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SBTC Comments on DOD Contracting & Innovation

The Senate Armed Services Committee has asked the Small Business Technology Council (SBTC) to provide its perspective on how DoD contracting may be better enlisted in strengthening the warfighter. Both Armed Services Committees have worked to create technology- and efficiency-driving legislation to improve the warfighter's strategic and tactical advantage and the speed and impact of technology insertion. The passage of the 2018 NDAA evidences Congress' awareness of the need to strengthen our military; however, small businesses remain an underutilized resource that could offer significant advances to the warfighter mission.

Small businesses operate with unparalleled efficiency and rapid reaction time to their customers; and small business innovation offers the opportunity for transformational advances in defense capability. The challenge for DoD is how to best tap into the technological advances and innovations offered by these companies to benefit the warfighter. Although legislation and regulations currently exist that provide procurement mechanisms for DoD to draw easily and quickly upon the technologies offered by small businesses, there appears to be a lack of knowledge and understanding of these procurement options in the DoD contracting and technical communities. Additionally, while Congress and DoD have gradually progressed in providing funding and procurement opportunities; they have simultaneously introduced disincentives for small business to engage in government contracting.

These are our summary comments on contracting, starting with a list of SBTC's primary issues and recommendations.

Issues:

1. **Inadequate DoD utilization of small business innovation, efficiency and drive results in impaired warfighter technology capability, advantage and efficiency.**
   - 1.1. Insufficient R&D and transition investment in small business solutions.
   - 1.2. Contracting is too insensitive to R&D, transition and capability requirements while enforcing one-size-fits-all procedures adding excessive overhead, diluting momentum, and slowing transitions by small business.
   - 1.3. Contracting is too slow in fielding the tools it has, including being slow in implementing new laws passed by Congress.
   - 1.4. Cybersecurity is important, but poorly thought through implementation creates huge burden overloading and blocking small businesses solutions
   - 1.5. Poorly focused security classification codes block small businesses solutions
2. **Powerful portfolio of small business innovations only partly utilized:** Widespread resistance to recognize and direct SBIR Phase IIIs toward DoD requirements wastes prior investment in new innovative and efficient solutions as well as Congressionally-authorized capability. DoD program and contracting offices personnel untrained and/or unaware of

existing regulations (SBIR Policy Directive and DFAR instruction on Unsolicited Proposals) which allow for rapid and flexible contracting with small businesses to procure technological solutions developed under the SBIR seed funding program. Widespread failure to recognize implementation of SBIR Phase III contracting slows/blocks innovative SBIR solutions reaching the warfighter.

Recommendations:

1. **Improve Contracting focus on small business innovation, efficiency and drive to speed and focus transition to improved capability, advantage and efficiency.**
   1.1. Boost investment and procurement focus on effective small business solutions by increasing the SBIR allocation from 3.4% to 7% and double or triple RIF.
   1.2. Require each contracting office to have a small business technology official whose job is to simplify and standardize small business technology contracting and work with small businesses with contracting issues regarding technology.
   1.3. Multiple contracting improvements to move away from one-size-fits-all proposal and contracting procedures.
   1.4. Strengthen contracting objectives towards improved small business participation and improved reporting, at both Prime and subcontract levels.
   1.5. Faster implementation of laws
   1.6. Improve training, including clearer instructions for Contracting officers and Primes
   1.7. Improvements to cybersecurity and classified access requirements upon small businesses
   1.8. Improved small business enhancement to classification code consideration
2. **Require significantly-improved SBIR Phase III recognition and utilization.** The DoD has already invested in and produced a large portfolio of innovations that could substantially improve warfighter technology advantage, but is failing to recognize many Phase IIIs and falling short in terms of transition to implementation.
3. **Improved proprietary information protections**
   3.1. Reduce demand for “unlimited data rights” from small businesses
   3.2. Reduce pressure to patent rather than hold IP as trade secret
   3.3. Specific recommendation to substantially delay publication relating to international patent filings

The SBTC appreciates this opportunity to share our thoughts and suggestions with the Senate Armed Services Committee.

