AFWERX/AFRL

SBIR Pitch Deck

Notional/Example - For reference only

Welcome!

One of our roles here at AFWERX is to **reach out** to the small business and entrepreneurial communities to help them provide the best solutions for the USAF. One of the ways we do this is through the SBIR program in partnership with AFRL and SAF/AQ.

One of the main requests of companies who have never worked with the government before is **what exactly the government is looking for in an application**. While we cannot speak for all government organizations (there are a lot), we can help provide a **notional, example slide deck** that may help small business new to working with the government feel more comfortable about submitting an application for one of the AFWERX/AFRL special SBIR topics.

We cannot emphasize enough that this deck is just a <u>notional example</u> and it is up to you to follow all of the rules and answer all of the questions for any proposal.

The official instructions are found here: https://sbir.defensebusiness.org/topics/instructions

Don't just put tons of words on the slides - the proposal is as much about content as it is about clarity of communication (forgive us when we break this rule for this example slide deck). There are a bunch of slides in this deck meant to spur thought- **NOT all slides are appropriate for all proposals.**

And not all information on every slide is relevant to every proposal

As always, if you have any questions, feel free to reach out here: http://afwerxdc.org/join/ or visit one of our hubs http://afwerxdc.org/hubs/.

Page numbers are very helpful for reviewers

Notional example - For reference only

Air Force SBIR/STTR

How do I actually apply? 1/3

Step 1: Register for a bunch of Systems Online

Time = 1 Afternoon watching Netflix + **1 month waiting - DO THIS NOW**

https://www.sbir.gov/tutorials/registration-requirements/tutorial-1

1A: Register for a DUNS Number

Time = 30 min

https://iupdate.dnb.com/iUpdate/companylookup.htm

*Seriously, this isn't that hard, but it takes a long time to process - just **do it now.***

1B: Register in System for Award Management (SAM)

Time = 60 min

https://www.sam.gov/portal/SAM/

1C: Register for a Small Business Association Small Business Concern ID Number (SBA SBC ID)

Time = 20 min

https://www.sbir.gov/registration

1D: Register at the DoD SBIR Site

Time = 20 min

https://sbir.defensebusiness.org/user/register

Okay - you now deserve a treat for suffering through that. Go take a walk and get yourself a sandwich

Notional example - For reference only

Air Force
SBIR/STTR

How do I actually apply? 2/3

Step 2: **Find the Topic** you want to apply for
Time = 5 min
https://sbir.defensebusiness.org/topics?topicId=29682

Step 3: Read the Instructions **carefully** for both the **DoD** and the **Air Force**
Time = 30 min
https://sbir.defensebusiness.org/topics/instructions

This usually looks like 2 separate word/pdf documents that you must download

Don't go over the page limits - this is an easy way to NOT be selected

Step 3: Read the **AF SBIR Training** and Print and Sign the last page
Time = 30 min
http://www.afsbirsttr.af.mil/Portals/60/Pages/Phase%20I-II/
SBIR%20Program%20Training%20for%20SBs%200318.pdf

Step 4: Write your **5-page 'technical volume'**
Time = 3 hours
https://www.acq.osd.mil/osbp/sbir/docs/sample-phase1proposal.pdf

This is an old, longer example - make sure you don't go over the page limits for the special topics (<5 pages)

Step 5: Write your **15-page 'pitch deck'**
Time = 3 hours
[This presentation is a notional example - for reference only]

Notional example - For reference only

AFWERX   Air Force SBIR/STTR

How do I actually apply? 2/3

Step 6: **Submit your application**

Time = 30 min

https://sbir.defensebusiness.org/user/login/

The applications will be open for 1 month before the closing date - check the schedule here: https://www.acq.osd.mil/osbp/sbir/sb/schedule.shtml

Go register for your DUNS, SAM, SBA SBC ID and DoD SBIR **RIGHT NOW**

2018 BAA Schedule	Pre-Release	Open	Close
DoD SBIR 2018.1	29 Nov 2017	8 Jan 2018	7 Feb 2018
DoD STTR 2018.A	29 Nov 2017	8 Jan 2018	7 Feb 2018
DoD SBIR 2018.2	20 Apr 2018	22 May 2018	20 Jun 2018
DoD STTR 2018.B	20 Apr 2018	22 May 2018	20 Jun 2018
DoD SBIR 2018.3	24 Aug 2018	24 Sep 2018	24 Oct 2018
DoD STTR 2018.C	24 Aug 2018	24 Sep 2018	24 Oct 2018

