

# Other Transactions and Private Sector Financing Coursebook

## Second Edition

*Important Note: This document is being made free to the public in 2024 with the intent of clarifying concepts the government is currently working with. Statutory citations have since changed and updates made. Please consult the latest versions of the statutes in the current U.S. Code.*

*10 U.S.C. 2371 is now 10 U.S.C. 4021*  
*10 U.S.C. 2371b is now 10 U.S.C. 4022*  
*10 U.S.C. 2373 is now 10 U.S.C. 4023*  
*10 U.S.C. 2374a is now 10 U.S.C. 4025*

December 5, 2019



FIFTY POUND  
BRAINS

## Contents

Introduction.....	3
1 Other Transaction Overview.....	4
1.1 A Brief History.....	4
1.2 What are OTs?.....	5
1.3 The Statutes.....	7
1.4 Key Elements of OTs.....	15
1.5 Implications & Benefits.....	15
1.5.1 What are the implications of Other Transactions?.....	15
1.5.2 What are the benefits of Other Transactions?.....	15
1.5.3 The Future of Other Transactions:.....	16
2 Private Sector Finance (PSF).....	17
2.1 PSF Overview.....	17
2.2 PSF Capital Sources.....	18
2.3 How Investors Evaluate Companies and Projects.....	19
2.4 PSF Tools/Options.....	20
3 Business Processes & Methodologies.....	21
3.1 Characteristics of Viable OT/PSF Projects.....	21
3.2 OT/PSF Project Development Process Overview.....	21
3.3 Project Team Formation Strategies.....	28
3.4 Leveraging PIAs.....	31
4 Resources.....	32
4.1 Frequently Asked Questions About Other Transactions.....	32
4.2 Other Resources.....	33
4.3 Fifty Pound Brains Team Contact List.....	35

## Introduction

This coursebook is intended to serve as a reference document for research, development, acquisition, and sustainment (RDAS) professionals in the use of Other Transactions (OTs) and private sector financing (PSF). It provides a general overview of applicable authorities and viable financing tools as well as practicable tips in the use of these authorities, ways to integrate various forms of private sector capital into projects, and recommendations for business processes when developing OT agreements.

The information contained in this coursebook should not be considered prescriptive in nature. As such, this coursebook is not a “playbook” per se. Rather, it should be viewed as a decision support tool that, when used in conjunction with the OSD Other Transactions Guide, provides general guidelines and tips to assist RDAS professionals in determining when it is appropriate to use OTs and PSF and how best to develop commercial agreements with multiple stakeholders. This coursebook will be updated frequently to capture both lessons learned and emergent best practices as the use of OTs and PSF increases across the DoD’s RDAS enterprise. In so doing, it will support the collective mission of getting needed capabilities into the hands of our Nation’s warfighters in the most rapid and least costly manner possible.

## 1 Other Transaction Overview

Other Transactions (OTs) are true contracts in that they are based on the mutual agreement of the parties and are intended to create win/win relationships. While it is common to follow a model in negotiating an OT, OTs provide great flexibility in that they permit a clean sheet of paper approach to contracting. Start with a clear understanding of the goals the OT agreement is to accomplish, the interests and contributions of each party involved, and the clean sheet of paper approach will become much less daunting than it appears at first. Craft the agreement around the project and its goals; do not try to force the project into a pre-conceived contract model.

This discussion focuses primarily on Department of Defense (DOD) OTs but it makes references to the use of OTs in other agencies and much of the discussion is generally applicable to other agencies with OT authority. Whenever the discussion seems to become murky remember a couple aphorisms: **“OTs are FAR out”** and **“They are just contracts.”**

### 1.1 A Brief History

In 1958, Paul Dembling, Deputy General Counsel of the old NACA and primary author of the National Aeronautics and Space Act (Space Act), wrote “Other Transactions” language into the statute and pioneered early reimbursable Space Act Agreements (SAA). Telstar I, the world’s first active communications satellite, was developed and produced with AT&T funding, management, and ownership. It was launched under a reimbursable “Other Transaction” (SAA or launch services agreement). NASA has used SAAs for a wide variety of agreements and relationships. In implementation of the Federal Grant and Cooperative Agreement Act (1978), OMB agreed with NASA that there were relationships that fit in neither procurement nor assistance categories. One problem NASA faced (or created) was concern that SAAs could provide goods and services to a partner but not funding (wouldn’t that be a procurement?). That reticence was eventually overcome when DARPA began using funded OTs under Section 2371 (1989).

Originally, the Department of Defense’s Other Transactions Authorities were neatly divided into science and technology authority (10 U.S.C. 2371) that was oriented primarily toward dual-use (government and commercial applications) technologies, and a prototype authority (section 845, P.L. 103-160, now 10 U.S.C. 2371b) that was primarily oriented toward weapons systems and defense contractors. The two authorities were meant to overlap and complement one another. They were to constitute a place where dual-use technologies could interface with specific defense needs. They also constituted a path to implement a civil-military integration policy for our national technology and industrial base. Such a policy encourages traditional defense contractors to diversify in the civil/commercial sector and would avoid the convulsive shrinking of the defense industrial base, which can occur at times like the end of the Cold War.

These authorities were once widely used within DOD for science and technology projects, prototype projects, ranging from small single company transactions, to research joint ventures and consortia, to the development of major air, ground, naval and space systems. Global Hawk, Evolved Expendable Launch Vehicle, Advanced Short Take-off and Vertical Landing (ASTOVL) programs were conducted under these authorities as was the Joint Unmanned Combat Air Systems (J-UCAS). The X-47 UCAS won the Collier Trophy. Despite numerous successes and demonstration of better, faster, and cheaper approaches to Defense acquisition, use of these authorities dropped off dramatically for over ten years. Only recently has DOD’s need for speed and innovation in fielding new capabilities seen a partial resurgence

in their use. Congress has repeatedly called for more innovation in defense acquisition and the previous Secretary of Defense created Defense Innovation Unit Experimental (DIUx), now DIU, to try to bridge the gap between innovative private sector companies and needed defense capabilities.

Today, the dual-use science and technology authority is hardly ever used and when it is, usually results in a Technology Investment Agreement (TIA), a strange species of section 2371 agreement, sequestered in a regulatory box, which is part of the DOD Grants and Agreements Regulatory System. Prototype Authority is currently used for many dual-use projects involving non-traditional contractors as well for some defense specific projects. Defense contractors that actually produce weapons systems and defense specific components are rarely awarded or participate in OTs of either kind. The regulatory burden on defense contractors imposed by the traditional system makes them non-competitive in the commercial marketplace and encumbers their defense products with non-value added expense.

## 1.2 What are OTs?

**“Other Transactions”** refer to contractual instruments that are not standard procurement contracts or standard assistance instruments (grants or cooperative agreements). They may be used to support projects which are not strictly procurement or assistance; in lieu of standard assistance instruments; and, in the case of section 2371b or equivalent authority, for the acquisition of goods and services.

OTs are generally defined by what they are NOT:

- An OT is not a Procurement Contract
- An OT is not a Cooperative Agreement
- An OT is not a Grant
- An OT is not a Cooperative Research and Development Agreement

OTs can be used for purposes for which the instruments listed above have typically been used but allow agencies and their contracting partners to enter into flexible arrangements tailored to the particular project and needs of the participants. OTs present the parties with a blank page from which to begin negotiations. OT agreements may be fully funded, partially funded (resource-shared), unfunded, and funds may be paid to the agency and its appropriations reimbursed. As a general matter, agencies must possess express statutory authority to use OTs.

The purpose of Other Transactions:

- To contract in a flexible, goal-oriented manner
- To encourage commercial companies to engage in dual-use projects
- To continue the broadening of the technology and industrial base available to DOD
- To foster new relationships and practices that support national security involving traditional and non-traditional companies

The three types of Other Transactions:

- Research OTs
  - Sometimes called “2371,” “original” or science and technology (S&T) OTs
  - Used to fund basic, applied, and advanced research projects
  - TIAs are only a small subset
- Prototype OTs
  - Sometimes called “2371b” or “prototype project” OTs (formerly section 845 OTs)
- Production OTs

– Production effort after a successful prototype OT

*Figure 1-1: A comparison of Research and Prototype OTs*

Research OT	Prototype OT	Production OT
	<i>Applicability:</i>	
<ul style="list-style-type: none"> <li>▪ Basic, applied, and advanced research</li> </ul>	<ul style="list-style-type: none"> <li>▪ Prototype Project</li> <li>▪ Directly relevant to enhancing mission effectiveness of military personnel, supporting platform, systems, components, or materials to be acquired by DoD, or improvements thereto</li> </ul>	<ul style="list-style-type: none"> <li>▪ Follow-on production Contract after a successful prototype project</li> </ul>
	<i>Conditions for Use:</i>	
<ul style="list-style-type: none"> <li>▪ No duplications of research to maximum extent practicable (generally non-issue)</li> <li>▪ Government funds less than or equal to other parties' to extent practicable</li> <li>▪ Competition to maximum extent practicable</li> <li>▪ Standard contract, grant, CA not feasible/appropriate (generally non-issue)</li> </ul>	<ul style="list-style-type: none"> <li>▪ All participants small or nontraditional; or</li> <li>▪ At least one non-traditional defense contractor or non-profit research institution must participate to a significant extent in the prototype project; or</li> <li>▪ At least 1/3 of total costs must be paid by parties to the OT other than the Government; or</li> <li>▪ Senior procurement executive for the Agency determines, in writing, that exceptional circumstances justify the use of an OT.</li> <li>▪ Cost share not required (if nontraditional contractor participates); fee/profit negotiable</li> <li>▪ Competitive procedures to maximum extent practicable.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Follow-on contract or transaction may be awarded without the use of competitive procedures if:                             <ul style="list-style-type: none"> <li>▪ Competitive procedures were used in the Prototype OT, and</li> <li>▪ The prototype project in the transaction was “successfully completed.”</li> </ul> </li> </ul>

*Note: “practicable” and “maximum extent practicable.” If “resource sharing” aids in pushing the project forward it is practicable. If it proves an obstacle, it is not.*

Challenges (always keep win/win in mind):

- Fair negotiation of allocation of rights in intellectual property.
- Speed and ease of modifications.
- Provide a balance of risk on prototypes.
- Provide for efficient dispute resolution.
- Provide adequate oversight without excessive bureaucracy.

## 1.3 The Statutes

*Figure 1-2: The statute for 2371 OT authority***10 U.S.C. 2371 – Research projects: transactions other than contracts and grants****(a) ADDITIONAL FORMS OF TRANSACTIONS AUTHORIZED. —**

The Secretary of Defense and the Secretary of each military department may enter into transactions (other than contracts, cooperative agreements, and grants) under the authority of this subsection in carrying out basic, applied, and advanced research projects. The authority under this subsection is in addition to the authority provided in section 2358 of this title to use contracts, cooperative agreements, and grants in carrying out such projects.

**(b) EXERCISE OF AUTHORITY BY SECRETARY OF DEFENSE. —**

In any exercise of the authority in subsection (a), the Secretary of Defense shall act through the Defense Advanced Research Projects Agency or any other element of the Department of Defense that the Secretary may designate.