DISCUSSION OF COMMENTS

1. **Inadequate DoD utilization of small business innovation, efficiency and drive results in impaired warfighter technology capability, advantage and efficiency**:
   1.1. **Insufficient and too-slow R&D and transition investment in small business solutions**: Although American small business is superior in innovation and entrepreneurial drive compared to businesses throughout the world, and although we have before us many examples of the disproportionate effectiveness of small businesses in creating and spreading innovations, we inadequately use these advantages. The European Community awards 15-16% of its R&D funding to small businesses, while the U.S. only awards some 5% of its R&D to its small businesses. Current patent law requires the publishing of international patent application within 30 months of provisional filings. China and other nations copy and steal our technology and assist their enterprises to copy and accelerate further development while the U.S. funding for rapid transition remains inadequate. This is despite recent DoD studies showing the high effectiveness and return on investment of past Federal investments in small business innovation, such as those in the emerging DoD SBIR Phase III studies. Despite this, only a fraction of the DoD's contracting effort is focused on maximize the large potential advantage of small business innovations.. This differentially high rate of return argues that increased investment would produce further disproportionate returns. **The opportunity is to boost American military advantage and cost-efficiencies through better utilization of small business innovation and entrepreneurial strengths.**
   1.2. **Contractual procedures and clause requirements that insufficiently support R&D and transition objectives:** Contracting is excessively focused on bureaucratic processes developed to control large businesses that overwhelm smaller businesses, sapping cost-effectiveness, diluting entrepreneurial drive, significantly impeding advanced development and slowing transition to the field. The result is reduced levels of American military advantage and shortened periods of advantage. **As the front end of logistics, contracting has always limited the pointy end of the spear. Speedier, simpler contracting better aligned with military objectives can play an important role in taking advantage of the technologies we have developed and in more quickly and purposefully taking them to the field**. Require each contracting office to have a small business technology official whose job it is to simplify and standardize small business technology contracting and work with small businesses with problems.
      1.2.1. One-size-fits-all contracting outlooks and procedures fail to recognize the inherent strengths and budgetary/scale limitations of small business, unnecessarily adding costs, slowing progress and creating hurdles to success. There is too narrow recognition of the underlying purpose of focusing innovation and speed of development and transition.

1.2.2. Multiple individual examples include growing number of CLINs, burgeoning number of clauses, increasing use of inappropriate clauses, "self-deleting" provisions, broadened manpower reporting.

1.2.3. This overburden drives away innovative firms who have potential solutions but cannot justify the added and specialized overhead, while it restrains the productivity of experienced DoD small business contractors who often have to maintain expensive high cost large company-type systems designed to meet large company-defined requirements, far beyond those needed by more flexible and entrepreneurially-focused small businesses.

1.2.4. Contracting officers have tremendous individual power, and enforcement of overall government policy is often opaque to the small business, such that the KO can and often will simply insist on company compliance.

- One recent trend with many examples is KO bait and switch involving e.g. insistence upon award of a FFP contract after the solicitation has allowed CPFF pricing and the small business has turned in a CPFF cost proposal. The KO usually will not permit any added fee or cost for the added risk in making this highly risky shift in contract type, and only the most sophisticated small business may be able to oppose it. This type of contract strong-arming may be meeting some KO objectives, but is predatory and leads to increased chance of project failure and/or small business failure while not advancing the government's interest in maturing the innovative technology.
- A second tendency is the deferral of the issuance of small business contracts until very late in the fiscal year, when there is little time to negotiate or correct KO errors or demands. This time pressure limits the small business's ability to resist the KO requests, and seems to be a perennial feature of, for example, SBIR awards that are announced in May or June and then disproportionately awarded in late September.
- As some of these effects are driven by KO overload, efforts to simplify and streamline contracting procedures will produce major improvements.

