User's Guide to Engaging the DoD Innovation Ecosystem for Space Startups

Introduction

This guide aims to help Space startups understand and navigate the diverse Department of Defense (DoD) innovation ecosystem, often with a government Point of Contact (POC) with which they are already working. It provides steps, suggestions, and tips for more effectively engaging with the various DoD entities, as well an overview of key programs, offices, Space organizations, advisory boards, and other opportunities that may help accelerate your business in the defense sector.

Bottom Line Up Front (BLUF), we encourage vendors like you to go here, https://www.ctoinnovation.mil/tour?step=step1, to find links to DoD organizations listed below that *may* be interested in your idea, product, or service. We also suggest attending government events to get a better understanding of what the government mission areas might need. Please be advised, many of these offerings take many months or years, depending on United States Space Force (USSF) need and your Technical Readiness Level (TRL), to secure feedback and funding.

How to Engage with These Organizations

Here are some steps and tips for effectively engaging with the DoD innovation ecosystem:

1. Identify Alignment: Clearly understand how your technology or product aligns with specific DoD needs or problem statements. Some resources to help you do this include:

- Participate in Pitch Days and Challenges: Engage with DoD pitch days, challenges, and hackathons that match your technology's focus. These events often provide direct access to defense stakeholders.

- Network and Attend Events: Attend DoD conferences, innovation forums, and networking events to build connections and understand current priorities and needs within the defense space.

2. Leverage Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs: Many organizations, such as AFWERX and Defense Innovation Unit (DIU), provide SBIR and STTR grants to fund innovative solutions from startups.

3. Engage with Advisory Committees and Panels: Offer to present your technology or solutions to federal advisory committees, panels, or boards to gain visibility and gather feedback on how to better position your offering.

4. Leverage Defense Partnerships and Contract Vehicles: Work with prime defense contractors or join consortia that allow you to partner with other entities working with the DoD. Utilize contract vehicles like Other Transaction Authorities (OTAs) to accelerate procurement.

5. Seek Mentorship and Guidance: Engage with government programs that provide mentorship and guidance on doing business with the DoD, such as Defense Acquisition University (DAU) courses, DIU's Commercial Solutions Openings (CSOs), or SBIR accelerators.

By understanding the landscape and proactively engaging with the right programs and offices, Space startups can successfully navigate the DoD innovation ecosystem and unlock growth opportunities in the defense sector.

The DoD innovation ecosystem offers significant opportunities for Space startups to secure funding, partnerships, and contracts. By leveraging the resources and guidance provided in this guide, startups can better position themselves to effectively engage with key defense innovation programs and offices, ultimately contributing to the mission of national security and technological superiority in space.

Key DoD Innovation Programs and Offices

The DoD hosts a variety of programs and offices that support innovation across multiple domains, including Space. Startups can access these programs for funding, mentorship, and partnership opportunities. Here is an overview of some key players:

1. Office of the Secretary of Defense (OSD)
The OSD leads the overall direction of the DoD's efforts to cultivate and adopt innovative technologies. Space startups can engage with specific programs designed to foster innovation:

- *Office of Force Transformation (OFT):* Focuses on transforming the military's approach to technology, supporting new operational concepts, and promoting the integration of emerging tech.

- *Close Combat Lethality Task Force (CCLTF):* Seeks to increase the effectiveness of close combat forces through technological advancements. Companies working on ground-based solutions may find opportunities here.

- *Joint Artificial Intelligence Center (JAIC):* Focused on accelerating the adoption of artificial intelligence (AI) across the DoD. Space startups leveraging AI for space-based data analysis or situational awareness could collaborate with the JAIC.

- *Joint Improvised-Threat Defeat Organization (JIDO):* Works to counter improvised threats through rapid technological solutions.

2. Federal Advisory Committees, Panels, and Boards
These advisory groups provide advice on emerging technologies, innovation strategies, and acquisition. They often seek input and solutions from the private sector:

- *Defense Innovation Board (DIB):* Advises the Secretary of Defense on innovation and best practices from the commercial sector. Engaging with DIB can offer startups visibility and networking opportunities with defense leaders.

- *DAU:* Provides training and education to improve the acquisition process. Space startups looking to navigate DoD contracting should leverage DAU resources.

- *Technology Innovation Program Advisory Board:* Offers guidance on technology innovation programs and potential areas of investment. Startups looking for direction on technology alignment with DoD needs can gain insights from this board.

- *Proposal Review Panels:* Includes panels such as the Panel for Civil, Mechanical, and Manufacturing Innovation and Panel for Industrial Innovation and Partnerships. These panels review proposals and provide feedback for companies applying for funding and partnerships.