**(c) ADVANCE PAYMENTS. —**

The authority provided under subsection (a) may be exercised without regard to section 3324 of title 31.

**(d) RECOVERY OF FUNDS. —**

(1) A cooperative agreement for performance of basic, applied, or advanced research authorized by section 2358 of this title and a transaction authorized by subsection (a) may include a clause that requires a person or other entity to make payments to the Department of Defense or any other department or agency of the Federal Government as a condition for receiving support under the agreement or other transaction.

(2) The amount of any payment received by the Federal Government pursuant to a requirement imposed under paragraph (1) may be credited, to the extent authorized by the Secretary of Defense, to the appropriate account established under subsection (f). Amounts so credited shall be merged with other funds in the account and shall be available for the same purposes and the same period for which other funds in such account are available.

**(e) CONDITIONS. —**

(1) The Secretary of Defense shall ensure that—

(A) to the maximum extent practicable, no cooperative agreement containing a clause under subsection (d) and no transaction entered into under subsection (a) provides for research that duplicates research being conducted under existing programs carried out by the Department of Defense; and

(B) to the extent that the Secretary determines practicable, the funds provided by the Government under a cooperative agreement containing a clause under subsection (d) or a transaction authorized by subsection (a) do not exceed the total amount provided by other parties to the cooperative agreement or other transaction.

(2) A cooperative agreement containing a clause under subsection (d) or a transaction authorized by subsection (a) may be used for a research project when the use of a standard contract, grant, or cooperative agreement for such project is not feasible or appropriate.

**(f) SUPPORT ACCOUNTS. —**

There is hereby established on the books of the Treasury separate accounts for each of the military departments and the Defense Advanced Research Projects Agency for support of research projects and development projects provided for in cooperative agreements containing a clause under subsection (d) and research projects provided for in transactions entered into under subsection (a). Funds in those accounts shall be available for the payment of such support.

**(g) EDUCATION AND TRAINING. —** The Secretary of Defense shall--

(1) ensure that management, technical, and contracting personnel of the Department of Defense involved in the award and administration of transactions under this section or other innovative forms of contracting are afforded opportunities for adequate education and training; and

(2) establish minimum levels and requirements for continuous and experiential learning for such personnel, including levels and requirement for acquisition certification programs.

**(h) REGULATIONS. —**

The Secretary of Defense shall prescribe regulations to carry out this section.

**(i) PROTECTION OF CERTAIN INFORMATION FROM DISCLOSURE. —**

(1) Disclosure of information described in paragraph (2) is not required, and may not be compelled, under section 552 of title 5 for five years after the date on which the information is received by the Department of Defense.

(2)

(A) Paragraph (1) applies to information described in subparagraph (B) that is in the records of the Department of Defense if the information was submitted to the Department in a competitive or noncompetitive process having the potential for resulting in an award, to the party submitting the information, of a cooperative agreement for performance of basic, applied, or advanced research authorized by section 2358 of this title or another transaction authorized by subsection (a).

(B) The information referred to in subparagraph (A) is the following:

(i) A proposal, proposal abstract, and supporting documents.

(ii) A business plan submitted on a confidential basis.

(iii) Technical information submitted on a confidential basis.

**2371 Key Points:**

**Applicability:**

- Basic, applied, and advanced research projects

**Conditions for Use:**

- No duplications of research to maximum extent practicable (generally non-issue)
- Government funds less than or equal to other parties' to extent practicable
- Standard contract, grant, CA not feasible/appropriate (generally non-issue)

**Summary:** The intent behind the enactment of section 2371 was to spur dual-use research and development. The idea was to create an attractive way for companies to do business with DOD while retaining the characteristics of innovative commercial companies; gaining for DOD access to cutting edge technology, taking advantage of economies of scale without burdening the companies with government regulatory overhead which would make them non-competitive in the commercial (non-defense) sector. Defense firms were also encouraged to engage in section 2371 arrangements especially if they sought to adopt commercial practices or standards, diversify into the commercial sector or partner with commercial firms. Given the emphasis on dual-use, joint funding (resource sharing) of projects was base-lined if *practicable* but not mandated. Competition is not mandated but is typically used in



awarding agreements. The mode of competition can be adapted to whatever technology domain or industry segment is most relevant to a project.

*Figure 1-3: The statute for 2371b OT authority*

**10 U.S.C. 2371b – Authority of the Department of Defense to carry out certain prototype projects**

**(a) AUTHORITY. —**

(1) Subject to paragraph (2), the Director of the Defense Advanced Research Projects Agency, the Secretary of a military department, or any other official designated by the Secretary of Defense may, under the authority of section 2371 of this title, carry out prototype projects that are directly relevant to enhancing the mission effectiveness of military personnel and the supporting platforms, systems, components, or materials proposed to be acquired or developed by the Department of Defense, or to improvement of platforms, systems, components, or materials in use by the armed forces.

(2) The authority of this section —

(A) may be exercised for a transaction for a prototype project, and any follow-on production contract or transaction that is awarded pursuant to subsection (f); that is expected to cost the Department of Defense in excess of \$100,000,000 but not in excess of \$500,000,000 (including all options) only upon a written determination by the senior procurement executive for the agency as designated for the purpose of section 1702(c) of title 41, or, for the Defense Advanced Research Projects Agency or the Missile Defense Agency, the director of the agency that —

(i) the requirements of subsection (d) will be met; and

(ii) the use of the authority of this section is essential to promoting the success of the prototype project; and

(B) may be exercised for a transaction for a prototype project, and any follow-on production contract or transaction or transaction that is awarded pursuant to subsection (f), that is expected to cost the Department of Defense in excess of \$500,000,000 (including all options) only if—

(i) the Under Secretary of Defense for Research and Engineering or the Under Secretary of Defense for Acquisition and Sustainment determines in writing that—

(I) the requirements of subsection (d) will be met; and

(II) the use of the authority of this section is essential to meet critical national security objectives; and

(ii) the congressional defense committees are notified in writing at least 30 days before such authority is exercised.

(3) The authority of a senior procurement executive or director of the Defense Advanced Research Projects Agency or Missile Defense Agency under paragraph (2)(A), and the authority of the Under Secretaries of Defense under paragraph (2)(B), may not be delegated.

**(b) EXERCISE OF AUTHORITY. —**

(1) Subsections (e)(1)(B) and (e)(2) of such section 2371 shall not apply to projects carried out under subsection (a).

(2) To the maximum extent practicable, competitive procedures shall be used when entering into agreements to carry out projects under subsection (a).

**(c) COMPTROLLER GENERAL ACCESS TO INFORMATION. —**

(1) Each agreement entered into by an official referred to in subsection (a) to carry out a project under that subsection that provides for payments in a total amount in excess of \$5,000,000 shall include a clause that provides for the Comptroller General, in the discretion of the Comptroller General, to examine the records of any party to the agreement or any entity that participates in the performance of the agreement.

(2) The requirement in paragraph (1) shall not apply with respect to a party or entity, or a subordinate element of a party or entity, that has not entered into any other agreement that provides for audit access by a Government entity in the year prior to the date of the agreement.

(3)

(A) The right provided to the Comptroller General in a clause of an agreement under paragraph (1) is limited as provided in subparagraph (B) in the case of a party to the agreement, an entity that participates in the performance of the agreement, or a subordinate element of that party or entity if the only agreements or other transactions that the party, entity, or subordinate element entered into with Government entities in the year prior to the date of that agreement are cooperative agreements or transactions that were entered into under this section or section 2371 of this title.

(B) The only records of a party, other entity, or subordinate element referred to in subparagraph (A) that the Comptroller General may examine in the exercise of the right referred to in that subparagraph are records of the same type as the records that the Government has had the right to examine under the audit access clauses of the previous agreements or transactions referred to in such subparagraph that were entered into by that particular party, entity, or subordinate element.

(4) The head of the contracting activity that is carrying out the agreement may waive the applicability of the requirement in paragraph (1) to the agreement if the head of the contracting activity determines that it would not be in the public interest to apply the requirement to the agreement. The waiver shall be effective with respect to the agreement only if the head of the contracting activity transmits a notification of the waiver to Congress and the Comptroller General before entering into the agreement. The notification shall include the rationale for the determination.

(5) The Comptroller General may not examine records pursuant to a clause included in an agreement under paragraph (1) more than three years after the final payment is made by the United States under the agreement.

**(d) APPROPRIATE USE OF AUTHORITY. —**

(1) The Secretary of Defense shall ensure that no official of an agency enters into a transaction (other than a contract, grant, or cooperative agreement) for a prototype project under the authority of this section unless one of the following conditions is met:

(A) There is at least one nontraditional defense contractor or non-profit research institution participating to a significant extent in the prototype project.

(B) All significant participants in the transaction other than the Federal Government are small businesses (including small businesses participating in a program described under section 9 of the Small Business Act (15 U.S.C. 638)) or nontraditional defense contractors.

(C) At least one third of the total cost of the prototype project is to be paid out of funds provided by sources other than the Federal Government.

(D) The senior procurement executive for the agency determines in writing that exceptional circumstances justify the use of a transaction that provides for innovative business arrangements or structures that would not be feasible or appropriate under a contract, or would provide an opportunity to expand the defense supply base in a manner that would not be practical or feasible under a contract.

(2)

(A) Except as provided in subparagraph (B), the amounts counted for the purposes of this subsection as being provided, or to be provided, by a party to a transaction with respect to a prototype project that is entered into under this section other than the Federal Government do not include costs that were incurred before the date on which the transaction becomes effective.

(B) Costs that were incurred for a prototype project by a party after the beginning of negotiations resulting in a transaction (other than a contract, grant, or cooperative agreement) with respect to the project before the date on which the transaction becomes effective may be counted for purposes of this subsection as being provided, or to be provided, by the party to the transaction if and to the extent that the official responsible for entering into the transaction determines in writing that—

(i) the party incurred the costs in anticipation of entering into the transaction; and

(ii) it was appropriate for the party to incur the costs before the transaction became effective in order to ensure the successful implementation of the transaction.

(e) **DEFINITIONS.** —In this section:

(1) The term “nontraditional defense contractor” has the meaning given the term under section 2302(9) of this title.

(2) The term “small business” means a small business concern as defined under section 3 of the Small Business Act (15 U.S.C. 632).

(f) **FOLLOW-ON PRODUCTION CONTRACTS OR TRANSACTIONS.** —

(1) A transaction entered into under this section for a prototype project may provide for the award of a follow-on production contract or transaction to the participants in the transaction. A transaction includes all individual prototype subprojects awarded under a transaction to a consortium of United States industry and academic institutions.

(2) A follow-on production contract or transaction provided for in a transaction under paragraph (1) may be awarded to the participants in the transaction without the use of competitive procedures, notwithstanding the requirements of section 2304 of this title, if—

(A) competitive procedures were used for the selection of parties for participation in the transaction; and

(B) the participants in the transaction successfully completed the prototype project provided for in the transaction.

(3) A follow-on production contract or transaction may be awarded, pursuant to this subsection, when the Department determines that an individual prototype or prototype subproject as part of a consortium is successfully completed by the participants.