1.2.5. Training is inadequate as contracting officer-supported errors are common.

1.3. **Slowness of contractual procedures to incorporate new laws passed by Congress, further impeding technological advance and slowing transitions**. Better implementation of existing capabilities authorized by law can powerfully and more rapidly drive American military advantage to higher levels.

1.3.1. **Many improvements passed by Congress have not yet been implemented.**

- For example, goals and incentives for technology transfer, and Phase III reporting. See Appendix A for a list of provisions passed by Congress

1.3.2. Even now the FAR and DFARS all but ignore small business issues relating to contracting, e.g. no FAR/DFARS recognition of SBIR Phase III so important to

transitioning new technologies, little FAR support for tailoring contract burden to company size and overhead capacity. The DFARS have not been updated to reflect Congressional changes to SBIR and other program over the past several years.

1.4. **Cybersecurity is important, but interpretation of the NIST regulations have created a vague and virtually impossible to manage cybersecurity challenge to small businesses**. This does not reduce risk yet creates a large drag on efficiency.

1.4.1. This rule falls into the one-size-fits-all trap. The regulations are complex and vague, making compliance problematic and very expensive, and presenting both high risks and a large burden upon small business overhead, with disproportionate cost impact upon the firms that actually comply.

1.4.2. E.g. SBIR/STTR technical data submissions are stated CUI/CDI even though SBIR firms create and own this data and are supposed to commercialize using it (Limited by export controls, etc.). This CUI/CDI categorization forces SBIR firms to classify all their data as requiring Cybersecurity compliance.

1.4.3. As Cybersecurity rules flow down, SBIR firms are facing screening by Primes such that they cannot participate as a subcontractor without meeting the regulation. These rules are substantially reducing the number of compliant small businesses able to perform for Primes.

1.4.4. Safe harbor procedures and efficient competitively marketed services have not been developed, resulting in excessive individual small business investment in creating separate solutions while allowing vastly different levels of actual compliance.

1.5. **Personnel and facility clearance processing remains a difficult area**, with processing too slow and screening of classification requests presenting companies with a catch-22: that they cannot get the required personnel and facility clearance approvals without demonstrating a work requirement (a contract in place with a requirement-defining DD254) and they cannot win the contract with the appropriate DD254 without the personnel and facility clearances already in place to demonstrate capability to execute the work.

2. **Continued failure to recognized SBIR Phase IIIs when awarded directly or subcontracted**. DoD continues to widely resist SBIR Phase III recognition, resulting in significant under-recognition and reporting as well as many missed opportunities to rapidly transition promising new technologies. Yet DoD has already invested in these technologies, creating a powerful portfolio of solutions now available to the warfighter, and capable of rapid transition if contracting can support its implementation.

2.1. Frequent resistance against directed SBIR Phase IIIs for fast track development. This is common, although there are some Departments that use it effectively (e.g. Navy). Most DoD programs are not recognizing or utilizing this powerful tool and often had active policy against it. Looking at the Federal FPDS contract reporting system, we can see the differential usage of the SBIR Phase III tool among the Departments. The Navy most extensively uses the SBIR Phase III as a tool to fast-track directed transitions of useful technologies to the field. Using FPDS data for 2017, the Navy made some 518 Phase III awards totaling $681 million, compared to lower utilization in the Air Force (489 Phase III award actions totaling $269 million) and Army (219 Phase III award actions totaling $202 million). There is a general tendency to not recognize SBIR Phase IIIs that are the result of competitions under regular BAAs, and the FPDS does not capture subcontracted Phase IIIs (which may comprise the majority of all Phase IIIs).

2.2. Unsolicited Phase IIIs that innovating new approaches to requirements and seek recognition for potential directed support do not have a clear path.

2.3. In competitive BAAs, Phase III recognition is still almost always resisted by contracting officers, slowing procurement and impairing potential for accelerated transition.