- *Emerging Tech & Research Advisory Committee (ETRAC):* Provides recommendations on research priorities and technologies for the future. Space startups with novel technologies or research projects could leverage ETRAC's recommendations.

- *National Advisory Council on Innovation and Entrepreneurship (NACIE):* Promotes innovation, entrepreneurship, and job creation. This council is a great resource for startups interested in networking and business development within the defense innovation space.

- *AFWERX:* As the innovation arm of the Air Force and powered by Air Force Research Laboratory (AFRL), AFWERX connects innovators with Air Force needs. They run various programs like SBIR/STTR grants, hackathons, and open solicitations for new ideas. Startups focused on dual-use technology can find ample support here.

3. Defense Advanced Research Projects Agency (DARPA)
DARPA is the R&D arm of the DoD and is responsible for high-risk, high-reward projects that may provide transformative capabilities. Space startups can apply for funding opportunities and collaborate on research programs that align with DARPA's focus areas.

4. Missile Defense Agency (MDA)
The MDA is responsible for developing and fielding missile defense systems. Space-based startups with relevant technologies (e.g., sensor systems, tracking, and targeting technologies) may find partnership opportunities here.

5. Strategic Intelligence Analysis Cell (SIAC)
SIAC provides intelligence and analysis for strategic decision-making. Startups offering capabilities in data analytics, Artificial Intelligence/Machine Learning (AI/ML), or ISR for space could potentially find engagement opportunities.

6. Strategic Capabilities Office (SCO)
The SCO identifies and develops strategic weapons systems to meet emerging defense needs. This office often works closely with startups and industry partners to rapidly prototype and field technologies.

7. DIU
The DIU is a DoD organization that seeks to rapidly adopt commercial technologies into the military. They run pilot programs and offer contracts to test and acquire solutions from the commercial sector, including space technologies. Startups can apply to DIU solicitations via their website.

8. Office of the Under Secretary of Defense for Research and Engineering (OUSD R&E)
OUSD R&E oversees the DoD's research and engineering efforts. It identifies emerging technologies and supports R&D initiatives across the DoD. Space startups focusing on early-stage R&D can find support through OUSD R&E's various programs.

9. Office of the Under Secretary of Defense for Acquisition & Sustainment (OUSD A&S)
OUSD A&S focuses on acquisition policy and sustainment of defense capabilities. Key offices of interest for space startups include:

- *Assistant Secretary of Defense for Acquisition (ASD(A)):*Responsible for the acquisition and development of new technologies for the DoD.

- *Assistant Secretary of Defense for Sustainment (ASD(S)):* Ensures the long-term sustainability and lifecycle of defense systems.

- *Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ASD(NCB)):* Focuses on technology to protect against Weapons of Mass Destruction (WMD) threats.

- *Director of the Joint Rapid Acquisition Cell (JRAC):* Facilitates rapid acquisition processes for urgent military needs.

- *Senior Advisor for International Cooperation:* Engages in international partnerships to support technology development and acquisition.

Space Force and Associated Organizations

Space startups should be aware of opportunities to collaborate with the US Space Force and associated entities:

1. Space Systems Command (SSC)
SSC is responsible for acquiring and managing space-based systems. Key offices focused on commercial space include:

- *Commercial Space Office (COMSO):* Supports collaboration between the Space Force and commercial space startups, offering partnership opportunities.

- *SSC Front Door Initiative:* Acts as a gateway for companies to connect with Space Systems Command for potential partnerships and project collaboration.

2. SpaceWERX
SpaceWERX is the innovation arm of the US Space Force and part of AFWERX. It fosters partnerships with startups and small businesses to drive innovation in space technology through various programs, hackathons, and funding opportunities.

Opportunities

Many offices within the DoD run competitions, pitch days, and funding initiatives designed to attract non-traditional companies and startups with innovative solutions. Below are some key programs and competitions offered by various offices that aim to integrate commercial technologies into the DoD ecosystem:

1. OSD

- *Accelerate the Procurement and Fielding of Innovative Technologies (APFIT):* APFIT is designed to rapidly transition innovative technologies developed by small businesses and non-traditional vendors into DoD programs. The goal is to shorten the procurement cycle and provide quick funding to accelerate the deployment of critical technologies.

- *Rapid Innovation Fund (RIF):* The RIF program supports small businesses and non-traditional vendors by providing funding for innovative technologies that address high-priority national security needs. The competition seeks mature technologies that can transition into defense acquisition programs.