(4) Award of a follow-on production contract or transaction pursuant to the terms under this subsection is not contingent upon the successful completion of all activities within a consortium as a condition for an award for follow-on production of a successfully completed prototype or prototype subproject within that consortium.

(5) Contracts and transactions entered into pursuant to this subsection may be awarded using the authority in subsection (a), under the authority of chapter 137 of this title, or under such procedures, terms, and conditions as the Secretary of Defense may establish by regulation.

(g) **AUTHORITY TO PROVIDE PROTOTYPES AND FOLLOW-ON PRODUCTION ITEMS AS GOVERNMENT FURNISHED EQUIPMENT.** —

An agreement entered into pursuant to the authority of subsection (a) or a follow-on contract or transaction entered into pursuant to the authority of subsection (f) may provide for prototypes or follow-on production items to be provided to another contractor as Government-furnished equipment.

**(h) APPLICABILITY OF PROCUREMENT ETHICS REQUIREMENTS. —**

An agreement entered into under the authority of this section shall be treated as a Federal agency procurement for the purposes of chapter 21 of title 41.

**2371b Key Points:****Applicability:**

- Prototype Project
- Enhancing mission effectiveness of military personnel and supporting platform, systems, components or materials to be acquired by DoD or improvements thereto

**Conditions for Use:**

- All participants small or non-traditional; or
- At least one non-traditional defense contractor or non-profit research institution must participate to a significant extent in the prototype project; or
- At least 1/3 of total costs must be paid by parties to the OT other than the Government; or
- Senior procurement executive for the Agency determines, in writing, that exceptional circumstances justifies the use of an OT.
- Resource sharing not required (if non-traditional contractor participates); fee/profit negotiable
- Competitive procedures to maximum extent practicable.
- Mandatory clauses:
  - Audit clause over \$5 million
  - Procurement Integrity

**Summary:** Section 2371b is closely related to section 2371. The statute states it is “under the authority of” section 2371. As originally enacted, section 2371b (“845”) was exempted from the cost sharing feature of 2371. This was because, unlike section 2371, it was aimed specifically at defense contractors burdened by cost accounting standards and with little revenue available for joint funding. The term “directly relevant” was particularly meaningful in the context of Section 845’s term “weapons or weapons systems.” Both dual-use and defense specific projects are encouraged under current section 2371b.

Defense firms can utilize this authority to streamline acquisition processes in a variety of ways including milestone payments based on technical achievements. They can execute projects with unique business arrangements subject to the approval of an agency’s senior procurement executive (SPE). These include agreements structured with payable milestones or reimbursable arrangements under independent research and development (IR&D) rules rather than charging fully burdened rates. They can create business segments without defense acquisition overhead to pursue prototype projects or recruit innovative commercial firms as sub-contractors without imposing regulatory overhead through the flow down of otherwise mandatory contract clauses. They can also ignore practices and lore (not to be underestimated) which, while associated with the regulatory system, are not mandated by either law or binding regulation.

Finally, it is important to note that SBIR/STTR initiatives (section 9 of the Small Business Act (15 U.S.C. 638) are specifically highlighted in the statute as viable prototype projects (see 2371b(d)(1)(B)).

*Figure 1-4: The statute for 2373 authority*

**10 U.S.C. 2373 – Procurement for experimental purposes****(a) AUTHORITY. —**

The Secretary of Defense and the Secretaries of the military departments may each buy ordnance, signal, chemical activity, transportation, energy, medical, space-flight, telecommunications, and aeronautical supplies, including parts and accessories, and designs thereof, that the Secretary of Defense or the Secretary concerned considers necessary for experimental or test purposes in the development of the best supplies that are needed for the national defense.

**(b) PROCEDURES. —**

Purchases under this section may be made inside or outside the United States and by contract or otherwise. Chapter 137 of this title applies only when such purchases are made in quantities greater than necessary for experimentation, technical evaluation, assessment of operational utility, or safety or to provide a residual operational capability.

**2373 Key Points:****Applicability:**

- Expressly addresses specific technology areas
- There are certain underlying and pervasive enabling technologies (e.g., software, robotics, AI, etc) that potentially apply across the technology domains listed in the statute.
- Purchases may be from within or outside U.S.
- By ‘contract or otherwise’; **procurement statutes/FAR do not apply**
- Quantities limited but includes “residual operational capability”

**Summary:** Section 2373 permits purchase “by contract or otherwise” of certain essential technologies or supplies without being subject to the Armed Services Procurement Act and its implementing regulations, when purchased in quantities no greater than those needed for experimentation, technical evaluation, and assessment of operational utility. Also added with NDAA 2016 were additional purposes including maintaining a residual operational capability of the tested items or technologies. Section 2373 can be used for developmental purposes but also to test existing technologies; for example, evaluating off-the-shelf commercial products for their military utility. Chapter 137 mentioned in subsection (b) is the Armed Services Procurement Act. Basic procurement laws and the Federal Acquisition Regulation (FAR) do not apply to section 2373 purchases.

*Figure 1-5: The statute for 2374a prize authority*

**10 U.S.C. 2374a – Prizes for Advanced Technology Achievements****(a) AUTHORITY. —**

The Secretary of Defense, acting through the Assistant Secretary of Defense for Research and Engineering and the service acquisition executive for each military department, may carry out programs to award cash prizes and other types of prizes that the Secretary determines are appropriate to recognize outstanding achievements in basic, advanced, and applied research, technology development, and prototype development that have the potential for application to the performance of the military missions of the Department of Defense.

**(b) COMPETITION REQUIREMENTS.—**

Each program under subsection (a) shall use a competitive process for the selection of recipients of cash prizes. The process shall include the widely-advertised solicitation of submissions of research results, technology developments, and prototypes.

**(c) LIMITATIONS.—**

(1) No prize competition may result in the award of a prize with a fair market value of more than \$10,000,000.

(2) No prize competition may result in the award of more than \$1,000,000 in cash prizes without the approval of the Under Secretary of Defense for Research and Engineering.

(3) No prize competition may result in the award of a solely nonmonetary prize with a fair market value of more than \$10,000 without the approval of the Under Secretary of Defense for Research and Engineering.

**(d) RELATIONSHIP TO OTHER AUTHORITY.—**

A program under subsection (a) may be carried out in conjunction with or in addition to the exercise of any other authority of an official referred to in that subsection to acquire, support, or stimulate basic, advanced and applied research, technology development, or prototype projects.

**(e) ACCEPTANCE OF FUNDS.—**

In addition to such sums as may be appropriated or otherwise made available to the Secretary to award prizes under this section, the Secretary may accept funds or nonmonetary items from other departments and agencies of the Federal Government, from State and local governments, and from the private sector, to award prizes under this section. The Secretary may not give any special consideration to any private sector entity in return for a donation.

**(f) USE OF PRIZE AUTHORITY.—**

Use of prize authority under this section shall be considered the use of competitive procedures for the purposes of section 2304 of this title.

**2374a Key Points:**

**Applicability:**

- To recognize outstanding achievements in basic, advanced, and applied research, technology development, and prototype development that have the potential for application to the performance of the military missions of the Department of Defense (prospective achievements)
- A program may be carried out in conjunction with or in addition to the exercise of any other authority to acquire, support, or stimulate basic, advanced and applied research, technology development, or prototype projects.

**Conditions for use:**

- Each program shall use a competitive process for the selection of recipients of cash prizes.
- No prize competition may result in the award of a prize with a fair market value of more than \$10,000,000.
- No prize competition may result in the award of more than \$1,000,000 in cash prizes without the approval of the Under Secretary of Defense for Research and Engineering.
- No prize competition may result in the award of a solely nonmonetary prize with a fair market value of more than \$10,000 without the approval of the Under Secretary of Defense for Research and Engineering.

**Summary:** While Section 2374a is not an “Other Transaction” authority per se, the fact that it can be used “in conjunction with or in addition to the exercise of any other authority...to acquire, support, or stimulate basic, advanced and applied research, technology development, or prototype projects” makes this authority quite useful in soliciting the participation of non-traditional commercial performers as well as satisfying competition requirements, particularly when pursuing a prototype project under the 2371b authority.

## 1.4 Key Elements of OTs

Outside the basic constraints of the OT authority statutes themselves and laws of general applicability (e.g. Civil Rights Act, Procurement Integrity Act, criminal law), there are few constraints on “freedom of contract” with OTs. **Business sense and good judgment are essential.** Agency practice will typically provide for including certain provisions in all OTs they engage in, representing a “default” position on some issues (e.g. management of the project, disputes, foreign access to technology). The agreements officer is responsible for ensuring that the OT agreement incorporates good business sense and appropriate safeguards to protect the Government's interests.

In general, OT contracting avoids using cost-reimbursement approaches. Creation of realistic, objective, payable milestones is an important technique. This is primarily the responsibility of the government technical program manager, not the agreements officer.

## 1.5 Implications & Benefits

### 1.5.1 What are the implications of Other Transactions?

- **For program managers:** The great flexibility inherent in OTs is particularly useful in research and development (R&D). The Federal Acquisition Regulation (FAR) notes that R&D contracts are unlike contracts for supplies and services (FAR 35.002). OTs may be less burdened by the overhead of numerous government regulations that can make government contracting unattractive to many commercial firms. They permit flexibility in crafting intellectual property (IP) provisions because those provisions can be negotiated and can differ from the language typically called for in procurement contracts or grants.
- **For legal:** OTs are generally not subject to laws and regulations specific to procurement and assistance relationships. They are, however, subject to fiscal, criminal, and other laws of general applicability. Some agencies have promulgated regulations governing the use of OTs while others have issued guidance or relied entirely on fundamental statutory authority.
- **For offerors:** The flexibility of OTs can make them attractive to firms and organizations that do not usually participate in government contracting due to the overhead burden and “one size fits all” rules. Traditional government contractors may also find exploring new ways of doing business attractive. OTs can also be used to promote cooperative relationships among traditional and non-traditional contractors.

### 1.5.2 What are the benefits of Other Transactions?

Surveys of participants in OTs have characterized their benefits as including streamlining and flexibility. Foremost among these have been the speed and ease of making changes, particularly important in R&D where unexpected results may suggest approaches not foreseen at the initiation of a project. Less time devoted to auditing, flexibility in IP rights and accounting systems are other examples. Other benefits include:

- **Performance improvements** include a positive influence on team building among participants; team focus on technical aspects of the program; and simplified management and control.
- **Schedule reductions** have been noted in many projects. These have occurred both before the award and in project execution – aided by a minimization of administrative burden and the

flexibility to restructure programs in mid-course resulting in an efficient work environment. The absence of flow-down provisions can accelerate the performance of commercial firms.

- **Cost reductions** compared to traditional R&D performance have been noted in OTs. Part of this is attributable to the timelier performance noted in the preceding paragraph. Tradeoffs allowing better use of funds, fewer non-value-added activities, reduced administration and overhead burden and other reasons have also been cited. Cost reductions have been cited for both current performance cost and the cost of future acquisition of the developed product. Studies commissioned by the government have indicated that in DOD acquisition, for example, transaction costs related to mandates unique to the government can add an 18 to 20 percent cost premium. Most, if not all, of this added cost of doing business can potentially be avoided with OTs.
- OTs have also facilitated the **inclusion of non-traditional performers** in government programs, either on their own or in combination with traditional contractors. Non-traditional firms need not adopt the typical costly government-mandated business and accounting systems and can negotiate IP provisions. In dealing with companies that have established separate divisions for government and commercial work, OTs may allow the government access to the firm's full technical capabilities and not just those of its government division.

