Albert Green: So everyone welcome a this is a recorded session that Michael should be recording right now. So you'll see on your screen.

Albert Green: Just some it just a little bit of sort of.

Albert Green: Uh, housekeeping. Soap.

Albert Green: The what we like these to be very interactive sessions, so please raise your hand where we're happy to take questions during the session as we discuss these very important topics. That's one thing I'd like to say.

Albert Green: The second thing I'd like to say is on, you know, unfortunately we have a situation where you know, we had two.

Albert Green: Uh, we had two very distinguished speakers. One I just learned today had a had a had a death in the family yesterday, actually today. And so was not able is not able to join. That's Joe Jankowski, who's the chief innovation officer at Case Western will have them again another time. But you know last minute you know.

Albert Green: Unexpected death in the family, so unfortunately we we will not have to have him join in this in this meeting.

Albert Green: Uh, so?

Albert Green: The other thing I would say is that so I'll have Anthony introduced himself in a minute. And and this although Anthony is from the Ohio Aerospace Institute and a lot of the charts will reflect some of that, the statements that were making are not specific to that. It's really a discussion around how we as a group can capture these kinds of opportunities. And Anthony's completely prepared to talk about that.

Albert Green: In any level of detail that you all want, I would have to say that regarding SBIR is in STTR's. You know, Anthony, I've talked for for awhile and he has forgotten much, much more than I actually know about these topics. So I'm happy to introduce Anthony. And if you could just say a couple things, Anthony, about your background, your experience and then we can go forward.

Anthony Gillespie: Sure. Uh, I'm Anthony Gillespie. As Al mentioned, I'm with the Ohio Aerospace Institute. I worked as the senior program manager, but really I direct a lot of what they call their tech based economic development activities. I'm an engineer by training, worked in industry for a number of years as electrical engineer and then switched over to more of the business side, got an MBA Masters in Information Systems. As far as my world and.

Anthony Gillespie: And really kind of this whole subject matter that we're going to discuss today. I spent some time working in university tech transfer at Carnegie Mellon University in their tech transfer office and also work for detail Memorial Institute doing a lot of tech transfer and commercialization work. So today I'm going to share with you a really a lot of the work we do at the Ohio Aerospace Institute. We are a funded organization by the Small Business Administration.

Anthony Gillespie: And you'll see some slides that I haven't information that will show our role and how we assist companies or entrepreneurs like yourself who are thinking about a company or how do you pursue SBIR and STTR funding. And so that's what we're going to do today is really kind of take that journey to introduce you a little bit about who is. Oh, I would is SBIR and then help you think in terms of you know whether or not it's a fit and if not then there's definitely other mechanisms that you can pursue.

Anthony Gillespie: To help your entrepreneurial small business venture so happy.

Albert Green: And also you know also Anthony, I I think that that you know this is as an inventors

forum, I mean what we've positioned this as is a way for our entrepreneurial focused faculty to really engage with folks like yourself and others on that commercialization journey. And so you know at that I think that this is you know the purpose of this was really to kind of get people familiar with you know what you do and what others do.

Anthony Gillespie: Yeah, yeah.

Albert Green: And what you know, in the login the you know the ecosystem is both you and I know there's a pretty big ecosystem. So please feel free to discuss you know what you know about the larger you know.

Albert Green: Commercialization translation ecosystem, I think that's going to be important for these folks to here so.

Anthony Gillespie: Yeah.

Anthony Gillespie: Definitely. And I invite you to ask questions as well because I can ask this question.

Albert Green: OK, So what I would say is if you're, I'm going to go on mute. And if you're not asking a question, that probably makes sense to go on mute and.

Albert Green: We can go forward with ads, Anthony presentation. Thanks very much guys.

Anthony Gillespie: OK, I'm going to go to the next slide here. I can't see everyone. So if you have questions, put him in a chat where monitoring the chat room or I I would say, yeah, put put your questions in the chat room, we can definitely answer as we go. Just start off a little bit. As I mentioned before, I work with Ohio Aerospace Institute. I'm not going to spend a whole bunch of time on this slide. Like I said, our organization has been around for 30 plus years. Really our focus is on the aerospace sector.

Anthony Gillespie: And we were brought together to really help drive industry, university and government connections. As you can see, we've done a lot of work in the in the government contract in space as well.

Anthony Gillespie: So as I mentioned earlier, we have a number of focused areas within our organization. We do contract R&D work for various federal agencies. We have a membership program where we work with companies.

Anthony Gillespie: A small businesses, other Philly at organizations that are members where they have an opportunity to connect and network throughout the ecosystem.

Anthony Gillespie: Ah, the collaboration Consortium pieces a whole nuther area where there are often opportunities that exist within, you know, a lot of times as far as in the tech sector where we can be the third party to bring together like entities to come together and and really put their funds together and and look at new challenges, solutions in the forms of consortia.

Anthony Gillespie: And then given that we are a nonprofit organization, we have an educational mission.

Anthony Gillespie: Uhm, the box is highlighted in this slide is really the area that I focused a lot upon, which is focused on new industry creation and and really the application of technology. And so as a by product of that definitely the funding piece plays a role. But you know there are contracts that you have to look at this also as far as partnership opportunities that play a big role when you think about new industry creation and really that application of technology.

Anthony Gillespie: So taking a closer look at my area focus really the tech based economic

development area and just summer, our business assistant services as I said before, we do a lot of work as far as with a focus on how do you how can you leverage some of the federal funding that's offered through the SBIR program and it's really you know if you're not familiar with this program, it's really a pre seed program that helps.

Anthony Gillespie: Small businesses.

Anthony Gillespie: Uh, commercialized technologies. And so there's over $3 billion available annually through various agencies to pursue commercialization of technologies.

Anthony Gillespie: As you see on this slide here, one of the things that we end up doing as far as working with companies through some of our key partnership efforts here is you know identifying potential opportunities as far as to pursue in the SBIR program. Secondly, once an opportunity is identified, we provide one on one assistance myself. There's another colleague that I have on my team. We work with companies to help them figure out how can you plan and pursue.

