



No Bullsh*t:

Collaborating
with the Government

Discussion Summary
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Take-Aways

The Army is exploring ways to improve its processes to make it easier for small business to work with the government, so the U.S. Army Combat Capabilities Development Command's Army Research Laboratory, the Army's corporate research laboratory known as ARL, reached out to small companies to hear recommendations for improvements. The "No Bullsh*t: Collaborating with the Government" sessions were held in conjunction with the Army's xTechSearch, at the Capital Factory in Austin, Texas. xTechSearch is a competition held across the country, calling for technologies developed by small businesses that could be used to solve Army problems. While companies pitched their ideas to a panel of Army subject matter experts, we concurrently held "No Bullsh*t" sessions to gather recommendations from the same companies the Army chose to pitch their technologies. A consistent underlying theme emerged from the four sessions.

- **Applying for funding from government sources takes too long.**
- **There is a need for one central, easy to use compilation of government collaboration and funding opportunities.**
- **Calls for proposals are difficult to understand due to government jargon and acronyms.**

As we look for creative solutions to the problems our Army faces today, we look to tech start-ups as innovative thinkers to help fill these critical gaps. In the "No Bullsh*t" sessions, the team encouraged small business participants to speak freely about their experiences working with the government. We intentionally planned the sessions to consist of no more than 15 participants to encourage full engagement. Twelve small businesses attended one of four sessions held over the two days. Each session provided a casual setting to encourage an honest discussion, with all participants intermingled in a circular seating arrangement, no formal presenters, with food and drinks available nearby. Each participant provided a five minute opening statement to share with the group his/her story, background and experiences, and a facilitated dialogue ensued. We invited other government agency representatives who are also looking to improve engagement processes. The information exchanged at the sessions has the potential to improve future collaborations. This document summarizes the key takeaways.



Working with the Government

The long application processes for funding leaves companies frustrated and exhausted. *“Tell me yes, tell me no, tell me quick so I can go,”* was a phrase one business representative used to describe his frustrations. All agreed the process has to be accelerated—speed up the time between submit and decide. The Army is currently looking at ways to improve the process and change the topics to make them broader, allow for more technological solutions, and simplify the initial award. The goal is to shorten the time frame from application to award. The U.S. Air Force is ahead of the other services and has already dramatically improved its Small Business Innovation Research, or SBIR program.

Companies suggested there should be funding including in research and development awards (e.g., SBIR) to defray legal costs. Incentives for demonstrating technologies should be provided. The companies discussed their experiences with xTechSearch. They said the \$5,000 travel money incentive provided by xTechSearch to pitch their technologies was very helpful. Other demonstration opportunities are often not worth their time without the small amount of funding that xTechSearch provided. Not knowing if there will be a return on that investment makes them hesitant to pursue an opportunity.

Companies shared concern about the time it takes to get awarded funds. The mere assurance of future funding sometimes is not enough, they said. Making ends meet until funds are received is tough and sometimes businesses cannot hold out financially for such a long time. This puts us, the Army, at risk for missing out on THE NEXT BIG THING.

Companies requested feedback on applications that are not awarded. They are not told if the rejection was due to the content of the proposal, or if the application was not submitted appropriately. Knowing this would be helpful when preparing the next proposal.

Government agencies often struggle with communicating the needs and requirements of technologies; the Department of Defense recognizes this major hurdle that must be overcome to improve outreach. The U.S. Air Force has already made major changes; the Army is currently modifying the way it communicates problem statements on calls for proposals, especially those targeted for the small business community.

Companies shared their experiences with establishing relationships with larger primes when submitting proposals; they believed this was an advantageous approach.

A few companies wanted to know how to get security clearances. They expressed concern that without this classification it hinders access to certain information that could be helpful for research partnerships and accessibility. Here is the scoop on clearances: A person must have a reason to request a security clearance. He/she must have a **need to know** specific classified information. That is, a government agency cannot request a clearance investigation for someone until he/she is working on a

classified project. Applying for different funding opportunities is not a valid reason to request a clearance.

Working with Universities

There are advantages for small businesses to work with universities, for example, accessing equipment/facilities and tapping into technical expertise outside of the company's area of expertise to ensure well-rounded, robust development of concepts. Universities provide opportunities for businesses to jointly apply for grants, ensuring some continuity to the project; an essential component to technical advancement and success.



Some companies expressed concern about intellectual protection, or IP ownership when working with universities. Companies were advised to ask the right questions and include information regarding IP ownership within a collaboration agreement. Typically, if something is developed at the university then it belongs to the university. One company recommended filing a patent for a particular idea or technology prior to establishing any agreements with a university to remove any question of IP ownership.