2019 BAA Schedule	Pre-Release	Open	Close
DoD SBIR 2019.1	29 Nov 2018	8 Jan 2019	6 Feb 2019
DoD STTR 2019.A	29 Nov 2018	8 Jan 2019	6 Feb 2019
DoD SBIR 2019.2	19 Apr 2019	20 May 2019	19 Jun 2019
DoD STTR 2019.B	19 Apr 2019	20 May 2019	19 Jun 2019
DoD SBIR 2019.3	23 Aug 2019	24 Sep 2019	23 Oct 2019
DoD STTR 2019.C	23 Aug 2019	24 Sep 2019	23 Oct 2019

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Notional example - For reference only

Air Force SBIR/STTR

Company Name
Short Proposal Title

Company Logo

Picture of Solution

Topic Number/Name: **AF183-005** - Open Call for Innovative Defense-Related Dual-Purpose Technologies/Solutions

Technical Abstract: While many proposals treat this as an afterthought, it is the first thing that reviewers see - so make this very clear. This is often the place that reviewers go looking for quotes to support their decisions. Make their jobs easier and give them your best 1-sentence quotes to easily pull for their evaluations.

Overview: One sentence could include a quick overview of what you are trying to accomplish in the Phase I.

Technical Merit: One sentence could clearly describe your technical merit, including how your solution has been de-risked in the commercial marketplace.

Team: One sentence could describe your teams ability to perform the task and commercialize the results.

Commercialization: One sentence could focus on how you have/will commercialize the solution.

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Notional example - For reference only

Air Force SBIR/STTR

Criteria A: Technical Merit

Make **one slide** to demonstrate the **best points** to support the technical merit of your proposal. Some potential ideas are as follows:

- Show, don't tell - use evidence to show that your solution does not carry significant technical risk
- If you are looking to **adapt your own non-defense commercially available solution**:
    - **Pictures/screenshots** of your solution being used
    - Pictures/screenshots of your solution commercially for sale
    - Customer testimonials/quotes
    - **Sales numbers** for a non-defense commercial version of your solution
    - **Investment** from investors who have experience in evaluating technological merit
- If your solution is **based on someone else's commercially available technologies**:
    - Pictures of the **actual implementation** of those technologies combined into **your solution**
    - Pictures of end users/customers testing your 'Frankenstein' implementation
    - **Investment** from investors who have experience in evaluating technological merit

These lists are not exhaustive - use your own ideas to best demonstrate (not tell) why your solution has technical merit

Notional example - For reference only

Criteria B: Your Team's Ability to Accomplish Work and Commercialize the Results

Use this slide to **demonstrate the best points** to support that your team will actually be able to **accomplish the work** in the SBIR grant and then go on to commercialize the results quickly.

- The ability to execute a successful SBIR and commercialization inside the government will largely be based on **people** - as they are the ones who will help you determine **product/market fit**
- Show **who** you plan on talking to inside the government to **start your customer discovery process**
  - **Don't just say 'the Air Force' is your customer**
  - Give **specific units or specific people** with whom you will start your customer discovery
  - Give any lessons learned from **DoD user testing** or customer discovery
  - The **closer you are to the user, the better** - don't just get feedback from scientists and engineers, go talk to the actual users
  - Large DoD contractors are helpful - but are NOT a replacement for AF users/stakeholders
- Ability for non-government commercialization
  - **Sales** numbers for a non-defense commercial version of your solution
  - **Investment** from investors who have experience in commercializing

The question is not only can you do it, but can you do it in our compressed timelines?

The AF is just like any other B2B organization - you need to be entrepreneurial to find your way into the sales cycle.

H4D is a good resources for DoD customer discovery: http://hacking4defense.stanford.edu/

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Criteria C: Commercialization Potential

Use this slide to communicate the **best points** to demonstrate how you will be able to **commercialize this solution**.

- For non-defense commercialization
  - **Existing sales** of your non-defense version of your proposed solution
  - **Outside investment** from people who have proven records of commercializing technologies (i.e. VCs, accredited investors)
  - **Trials with non-defense customers** using your solution
    - Quotes and specifics from these trial customers
  - Broad, general statements about **potential market size are not valued** as heavily
- For defense commercialization
  - Think about all of the stakeholders who will be needed to get your solution to a **program of record**
  - Contracting, finance, legal, security, information assurance, etc.
  - **Large DoD contractors** are helpful - but are **NOT a replacement for AF users/stakeholders**

Not all VCs/ investors are created equal - it is not just about money, it is also about their track record in commercialization

Team

This is not a time for resume boasting, but rather an explanation of how your team roles are split up and why. The resume boasting should only come in as it relates to how confident you are that the job will get done (i.e. who is going to do what on this project and why is each person well suited to that role)?

Some possible things to consider:
- Include key people
- Include experience relative to their role on the team
- Include experience beyond just the technical experience (i.e. sales, customer discovery experience)
- Include partners, advisors and investors (and why they are relevant)
- If someone on your team has prior military experience that may help with the customer discovery or product-market fit, explain why

There are some interesting examples of pitch deck 'team slides' here: https://attach.io/startup-pitch-decks/

Notional example - For reference only

Objectives and Key Metrics

How will you know that you will have succeeded? In this slide you should lay out your objectives for the award and what are the objective (measurable) results for knowing that you have accomplished that.