### 1.5.3 The Future of Other Transactions:

A study of past and existing OTs is highly useful. However, the real value of understanding how OTs have been used is to open up thinking as to how they might be used in the future. Attracting private sector financing to government projects can both accelerate them and improve efficiencies. Multi-party relationships structured in nontraditional ways may prove optimum for exploring new technical and management approaches. Recent Congressional endorsement of OTs, such as making prototype authority permanent law, creating a facile transition from prototype to production, and encouraging OT education, should inspire departmental leaders to challenge their R&D and acquisition establishments to innovate and explore new ways of doing business. OTs need not be seen as a niche authority but as the core of an alternative acquisition system.



## 2 Private Sector Finance (PSF)

### 2.1 PSF Overview

R&D performers hope to achieve sales to government end users as quickly as possible. Government R&D funders, such as DARPA, Office of Naval Research, or other technology offices, offer financial support to these performers. Unfortunately, government agencies have limited budgets and can only provide so much assistance to R&D performers to satisfy the ever-increasing list of warfighter needs.

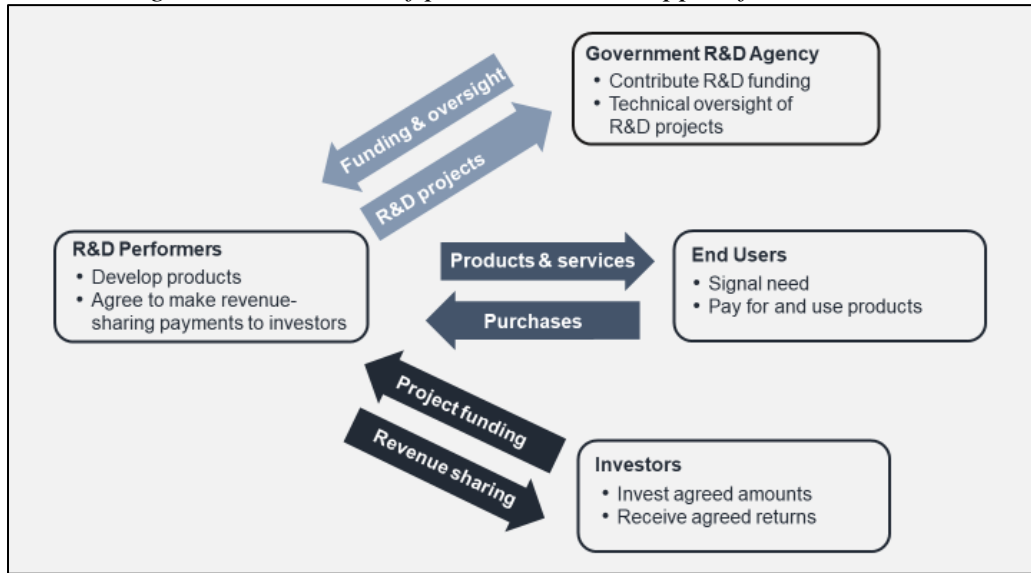
Fortunately, private sector investors have trillions of dollars of investment capital at their disposal and they view government-backed R&D projects as viable, lucrative investments – particularly when they involve technologies with significant dual-use (commercial) potential. Financing from sources other than government or performers is known as private sector financing (PSF) and is specifically authorized by 10 USC 2371b(d)(1)(C). Whether investing in specific technologies or, most likely, the companies that develop them, private sector investors can significantly assist the government R&D community in delivering capabilities to our warfighters in the fastest and most cost-effective manner possible.

The current array of OT authorities encourages PSF co-investment in R&D projects. However, in order to tap into this funding resource, government must think in commercial terms. The legacy FAR-based cost-plus contract approach to R&D simply does not make sense to today's business community. The FAR system takes too long (it often takes two years to sign a contract), is too expensive (up to 20% of the money and 30% of the time is used to address no-value-added administrative requirements), and, in many cases, actually operates against the government's interests (the government pays no matter what, whether there is science success or science failure). However, by thinking in commercial terms (i.e. in terms of speed, efficiency, cost-effectiveness, and mutual interests), and leveraging the flexibility that OTs afford when developing agreements, government can speak to the business community – performer and investor alike – in a language that draws the best and most innovative solutions toward government needs rather than scaring them away.

Leveraging private investor capacity has many benefits. PSF can provide upfront capital to performers to help drive R&D forward (both in terms of succeeding early or failing early), bridge the “valley of death” where science successes languish due to lack of funding, and deliver capabilities more quickly and cheaply to the government as well as the commercial sector. Beyond reducing government capital requirements, PSF can also significantly reduce the amount of risk the government must accept on many high priority technology projects. Moreover, as 2371(d) and 2371(f) authorize, the government can actually recover funds from successful projects and place them in support accounts from where they can be used for future R&D efforts.

Figure 2-1 below illustrates the relationships between performers, end users, R&D funders, and private investors in a typical government contract.

Figure 2-1: The role of private investor support for USG R&D



## 2.2 PSF Capital Sources

There are numerous sources of PSF including bank loans, equity financing, bond financing, philanthropic program-related investment (PRI), and many others. PSF is often needed by companies to make internal investments such as purchasing equipment or conducting research to develop a new product.

Each form of PSF has its own community of investors who supply the financing. Different investors have different risk appetites, return targets, and levels of available capital.

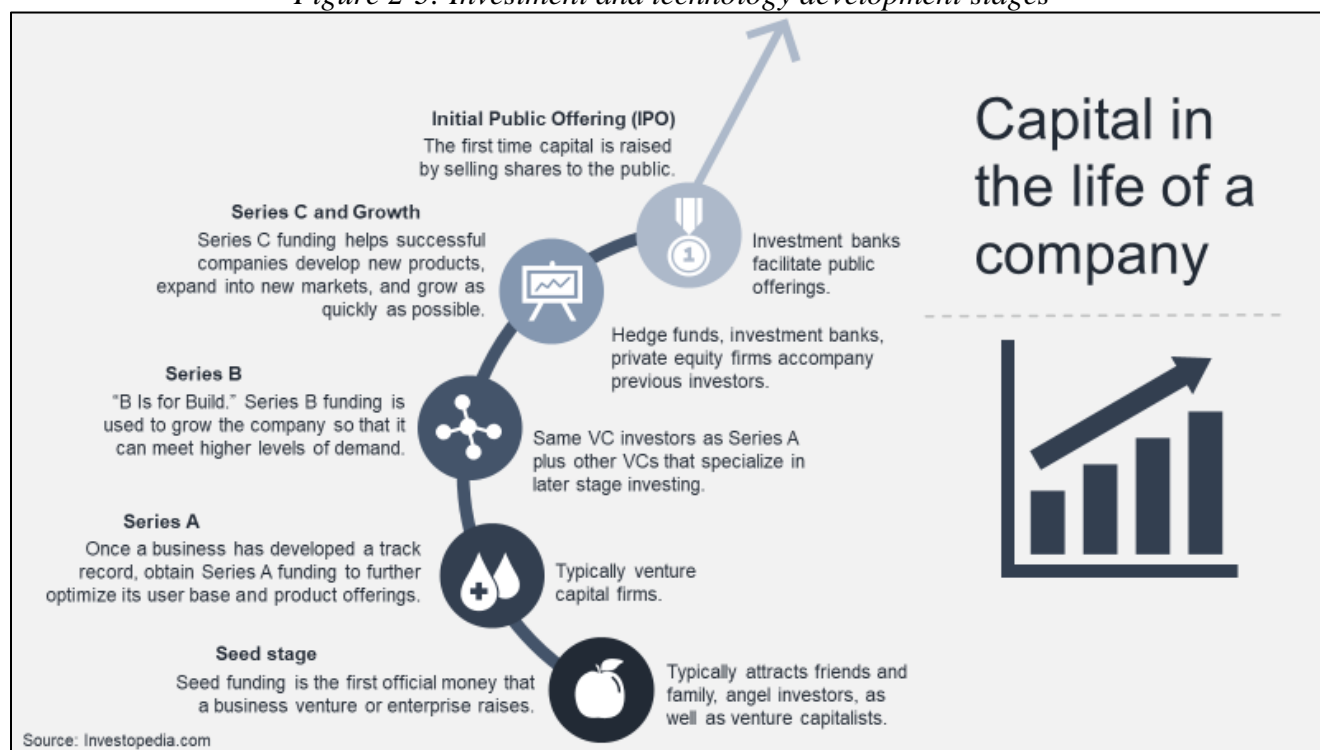
Figure 2-2: Investment source comparison

Internal Funds	Bank Lending	Bond Market	Venture Capital	Private Markets
<b>\$1 trillion</b>	<b>\$150 trillion</b>	<b>\$100 trillion</b>	<b>\$.06 trillion</b>	<b>\$5 trillion</b>
Medium risk	Very low risk	Low risk	High risk	High risk
7-15% returns	1-5%	3-10%	15-30+%	15-30+%
Corporate cash reserves	Bank financing	Commercial bonds	Institutional VC	Family offices, private equity, hedge funds

For financing technology research and development, different investors participate at different stages. In the early ‘seed’ stage of technology development, the work can be highly risky, and is often only funded by friends and family who believe strongly in the entrepreneur.

As technologies mature, they can attract larger sources of PSF, such as venture capitalists or private equity investors. Later, when the technology is prepared for large sales, an initial public offering (IPO) may be used to access large public equity markets, such as the New York Stock Exchange.

Figure 2-3: Investment and technology development stages



### 2.3 How Investors Evaluate Companies and Projects

To engage PSF, it is essential to understand how investors think. If the needs of investors are not considered, it is unlikely that a performer will be able to attract the necessary PSF. Companies compete to attract investment capital, so investors are free to focus on finding the most attractive companies

Investors view their investments as **assets** purchased to generate **cash flows**. Although anything that generates cash flows is an asset – such as a factory, a patent, a rental property, or a copyrighted film – this discussion will be limited to one specific type of asset: stock in a company. Companies typically own multiple assets and pass cash flows on to investors as profits.

Professional investors evaluate investments in terms of return-on-investment, or **ROI**. In financial terminology, an asset that has a high ROI is one that is relatively inexpensive to acquire but generates cash flows that are predictably high. In lay terminology, high ROI simply means ‘buy low and sell high.’

It is most effective to communicate with investors in the language of ROI. There are three major areas where government and performers can improve their communications with investors and possibly attract more capital.

First, asset values are high when cash flows are high. The surest sign of high cash flows to an investor is a large market that can be addressed by the performer, also called a **total addressable market (TAM)**.

Dual-use applications (product applications in the commercial market) should be developed, since the commercial market can be much larger than the government market. If a government market is critical to a performer, this market should be developed as far as possible. Can the government identify specific buying commands which have real interest in the product? Can 2371b be used to facilitate initial production and sales? Any effort taken to crystalize the TAM will be appreciated by investors, resulting in a boost to perceived ROI.