University advisory boards often consist of industry experts that provide feedback to the university on a particular project, and ultimately recommend funding appropriations. We encourage small businesses to consider sitting on one or several of these advisory boards to increase their network and realize and seize opportunities for joint funding on new projects.

Collaboration Mechanisms

There are several formal agreements that can be used to collaborate with the government or other organizations. In any agreement, IP rights should be negotiated and included.



The Collaborative Research and Development Agreement, or CRADA, formalizes an agreement between a government agency and another organization. There can be no money transferred from the government to the partner organization.

Instead, in-kind contributions are listed and agreed upon to reach mutually beneficial research and development goals.

A Cooperative Agreement, or CA, is similar to a CRADA, identifying in-kind contributions along with mutually beneficial goals. In addition, CAs allow the government to provide funds to the partner organization.

In some cases, governments can fund non-traditional companies using Other Transactional Authorities, or OTAs. This is a quicker approach to funding. Many government agencies have started to use this funding mechanism when appropriate.

Finding and Successfully Applying for Funding Opportunities

Currently, there is no easy way to identify funding opportunities. Some companies fund a private agency or hire someone specifically to search and find appropriate funding opportunities. The group agreed that one central database with funding opportunities should be developed and made accessible to the public.

Participants discussed the need for a matchmaking network where government entities, businesses, investors and researchers could find collaboration possibilities.

Many states have programs and resources available to help industry find funding. Procurement Technical Assistant Centers, or PTACs, a type of “free business partner,” are available in many states. Small Business Development Centers are also available in some states. For example, Ohio is building an Innovation Center partnered with a venture capital group, consisting of a 25,000 square foot facility.

We discussed the concept of the “Technology Consortium” in which organizations pay a membership fee to identify problem statements and apply for funding. There are many consortia that exist and many of the small business participants were members. The groups agreed it would be helpful to get a list of consortia in one centralized location. However, none of the companies were able to say they had realized any benefits to being a consortium member. Many felt it was not cost worthy for small businesses, even with a sliding scale used by some of the consortia. The concern was raised that there is no protection for IP due to the open sharing environment of consortia. The idea

was raised to assess the existing consortia to determine if any tangible technologies resulted

Small Business Innovation Research (SBIR)/Small Business Technology Transfer Research (STTR) Programs



Most of the participating companies had applied for SBIRs/STTRs and many have been successful. The companies agreed a great advantage of SBIRs is they do not take a percentage of equity. Any equipment obtained remains with the company. IP rights are protected in these programs for five years from the last contract awarded. It is a rolling five years.

Most companies said new applications can take six months to two years to apply. There are lengthy and complicated guides available showing how to apply to SBIRs. Companies want to see something more streamlined and user friendly.

Government agencies' various Offices for Small Business have programs available that provide small businesses with outreach, training and research support. For example, every fourth Wednesday of the month the Army Office of Small Business Programs gives a class (in-person or by dial-in) with subject matter experts. The Air Force program known as AFWERX provides weekly seminars. The Army expects to release a new Broad Agency Announcement this spring structured in a way to ease the application process.

Protecting Intellectual Property

The Federal Bureau of Investigation has resources to support small businesses, providing information on best cyber security practices and how to protect technologies while traveling. For example, laws in other countries are different than the U.S. We must be careful when traveling abroad. Taking electronic devices or IP information during travel is risky.

The Committee for Foreign Investments in the United States, or CFIUS, serves as a protecting body, overseeing contracting and IT transaction oversight that can present their cyber protection workshop as a resource for small businesses.

The Commerce Department has designated people to provide free advice. To qualify, you must apply and receive approval from the State Department.

xTechSearch

The companies who pitched saw value in the opportunity for facetime with key Army subject matter experts. One individual stated he would have liked to have known in advance the backgrounds and areas of expertise of the judges. He felt this would have allowed him to prepare and gear his presentation more appropriately to the audience. He also was unaware of the category that he was pitching (Long Range Precision Fire, in this case).

The companies were limited to using only five slides for their pitches and most thought this was a difficult requirement to adhere to. One company suggested the slide format requirement be removed saying you cannot present it until you are chosen, unless you add in a lot of text, which then takes away from the purpose of having a visual slide format. ***“Presentations are meant to be presented and not read. You’re essentially asking for a presentation as a report instead of letting it be presented.”***

Many companies remarked that applying for xTechSearch was much easier, as the application process was quicker than traditional government calls.