Anthony Gillespie: Uh, these grants 'cause. Typically in most cases. Then, because this federal funding, it has to be a competitive process where you submit a written proposal to in order to receive that funding. And so we work with companies as far as mapping out their strategy.

Anthony Gillespie: Uh, and we also help assist the companies by reviewing their work. We don't write the proposals, but we work with you as far as helping you understand the processes and procedures in in moving forward.

Anthony Gillespie: A 30 piece as far as how we help companies is really looking at as far as capability gaps as far as owner team sometime pursuing his proposals, we understand small businesses have to leverage their resources and so we help them make connections as far as you know in the case of a lot of you all who are involved with higher Ed, it may be working with the company from a partnership perspective or maybe in certain cases you may be looking to spin out of some technology that you're working with. And so we can help you work.

Anthony Gillespie: With key partners in the ecosystem, uh and I was tired it ecosystem to to help you go forward.

Anthony Gillespie: And then lastly, another area that we help is beyond the grant. Uh, once you've gotten phase one phase two funding and you'll see in the following slides, then there's an expectation to get funding from other sources to commercialize your technology. And so we work with companies that help them pursue supply chain opportunities as well.

Anthony Gillespie: The right side of this chart really just shows a number of programs that we work to work through and get funded. Is this from, you know, the federal level as far as the SBA to Small Business Administration fast is the federal and state Tuck Technology Partnership program that provides funding for the Ohio Aerospace Institute to support small businesses pursuing SBIR grants.

Anthony Gillespie: Uh, but we also worked at more of a local level. You see jump start in the business growth collaborator in the case of Jumpstart, Jumpstart is the lead entity that we partner with to work with companies in the Northeast Ohio ecosystem. There's similar entities throughout the state that gets did state funding to support and pursue commercialization of ideas and then the business grow collaborative is more of a local effort in the City of Cleveland and Northeast Ohio.

Anthony Gillespie: Region where we work together, help small businesses commercialized technologies.

Albert Green: OK, wait before you before you move on. I've gotta. I just wanna make sure to clarify a couple things. So you made, you know, you made a couple comments which I want to make sure that my faculty, you know, kind of understand or digest this stuff. You said, you know, where you are making statements were SBIR phase one, phase two. You know break it down a little bit. I mean you

know I've got faculty that have great ideas that may result in some commercial technology. And so how does this game?

Anthony Gillespie: Uh.

Anthony Gillespie: Sure.

Anthony Gillespie: Sure.

Anthony Gillespie: Sure.

Albert Green: Play out for them. I mean, they just got NSF funding, and the idea is gonna be commercialized. So how does an SBIR STTR play into this?

Anthony Gillespie: Yeah. Indicates a SBIR or STTR how it plays a role is it is, as I said, it's pre seed funding to help a a small business in this case in order to get SBIR or STTR funding and I'll drill down. I have a seat slides here to kind of shows the differences here. But for either one, those programs you have to have a small business and from the federal government standpoint, they're interested in using public dollars to help a company.

Albert Green: OK.

Anthony Gillespie: Move that technology to the next stage. Phase one is really to look at the feasibility.

Anthony Gillespie: Of a technology.

Albert Green: Miller.

Anthony Gillespie: Does it work really from from my idea on a piece of paper, you're looking at four Phase 1 grant, you know to look at, does it work? Can I make it work?

Anthony Gillespie: A phase two.

Anthony Gillespie: SBIR funded opportunity really starts looking at hey, I know it works.

Anthony Gillespie: Now you're starting to look at can I build a working prototype? How do I scale it up? Maybe even to the point of how do I start looking at manufacturing at, you know, some low level, not necessarily a high skill level, but a low level. So that's the two stages.

Albert Green: Sure.

Albert Green: So if I'm a faculty member, you know, do I have to have this? Does there have to be an existing company behind this? Or if I'm, you know, Joe faculty, you know, tenured faculty member, do I have to have an existing company or could I just apply for this?

Anthony Gillespie: You have to have for SBIR or STTR to to get the funding directly. You have to have a small business and in as small businesses define typically in most cases 500 employees or less, it has to be for profit. It cannot be a non profit entity.

Albert Green: OK.

Anthony Gillespie: And like I said, it has to be organized, you know, recognize under, you know, your respective under one of the states here. So it has to be illegal legal entity for profit entity. But that's the requirement for SBIR. Another thing is far as in order to pursue this funding and we'll talk about this a little bit more later. This program is set up for the agencies define innovative ideas. First of all the meets their needs in most cases.

Albert Green: Miller.

Anthony Gillespie: So that will be a key. Just having a technology this innovative, you know that's not how you market yourselves. You have to have a technology that's going to meet their needs. I guess the one last thing I will say and I know you had a few questions out here, but the other way, you know faculty can play arose with the STTR program. If you don't have existing business and may offer an opportunity to partner with the small business on that STTR grant because STTR's is about.

Albert Green: Doesn't cut it.

Anthony Gillespie: Join, you know, collaboration between the small business and a nonprofit institution to really help collaborate and dry commercialization of a technology.

Albert Green: Miller.

Albert Green: Yeah, I've got tons of questions, but I'll let you continue and I'll I'll try to.

Anthony Gillespie: OK.

Anthony Gillespie: So I'll keep driving here.

Albert Green: Yep, thank you.

Anthony Gillespie: So.

Anthony Gillespie: Number opportunities to work with the government. I mean, we're gonna focus a lot on research grants, but I'd like to share this slide with folks when they're thinking about as far as you know, how can you work? How can you leverage the resources? Are public dollars and there's a variety of paths, you know, from actually licensing technologies from the federal government and the federal government labs to leveraging the expertise. And there's various mechanisms that are available to do that.