2. AFWERX (US Air Force Innovation Arm) & SpaceWERX (US Space Force Innovation Arm)

- *SBIR & STTR Programs:* AFWERX and SpaceWERX run SBIR/STTR programs that are tailored to meet Air Force and Space Force needs. These programs have different phases, starting from early development to pilot programs for commercial-ready technologies.

- *STRATFI/TACFI (Strategic Funding & Tactical Funding Increases):* These are larger SBIR/STTR funding vehicles intended to bridge the gap between SBIR Phase II and the full transition of a technology into a program of record. They are aimed at expanding technologies that demonstrate a significant impact on Air Force and Space Force priorities.

- *AFWERX Challenges and Pitch Days:* AFWERX organizes specific challenges around problem statements released by the Air Force and Space Force, where startups can propose solutions. The most promising technologies are invited to pitch days, where companies can directly engage with defense stakeholders and potentially win contracts.

- *Prime Programs:* AFWERX Prime initiatives are large-scale projects in emerging domains, such as Agility Prime (focused on advanced mobility technologies, including “flying cars”) and Orbital Prime (focused on in-space servicing, assembly, and manufacturing). These programs offer both competition and collaboration opportunities for companies developing technologies that align with the program's focus.

3. DIU

- *CSO:* DIU uses a CSO process to issue solicitations that outline specific problem statements from the DoD. Non-traditional companies are encouraged to respond with commercial solutions. If selected, companies enter pilot contracts that could lead to larger-scale acquisitions.

4. DARPA

- *DARPA Challenges and Proposers' Days:* DARPA frequently runs competitions or challenges (such as the DARPA Grand Challenge) to encourage commercial innovation in key technology areas. These challenges often have a significant prize pool and provide an opportunity for startups to showcase their technologies.

- Proposers' Days are informational events for upcoming DARPA solicitations where non-traditional vendors can gain insights into program objectives and meet potential partners.

- *SBIR/STTR Programs:* DARPA also participates in the DoD SBIR/STTR programs, focusing on high-risk, high-reward research projects that could offer breakthrough capabilities for defense applications.

5. SCO

- *Rapid Prototyping & Innovation Challenges:* The SCO focuses on adapting commercial technologies for military use, often running challenges or pilot projects where non-traditional companies can showcase prototypes or early-stage technologies that could enhance existing capabilities.

6. JAIC

- *AI Innovation Challenges & Solicitation Days:* The JAIC frequently hosts challenges aimed at solving AI-related problems for the DoD, where non-traditional vendors can submit proposals and participate in open pitch events to secure funding for AI development and implementation.

- *Tradewind Program:* Tradewind is a contracting vehicle managed by JAIC that streamlines the acquisition process for AI/ML technologies, providing companies with rapid access to opportunities without traditional bureaucratic hurdles.

7. MDA

- *Innovation & Prototype Challenges:* MDA seeks to leverage commercial technologies for missile defense and often runs competitions for rapid prototyping and technology maturation in areas such as sensors, targeting, and countermeasures.

8. DAU & OUSD A&S Offices

- *Rapid Acquisition Challenges (Joint Rapid Acquisition Cell):* The Joint Rapid Acquisition Cell (JRAC) supports rapid acquisition processes to meet urgent operational needs. They often look for innovative commercial solutions that can be deployed quickly.

- *Acquisition Innovation Research Initiative (AIRi):* AIRi works with the DAU to support the development of innovative acquisition practices and research projects. It provides funding and resources for non-traditional vendors who can contribute to process improvement or technology development in acquisition.

9. SSC & SpaceWERX

- *Space Pitch Days:* SSC and SpaceWERX host pitch days specifically for companies working in the space sector, focusing on commercial technologies that can support military space operations. Selected companies have the opportunity to receive funding and pilot contracts.

- *SSC Front Door & COMSO:* The SSC Front Door connects non-traditional vendors with space technology needs in the Space Force. Through rapid contracting vehicles, industry days, and SpaceWERX challenges, companies can quickly engage in projects and develop solutions.

10. OUSD R&E Offices

- *Defense Technology Acceleration Challenges:* OUSD R&E runs technology acceleration challenges that target specific capability gaps and emerging technology areas. These challenges provide non-traditional vendors with opportunities to pitch solutions and enter into partnerships with R&D offices.

- *Prototype Opportunities Through OTAs:* OTAs are a flexible contracting mechanism to accelerate the acquisition of innovative technologies. OUSD R&E uses OTAs to work with non-traditional companies on prototyping efforts that address critical defense needs without the full burden of the Federal Acquisition Regulations (FAR).