Some things to consider:
- Objectives should try to be tied to affecting the end user
- Key results should be tied to specific timelines
- Avoid 'vanity metrics' that are easy to measure but may not actually mean anything
- 'Getting a Phase II' should not be a key result
- Breadth of customer discovery may be useful
- Depth of customer discovery may also be useful
- It will likely be better to have a few customers who are very well served by your solution that to have many customers who are marginally served

Overview of the OKR framework: https://en.wikipedia.org/wiki/OKR

However, getting a phase III could be a good key result

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Product- Air Force Market Fit

Perhaps the biggest challenge for most small, innovative companies is to find good product-market fit. This can be just as challenging (if not more so) inside the DoD. This is your chance to **describe your value proposition** to the **Air Force end user** and associated stakeholders. Be specific and try to refrain from vague generalities about 'saving money' or 'increasing speed' and try to quantify when possible.

Some potential points of interest to add here:
- What job/function does your end user have?
- What are some of their pains?
- What are some gains (benefits) that they desire?
- How does your solution help this?
- How have you **validated these assumptions** (internet research, interviews, prototype tests, non-defense analogs, product-market fit experiments)
- Who are your first **3 potential Air Force customers** (try to be specific with names of individual people)

Most of the time a scientist or engineer is NOT an end user.

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Key Partners/Stakeholders

One of the main keys to success in transitioning technology to the DoD is having a set of **reliable, motivated and empowered partners** with whom you can work with to see the project through. In this slide, please list the specific partners and stakeholder who will be working with you on the project. These can be **inside or outside the government**. They should be specific organizations (i.e. don't just say 'the Air Force') and should include specific names of people who are committed to seeing this through. Parts of this slide may feel similar to the product-market fit slide, but are less specific and should address multiple stakeholders.

Things that could be considered:
- Name of specific unit/organizations
- What their main role is
- How do they feel pain?
- What are their perceived benefits (gains) from your solution?
- Name of contact person at that organization

If you don't have any idea where to start with this - go here:
http://afwerxdc.org/join/

Steve Blank wrote an interesting post about this:
https://steveblank.com/2016/02/23/the-mission-model-canvas-an-adapted-business-model-canvas-for-mission-driven-organizations/

On average it takes ~5.4 people to make a decision to move forward in a large organization (i.e. the USAF)

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Technology

While most SBIR proposals spend much of their time going into deep technical depth, we would rather you show demonstrations of your solutions technical merit than try to tell about how it might or could work. However, this slide could be used for you to clearly explain the technical workings and merit of your technology. This is **not the time to show off your technical depth**, but rather to explain how your technology works in such a way that a layman could understand.

Aspects to consider:
• What is your technology, include proof of current TRL level (pictures)
• What is new/innovative about your technology?
• What are the closest competitors?
  • How are they faring in the commercial marketplace
• Quantify your expected improvement over competitors
  • Include 'soft requirements' (e.g. user experience)
• What other technologies would your solution have to interact with?
  • How do you plan to manage those interfaces?

Albert Einstein once said 'You do not really understand something until you can explain it to your grandmother.'

AFWERX is generally looking for higher TRL solutions that can be transitioned in the compressed timelines.

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Deployment/Transition Strategy

This slide could focus on the transition strategy within the Air Force. This slide is likely to be **difficult to fill out at first**, unless you have already been doing considerable user testing and research. The point of this slide is for you to realize that the end goal of the SBIR is not just a Phase I award (~$50-75K) for an experiment or a Phase II award (~$750K) for a trial, or even a phase III award for further R&D. The **purpose is to deliver value to the end-user.** This can occur by being transitioned into a program of record (i.e. at a SPO) or deployed with a sustainment plan.

Some things to consider:
- You should have multiple pathways to transition
- Who are the relevant Program Offices?
  - Have you talked with them?
- What contracting vehicles would you use?
- What money exists for the transition?

More information on programs of record: https://www.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=2f2b8d1e-8822-4f88-9859-916ad81b597e

SBIR Phase III is one of the most flexible contracting pathways: https://www.sbir.gov/tutorials/data-rights/tutorial-4

There are tons of sources of money - this website has links to many of them: https://defenseinnovationmarketplace.dtic.mil/

Notional example - For reference only

Non-Defense Commercial Solution

We have a renewed focus on attaching our defense solutions to the pace of technological change - and therefore non-defense and non-governmental commercial solutions.