Anthony Gillespie: And so I like to show this slide here just to kind of give a perspective on how can you partner, how can you leverage as far as some of our resources available through our federal government labs and agencies?

Anthony Gillespie: So next is a slide, it really just kind of gives you perspective of thinking in terms of various funding resources. Like I said, grants is where we're going to focus today in specifically SBIR program. But there's other ways as you look at commercializing the technology to potentially a really fund, a small growing company that's commercializing the technology here. The thing with grants you know could be some federal grants, but there are also other opportunities available that.

Anthony Gillespie: Aren't necessarily government related. They can be a source as well. The one thing with grants and you will see this as far as as we talk about this process is that in order to receive the money, there has to be an application process. There has to be a way of presenting and marketing your idea in order to receive the funds. And so most of the time folks say, Gee, this can be free money, but as you can see that it takes time to in order to receive.

Anthony Gillespie: Grant based funding, as with everything else as far as other sources as well, but that's what you will see as far as, particularly with grants.

Anthony Gillespie: So you may be thinking about what types of companies go after you know, SBIR STTR funding. Here's, and here's a couple of examples. Just to give you a feel for how companies you know, examples of companies, their technologies and just how they went down this path.

Anthony Gillespie: Ah, the first example is Mdstat LLC is, so it's a local company here and they really

have more of a bioimaging. Will they actually have an imaging technology of they've used it for BYOE applications, defense. They've looked at agriculture as well.

Anthony Gillespie: Couple of years ago they applied for at National Science Foundation, NSF Phase 1 grant. They were successful in in going after that grant and it's really for a bio. Imaging technology is focused in for looking at dental, dental challenges. As far as cavities and so they have a pre diagnostic way of doing that.

Anthony Gillespie: After they had the Phase 1 grant, uh, they decided and a couple of years following that opportunity. Then they moved onto a Phase 2 grant that they applied for and awaiting. This has to see the results here in the fall of 2021. They actually applied in the fall of 2021 there, currently waiting to see if they will be successful or not. But this example, a company with an imaging technology that used funding it kinda first Test the idea during phase one to see if it works.

Anthony Gillespie: And now for their face to that they apply it for they really looking at how can they add additional features and functionality for their imaging technology. They're also gonna do some, some detail, a little more detailed customer discovery with Acme Express. In this case they apply for Department of Energy, DoD funding.

Anthony Gillespie: They got their phase one funding and this is a racking system for solar rates. Their technology really looks at a different way of installing solar panels where you can do it on site and you actually build out the the support mechanisms on site and as more efficient way of putting solar panels in place. So they did their phase one to actually test out the process and see if it works. They got positive results and then they moved to a phase two which really is looking at how can they.

Anthony Gillespie: Move more towards implementation and then doing more of a larger scale implement implementation of their technology, potentially and so they work with a few sites and identified a number of sites, a number of conditions and they also did some testing and make sure that they're racking mechanism would hold up to various conditions as part of their phase two.

Anthony Gillespie: And they continue to move on now to look at other outside sources here, but we've worked with them as far as Acme Technologies as far as connecting them during this journey with the NASA Glenn Research Center to do some wind testing when when tunnel testing of the racking mechanism to see if they would handle of various conditions. And so as you can see, two examples is not necessarily a lot of times people think that it has to be, you know, very, very high tech technologies. These are kind of common technologies.

Anthony Gillespie: But they meet needs of a government agency and that helps as far as being funded.

Anthony Gillespie: So drilling down a little bit as far as just an overview to SBI.

Albert Green: Anthony, let me just if you could go back to the last.

Anthony Gillespie: Sure.

Anthony Gillespie: Uh-huh.

Anthony Gillespie: Sure.

Albert Green: I've got this great idea.

Albert Green: You know, it's got commercial potential. I hear these words SBIR out here STTR.

Albert Green: You know, how do I utilize that to advance this technology towards commercialization? I mean, do I have to start a company myself? Do I get a partner company? I mean, how does that work? I mean, just brass tacks, pragmatic.

Anthony Gillespie: Yeah, for faculty member, if you had an entrepreneurial spirit form a company, start alone, that SBIR journey there is a lot of resources out here that you can reach out to to help.

Anthony Gillespie: Look at SBIR STTR.

Anthony Gillespie: If you don't have the entrepreneurial spirit or you wanna go through the formation of a company and you have a technology that has commercial potential, you can partner.

Anthony Gillespie: With.

Anthony Gillespie: At existing company.

Albert Green: OK.

Anthony Gillespie: That is in that space, and that could be extension of their product line.

Albert Green: OK. Because that's what we normally see, Anthony. I mean what we normally encounter is you know you have, there's faculty member, great idea, but that faculty member says, look, I'm doing the research. I'm not interested in forming a company. And So what you're saying is the faculty member should go out and find another company that would be interested in submitting an SBIR proposal. Is that what you're saying?

Anthony Gillespie: Right.

Anthony Gillespie: Right.

Anthony Gillespie: Yes, yes. And if you want to play, I will in this two pathways, if you want to play a role.

Anthony Gillespie: Maybe from a tech, you know, technical standpoint, a good way of doing that is working with the company on and STTR.

Albert Green: OK, OK.

Anthony Gillespie: And I have some details here as far as wasn't STTR, it's STTR. No, no, no, it's fine.

Albert Green: Yeah, I don't want to get ahead of you, but I'm just. I'm just saying this is what I hear from my faculty. So.

Anthony Gillespie: And this is fine and STTR stands for. We use a lot of acronyms, small business tech transfer. It doesn't match up perfectly, but that's what it stands for. And so in that case it's a small business that is the lead entity and then what that small business does is they were partner with you where you could be funded to provide your technical expertise and know how as part of that effort and there's a requirement that a certain percentage usually is probably about 30%.

Anthony Gillespie: Across most of the agencies, of the total funding, it goes to small businesses, has to go to the nonprofit research partner, and so you could remain in your position at the university and provide technical expertise to do that work.