“No Bull Sh*t: Dealing with the Government”

The participants enjoyed the “No BullSh*t: Dealing with the Government” sessions. In particular, they appreciated meeting with, sharing with and learning from the other companies. ***“It’s cool to talk with other small businesses.”*** They recommended being informed what other companies would be present at the dialogue sessions prior to the event. A few participants suggested having primes invited to the event for networking opportunities. However, concern was raised that a mixer type of event with smaller and larger primes could lead to issues surrounding IP protection.



One company representative mentioned that prior to this dialogue the SBIR process looked way too complicated, but now felt more exposed and knowledgeable. Another company stated this type of discussion forum should be an integral part of the small business development office. One participating entrepreneur mentioned he did not have much DOD knowledge and now had a better understanding of and a higher comfort level at collaborating with the military community.

Several individuals recommended rotating the discussion forums throughout the country. A suggestion was made to request states to help fund a roadshow. Webinars were also recommended for spreading information sessions.

The government agency representatives agreed the “No Bull Sh*t” sessions were valuable not only because they learned from companies, but also because they learned about challenges other agencies are facing. They heard about the courses of action each agency is taking to overcome challenges and change for improvement. The team plans to continue to share ideas and lessons learned from the past, and as a group determine best ways to improve. They will join forces to make necessary changes.

Next Steps: Army Futures Command

First, Army Futures Command wants to make working with the Army easier to navigate and less intimidating for those who are unfamiliar with government processes. The Army seeks to improve the SBIR/STTR program performance. The goal is to improve the Army’s access to the widest range of small businesses feasible to meet Army technology needs. This goal applies to all small businesses and especially to those working in emerging technology sectors that are this country’s cutting edge of tomorrow’s technologies.

SBIR/STTR:

The way the Army is pursuing program improvement is through the adoption of candidate technology screening and award mechanisms that are similar to private sector methods. We want to allow small businesses to collaborate and communicate with the Army in a fashion more familiar to them as private sector businesses. We seek to make SBIR/STTR more relevant to small businesses by reducing the time from awardee selection to disbursement of funds. Many small, emerging technology firms have short funding cycles that make the current SBIR/STTR methods inappropriate to their survival as businesses. The AFC is in the early stages of modifying the Army’s SBIR/STTR processes to better fit the needs of the small business community and better meet the technology needs of the Army to maintain its dominance on the battlefields of the future.

Call for solutions to Army problems:

Army Applications Lab, or AAL is turning the Army’s traditional proposal call process on its head. A Broad Agency Announcement designed to solicit potential solutions to address the Army’s modernization priorities is being prepared. The call will be released in conjunction with a new AAL web platform (aal.army). This platform will walk users through the first step of the proposal process—creation and submission of a short whitepaper—in a straightforward, plain-language, application-like way. *Those submitting whitepapers will not need to learn government contracting language or waste time worrying about formatting.* The objective is to lower barriers to entry and solicit potential solutions to Army problems from the broadest possible group of solvers, including those who may have never considered working with the Army.

Continuing the dialogue:

The U.S. Army Combat Capabilities Development Command's Army Research Laboratory-South, known as ARL South is in the planning stages for the annual CCDC ARL South Summit 2.0 and plans to incorporate a similar networking/mixer type of event, with participants to include Army Cross Functional Team, or CFT leads and other government partners, to enable and encourage direct communication between the Army and the business community.

Resource consolidation:

The Army is investigating methods to consolidate available government funding opportunities/resources into one central location for quicker access.

To Be Continued...

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Infinite Composites Technologies (ICT) is an AS9100D certified small business located in Tulsa, Oklahoma that designs, develops and manufactures advanced gas storage systems. The company was founded in 2010 to revolutionize composite pressure vessel technology, with the ultimate goal of being the key enabling technology for widespread adoption of all-composite pressure vessels.

Kraus Aerospace, Inc. builds Ultra Long Endurance and Beyond Line of Sight fixed-wing UAVs for ISR, SIGINT, EW, Radio Relay and Advanced Communications provisioning. Kraus Aerospace further provides Smart Persistent ISR as a Service for actionable intelligence.

Next Offset Solutions, Inc. is an engineering and technical services provider with prototype and limited-run production capacity. The company's core focus area lies at the nexus of additive manufacturing and energetic making it well suited to address emergent technical challenges that arise in the national security, defense and energy sectors.

Novaa specializes in wireless communications, sensing and navigation solutions for the most challenging defense, telecom and automotive applications. Led by research and industry veterans, we leverage creativity and innovation to deliver performance without compromise.

OmniPreSense is a supplier of short-range radar sensors that allows IoT, drone and robotic systems to better see the world around them.