Second, investors can tolerate risk, but it reduces ROI. Although R&D is inherently risky, many investors perceive the greatest risks in the government sector to be regulatory and administrative in nature. For example, many investors prefer the use of a concise Other Transaction agreement, since lengthy FAR flowdowns are perceived as creating risk of delay or confusion during a project.

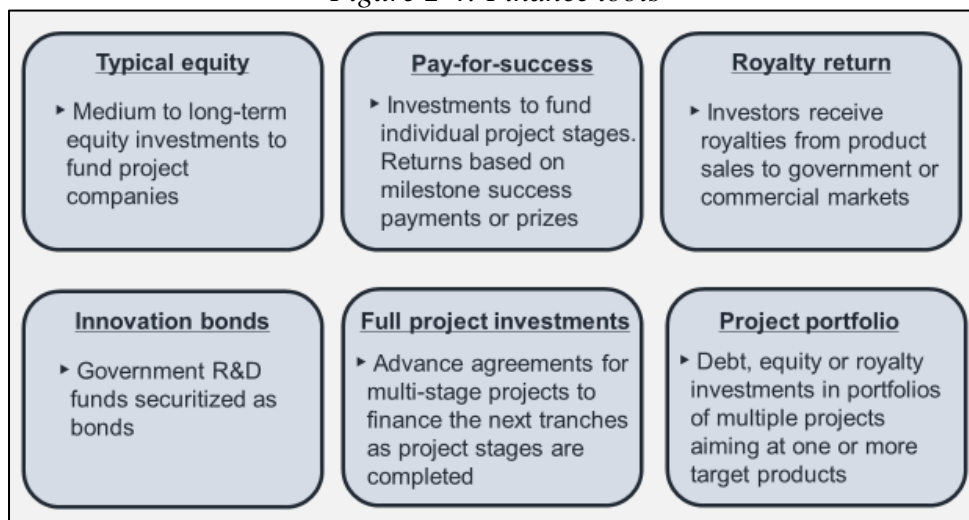
Aside from TAM and risk, speed has the greatest effect on ROI. For investors, cash flows are weighted by how quickly they arrive, with cash flows far in the future being **discounted**. To a PSF investor, a project that produces cash flows next year may be perceived as exciting with a high ROI, but the same project delayed by one year may be perceived a low-ROI waste of time. For many investors, cash flows which arrive more than 8 years in the future are discounted so heavily as to be valued at essentially zero. It is therefore critical that government sponsored projects be designed to proceed smoothly and minimize delay.

Since investors contribute more capital to high-ROI companies, government and performers should make every effort to form high ROI collaborations with performers, and communicate this clearly to investors.

## 2.4 PSF Tools/Options

There are numerous deal frameworks available to leverage PSF capital in funding government R&D initiatives. The list in figure 2-4 below is not exhaustive, but it highlights some of the more popular and effective tools available to incorporate PSF into government R&D projects.

Figure 2-4: Finance tools



### 3 Business Processes & Methodologies

#### 3.1 Characteristics of Viable OT/PSF Projects

Many types of projects are good candidates for OTs and PSF. Projects can range from basic to applied to advanced research, as well as prototype and initial production. This includes service operations and sustainment activities, as appropriate. Performers can be traditional or non-traditional companies, large or small. Before deciding to proceed down the OT/PSF path, however, it is important that the government precisely articulate the need/problem statement and obtain an understanding of the types of technologies and performers that exist in the commercial sector that may offer viable solutions (Partnership Intermediary Agreements (PIAs) can be particularly helpful in this area (see Section 3-4)).

With this fundamental level of understanding in place, a specific need can be analyzed as to whether it may be a viable OT/PSF project. It should be remembered that there is a myriad of factors that go into determining whether a certain need is a viable candidate for OTs and/or PSF and good judgment always applies. However, there are some basic considerations that are helpful in determining whether or not OTs and PSF are a good fit.

Figure 3-1 below is an OT/PSF project selection matrix, showing when OTA and PSF may be especially useful. It is not exhaustive but serves as a good starting point in determining whether to proceed with an OT-type approach. Satisfying any two of the following criteria makes a project potentially viable for OTs and/or PSF:

*Figure 3-1: OT/PSF project selection matrix*

Criteria	Description	Yes/No	Notes
<b>Access</b>	• Problem necessitates engagement with non-traditional performer(s)		• This does not exclude traditional performers
<b>Speed</b>	• FAR/5000 process too slow to meet needs of the warfighter		• Current system encumbered by non-value added process
<b>Money</b>	• Project can benefit from additional funding		• In general, private sector prefers projects requiring \$10M+ of funding
<b>Total lifecycle thinking</b>	• Project requires funding for its entire life - R&D, prototyping, procurement, employment, and sustainment (TOC)		• Think anew – not business as usual
<b>Dual-use</b>	• USG to commercial or commercial to USG		• Taking private sector commercial interests into account up front is critical to leveraging PSF capacities

#### 3.2 OT/PSF Project Development Process Overview

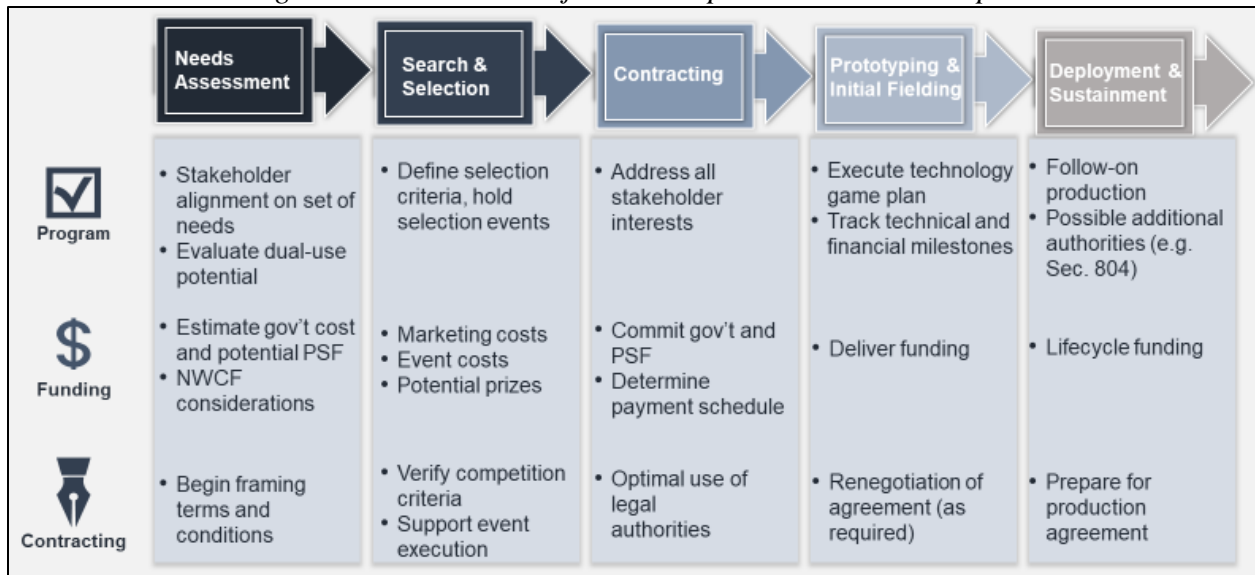
**Integrated Project Team.** Once it is decided to use an OT/PSF approach to answer a need, it has to be determined how to proceed in terms of the authorities to be used and the project to be executed. Before commencing with project development planning, however, a motivated, multidisciplinary integrated project team (IPT) must be formed. The IPT should have the full trust and support of leadership to comprehensively and adequately address government needs and interests. The IPT should be made up of key stakeholders from the program management, contracting, comptroller, and legal offices as well as partnership intermediary (PIA) representatives (if applicable). In order to ensure that projects lead to useful end products for the warfighter, it is crucial to include representatives of the acquisition

community (i.e. buying commands) as well. The team members should engage face-to-face (if feasible) and continuously coordinate during all stages of project development; from the needs assessment stage through the deployment and sustainment stage.

When embarking on project development, the most important thing the IPT must collectively do is to think strategically and holistically about the goal of the project. The IPT should not simply accept a default development process. Rather, it should customize its approach to project development around the project goals to make optimal use of the broad range of tools available to the team including OTs, PSF, and other authorities and policies designed to help the government rapidly field and sustain high-priority capabilities (e.g. 804 Mid-Tier Acquisition authority).

**Project Development Process.** Project plans will typically consist of several stages: Needs Assessment, Search and Selection, Contracting, Prototyping and Initial Fielding, and Deployment and Sustainment. Each stage has a clear set of goals to enable the process to move smoothly to the next stage. Three key functional areas should be addressed at each stage of project development: Program, Funding, and Contracts & Support. Figure 3-2 below provides an example process for OT/PSF project development.

Figure 3-2: OT/PSF Project Development Process Example



**Overview of Key Functional Areas.** When executing project development, team members operate in mutually-supporting functional areas designed to contribute to achieving overall project goals. The tasks that must be executed in each functional area are often overlapping and interdependent and must be planned and conducted in an integrated manner throughout the entire process. General team member roles and responsibilities are as follows:

- Program** team members are responsible for the overall leadership, goal-setting, and execution of a project, from identification of need through the selection, prototyping, deployment, and sustainment of the solution. The Program functional area is typically led by the program management personnel of the IPT, but, again, it must be emphasized that all team members of the IPT should participate in designing the overall project.



- **Funding** team members identify and help coordinate sources of funding for the project. The Funding functional area will be typically led by the IPT's comptroller representatives, with close coordination with the contracting, legal, program management, acquisition community, and PIA representatives (when appropriate). The Funding area works to source an optimum combination of funding sources to support the development, delivery and sustainment of the solutions. This may include government funding sources and potential additional funding sources such as second-party financing (2PF) (e.g. resource share provided by performers) and PSF sources (e.g. resource share provided by private sector capital sources other than the performer) as appropriate and as available.
- **Contracts & Support** team members identify the most appropriate legal authorities and language for a given R&D project, and ensure all applicable law is complied with in the execution of the project. The Contracts & Support functional area is typically led by contracting officers, legal counsel, and other specialized support staff on the IPT. The Contracts & Support functional area works to develop, execute, monitor and support an optimal agreement framework to support the solutions and their development, delivery and sustainment. The agreements may include OTs and a wide, flexible range of contracting tools based on all available legal authorities. A primary goal of Contracts & Support stakeholders is to help remove barriers and obstacles so that maximum speed can be achieved in the innovative process.