Albert Green: OK.

Albert Green: And and that's kind of where, you know, I just wanted just to make sure that's kind of what we normally see is that you know, great faculty, great ideas, you know, hopefully grape commercial potential, but the faculty member, you know the person he or she is faculty. And so how do I advance this technology forward using SBIR's or STTR's? And that's I think one of the issues, that's one of the points of this discussion. Anthony.

Anthony Gillespie: Miller.

Anthony Gillespie: Right, right, right, definitely. And another path I would say lastly, another path is the faculty. It's a little more hands off and you have some students who are interested. We see students as far as post DOC students who sometimes will will license the technology and do a spin out as well. And that's another way that we see see activity happening as well.

Albert Green: Thank you.

Anthony Gillespie: So.

Kavulic, Michael: Uh, I'll point out or just quickly, I think this conversation is addressing some of the questions.

Anthony Gillespie: OK.

Kavulic, Michael: Uh that Rebecca Mahan has dropped into our chat here around the ability of a full time faculty member to set up a small business and be involved in that, or to engage with a small business through consultancy. But Anthony, I don't know. Or Alice looking at Rebecca's questions there. If there's anything else.

Anthony Gillespie: OK.

Kavulic, Michael: Again, I think a fair bit of it has been discussed just now, but wanted to draw attention to that.

Anthony Gillespie: Yeah, only thing I will add on. I mean I've seen a lot of cases, you know, as I said before, the faculty member has an interest in going to entrepreneurial route.

Anthony Gillespie: Uh, definitely, you know, investigating his force, forming a business entity and then going ahead and and looking at you know, potential funding sources to go go ahead and move forward as a pathway.

Anthony Gillespie: Uh, being full time faculty, you have to understand your organization's rules as far as you know who has ownership.

Anthony Gillespie: That's almost a whole another subject as far as of the of the technology and then what are the mechanisms to, you know, moving forward. So sometimes depending upon the role that faculty member has in the rules of the university with respect to tech transfer, that's can also influence whether you go this, you know, as far as the small business route versus maybe remaining in your faculty position and then working with another entity. As far as STTR as well.

Albert Green: Yeah, Rebecca's questions or or right on the mark. I mean, this is what we generally here, if you look at the chat, can you see the chat?

Anthony Gillespie: No, I don't have it up. I'd have the slide presentation, so I can't see the chat here.

Albert Green: OK. Yeah, yeah. I mean, she has the question she's asking is what we know. I mean, these are the brass tacks. And I think question number one is kind of full time faculty member legitimately set up a small business concurrent with their faculty role. If you have to be 51% time this small business, that's a question for the university. So I don't think that's a question for you.

Anthony Gillespie: Right.

Albert Green: Question #2 is if the full time faculty member cannot be full time also at a small business and we engage in and STTR instead of an SBIR, do we need to partner with a company for

this as well? I don't know the answer to that question that's interesting, but these are the kinds of questions that I often get and I don't know the answer to that you know and maybe you can. And then the third question is in the St in in the STTR is the faculty member consultant on a project?

Anthony Gillespie: Uh-huh.

Albert Green: Or are they a principle investigator? And I think that that's probably more of a university question, but I think the details around you know how a faculty member engages with SBIR and STTR is super important for you to talk about.

Anthony Gillespie: Yeah.

Anthony Gillespie: Yeah. So I can take the third one here. I, uh, you'll have to refresh me as far as the second question. So the third one here it it depends the Pi wanna STTR DP, the Pi can be from from the small business or it could be a faculty member from the non profit research institution.

Albert Green: Sure.

Albert Green: Miller.

Anthony Gillespie: You have an option as far as that.

Anthony Gillespie: Uhm, with respect to the role of whether or not when it STTR with the faculty member being consulting, they would not necessarily be a consult when a non profit research institution is a partner on and STTR.

Anthony Gillespie: Uh, they are. They are. They are basically a sub awardee on that effort to the small business.

Anthony Gillespie: But another potential role for and STTR in four faculty member is to be a consulting where they would not necessarily be the prime entity partnering.

Anthony Gillespie: With a small business is you're providing more of a expertise roles, subject matter, expertise, role to that business. So those are options for faculty. You can kind of think in terms of the STTR when you're part of your research institution in your that nonprofit research partner, you're playing a important and critical role to executing the effort when you're more of a consultant than that piece is going to be kind of more of an expertise row.

Albert Green: Sure.

Anthony Gillespie: And you're not playing. Probably most cases, you're not playing a critical path role for the for the actually the funded effort.

Albert Green: Yeah. And what one of the things I would suggest here is that, I mean, I think the devils in the details and so.

Albert Green: You know, Michael, if we can, I think this is a really important topic and I would get, I'm, I'm viewing it through the eyes of faculty that I talked to. And so, you know, one thing we might think about if you could open the floor for questions, I mean, you know, Rebecca has, you know, she put three questions in here, and I would, I think it's really important to talk through some of these and maybe we don't have specific answers, but we can, you know, sort of put some.

Albert Green: You know, put some effort behind it. So if possible, Rebecca, would you mind just asking your questions? Can she ask questions on this?

Meehan, Rebecca: Yeah.

Meehan, Rebecca: Yeah. So, I mean, I think you really addressed them and I don't want to disrupt your presentation. I think I was just really aligned with AL's introduction to this because I have a faculty member here and I collaborate with other faculty members on innovative projects, and we question, we definitely see commercial potential for some projects and we want to know the best way to introduce it and test it. Developed the prototype and test it in the market.

Anthony Gillespie: No, no, not at all.

Meehan, Rebecca: And and I've known in the past SBIR's are great mechanisms I've never done and STTR. So I didn't know if we needed a a commercial partner for and STTR.

Anthony Gillespie: Yes, four and STTR you would need a partner. Uh. The small business is still a lead.