In this slide you can show:
- Your currently existing non-defense commercial solution
  - Example customers
  - Customer testimonials
  - Sales numbers
  - Pictures/screenshots of the solution being used
  - Pictures/screenshots of the solution for sale
- Your solution that is made up of mostly non-defense commercial components (pictures/screenshots)
  - Notional diagrams are weighted less heavily than actual implementations
  - Even if the implementations are rough, it conveys more maturity
  - The components should show non-defense commercial adoption

There is a high risk of 'vaporware' with this option. If this is the case, you need to be specific about your actual solution and show that it really exists.

Notional example - For reference only

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Finances

One of the main reasons we are looking for companies that have commercial solutions is that we would like to **share the risk and cost burden** of developing a solution with the **non-defense** and non-governmental commercial market.

Additionally, when working with small businesses we want to **minimize the risk** that the company will go **bankrupt** while we are working with them.

Please give us an understanding of the financing behind your company AND your solution. We are looking for **financial sustainability** for both your company overall and your proposed product/solution.

Some ways to show this are:
- Sales of products
- Fundraising (who, how much, when?)
- Future expected funding rounds
- Simplified Cap Tables (highlighting foreign investment)
- Simplified cash flow statements ('burn rates')
  - Past and Future (including for this proposal)

We are not trying to be nosy here - do not feel like you have to open all of your books to us - we don't want that - we just want to be sure that there is minimal financial risk to your company.

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Pricing

The maximum amount for each SBIR phase is listed as part of the solicitation. Additionally, the biggest benefit to the Phase I is as a pathway to a Phase III (with a sole-source government contract) than as a revenue generator.

Some things to consider
- You are allowed to submit a fixed price proposal to a SBIR phase I (no need to do the whole budget drill)
- The process is easier on the governments side with standardized contract amounts (i.e. many awards at $50K instead of $49,997, $49,992, etc)
- Almost all the AFWERX awards for Phase I will be Purchase Orders
- We are required to look into 'Cost Reasonableness'
  - Historically, the Air Force SBIR office has awarded many awards at $150K for 9 months
  - The first 18.2 SBIR special topics awarded many awards at $50K for 3 months
- For very fast moving companies, an award of $10K allows for even faster awards (through the micro-purchase threshold)

This can be done with a government credit card. If you don't want to deal with all the other accounting systems and time is more important than ~$40K to your company - a proposal under $10K may be a good way to go.

Notional example - For reference only

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Air Force SBIR/STTR

Legal, IP, Data Rights: 'The Green Paint'

One of the main questions that people always have is how the data rights work with SBIR. A great resource for that is here:
https://www.sbir.gov/tutorials/data-rights

However, for most of our AFWERX purposes we are looking at adapting existing commercial solutions to our Air Force needs. Thus we are **not looking for the core IP** of your technology, **just the 'green' paint** that is the specific **adaptation** to our **specific Air Force needs**. If is in both of our best interests for you to keep the core IP related to your core product so that you can continue to focus on your non-defense market and develop your solution at the pace of technology - NOT at the pace of government acquisitions. Therefore, you could include thoughts on your 'core' IP and what the 'green paint' IP could look like.
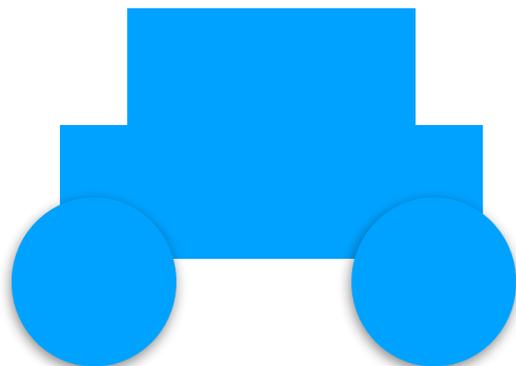
**SBIR
data rights**

Your non-defense product
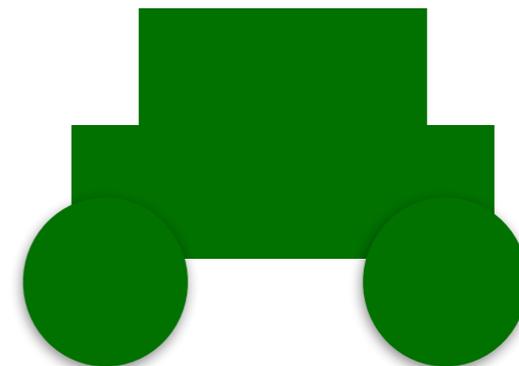
Your defense-specific product

Acronym Finder

AFWERX	Not an acronym, just a name	http://www.afwerx.af.mil/
SBIR	Small Business Innovation Research	https://sbir.defensebusiness.org/
AFRL	Air Force Research Lab	http://www.wpafb.af.mil/afrl/
SAF/AQ	Undersecretary of The Air Force for Acquisitions	https://ww3.safaq.hq.af.mil/
IP	Intellectual Property	
SPO	System Program Office	https://www.dau.mil/glossary/pages/2747.aspx

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