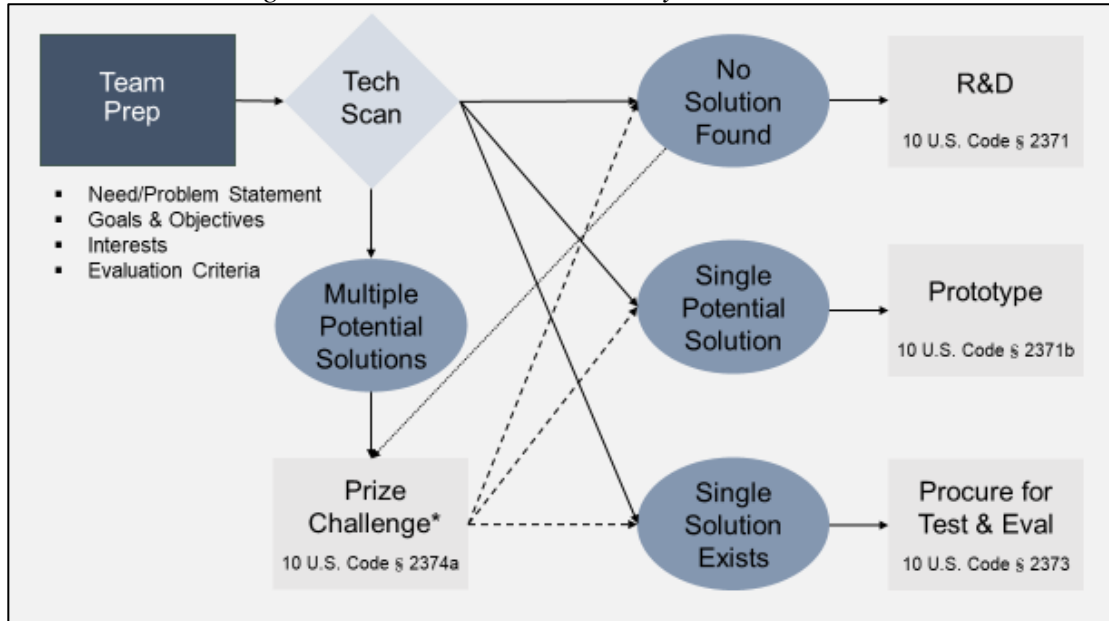
**Overview of Project Development Stages.** At each stage, the IPT works together on a series of coordinated tasks executed through integrated functional workstreams. The tasks that must be carried out by each workstream are often overlapping and interdependent and must be planned and conducted as an integrated team among the participants, aiming at the common goal of rapid delivery of capability to the warfighter. A more detailed description of each stage follows.

- **Needs Assessment Stage.** In the Needs Assessment stage, the IPT begins by identifying the basic problem to be solved in order meet warfighter needs as well as the overarching strategy to achieve the government's desired outcomes. The team does not focus on specific requirements or technical approaches, but rather takes a broad view of needs and capabilities. The team then identifies and assesses project participant goals, objectives, and interests; development opportunities and challenges; capabilities to address end-user/warfighter needs; and approaches for long-term sustainment. Ideation methodologies such as Design Thinking or Hacking For Defense (H4D) may be used at this stage, along with market research to survey the state-of-the-art in the commercial sector.

In addition, the team identifies the full set of stakeholders who must be aligned for success, both within and outside of government. The team works to systematically align the identified set of high-level, mid-level and front-line stakeholders so that the program will be poised and supported for speed and success, and so that internal or external obstacles can be identified and removed or avoided.

During this phase, the IPT also selects the optimum set of legal authorities and contract tools to most effectively move into execution. Figure 3-3 provides a notional selection matrix to help the IPT determine which authority or authorities may best be suited to address the need in question (this matrix is not prescriptive nor authoritative; judgment must be applied to each unique situation).

Figure 3-3: Notional OT authority selection matrix



### How to use the OT Authority Selection Matrix

- If no technology or capability is found to address the need but a performer demonstrates potential to develop a solution, then a pure R&D approach using the 2371 authority should be considered. An additional option is to open the need up to a prize challenge leveraging the 2374a authority.
- If a single potential solution is found, but it needs further development to address the government need, then using the 2371b authority to develop a prototype should be considered.
- If a single solution already exists in industry to address the government’s need, the use of the 2373 authority should be considered to procure the solution for test and evaluation purposes.
- If multiple potential solutions are discovered during the tech scan, holding a prize challenge under the 2374a authority should be considered. Depending on the outcome of the prize challenge (no solution found, single potential solution, single existing solution) will determine what follow-on actions should occur and under which authority.

Finally, the team identifies potential funding sources as appropriate and as available, including government sources, potential second-party financing (e.g. cash contribution provided by performers), and private sector financing sources (e.g. contribution provided by private sector sources other than the performer).

- **Search and Selection Stage.** As already stated, it is imperative the need and problem statements are clearly articulated and framed with some fundamental goals, objectives, and interests that will inform future solution evaluation criteria and agreement negotiation terms. With this foundational understanding established, the Search and Selection stage can be launched to



determine what potential performers, capabilities, and/or technologies are available in the commercial sector.

In the Search and Selection stage, the IPT works to explore, scan and evaluate the potential solution space, understanding the market opportunity both within the DOD and the commercial sector (a process also known as a “**tech scan**”). The team carries out a selection process by working with expert stakeholders to define selection criteria, then executes solicitation and selection activities (e.g. BAAs, CSOs, RFPs, pitch-to-pilot, prize competitions, etc.), evaluates applications, competition results, and/or proofs of concept, as appropriate, leading to selection of a performer(s). PIAs and consortia can be particularly helpful in this regard and, depending on the method they use during the tech scan, can often satisfy competition requirements\* in advance of a contract award.

\*NOTE: Under the OTA regime, the IPT is afforded the opportunity determine its own competition requirements to achieve the unique objectives of any given project. Competition criteria are not pre-determined by any pre-existing regulation or policy.

- **Contracting Stage.** In the Contracting stage, the team collaborates with the selected awardee(s) to form an agreement for the program. The team helps to commit government funding and to coordinate PSF (if applicable). In collaboration with the performer, Contracts & Support members of the IPT help to design and prepare an optimal agreement framework to support the solutions and their development, delivery and sustainment as appropriate.

It should be remembered that Other Transaction Agreements (OTAs) can be contracts on commercial terms and/or create completely unique relationships between the government and private parties. OTAs are not traditional procurement contracts, which must comply with the Federal Acquisition Regulation (FAR) and other legal authorities. The OTA differs from a traditional FAR procurement contract in several key ways. Most notably, because the terms of the FAR do not apply to OTs, the drafters of an OTA must be sure to define key terms, relationships, and rights just as such items would be defined in a commercial agreement.

As such, when developing an agreement, the first step is to discuss the goals and interests of all stakeholder. If goals and interests cannot be aligned at this early stage of negotiations, there is no need to continue with the process. However, assuming proper alignment can be achieved, the stakeholders can proceed with “clean sheet contracting.” In other words, drafting a commercial agreement that is tailored to the specific needs, goals, and interests of all parties.

The outline below provides some “clean sheet contracting” tips and a basic framework for developing a contract that is tailored to meet the needs of the RDAS project and address the unique interests of government and private sector stakeholders. It is intended to serve as a starting point for “clean sheet” contracting and is neither comprehensive nor all-inclusive. It offers a generic framework of the basic articles that will most likely make up the core body of an Other Transaction Agreement. Associated considerations related to the basic articles are also included.

**Article I – “Scope of the Agreement.”** Article I is in many respects similar to “recitals” in a commercial contract. It sets forth the “vision statement” for the project. The vision statement is ideally the product of frank discussion between the government and private

party or parties to the agreement. Agreement on a vision statement sets the stage for more detailed discussions and negotiation of specific terms and conditions. It also provides a guide to the intent of the parties in case of later disagreements.

**Article II – “Definitions.”** Pertinent definitions of terms used in the agreement are sometimes included as a second section of Article I or as a separate Article II. It is particularly important to define key terms in an OT agreement as FAR definitions do not automatically apply and are often inapt for an OT. A court might resort to definitions used in the Uniform Commercial Code for definitions of terms not defined in the agreement. Given the recent Oracle protest, it is essential that terms such as “successfully completed”, “transaction” and “agreement” (among others) be clearly defined.

**Article III – “Term.”** A fixed term is typically established, however, flexibility to end the project early should be included to address contingencies such as if financial commitments of either side are not forthcoming as projected, research results are inadequate, or for any other reasons deemed pertinent to the given effort. Conversely, if progress is unexpectedly good and funds and research opportunities are available, provisions for extending the term should also be included.

**Article IV – “Project Management.”** This clause might be perfunctory in very simple agreements. At a minimum, the method for effecting modifications to the agreement should be specified. In complex or multi-party agreements, this provision takes on added and vital importance. Articles of Collaboration or other consortia documents should be reflected if applicable. The program planning process and roles of government and private parties should be clearly addressed.

**Article V – “Administration.”** The representatives of the parties for various administrative purposes should be specified. Note that in OTs the role of the government program manager (“Agreements Officer Representative”) may look more like the role of a PCO in a procurement contract. The role of the “Agreements Officer” may be more like that of an ACO in a typical procurement contract. A warranted individual with authority to enter into, administer, or terminate OTs. To be appointed as an AO, the individual must possess a level of responsibility, business acumen, and judgment that enables them to operate in the relatively unstructured environment of OTs. AOs need not be Contracting Officers, unless required by the Components appointment process.

**Article VI – “Obligation and Payment.”** 2371 R&D agreements and 2371b agreements of less than \$5 million require no mandatory audit clause. If deemed necessary, an audit provision can be inserted in this clause. Otherwise the clause describes the method of invoicing and payment, incremental funding (if used), and other pertinent matters.

**Article VII – “Disputes.”** An all disputes clause is typically negotiated. This involves breach of contract claims as well as remedies available under the agreement. The Contract Disputes Act does not apply.

**Article VIII – “Patent Rights.”** This article can look similar to a standard Bayh-Dole patent clause (which, incidentally, does not apply) or be something entirely different. For example, in the government’s dealing with Cray Research, the patent clause merely stated

that the government program manager could review the lab note books of Cray researchers to determine if an invention had taken place and what its salient characteristics were. No rights flowed to the government but the government was aware of what new characteristics were likely to be embodied in Cray's next generation super computers. This would determine what fields of practice might benefit most from new products and which agencies were most likely to benefit.

**Article IX – “Data Rights.”** As with patents the data rights provisions applicable to the procurement system do not apply. This is a subject for negotiation.

**Article X – “Title and Disposition of Property.”** This article is particularly important in Section 2371 projects where the principle purpose of the project is not for the government to acquire title to property.

**Additional Considerations:**

- Other clauses that might be included address “order of precedence” between the agreement and preliminary discussions, or the government-industry agreement and any agreement among industry partners. How and by whom the agreement is “executed” may be important if the action office has not been delegated full authority to act.
  - If “resource sharing” is involved this needs to be elucidated.
  - For 2371b agreements there is a mandatory audit clause for agreements over \$5 million and a procurement integrity clause is required.
  - One important exhibit or attachment is the statement of work. If milestone payments are used these need to be defined in a clear manner in an attachment.
- **Prototyping and Initial Fielding Stage.** In the Prototyping and Initial Fielding stage, the performer conducts the R&D tasks, and the integrated team evaluates achievement of milestones. The performer delivers the prototype and continues iterative R&D activities in collaboration with the government team, leading to an initial fieldable product.

During this stage, the IPT releases government funding as milestones are achieved, and coordinates with the performer regarding agreed second-party financing and PSF if those types of resources are being provided under the structured agreement framework.