2.4. While SBIR Phase III guides are being created, they too often focus on just quoting the SBA Policy Directive rather than translating it into effective direction for PMOs and contracting officers, on how they should recognize Phase IIIs and how to handle them. The result is wasted SBIR potential, inefficient contracting and work, and failure to identify SBIR technologies so that they could be accelerated if desired.

2.5. Continued failure to recognized SBIR Phase IIIs when subcontracted: There is no instruction for Primes relating to how to recognize or make SBIR Phase III subawards.

3. **Excessive drives to release and publish IP weaken national strength**: A healthy small business sector is key to American military economic strength, providing cost-effectiveness and flexibility in meeting defense challenges. Intellectual property is the sustainable basis for technology competitive advantage, especially for small technology businesses where their IP is their strength. Disclosure of this IP reduces small tech business competitiveness and sustainability. Yet America's regulations and practices forcing public disclosure of competitive technology more and more rapidly publish this working capital of American innovation, including through contractual drivers for patenting and data release as well as DoD's misguided effort to increase the use of "unlimited rights" data delivery clauses in small business innovation contracts. All these forces chip away at the intellectual property advantages that once supported unbeatable American small business knowhow driving powerful export industries, now being dissipated across the world. **As a result, U.S. patent and technical report publication policy is dysfunctional in that it bleeds American data and inventions without ensuring patent coverage in return**. This is a contracting issue because the FAR/DFARS patent clauses force companies to seek patent protection over keeping data confidential.
    3.1. We push small businesses to release their IP, either through required patent filings or through requirements for publication. The result is over-disclosure of IP that otherwise would be strengthening the competitive position of the companies.
    3.2. Patents: Companies must choose whether to file patents on their inventions or cede ownership of the right to file a patent to the U.S. government.
        3.2.1. The company does not have a clear "keep the IP secret" option. The pressure is to patent.
        3.2.2. If the company does not file a patent, then the government may, leading to disclosure of the underlying intellectual property.
        3.2.3. If the company choose to file a patent only in the U.S. while waiving international filing rights, this defers publication of the patent application (which contains the intellectual property) until a patent is actually issued. This is a good measure, as the firm only needs to disclose its secrets if it is getting patent protection. But it currently applies only for U.S. patents.
        3.2.4. If firms want to file patents internationally, then there is a rapid publication of the secrets (30 months after first filing, as little as 18 months if there has been a provisional filing), which occurs regardless of and years before any decision is made as to whether to issue a patent. In order to have a chance at international patent coverage, the U.S. firm must first disclose its secrets and only later learn if it has disclosed without gaining any benefit.

Recommendations

The SBTC recognizes the importance of technological advantage for American defense, and have noted how the rest of the world has narrowed America's lead in this area, as well as generally in the area of technology. We also recognize the potential for small business entrepreneurial energy and focus to deliver cost-effective solutions to existing systems. The challenge for contracting is how to most effectively tap into these technology and efficiency drivers as well as into America's already-existing portfolio of innovations.

In consideration of the interests of the Armed Forces for improved access to new innovations for improving warfighter capability and safety, SBTC respectfully submits the following recommendations for the SASC:

1. **Improve Contracting focus on small business innovation, efficiency and drive to speed and focus transition to improved capability, advantage and efficiency.**

   1.1. Reallocate DoD budgets to better leverage DOD's most effective innovation programs
   - **Boost the SBIR/STTR percent** from current 3.4% to 7% as recommended by the 809 committee.
   - **Boost focus on Phase III opportunities** through regular contracting
   - **Double or Triple the Rapid Innovation Fund**
     - Specify SBIR technology as a preference item within the Rapid Innovation Fund program to reduce use of this fund for technologies not developed by small businesses under the SBIR program.