Anthony Gillespie: As far as pursuing that grant, but in your role as far as at Kent State as a faculty member, Kent State could be the nonprofit research partner to that company.

Anthony Gillespie: Today's focus.

Meehan, Rebecca: And I appreciate that you clarified that Kent State would be a sub awardee, so that's that's helpful too, that's different.

Anthony Gillespie: Yes.

Anthony Gillespie: Yes, yes. So that's that's a potential pathway or a another way partnering. Like I said, it could be as a consultant, but definitely role would be less.

Meehan, Rebecca: Answer.

Anthony Gillespie: Then you know and you could go SBIR STTR in that case.

Meehan, Rebecca: OK.

Meehan, Rebecca: OK. Thank you.

Albert Green: Please go on. Thanks.

Anthony Gillespie: OK, no problem. I'm not going to spend a whole bunch of time on this slide. I think you'll this kind of just talks about the goals of the SBIR program. As I said earlier. So over 3 billion available, you know each year for the program.

Albert Green: Thank you, Anthony.

Anthony Gillespie: Uh, I'm gonna keep moving on 'cause. I think probably some of the questions are, you know, whatever phase is what are some of the details here with SBIR and STTR?

Anthony Gillespie: So.

Anthony Gillespie: Taking a look as far as what agencies there are specific agencies that offer SBIR or STTR programs and this is all based upon the research budgets of these federal agencies. And so they have, I think the threshold is over $100 million of extramural research then they can have an agency can have in SBIR program. There's a bigger threshold higher threshold that agency must meet.

Anthony Gillespie: As far as I research budget, in order to have and STTR programmer, I think it's a billion dollars that they have to have as far as the extramural research program. And so this slide shows here on here there's eleven agencies that meet that minimum threshold, $100 million a year in in research.

Anthony Gillespie: There are only. There are five of those that actually have both SBIR and STTR programs, and so the ones that are actually colored that have the boxes here are the ones that have SBIR and STTR programs. And of course they have the larger research budgets here.

Anthony Gillespie: So.

Anthony Gillespie: This year.

Anthony Gillespie: So this slide here actually shows a cut of the budgets for the agencies here and it gives you an idea as far as the size of their budgets. As far as the SBIR and STTR programs and then it kind of gives you a field as far as the previous slide that I had up here, who who does what and as you can see, you know there are larger agencies such as Department of Defense, Health and Human Services and Energy. They have larger budgets than they do both for their programs.

Anthony Gillespie: One thing I will mention to everyone, it's just because you know they have more funding, it does not necessarily mean that the chances of you working on and STTR SBIR will be greater 'cause. They have a bigger budget. What we found out is finding the right opportunity based upon their technology that you're commercializing.

Anthony Gillespie: Ah, really makes a big difference on whether or not you will be successful.

Anthony Gillespie: So.

Anthony Gillespie: On this slide here, really it talks about a little bit as far as what we had discussed earlier with respect to SBIR and STTR. So in both cases, as small business is actually the lead, they actually get the funding.

Anthony Gillespie: In the case of SBIR, you know the small businesses really focused upon as far as looking at commercialization potential of the technology they get funding for it. And then as I said, the big difference between the two programs as far as SBIR versus STTR, STTR is focused upon joint opportunities between the small business in a non profit research institution. That's really the big difference.

Anthony Gillespie: We usually use the term SBIR for both of the programs so that just makes it, you know, if you're new to this then it makes it a little confusing to track which is a person meeting.

Anthony Gillespie: So.

Anthony Gillespie: Moving along here, we mentioned earlier that there's really three phases to the SBIR and STTR program. Phase One is focus, really looking upon feasibility and concept development.

Anthony Gillespie: It occurs typically in most cases over the the funded projects occur with six to 12 month period and then you'll find funding that's available that will range from about $50,000 for phase one SBIR effort till about $400,000. And like I said, this is for feasibility and concept development. The the reason for the range because every agency has some nuances and differences on what they offer as far as phase one.

Anthony Gillespie: Funding. You may find some open topics, for example with within the Department of Defense, with the Air Force that maybe a $50,000 opportunity.

Anthony Gillespie: You may find it the upper end of scale with the national with the National Institute for Health, they maybe towards the higher end of the scale to help support and and look at feasibility of ideas kind of in the health in the life sciences and health area.

Anthony Gillespie: Phase two, once you're successful in most cases with the phase one, most of the

agencies will have an offering to move to phase two.

Anthony Gillespie: Phase two with respect to SBIR and STTR is looking at you know, more prototype development scalability kind of early stage manufacturing of commercialized idea. Most of the time those efforts are 12 to 24 months and then the funding that's available we're ranged from $500,000 to $2,000,000 available or phase two effort.

Anthony Gillespie: And then lastly, as far as with respected SBIR STTR process, there's no direct funding available through the federal agencies. But that phase three stages really looking at we've provided some seed funding for a couple of stages. It's really looking at how do you actually sell your technology to a customer. So phase three, part of the SBIR STTR process is really looking at selling either directly to the federal government or to a commercial.

Anthony Gillespie: Customer would be considered a face 3 event.

Anthony Gillespie: So those are the three phases of the SBIR STTR program.

Anthony Gillespie: I'm gonna pause for a quick minute just to see I can't see if there's any questions or comments along those lines here.

Kavulic, Michael: There aren't any in that the chat right now, but.

Kavulic, Michael: Uhm.

Kavulic, Michael: You can either dress this now or towards the end. You know, I know you're here today.

Kavulic, Michael: Uh, you know, with their role with OAI and I'm wondering.

Kavulic, Michael: Uh, if I suspect that the kind of consultation and support you would provide for folks, you know, interested in this state space, they're going to be technologies aligned with the mission of of that institute. So I'm wondering then, if we can talk through or if you have ideas on even if someone has and I'm thinking about, you know, Rebecca is work, for instance, certainly could have applications here.