Pterodynamics was formed to develop and commercialize the patented Trans-wing aircraft design in the commercial and defense aerospace industries. Their mission is to exploit those critical patents that dramatically improve the aerodynamic ability of an aircraft to operate effectively as both a rotary-wing as well as a fixed-wing aircraft.

Randall Innovations is a research and development company. The company's goal is to develop new innovative products for the marketplace.



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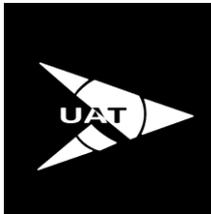
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Remoting Sensing Solutions, Inc. advances remote sensing technology through innovative radar and sonar systems and subsystems through data and modeling products in the fields of topography mapping, hydrology and oceanography.

Response Technologies uses additive manufacturing and advanced materials to manufacture seamless crashworthy fuel cells and inflatables. They target breakthrough improvements in survivability, weight, total ownership costs and increased functionality.

Robodub, Inc. has developed a game changing multi-rotor UAV that can carry dynamic payloads and multiple payloads. Their technology can balance any change in the center of gravity of the UAV by altering the rotor positions autonomously while flying.

RunSafe Security, Inc. is the pioneer of a patented cyberhardening process designed to disrupt attackers and protect vulnerable embedded systems and devices. With the ability to make each device functionally identical but logically unique, RunSafe Security renders threats inert by eliminating attack vectors, significantly reducing vulnerabilities and denying malware the uniformity required to propagate.

United Aircraft Technologies, Inc. is developing a smart clamp solution for an Augmented Reality Monitoring System (ARMS) for aircraft wiring that improves fuel economy overall weight reduction of the aircraft, decreases the occurrence of Repetitive Strain Injuries such as Carpal Tunnel Syndrome CTS, improves aviation training through 3-D fault location and visualization, simplifies maintenance and reduces the environmental impact of CO2 emissions.

Vita Inclinata Technologies, Inc. has developed technology to completely eliminate the swing during U.S. Army helicopter sling load and hoisting operations. Leveraging drone technology, Vita's technology can eliminate swing within two periods.

Government Participants



ARMY
FUTURES
COMMAND

Col. Andrew W. Batten is the Deputy Chief of Staff for Science and Technology for the Future Vertical Lift Cross Functional Team based at Redstone Arsenal, Huntsville, Alabama. A component of the newly formed Army Futures Command, the Future Vertical Lift Team is focused on the development of a future family of Army air vehicles, including Future Attack Reconnaissance Aircraft, Future/Advanced Unmanned Systems and Future Long Range Assault Aircraft.



AFWERX

Ryan Erickson is with the AFWERX. AFWERX is making changes to their SBIR application process, which currently takes between three months to a year for initial acceptance. AFWERX is configuring a way businesses can go directly to Phase 2 upon approval, by June 6.



Heidi Maupin ardently forged a new research model for the U.S. Army Combat Capabilities Development Command's Army Research Laboratory Open Campus, headquartered in Austin, Texas. Maupin leads ARL South, which extends across the southern region of the country. She enthusiastically cultivates strategic research and development partnerships with premier scientists and engineers from regional universities, start-ups and established industrial companies.



Sharon Morrow, assistant to the director, Army Office of Small Business Programs, serves as a liaison between the Army and small businesses desiring to work with the Army. She is an advocate for small business and provides outreach to industry working with the government.



Jill Murphy is a supervisory special agent at the FBI, overseeing national security investigations in the Austin FBI Office. Prior to arriving in Texas, she resided in Washington, D.C., where she served on the National Security Council as the director of counterintelligence.



Amber Nightengale is the deputy director of National Geospatial-Intelligence Agency (NGA) Outposts. The Outpost NGA creates a presence at the point of origin for top talent and technology to innovate and develop new solutions for NGA’s current and future challenges.



Shawn O’Keefe recently joined the team at the Army Applications Laboratory. Prior to joining AAL, he ran Hardware and GovTech innovation programs—specializing in acceleration frameworks, high-fidelity prototyping and customer-centric approaches.



Corine Romero is a contractor with Primal Innovation, supporting the ARL South team in Austin, Texas. Corine has supported DOD efforts for the past six years.



Shannon Strank is ARL South’s deputy and assistant director at the University of Texas at Austin Center for Electromechanics. The center conducts research on all scales. Some projects fall under an SBIR and larger contracts for DOD. Shannon provides small businesses information and expertise using that experience.



Gregg Sypeck is with the Army Applications Laboratory, the Army’s proponent for disruptive innovation. AAL is a member of the Defense Innovation Center at the Capital Factory in Austin, Texas, which is embedded with start-ups to promote collaborations with DOD organizations.