   1.2. Multiple contracting improvements to move away from one-size-fits-all proposal and contracting procedures.
   - **DoD contracting guidebook for small business**: Develop and train to guidebook on how KOs should handle small business contracting
   - SBIR Grants: Consider awarding all (or most) of Phase I and Phase II SBIRs/STTRs as grants (with fee), to simplify paperwork and requirements, thus allowing a greater percentage of the award to go toward R&D, rather than meeting administrative requirements.
   - **SBIR Phase I/II simplified model contract:** Create a standardized DoD simplified contract with specified clauses for SBIR Phase I/II awards. This will simplify contract award processes and better ensure streamlined operation under the contracts with greatest focus upon innovation development.
   - **SBIR Phase III simplified model contract:** Create a standardized simplified DoD SBIR Phase III model contract, to provide a prototype acquisition agreement that can be readily used to achieved specific Phase III development and field transition

implementation, for effective and rapid transition to field application. Developing this would further aid DoD contracting officers in implanting SBIR Phase III awards.

- **Update FAR with statutory provisions about SBIR and FAR streamlining for small businesses**: Create a drive for FAR reconsideration to achieve regulatory right-sizing
- **Award timing**: Set contract award process objectives that set faster award implementation objectives upon SBIR awards. Delays are most frequently in the contracting offices, between the decision to award and the time the award is made.
- **Contract simplification/flexibility**: Give DoD and its agencies the authority to issue grants with fee for SBIR/STTR awards.
- **Limit financial auditing for smaller awards (already law)**
- **Clause overload**: Some KOs put in long lists of clauses and then claim the incorrect ones are "Self-deleting". This is faulty reasoning – it is not true even if the practice of the government is to allow subsequent deletion. The long list overburdens small businesses who have to evaluate the contract and who may accept clauses they should not, and who may face later problems as clauses may not have "self-deleted"
- **Simplify overcomplex proposal processes for small businesses**.

1.3. Strengthen contracting objectives and goals towards improved small business participation and improved reporting, at both Prime and subcontract levels.

- **Set goals** for overall small business proportion of DoD budget, including in subcontracting.
- **Support general small business participation** in innovation development at Primes through improved targets and incentives. This will lead to improved innovation and Phase III recognition by Primes and clearer and faster transitions.
- **Require subcontract activity reporting** from all prime contracts above a threshold , from every subcontracting tier.

1.4. **Faster implementation of laws**: Consider Congressional directives to implement new laws on a timely basis, with implementation timetables and compliance reporting back to the Congress. Encourage DOD to comply with prior laws on technology transition

1.5. **Improve training**, including clearer instructions for Contracting officers and Primes, and reporting on progress and relative success in implementation.

1.6. Improvements to cybersecurity requirements upon small businesses

- Reduce vagueness/over-reach**:** Clarify that small business-generated CUI/CDI and financial information does not need cybersecurity protection by the small business.
- Identify small business-installable cybersecurity solutions that offer safe harbor compliance at reasonable cost to small businesses.

1.7. Enhanced innovative company access to classification code consideration

- Establish an effective process whereby an innovative company with work potentially relevant to classified interests can qualify for classified billet consideration and qualification, so their participation may be considered.

2. **Require significantly-improved SBIR Phase III recognition and utilization.** The DoD has already invested in and produced a large portfolio of innovations that could substantially improve warfighter technology advantage, but is failing to recognize many Phase IIIs and falling short in terms of transition to implementation. Directed Phase IIIs are the fastest way to get new technology to the warfighter.

2.1 Direct individual Services to make all practicable efforts to identify all SBIR Phase III awards, both directed and competitively awarded, to improve consideration of innovation transition opportunities and to ensure proper contract treatment. Recognition of all Phase IIIs is key for DoD to recognize SBIR productivity and innovation transition opportunities, thereby enabling continuous improvement and faster and better transitions. Current lack of focus on competitively-awarded Phase IIIs fails to recognize the power and opportunity from competition. A yearly report should be compiled documenting Phase III issuance for each Federal agency and recognizing "best in class" agencies.