Kavulic, Michael: But maybe a better fit work with another entity you'd mentioned Jumpstart. Would there be other resources that we might point folks to or that we at Kent State in tech commercialization should keep in our back pocket as a references?

Anthony Gillespie: Yeah, there there are a number of players. I mean, besides kind of the role I play and we have, you know, like I said, I'm part Ohio Aerospace Institute. Usually folks figure will only interested in technologies that are associated with aerospace given our support of the fast program. We work with any technology that may meet the government needs through SBIR and STTR. So surprisingly, a lot of companies we work with are in the life sciences health you know.

Anthony Gillespie: The life Sciences, space Biosciences, space. But we also work with companies that may be an energy AG.

Anthony Gillespie: And then the National Science Foundation, as you all know, probably more from your research work. You know, they could, across a variety of technology areas. So we work with companies really that have, you know, innovative ideas that can meet the government needs.

Anthony Gillespie: We also are part of, as I said, kind of through state ecosystem working with a number of players who either have domain expertise such as bright, which has more of an energy focus.

Anthony Gillespie: Uh, you have magnet, which is really focused on the manufacturing or Vance

manufacturing. We all collaborate in the innovation ecosystem. So either reaching out to one of the partners starting you know with us, we will refer companies if we can't directly help them to one of our innovation partners here in the local ecosystem or throughout the state.

Albert Green: Miller.

Anthony Gillespie: And we also given that the fast program that's funded through the Small Business Administration, they have 2526 other organizations throughout the nation and so we leverage that connectivity for companies that maybe even out of state that we run across or others who may be working, you know and and joint locations to refer them to the appropriate resources to help them move along the commercialization path.

Albert Green: No, thank you, Anthony. I think that the question that I would like to just you know kind of take one step back is that you know the fat, you know my faculty, I mean.

Albert Green: You know, it traditionally is a is a statement around. I have this great technology. I've talked to two or three companies that seem to be interested now what? And the technology has moved beyond the phase where traditional funding like NSF which wants to fund basic research.

Albert Green: Generally is saying you know we're beyond that now I'm more sort of product centric and that's what I that's that valley of death that I want to try. And so how do how does my how do I answer that question? I mean where should that faculty be looking in SBIR and STTR space?

Anthony Gillespie: Yeah, there, there are some opportunities with SBIR and STTR. So one of the things that are that is emerging and I alluded to it earlier is that some of the agencies are starting to recognize that companies are hitting that valley of death.

Anthony Gillespie: And so I didn't put it on his chart here. You know, there's phase one phase two sometimes, which you will find that some of the agencies have created opportunities or programs where there's a Phase 2A.

Albert Green: Miller.

Anthony Gillespie: For example, in the Department of Defense.

Albert Green: Yeah, but, but, but again, typically typically Anthony, I mean the faculty there, you know there's no company behind this yet and and so you know, what do they do? I mean, do they have to go out and recruit a company or or what because there's no company yet.

Anthony Gillespie: Yeah.

Anthony Gillespie: Yeah. Yeah. So one way of really kind of doing some follow up efforts besides kind of customer discovery process. So assuming that there might need to be a little more customer discovery done, there's some opportunities to do. Dad, I core is one way of doing that. And so we have the I chord network, there's a number of programs set up for that. So that's one pathway.

Albert Green: Correct Yep.

Albert Green: Yep.

Anthony Gillespie: A second pathway, as far as maybe kinda more nontraditional.

Anthony Gillespie: Of pursuing funding, it is in your just a faculty member at this point to do more.

Anthony Gillespie: Uh, kind of vestigator, you know, kind of due diligence behind it is to look at, you know, there's a lot of kind of funding sources as far as business plan, kind of more business plan competition or in it. And so I encourage.

Albert Green: Yep, Yep.

Albert Green: Yep.

Anthony Gillespie: You ought to investigate that route and then.

Albert Green: And a lot of that statewide, that's a lot of lot of that state money.

Anthony Gillespie: Yes.

Anthony Gillespie: Well, it could be state money. It could also be through some of the foundations. So if you have a technology that's going to meet a social need.

Albert Green: OK.

Albert Green: Miller.

Anthony Gillespie: Sometimes that can be a route you can pursue to support.

Anthony Gillespie: So that's another path that I would I I would suggest as well. And then I think a third path which is outside of SBIR STTR which is federal government related, some of the agencies have set out programs. They realize that faculty do not necessarily want to go out and and on a limb and start a business. But there's a way to continue under in your position to do follow up work along the commercialization path. And so one way of doing it actually is two ways. One could be for example with the National Science Foundation.

Albert Green: K.

Anthony Gillespie: If you've been awarded.

Anthony Gillespie: Uh research funding you can do was call a partnerships for innovation grant.

Albert Green: Miller.

Anthony Gillespie: And so that offers an opportunity still, as a faculty member and in your position to do some more due diligence to see there's commercial potential for your technology.

Albert Green: Miller.

Albert Green: Miller.

Anthony Gillespie: And so we've seen a few recent cases of that happened with faculty, especially if they want National Science Foundation grants. That's been a a viable opportunity for them.

Anthony Gillespie: Ah, another way that they can actually really move forward as far as just looking at sources of funding, you know, along those lines is you, you'll see similar types of programs set up outside of kind of the federal government where you can do where you can pursue.

Anthony Gillespie: Do that type of funding like and ofr in Ohio Federal Research Network, which is state funding that supports a similar type of arrangement as well. So those are kind of some quick thoughts.

Anthony Gillespie: Any other questions that come up?

Kavulic, Michael: Nothing else in the chat at this point.

Anthony Gillespie: OK.

Albert Green: Yeah. No. Yeah. No, that's really good answer, you know, because I'm trying to probe into, you know, just what I see with boots on the ground, Anthony, I mean.

Anthony Gillespie: Right.

Anthony Gillespie: Right.

Albert Green: You know, I mean, it's just sort of what happens is got this great idea.

Albert Green: It can be commercialized.

Albert Green: And the faculty don't have.