Contracting & Support members of the integrated team provide ongoing support throughout the prototyping and initial fielding stage. They continuously help to remove obstacles and speed up the process at all stages.

- **Deployment and Sustainment Stage.** In this stage, the IPT collaborates with warfighters and end-users to deploy and sustain the solutions. Sustainment plans are developed and implemented, including processes for product upgrades, commercial updates and ongoing training. The goal of the sustainment component of the innovative contracting and financing process is to achieve total overall lifecycle performance according to government needs,

including capability upgrades and lifecycle cost goals. The integrated team analyzes total ownership costs over the solution lifecycle, provides government lifecycle funding as negotiated, and also coordinates second-party financing and PSF lifecycle financing components as appropriate and available. Contract & Support members of the team conduct ongoing support of the performer and the solution and its sustainment.

### 3.3 Project Team Formation Strategies

Developing the best design for the broader project team made up of all project participants can be challenging. That said, the building of teams across multiple entities in multiple industries is one of the key advantages of OTs over traditional contracting. In addition to simple single-performer agreements, the flexibility of OT agreements can support the integration of a variety of technology stakeholders, such as users, suppliers, manufacturers, and researchers. OT project teams can be structured in a variety of ways and according to what best fits the needs of the specific projects. Just as no two projects are the same, no two OT teams will look the same.

The use of consortia as the means to form an OT project team has become increasingly popular. Figure 3-4 below illustrates a popular version of a consortium that has multiplied over the past few years. In consortia such as these, companies join by entering into an individual agreement with the consortium management firm (CMF) and paying a membership fee (with no assurance of ever receiving government funding). Essentially serving as an administrative contracting office, the CMF interfaces with the government about its requirements and then surveys its members to see if needed capabilities exist. If needed capabilities do exist within its membership, the CMF issues a request for project proposals to members.

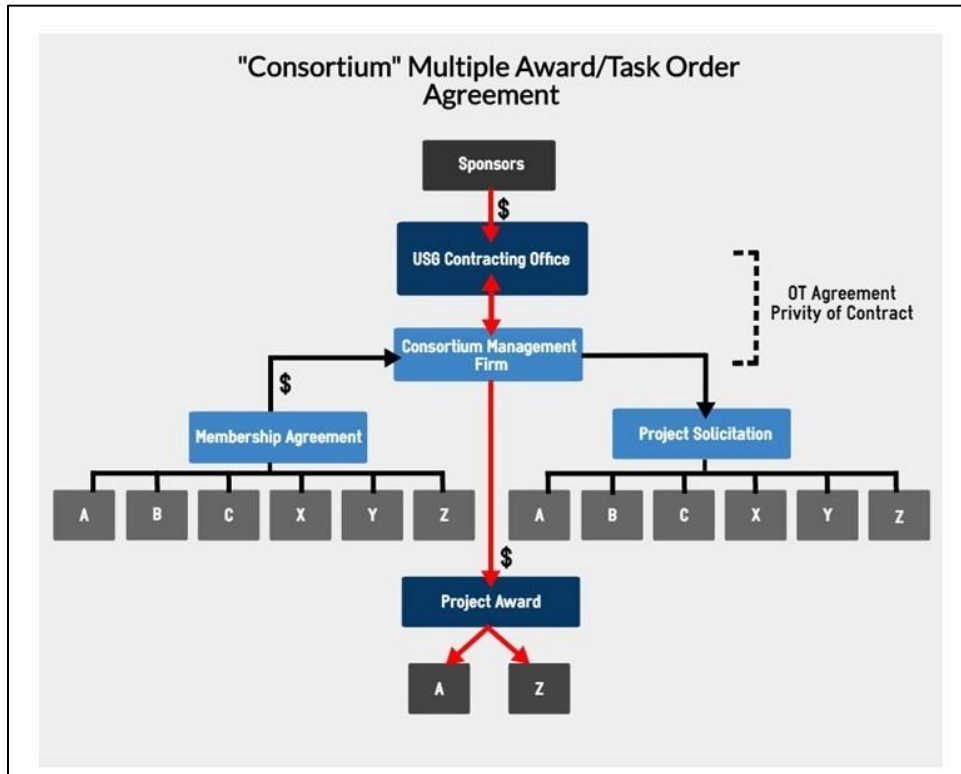
From the government's perspective, a CMF provides a single point of contact to which sponsors can go with requirements and funds and gain access to a wide array of performers. Generally, the government is only in privity of contract with the CMF, an organization that neither does research nor performs prototype projects but merely administers multiple award/task order (MATO) contracts on behalf of the government. The CMF may play only an administrative role in proposal review or may add some technical insight to aid government decision making.

Once individual projects are selected, sub-agreements are negotiated and funding is secured. The organization in which the contracting office resides may provide only a small percentage of the funding that flows through the 'consortium'. Funding often comes from sponsors who are not a party to the agreement. The 'tax' on the pass-through funds has approached or exceeded 5% in some cases.

The model shown in Figure 3-4 reflects an ID/IQ or MATO arrangement utilizing OT authority rather than authorities under the FAR. As such it has a variety of positive features. It provides a useful communications/marketing tool for advertising government needs to a variety of performers. It is a convenient place to park money while a selection process takes place. Finally, it can potentially facilitate quick awards of sub-project contracts or task agreements.

The criticism of this model is that it often emphasizes ease of funding a project rather than the development of the best innovative design for the multi-party arrangement to address the specific need in the most rapid and cost-effective manner possible. An additional criticism is that resource-sharing and teaming at the sub-project level are rarely utilized under this model. Finally, while this model has proved workable in the past in that it often establishes sub-project terms and conditions that can be friendly to

non-traditional firms, experience has shown that many arrangements have been burdened with FAR-type clauses, thereby limiting the effectiveness of the OT arrangement. As such, if executed in a “cookie cutter” manner, this model can devolve into an OT in name only and essentially become a support service contract for administering the MATO arrangement [by the CMF, therefore not legally authorized].



Beyond the standing CMF-type model described above, there are other consortium models and funding models that can serve as the basis for a project team formation to address a specific need. The following two figures depict some common OT structures to support technology projects with a variety of stakeholders. These OT teams are more hierarchical compared to the “flat” layout of the consortium in figure 3-4.

Figure 3-5: R&D performance agreement example

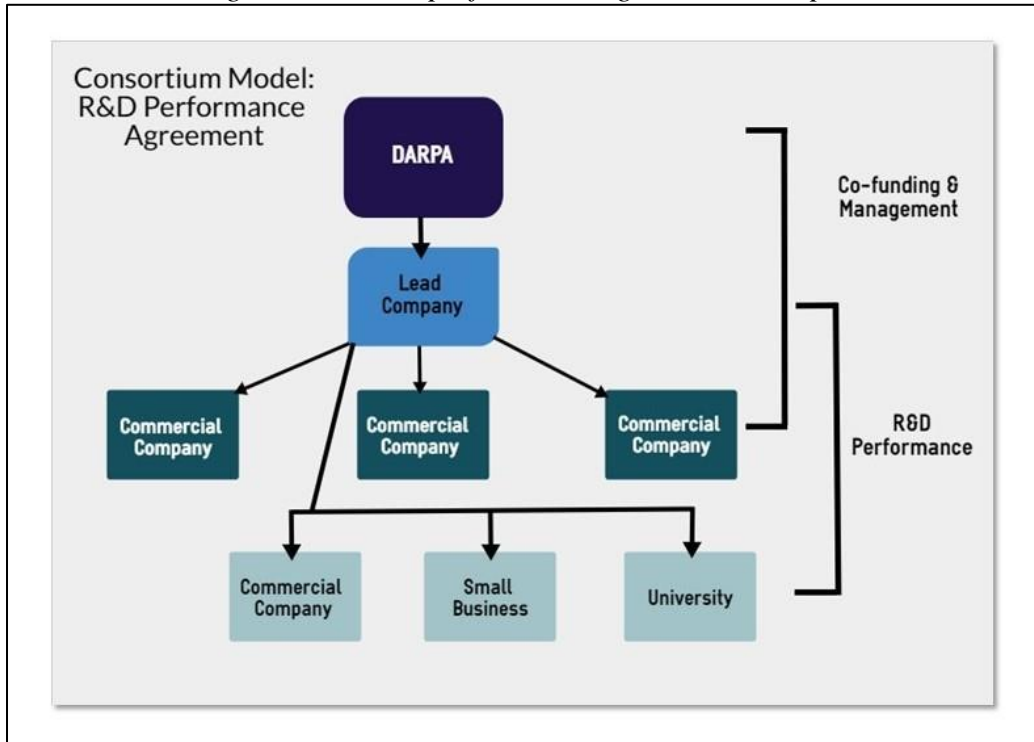
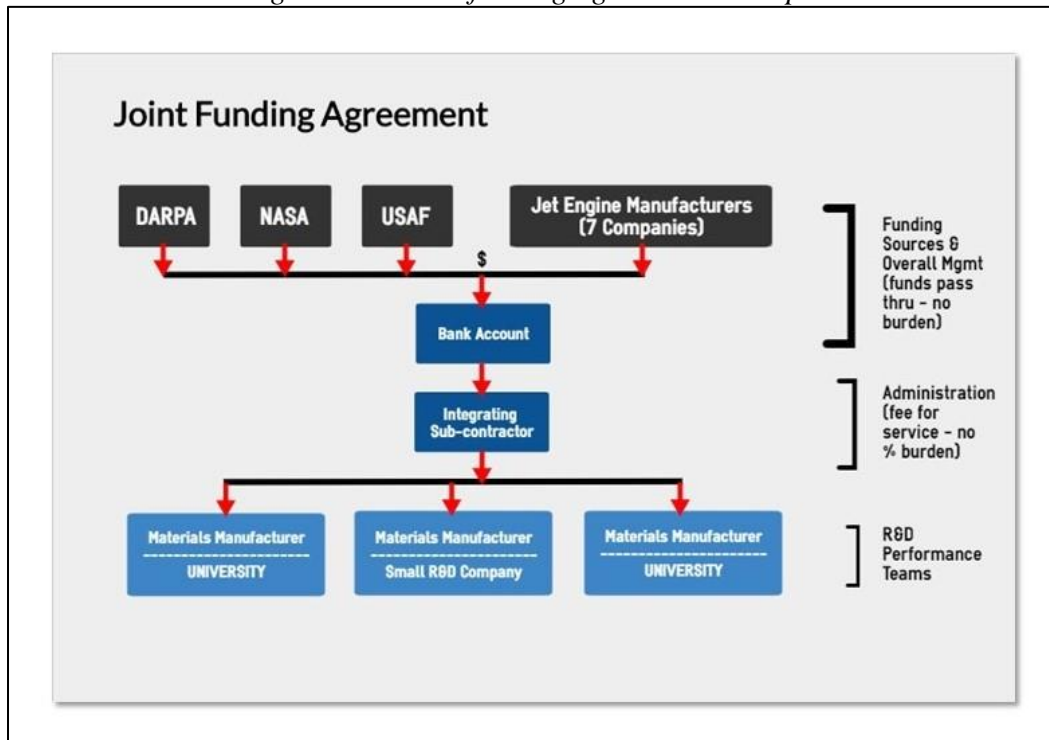
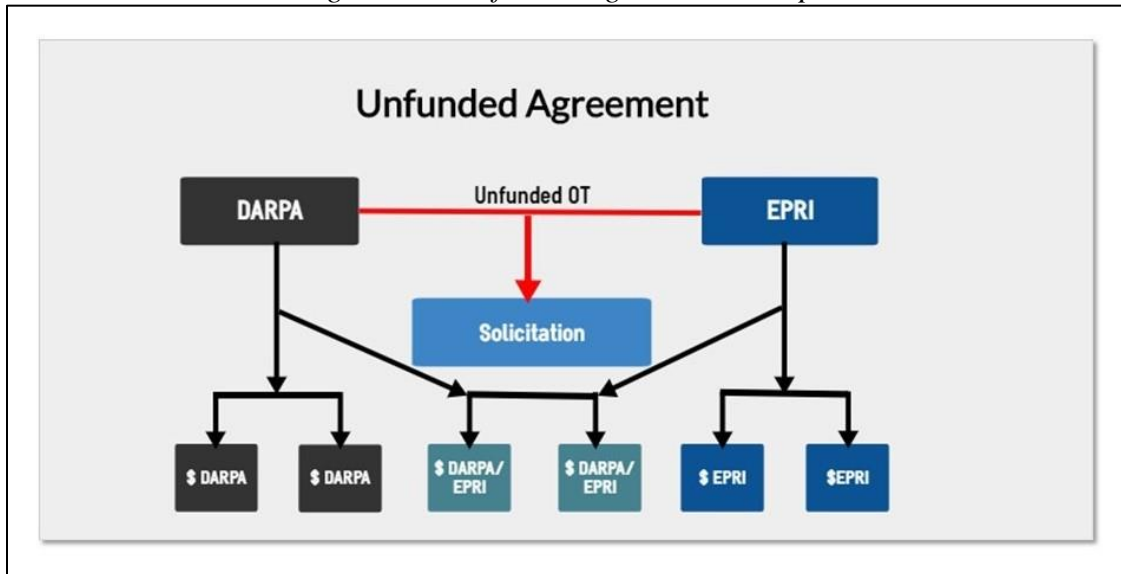