2.2 Improved utilization of available SBIR Phase III tools for directed transition offers rapid transition of advanced technologies and cost-savings that have already been created in DoD's SBIR program.

- Contracting should facilitate the eased use of directed Phase IIIs by programs
- Unsolicited Phase IIIs seeking directed transition support should face easier consideration by the programs. The route for these currently is unclear.

2.3 Encourage use of SBIR Phase III technology solutions, to offer program support managers a powerful new tool to fast-track cost reductions and effectiveness improvement across DoD requirements. SBIR Phase III technology solutions offer greater and more sustainable military advantage, while the cost-efficiency of new technologies offer program support managers a powerful tool to fast-track cost reductions for major procurement and maintenance systems.

- For faster and stronger outcomes, use incentives and training to help drive this tool.
- Broader Phase III reporting, reducing contracting officer opposition, and more success story reporting will also help advance this solution.

2.4 Develop instruction guides for Primes relating to how to make SBIR Phase III subawards:

- There is no standard manual instruction on how a prime should handle a SBIR Phase III subaward. There should be a specific subsection advising Primes how to qualify and make compliant subawards to SBIR companies in the Department's SBIR Guides.

3 Improved proprietary information protections

3.1. **Data rights**: Reduce reliance on use of "unlimited rights" requirements in R&D relating to small business awardees. Unlimited data rights should not be asked of innovative solutions, or you will squeeze away the small innovative firms and only get the traditional large suppliers with other means to ensure repeat business.

3.2. **Reduce pressure to patent** rather than hold IP as trade secret. Enable option for small business to retain IP as trade secret.

3.3. **Consider approaches to delaying publication date for international filings** by allowing U.S.-only filings (which do not require publication in advance of issuance) to defer requirement for international publication and filing without waiving right to file internationally. If feasible, this could gain 3-5 years extended proprietary period, and protect small businesses from unnecessarily publishing data if no U.S. patent is issued.

Appendix A

Summary of Select Congressional Improvements and Changes to SBIR

Year	Law	Agency Implement?	FAR?
1980s	Other Transaction Authorities established	Yes	
1982	PL 97-219: goals specifically for Small Business R&D	No	No
2010	Fy2011 NDAA: Sec. 1073 - Rapid Innovation Fund established	Yes	
2011	Fy2012 NDAA: Sec. 5108 Phase IIIs To the greatest extent practicable, 1) Agencies 2) Prime Contractors	Some No	No
2011	Fy2012 NDAA: Sec. 5122 (5) Phase III Goals and Reporting for Prime Contractors	No	No
2011	Fy2012 NDAA: Sec. 5122 (6) Government goals for Phase III	No	No
2011	Fy2012 NDAA: Sec. 5122 (6) (C) Reporting on Phase IIIs	No	No
2011	Fy2012 NDAA: Sec. 5138 (kk) Phase III Reporting	No	No
2017	Fy2018 NDAA: Sec. 864 OTHER TRANSACTION AUTHORITY to include SBIR	?	No
2017	Fy2018 NDAA: Sec. 1709 (B) Award Phase III "without further justification"	Some	No
2017	Fy2018 NDAA: Sec. 1710 - Streamlining SBIR Transition	Not yet	
2017	Fy2018 NDAA: Sec. 1714 REPORT ON UTILIZATION OF SMALL BUSINESS CONCERNS FOR FEDERAL CONTRACTS. Multiple award contract	Not yet	
2018	Fy2019 NDAA: Sec 854 ACCELERATING SBIR AND STTR AWARDS (A) Simplified and Standardized Contracts for SBIR Phase I	Not yet	

