.

AUDIENCE: If we write two grants, for example DOD and NIH, they are two different things. For NIH, we are looking at, I don't know, say, something. But same company-- of course the product at the end is the same thing, but two aspects. It can only accept one of them?

STEVE DEREZINSKI: No. Thank you for asking that question. The question is, if we have two proposals that have different scope of work-- so like I'm doing software development over here, and I'm doing, I don't know, drug discovery over here, or whatever it is-- those are two different proposals. So the distinction is if I take the exact same proposal and I just change NIH to DOD over here, and I apply the same thing here. So it's the same-- doing software development here. Same person, same thing, doing software development, and innovating the technology in the same way-- that's what you can't do. And a lot of people have done that. It sort of makes sense. It's like, well, my chances of winning are 15%. Let me just invert that and submit it to six different agencies, and one of them will hit, right? You can do the math on that. So yeah. And, in fact, I think I like that as a strategy. If you have a product and it has multiple technologies that influence it, you can certainly go and find a bunch of sources of funding from different spheres. And as soon as you get your company registered and everything else and go through that process, that's kind of a big hump to get over. And once you're there, it's like-- One of the reasons why I've done a lot of federal government work is because it takes a long time to get you up over that hump in the first place. And once you're there, it's kind of like I might as well just keep figuring out who else needs my solution that can be solved.

AUDIENCE: [INAUDIBLE]

STEVE DEREZINSKI: Yeah. Unless anybody else has any other questions. She's already got two down. Go ahead.

AUDIENCE: It's about the team. Should they be officially registered in the company as part of the employees? Because for many startups, one person quit their day job. The others support, they spend time, but officially, they are [INAUDIBLE]. So are they OK? Because of the limitations of their primary employer, they don't go officially In the system.

STEVE DEREZINSKI: Right. I got you, I got you. So the distinction is-- and this goes to the budget and to the application. So the question was, if somebody is outside and they're going to come work at the company once you get funding, how do I put them into the proposal? If they are one of the key people that you need to do the technology work-- so they're a named person on the budget that says, I need, whatever, 120 hours out of this guy-- then it's a harder question, because then you have a real challenge around are they actually a full-time employee of the company or part time, depending on how much time you put in the actual proposal. Then they need to be in the company at the time of award. If they are just kind of one of these extras-- so a lot of budgets will just say computer software developers or something, or instrumentation specialists or something-- those aren't as critical to winning the proposal. Then you can leave it at the time. You can do it after award, in fact. It's not that critical. So it's really a function of whether or not-- and if you use someone's bio in your proposal, then you're saying that these people are adding to the team and adding to the credibility, and that's part of the decision process. So they have to be in the company at the time of award, because that's what they made their decision on. They're like, well, here's what they want to do. They've got this person who has this background and is perfectly matched to do that, and they've got budget allocated to make them do the work. That has to be contained in. So you have to figure out how to get them in the company at time of award, I guess. Yes. One more question, and then we got to get on here.

AUDIENCE: [INAUDIBLE]

STEVE DEREZINSKI: Yep.

AUDIENCE: If people have written articles in magazines, things about us, which they have their own experts in the field, would it be better to use that article, or ask that person to write something specifically for the grant?

STEVE DEREZINSKI: Well, so you can always put press in the proposal if you want. I'm thinking-- I mean, if you're going for a phase 1, that's usually like, you have press already? That's pretty far advanced.

AUDIENCE: [INAUDIBLE] like in some of the court systems. And so people just took it on their own, right?