Albert Green: Most of the time I don't know. You know? Do I have to start my own business? Do I have to find another business? Wait, I'm doing my research. So what are the avenues? And that's kind of the flavor behind what I was trying to to get my arms around here.

Anthony Gillespie: Right, right. And I encourage you, you know, a lot of times then there are players in the ecosystem. They will say they, they you know, they're seeking to work with small businesses, but even in our case we will talk to you and and to help you as far as from a strategic perspective points you to the right resources. If we're not you know the prime resource to help you out.

Albert Green: Yeah, right.

Albert Green: No, that's really helpful. And you know where we are getting a few things in the chat. I mean, you know, I think you should spend a minute if you would. You know we've directed a lot of of the faculty the to the I core program and I think it's extremely helpful. So if you could maybe say 2 minutes on on what your view on Ichor is, Anthony?

Anthony Gillespie: So I'm working.

Anthony Gillespie: Yeah.

Anthony Gillespie: So I core is is set up. Is it really NSF is has helped set it up and it's really four. They've ordered towards faculty and and early stage kind of entrepreneurs to really do more due diligence on the commercial potential.

Anthony Gillespie: Of a technology and really what they end up doing with the ichor process is they'll say you need to do 50 to 100 interviews just to see if there's demand, customer demand for your technology. We know it works or it has the potential to work, but really, do you have a market and that's what's going to ultimately in the long run, Dr sales for your technology and help you know help organically grow any platform technology. And so I corps away, uh, methodology.

Anthony Gillespie: They use a methodology where you kind of go through a number of stages to, like I said, really do a number of interviews and document which you're learning and that gives you a strategy as far as ultimately in the long run from a technology standpoint, features and functionality. And then from a customer standpoint, how will you offer your technology to those customers? What channel would do it?

Albert Green: Yeah, we've had great success. So I would say in in, you know, directing faculty towards we have a one entity right now that just went through that the I core processor. It's just been tremendously successful. And I would say that you know, to the extent that we wouldn't we we continue to stress that.

Albert Green: I do have a question in here and the question is whether the NSF I Corp program is the

same as SBIR, STTR and so if you could address that, I think the answer is no, but please, please.

Anthony Gillespie: No, they're they're two different programs. NSF kind of high core program and you will see NSF, there's kind of federal.

Anthony Gillespie: Support it I core program the state of Ohio. Ashley has provide some support to hike or as well is focused primarily you know as as far as his headquarters at Ohio State but indicates the I Corps really a way of like I said early stage you don't necessarily have to be a company you can be an entrepreneur to really do customer discovery to see if there's a market.

Anthony Gillespie: Interest in your technology.

Anthony Gillespie: Or your innovation, SBIR STTR is really a mechanism to provide pre seed funding to a small business to help them commercialize their technology. So a lot of times folks are aware of, you know going out and getting venture capital financing that are pre seed stage. But what you're doing when you do when you go after equity financing is and it's changed for that funding.

Albert Green: Yes.

Anthony Gillespie: From a venture capitalist, you're saying you're going to seed?

Anthony Gillespie: Uh. Partial ownership of your company in exchange for that funding, that's equity financing. And in case of SBIR STTR, it is really a grant. And so with the federal incorrect it's non dilutive where you won't be giving up any interest in your small business. But in the case of you know in the case of non dilutive funding then you're required to do some reporting and perform to you know certain milestones.

Albert Green: It's non dilutive.

Anthony Gillespie: To get that funding and and up front, you have to actually submit, you know, a justification for that funding.

Albert Green: Yeah.

Kavulic, Michael: Anthony, real quick, I know we've got just a couple of minutes left. I wouldn't say though, if there are folks on the line who are interested in talking more about that I core program reaching out to AL or myself, we've got some great network contacts, you know here across the state and experience with it directly. So we'd be happy to talk with folks further about that that I core opportunity.

Anthony Gillespie: So that's.

Anthony Gillespie: Yes, and I I'm open as well. We know the folks who are involved as far as what I cord University, Akron University, Toledo as well. So we're definitely open as well as far as to point you in the right direction.

Albert Green: No, thanks, Anthony. We've got a couple questions coming in and and folk, please feel free to just ask the questions yourself. But we've got one from Doug, what stage does technology need to be in from a patent registration perspective to qualify for SBI RST STTR funding?

Anthony Gillespie: Yeah, Pends really all patents really is is more for the protection of the company and its intellectual property. There's no firm requirement as far as whether it technology is patented or not in order to apply for SBIR STTR.

Albert Green: OK, OK.

Anthony Gillespie: That's a strategic decision of the company.

Albert Green: OK. OK, good.

Albert Green: Good. Well, listen, I would like to open the floor. I've got another question that's coming in. Rebecca, can you just go ahead and just ask your question?

Albert Green: In a uh yourself, that would be, yeah.

Meehan, Rebecca: Yeah, sure.

Meehan, Rebecca: Yeah, I'm happy to do that. I just, I appreciate your presentation. Thank you so much.

Meehan, Rebecca: Uh, you know, as you look at and you consider different technologies or ideas that Ohio Aerospace Institute might be interested in?

Anthony Gillespie: Sure.

Meehan, Rebecca: How do you how do you look for those? I mean, so you said you're interested in a number of areas. I was just thinking it should, should we, Kent State have a set of executive summaries for review, you know, just sort of, hey, you know these are the 10 or you know 50 projects we've got cooking right now that are looking for business partners and how do you do that? How do you look for for partners in that?

Anthony Gillespie: Yeah, it's most of the time is is folks who approach us. So we we, like I said, we were formed, you know through relationships with the that in research institutions that have aerospace programs. So we have a connectivity to Kent State you know through really kind of their aerospace engineering program and affiliate programs in that other higher Ed institutions in the state. But a lot of it comes just through conversations specifically my role. As far as SBIR STTR.