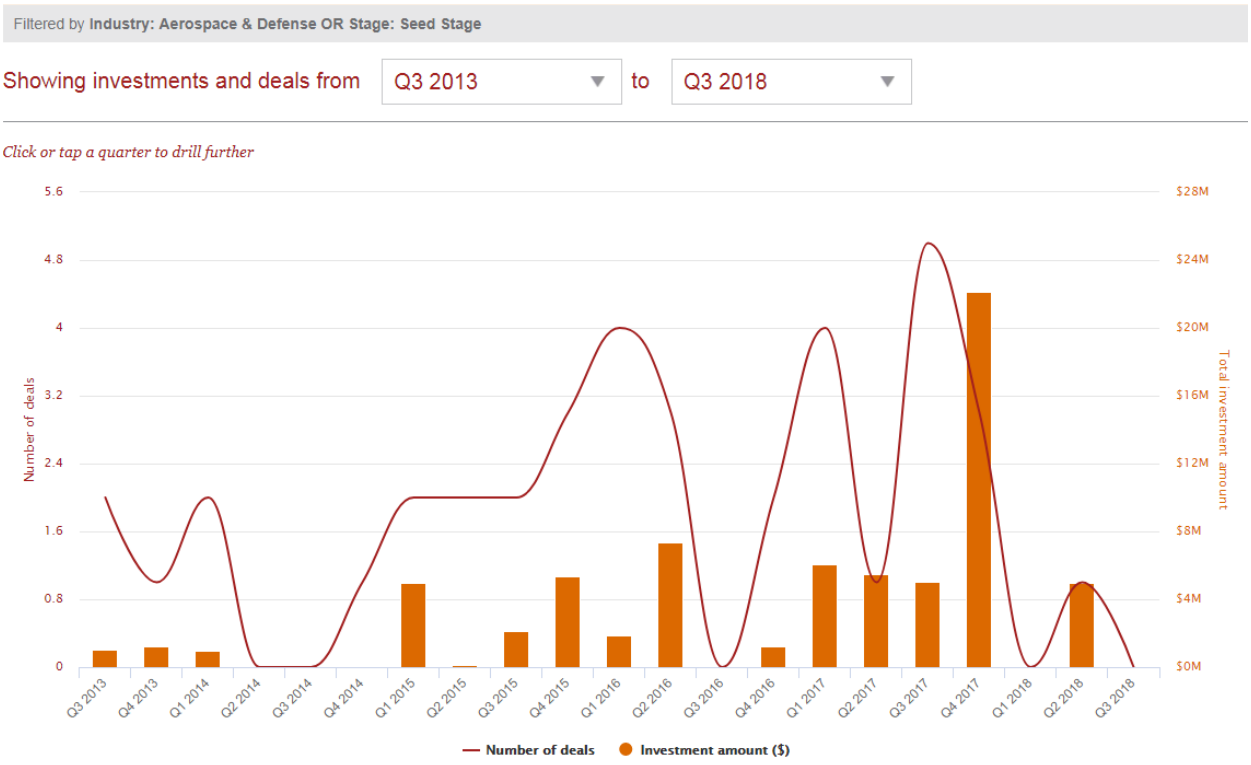
Additional Non-SBIR Technology Transition Initiatives:

- Defense Acquisition Challenge,
- Technology Transition Initiative,
- Quick Reaction Fund
- Rapid Technology Transition.
- Defense Acquisition Streamlining and Transparency Act, 2014
- Agile Acquisition to Retain Technological Superiority Act, 2015.

DOD has almost 50 external funding programs with 20 of those programs designed to rapidly tra nsition technology. From SBTC 2012 White Paper on DOD.

Appendix B

VC Seed Stage Deals in Aerospace & Defense, Q3 2013-Q3 2018[1]



- Less than 2 VC Seed Stage Deals averaged per year in Aerospace & Defense sectors per quarter over the last 5 years
- $70 million spent over the last 5 years on VC Seed Stage Deals in Aerodpace & Defense Between Q3 2013 and Q3 2018

[1] Source: PWC Money Tree historical trend data