STEVE DEREZINSKI: Yeah. I mean, you can certainly add it. But I guess what it's supposed to be for is for deep technology development that has not been commercialized yet. So if you're already commercialized, then it's like maybe we should be doing something else. All right. So this is the right way to get started on this whole process. So before you spend any money on creating a company or any administrative time, you can do a project pitch for the National Science Foundation or a quad chart for everybody else. And, actually, you can do a quad chart for the National Science Foundation too. So why do I say this? Why am I telling you to do this right now? And we're going to do this right now. Because I want you to talk to the program manager that's appropriate for your technology. And the best way to do that-- if you think about these program managers, they've got hundreds of calls and people complaining to them-- give me money. Why aren't you giving me money? I'm so great. The quad chart is what some of my friends call a love language for the SBIR community. It's a consistent way to put your company and your technology innovation in a format that's easy for them to digest. And the reason why I want you guys to do this is because I want you to have the best success possible. So if you put it in a quad chart format and send an introductory email to the program manager that's appropriate, and you already know all this background, then they're going to say, oh, this person knows what they're doing. They're going to follow the rules. They're not going to waste my time. This

sounds like somebody that I really want to fund. So I've got this quad chart here, and I understand what they're doing. And it fits in the area, and I can give them quick feedback. And they're not going to ask me a bunch of dumb questions to keep me on the phone because they're trying to be my friend. So let's do that. And once you have a call with a program manager and describe to them what's on the quad chart and the situation with the company and everything else, then you can do the administrative work and forming the company and everything else. And as Ben says in his video, there's sam.gov, research.gov, SBA.gov, and it can take 30 days to do that. So to your question about two months to write the proposal, if you don't have any of this stuff registered yet, it's another 30 days to do it. You can do that in parallel with writing the proposal. I mean, you just submit stuff, and then you just wait for it. One other comment I like to make is that if you guys are in startup mode and you're trying to decide should I raise equity or should I go for grants, one of the wonderful things about grants is that there's a deadline. So you've got to get it all done and get it submitted. And then once it's in, there's nothing you can do. I mean, you just have to sit back and wait for them to review it. Which is a wonderful thing, frankly. People are like, ah, I'm waiting. And why am I [INAUDIBLE]? No, no, no. You guys have 8,000 other things to do. You get this done. It's like a homework assignment, right? You got to submit it, get it in, and then you got to-- And, in fact, they often take a lot of comments. They often don't want to be bothered after you've submitted it, and that's like a negative. So it's beneficial in both areas. So a lot of times in companies, I'll say, why don't you guys go ahead and fill this proposal out, submit it, and then go get busy with your investor conversations and discussions. Because what I didn't say is on the SBIR side, there's a deadline, so that you can't do anything after a certain date on that particular proposal. But in the world of raising capital from investors, there is no end to the amount of meetings you could have and the amount of follow-ups you could have. So that becomes a gigantic time sink if you don't manage your time carefully. I do want to say that the solicitation-- a lot of times people will take information and they'll try and sell it to you online and say, hey, this is how this thing works. And there's all kinds of consulting companies out there. But the PDF that you download from the website, that is the solicitation. That's the official document, and that's the legal document that's the ultimate source of facts. So if you're looking for the ground truth of how should this grant be done or how should this contract be done, it should be in the solicitation. And if it's not, then you're going to ask the program manager then. So what I'd like to do now is take 10 minutes. And if you guys all have laptops, you can download this quad chart template, which is from 2018. I realize it's old. I'm going to start the timer now, and then I'm going to take questions while you guys all get busy on that stuff, and we'll wait 10 minutes. Yes, go ahead.

AUDIENCE: So we sent a letter to the program manager, and he give little response. We saw that we did not provide pre-submission tailored feedback. How do you get that feedback? And feedback [INAUDIBLE] get positive feedback? We just send them detailed questions?

STEVE DEREZINSKI: Oh, yeah. So we're timing. Everybody's doing their quad charts. So the point of that is once we finish this exercise and you have your first call, there's a few other steps that I'll talk about in a second, which is to go find the right guy that you need to talk to, or gal. And then what you want to get is this looks interesting. This is exactly the type of stuff we would fund. So go ahead and fill out an application for this. That would be fantastic. You may not get that. You may get, OK, it's not terrible, which is kind of you have to lean into that and realize that that's a positive. So not being told this is wrong is a good thing. And you may also get, hey, this is not the right thing. We've done this eight times already and we've never had any success for it, so don't bother. Which is fantastic, because then you don't have to waste your time, all this time trying to fill out an application and for no avail.