Anthony Gillespie: We're open to any ideas, but it definitely helps to have a summary of where you know your innovative technologies, your high potential technologies are.

Anthony Gillespie: This comes back to a good point. Rebecca did that you reminded me of one way that you can sell your ideas to the various agencies. Sometimes they may not necessarily have a topic posted. That's if it you can reach out to the program managers for the respective agency and have a conversation with them. One thing that they were encourage you to do is kind of have a quick, you know, summary or white paper of you know.

Anthony Gillespie: What is the technology? You know, what is it? Could you know what customers pain point that you can potentially solve or you know what need. Can you meet through that technology? That's a good way of just kind of starting off the conversation. So having that that's that's definitely powerful.

Albert Green: No, that's that's excellent. That's right. Yeah. And and I would also say to Rebecca, if I could just give you Michaels just a minute or so to talk about our tech fund, which were which we have, that basically addresses that specific point. Michael, if you could come back on and just talk briefly to Rebecca on that point, 'cause, that's important.

Kavulic, Michael: Happy to talk about it further afterwards too, but we've secured some funding and partnership with Cleveland State University around a program titled Tech Fund, and it really is for.

Kavulic, Michael: Activities commercialization activities around validation market research, some prototyping so certainly some overlap with you know some of what SBIR STTR there's even some funding with associated with the I core program in that case though.

Kavulic, Michael: There is no need for the tech fund. There is no need for either the small business or

either startup or business partner to be present. Certainly that would.

Albert Green: It's directly faculty is what he's saying. It's that's direct faculty, so.

Kavulic, Michael: Correct.

Kavulic, Michael: That's right. And so, you know, we're really interested in having those conversations with faculty. You may be good recipients for that program.

Kavulic, Michael: Uh, you know the awards. There are usually somewhere between 50 and 100,000, and it is limited. We have a total of 300,000 to give out at Kent State. So it's not a huge pot of money, but for those entities for those efforts, technologies that that are are ripe for that support.

Kavulic, Michael: Uh, we were really in the phase right now of again collecting that information.

Albert Green: Or or soliciting. We're looking for good ideas in that space, folks. I I want to be respectful of everyone's time. I see a Yang high has a question. So Yang, I'll give you 15 seconds and I'm going to try to sign off. This is.

Du, Yanhai: OK. Yeah. Yeah. Thank you for the presentation.

Du, Yanhai: Yeah, I I'm a question was when we write a proposal for no matter Esper or.

Du, Yanhai: Did you are at that stage is a IP, has not a pattern, or maybe even not disclosed yet. How do we gauge how much detail we show the right in the proposal or give it to other people to evaluate our proposal?

Anthony Gillespie: So is the IP pending pending? Are you saying there's patent pending or not?

Du, Yanhai: Ah, sometimes. Maybe you will not. Yeah.

Anthony Gillespie: Or is it just a matter?

Anthony Gillespie: Or or or are you? Is your concern more along the lines of confidentiality from from that standpoint?

Du, Yanhai: Right, right, right.

Anthony Gillespie: So it's more of your your question as far as how do you submit a SBIR STTR proposal, maintain confidentiality where your IP would not be here with others?

Albert Green: Yeah. So so let, let's do the following.

Du, Yanhai: When others that we are not overfitting to share details, but you have to give enough detail to persuade.

Anthony Gillespie: Correct, correct.

Du, Yanhai: Yeah. Why is that? Yeah, you valuate raw data. So you you are the one that can do that do the work.

Albert Green: Yep.

Anthony Gillespie: Yeah. And. And so we we hear that a lot. And So what I would say, I mean it's probably more offline conversation, but I would say quickly in most cases, would you, you know depend upon the agency.

Anthony Gillespie: Uh in most cases is only going to be internally shared.

Anthony Gillespie: And secondly, when you're submitting proposals, they will have in destructions away to pretty much.

Anthony Gillespie: Uh disclose which you want to keep confidential.

Anthony Gillespie: Yeah, and and not in the proposal itself. So there's a process that they prescribed to proposal writers on which you should follow. So that's the way, if really you know, disclosing to the reviewers that you don't want, you know, this is very proprietary to the company and it shouldn't go any further than for their own information. And they they sign NDA's to to handle.

Albert Green: Miller.

Albert Green: And and also you know and so I think we can take that up with our internal counsel and and and but really appreciate your input. So yeah, I want to be respectful of everyone inside. First of all, Anthony, you know as as a friend, I do appreciate your your time in this to to help to educate my faculty on this point. I think this is really great. I want to thank the participants. There's lots to learn here and lots that were doing. So I think that's very, very exciting.

Anthony Gillespie: Sure.

Albert Green: And you know, stay tuned. The whole point of this is for us to really.

Albert Green: What we're trying to do is to to to bring a culture of commercialization to Kent State. We have a bit of that, but we're trying to expand it. And so Anthony, again, I appreciate, you know you're stepping in here and and you know we had a we had another person that was good, as I said, another person was going to join but but you know had a death in the family. So we weren't able to to do that. But Anthony, thank you very much.

Anthony Gillespie: Sure, you're welcome.

Albert Green: Uh, and for people on the line. Thank you, Anthony. Say last closing words, Anthony.

Anthony Gillespie: Yeah, only thing I would say is, you know, I've sent invitation out. Alan and Michael have my contact information will share the slide deck if you have any questions or you want to have a one on one conversation, feel free to reach out to me. We're here as a resource. Like I said, we covered the state of Ohio. Definitely we're away I if you know where we're at, we're right by the airport. So we're here in Northeast Ohio. So we want to see you be successful as far as what's your endeavors. So I'll leave it at that.

Albert Green: Yeah.

Albert Green: Thanks so much, folks. Uh, I think. Uh, thanks again. Thanks so much, Michael. I think you can sign off and appreciate the time. Much appreciated folks.

Kavulic, Michael: Take care.

Anthony Gillespie: Thank you. Take care.

Albert Green: Thank you.