AUDIENCE: Are they available for a call? Because from what I got from this email, it's no, we don't give any feedback.

STEVE DEREZINSKI: Oh, oh, oh. So they are available for a call but they may be wary about giving you specific feedback to make your proposal more competitive. So you can ask them some questions, but a lot of times they just won't answer. And we can ask that of Ben on Wednesday, by the way. Feel free to ask him any questions you want. And you'll get the you'll get the fantastic answers, like-- excuse me-- like I'm not at liberty to discuss those things, or against certain rules, all that kind of stuff.

AUDIENCE: We've heard that it's also to approach them, but we've never gotten anyone to pick up our calls.

STEVE DEREZINSKI: Probably because you didn't email them a quad chart ahead of time and show them that you're awesome. So other questions on this stuff, or you guys are busy digging in? Yes.

AUDIENCE: So you mentioned that they're not allowed to give feedback under certain circumstances, but it looks like they can if we just reach out to them [INAUDIBLE].

STEVE DEREZINSKI: So they can't-- I forget what the legal limitations are, but they can't kind tell you that, hey, yeah, we would totally fund this. They can tell you that there's a match, or there's a good likelihood of match. They can't give you any guidance around what to change. But, really, what you're trying to do-- and I think I have a slide on this, so I apologize for repeating it ahead of time-- is just develop a relationship with the funder. And what I want you to do is I want you to do it in the right way and in the compatible way. And I want you guys to all do your homework ahead of time so you don't ask silly questions about what the SBIR program does and all that kind of stuff. But that you're trying to get to-- you're trying to-- those top three motivations of the program manager. They won't get fired. They won't be embarrassed by funding your technology. And they'll be excited about it actually, like, oh, this is cool stuff. I mean, this is what we do. I highly doubt you'll ever get any SBIR program manager to say, well, this is really cool stuff. We should fund this. That's not in their DNA. So Hash, what's up?

AUDIENCE: This fund comes directly from the federal government? So I'm just filling out sam.gov for the ID. They are asking this question.

STEVE DEREZINSKI: What was the question?

AUDIENCE: This fund is coming directly from the federal government? Or is it coming from federal government to some agency, and then to [INAUDIBLE]?

STEVE DEREZINSKI: Well, it's a federal agency, so I guess it would be coming from the federal government?

AUDIENCE: So there's a question that I'm still applying for this ID to apply directly for federal grants or loans?

STEVE DEREZINSKI: Yes.

AUDIENCE: So it has to be yes?

STEVE DEREZINSKI: Yes. I don't know. You guys are supposed to be the smart ones that can fill stuff out properly. Any other questions on this? Otherwise, I'll chill out for a few minutes while you-- [COMPUTER DINGS] So just one quick note. If you notice, there's a company, state,

name, email, phone. A lot of times people miss that on the top of the thing. [COMPUTER DINGS] Oop. Nope, we're not doing that again. OK. So that quad chart is for every technology, and that even works with the National Science Foundation as well. The National Science Foundation has a new process where you have to fill out a project pitch. And I know one person in the audience has done this already. And what you'll notice is that the technology innovation, the technology objectives, the market opportunity, the company team is very similar to the quad chart, just in paragraph format. And I think because the NSF is so broad and has so much leverage to fund a lot of things, that they decided to put this process up front to make sure people didn't waste their time and they didn't waste their time finding reviewers. So you have to submit a project pitch to them first, and you have to select kind of what area it goes in. And until you get a "encouraged to apply" response from them, you can't fill out a phase 1. So this is a necessary step in the overall process. And these instructions are on that website, so you can take a look at that as well. So what I want you to do after that is find the agency, the solicitation, dates, and contact information, and prepare for a one-on-one call with the specific program manager. So to find the agency, you can go here. I mean, sbir.gov has all this stuff, but you can actually search for all the awards that were funded previously and find something that's similar to your technology. And then search for the agency that has funded. And then within that agency, you find if there's an open solicitation, the dates and deadlines, and find the official PDF of that and the specific topic for your technology. And I'm talking about mission-focused ones now. I know the broad-based ones, the market-focused ones, will have very broad ones, so it's fairly easy to just read through their solicitation and find where your technology would fit. For the DOD ones that have a thousand different solicitations, you'd have to go through and find at the lower level, and then find the contact name of the person that's going to fund that topic. And that's the person that you want to email your quad chart to and set up a call with. Because that's the person that wrote the solicitation, got a bunch of people to input on what should the solicitation be, and they're going to be the ones that are going to convene a review panel and look at your proposal. So that's the person that you want to really be in contact with. And, of course, if there isn't actually a person on that solicitation, which sometimes there isn't, they usually have a general SBIR contact that you can say, hey, this is my technology. I'm interested in this topic. Who should I speak with at the firm? And, of course, just using standard good sales process, you send an email, and you follow up after a few days, and then you follow up after a few days after that. And then you send another follow-up email and stuff. So this all brings us to the homework, that you guys maybe are already done on, on Wednesday. Or you can even send it in to me ahead of time. There may be an extra prize if you send it ahead of time. You should already be familiar with the one-on-one stuff from that video and from this talk. But I want you to list all the agencies and the topics that potentially could fund your technology, and then research other technologies that are funded there. Have your complete quad chart done, and then prepare questions for your call. So what I would recommend your call have is just general feedback of fit for your technology with their agency. So making sure there isn't some weird, oh, you didn't know about this other thing. We don't actually fund that technology. A fast no is a great thing in this world, because there's all kinds of money out there, and you want to really find where you should focus at. Building a relationship with the future funder. And then you want to ask questions and find out others you should talk to. So that's the last question that you want to ask them. And often they'll say, no, I'm pretty much the only person, which is fine. You can say that. But they might say, you should really talk to this person, or you should really talk to this other person. This is the advanced tip, is that those people are probably also on the review panel for your proposal. So when you say, oh, that's nice. Yeah, I should talk to them too. Yeah, they don't have any money, so why should I talk to them? They can't tell you they're on the review panel, but more than likely they will be. Or there's some partner that you should really talk to that they want to get their opinion of. So they may not officially be on the review panel, but if you get to that point, you definitely want to engage all the people around that any of those people mentioned. So I did mess this up one time when somebody was like, you should really talk to this person.

And I was like, eh, I don't have time for that. And then we didn't get funded, and I'm like, oh, because that was the key person that was going to weigh in on our proposal to say yes or no. Dang it. So that's the homework for Wednesday. On Wednesday, we're going to talk about all of the wonderful AI tools that make this whole process way easy. And if you want to submit your material to me early, I might give you access to some of those cool tools up front before we get too far down the pathway. So just as an incentive there. Questions on this? No? Everything is crystal clear? Yes.

AUDIENCE: Do we send the homework to this email address?

STEVE DEREZINSKI: Yes, send it to me. I have a million emails. Questions on any of that stuff? We're almost done here, guys, so please bring up the questions. Everything's good? Ready to rock and roll? Anxious to get AI to help you do all this stuff? [AUDIENCE LAUGHS] Well, I will say one thing, which is that-- and I'll probably repeat this on Wednesday, so maybe I shouldn't say it now. But, anyways, I'll say it anyway. What I found is that AI gets you from an F to a B. And then it really takes humans to get you from a B to an A, A-plus, where you actually get funded, where funding level is A. So, no, you can't have AIs just go and get you-- go get me a bunch of money. That's fantasyland. And I would highly recommend that you guys ask Ben that question when he gets on the call on Wednesday, like do you encourage AI usage? I mean, ultimately, it's people funding people. And people can still tell that it's an AI behind the scenes, especially if you have a phone call with them. They're going to know that you're not an AI. You're a human. And then this is the agenda. We'll go over timing and calendar management, and applying while in school. I do want to talk about a budget example, because a lot of times the budget is important in the review process. That's a sanity check about here's what you're proposing to do. Here's the cool technology. Here's the market opportunity. Here's the team that you have working on it. And then why are you giving all this money to that guy? Forget it. Obviously, you had it all lined up but your budget doesn't match with what your intention is. So as long as you've got a good plan and it's like, oh, well, clearly the key technology guy needs to get the bulk of the budget, then that makes all the sense in the world. So we'll talk about that. And then we'll talk about the review process in a little more detail. And then I've got a whole bunch of generative AI stuff. And then the last, I think, half hour of the class, we'll have a chance to chat with Ben on the call. So questions on that?

AUDIENCE: One more question. So [INAUDIBLE] from phase 1 to phase 2, I've heard that there's some audit that takes place, and you have to have some.

STEVE DEREZINSKI: Yes.

AUDIENCE: Can you talk a little bit about how that happens and what you have to have.

STEVE DEREZINSKI: Sure. I mean, we'll talk about it more on Wednesday, but there's something called a C-A-A-R, a CAAR. I think it's like Audit and Accounting. I'll just cut to the chase. There's a whole bunch of stuff. The hardest part that everybody in your shoes has to deal with is that if you are spending the government's money, you have to show that you're allocating it correctly. How do you show that you're allocating it correctly? I'm paying for people's time. How do I show that I'm paying for people's time correctly? I'm keeping time cards. So if you have a proper time cards keeping system in your accounting system, and you're allocating it to the right people for the right amount, and you have proof of that, and you have sign off on that, then you pass the CAAR. So that's just for phase 2 now. So this is you've already got the phase 1, and you're trying to-- you basically apply for phase 2. You go through the review process. You get like, hey, we want to fund this, but you have to go through the due diligence checklist, which means are you a real company? What's your accounting system? What's your financial prospects and all that good stuff? And can you manage this fund? Because it's a

million bucks. It's not just a few hundred thousand bucks. So it's a lot more money and a lot more time. So they want to run you through a lot more diligence at that phase to make sure you're OK to get the funding. And the DOD is even harder. There's a whole-- I forget what it's called-- DFAS or something like that, that makes you go through a whole bunch of audits and stuff. I've done it, It's why I'm grabbing my head, because I'm getting headaches right now. So let's break, unless there's other questions. Any other questions? Yes.

AUDIENCE: What about accelerated track, that you can solve with phase 1 and 2, at least for NIH [INAUDIBLE] and others?

STEVE DEREZINSKI: Yes.

AUDIENCE: Do you recommend such thing?

STEVE DEREZINSKI: So the fast track usually is a lot more popular, because everybody's like, why am I wasting my time with this $100,000, and then I get a chance to get a million bucks? Why can't I do it all at once? That means that there's more applications and there's a lower chance of success. That is exactly what a conversation with the program manager would be like. Hey, we're thinking about applying for phase 1. We're not sure about SBIR, STTR. We're also thinking about fast track. Where would this be best fit? And, usually, fast track, it means that you've already got the commercial partners lined up for phase 2. So it's like I'm ready to go to phase 2, so I want to jam all this stuff together. And you have to be totally kick-ass to do the fast track stuff. So there's a lot of examples where people are just like they're perfectly aligned with the solicitation that came out. So it's like, we don't want to waste our time doing a phase 1 and phase 2. We want to just go at it. And those are great candidates for fast track. Other questions? Doot doo doo doo doo. All right, guys, thank you. I'll see you Wednesday.