Figure 3-6: Joint funding agreement example



Finally, OT teams may even be formed without defining a funding relationship, as in figure 3-7 below. These OTs may be used to facilitate cooperation among government and private sector entities and may or may not have provisions for subsequent government or PSF funding.

Figure 3-7: Unfunded agreement example



### 3.4 Leveraging PIAs

Title 15 U.S.C., Section 3715 (Use of Partnership Intermediaries or “PIAs”) authorizes the Director of a Federal Laboratory to collaborate with state and local governmental agencies and nonprofit entities to facilitate technology activities. A PIAs is not a procurement contract and therefore not subject to the Federal Acquisition Regulations (FAR).

PIAs can be highly complementary for use alongside OTs, facilitating private sector outreach, marketing and industry learning on the part of the government. For example, a PIA may be used to host or run a technology prize competition, a pitch-to-pilot performer outreach event, or other industry-day type event. Such events can also be designed to support competitive performer selection, satisfying competition requirements in OT authorities and enabling the award of an OT agreement to a performer.

New or existing PIAs may also take part in consortia formed under OT agreements, facilitating cooperation between state and local governments or nonprofits and the private sector for longer-term projects. This would allow a PIA engaged in ongoing R&D work to benefit from PSF brought in by the OT consortium which they would otherwise not be able to access.

Cooperative teaming between PIAs and private sector companies under OT consortia is also a mechanism that may be used to leverage state and local government and nonprofit facilities and financial assets for the consortium’s R&D work. This may offer a crucial benefit to non-traditional performers participating in such a consortium, providing them access to additional resources that would not typically be available to them.

## 4 Resources

### 4.1 Frequently Asked Questions About Other Transactions

Question	Answer
What is Other Transaction Authority?	<p>Other Transactions Authority is a group of statutory authorities for conducting agreements outside of the Federal Acquisition Regulation system. Agreements carried out under these authorities are known as Other Transaction agreements.</p> <p>Note: the abbreviation “OTA” is used inconsistently among many practitioners to mean either “Other Transaction Authority” or “Other Transaction Agreement,” or both, depending on context.</p>
What are the key OT authorities?	<ul style="list-style-type: none"> <li>▪ 10 USC 2371 for basic, applied, and advanced research</li> <li>▪ 10 USC 2371b for prototyping and production</li> <li>▪ 10 USC 2373 for test and evaluation</li> <li>▪ 10 USC 2374a for incentive prizes</li> </ul>
What are appropriate uses for Other Transaction agreements?	<p>OT agreements are helpful tools for collaborating on technology development projects. Congress has encouraged the Department of Defense to “establish a preference for the use of Other Transactions when collaborating on technology projects” (NDAA 2016 Sec. 867).</p> <p>OT agreements can help support:</p> <ul style="list-style-type: none"> <li>▪ Flexible project design</li> <li>▪ Quicker and cheaper project design and execution</li> <li>▪ Leveraging private sector financing</li> <li>▪ Incorporation of non-traditional contractors</li> <li>▪ Ability to collaborate in innovative arrangements</li> </ul>
What regulations apply to OT agreements?	<ul style="list-style-type: none"> <li>▪ Fiscal law</li> <li>▪ Criminal code and laws of general applicability</li> <li>▪ The government may add any regulation, clause, or flow-down to any OT</li> <li>▪ For 2371b an audit clause and the Procurement Integrity Act apply</li> </ul>
Who has the authority to approve an OT?	<p>The Secretary of Defense and the Secretary of each military department may enter into Other Transaction agreements. OT authorities can be delegated to be exercised through any other element that may be so designated by the Secretary of Defense or the Secretary of each military department.</p>
What type of money can be used with an OT?	<ul style="list-style-type: none"> <li>▪ There is no prescribed limitation on what type of money may be used</li> <li>▪ Perform a typical fiscal analysis to determine what type of money would be appropriate for a given project</li> </ul>
What kind of competition is needed for OTs?	<ul style="list-style-type: none"> <li>▪ Under 2371 and 2373, competition is not required but is often useful</li> <li>▪ Under 2371b, competition is required to the maximum extent practicable</li> <li>▪ Under 2374, the process is by nature competitive</li> </ul>



	There is no regulated definition of competition for OTs. An appropriate competitive process can be designed by the government based on project needs.
Must all OT projects be dual-use technologies?	There is no legal requirement for dual-use, but developing dual-use technologies is a powerful approach to reducing government risk, speeding up development, and attracting PSF.
Must OTs only use non-traditional contractors?	No. Traditional contractors can also participate in OTs as long as one non-traditional defense contractor participates to a significant extent in a prototype project, with cost-sharing and SPE approval.
Can OTs be used to avoid project oversight?	The oversight regime applied should be based on common sense and project goals.
Is there a dollar cap on OTs?	There is no absolute dollar cap on OT agreements, but there are approval levels.
Can the government recover funds when executing an OT?	Yes, payments back to the government are expressly authorized in 2371 (and, by inference, in 2371b). Agreements may include a clause that requires payments back to the Department of Defense or any other department or agency of the Federal Government as a condition for receiving support under the agreement or other transaction. These funds may be credited to the appropriate account established under 2371(f) and merged with other funds in that account to be used for additional R&D. It is highly recommended that organizations request permission to establish sub-accounts under their control in order to fully leverage this authority.

## 4.2 Other Resources

### **USG Resources**

OSD Other Transactions Guide (Version 1.0, November 2018)

[https://www.acq.osd.mil/dpap/cpic/cp/docs/OT\\_Guide\\_\(Nov\\_2018\)\\_Final.pdf](https://www.acq.osd.mil/dpap/cpic/cp/docs/OT_Guide_(Nov_2018)_Final.pdf)

### **Selected articles by Richard L. Dunn:**

Other Transactions: What Applies?, *The Nash & Cibinic Report* (May 2018)

An Alternative to Acquisition Business as Usual, *National Defense* (November 30, 2017)

<http://www.nationaldefensemagazine.org/articles/2017/11/30/an-alternative-to-acquisition-business-as-usual>

OTAs and the 2018 NDAA, Practitioner’s Comment, *The Government Contractor* (November 17, 2017)

The Procurement System: Repeal and Replace? *Contract Management* (August 2017)

Appropriate Contractual Instruments For R&D, Feature Comment, *The Government Contractor* (July 12, 2017)

<http://www.strategicinstitute.org/wp-content/uploads/2017/07/TGC59-25.pdf>

Other Transaction Contracts: Poorly Understood, Little Used, *National Defense* (May 15, 2017)

<http://www.nationaldefensemagazine.org/articles/2017/5/15/other-transactions-contracts-poorly-understood-little-used>

Fulfillment of Urgent Operational Needs, *Defense Science Board* report (July 2009) with others  
<https://www.acq.osd.mil/dsb/reports/2000s/ADA503382.pdf>

Injecting New Ideas and New Approaches in Defense Systems – Are Other Transactions an Answer?, *Naval Postgraduate School Acquisition Research Program* (May 2009)  
<http://www.strategicinstitute.org/wp-content/uploads/2016/12/RichardDunnWhitePaper-1.pdf>

DARPA - Arsenal Ship Lessons Learned, *Arsenal Ship Joint Program Office* (December 31, 1997), contributor and author of Tab E: memorandum, Scope of Section 845 Prototype Authority  
<https://fas.org/man/dod-101/sys/ship/docs/arsenal/sec1.html>

### **Other Resources:**

Assessing the Use of “Other Transactions” Authority for Prototype Projects, RAND Documented Briefing [https://www.rand.org/content/dam/rand/pubs/documented\\_briefings/2005/DB375.pdf](https://www.rand.org/content/dam/rand/pubs/documented_briefings/2005/DB375.pdf)

NASA Space Act Agreement with Space Exploration Technology Corp.  
[https://www.nasa.gov/centers/johnson/pdf/189228main\\_setc\\_nnj06ta26a.pdf](https://www.nasa.gov/centers/johnson/pdf/189228main_setc_nnj06ta26a.pdf)

“Other Transactions”, Briefing Papers, Vacketta, Kuyath & Swetz (March 1998)

An Analysis of Special Instruments for Department of Defense Research, Acquisition and Assistance, Logistics Management Institute (February 2007)

IDA Review of FCS Management, Vol. 1: Main Text, Institute for Defense Analyses (August 2004)

GAO Decision Threatens US Military Dominance – Reject it, *Breaking Defense*, W. Greenwalt (June 2018)  
<https://breakingdefense.com/2018/06/gao-decision-threatens-us-military-dominance-reject-it/>

### 4.3 Fifty Pound Brains Team Contact List

**Richard L. Dunn**

Founder/Principal, Strategic Institute

[www.strategicinstitute.com](http://www.strategicinstitute.com)

[richardldunn@verizon.net](mailto:richardldunn@verizon.net)

**Kathleen Harger**

Captain, USN(Ret)

Senior Principal, Fifty Pound Brains

[kathleen.harger@fiftypoundbrains.com](mailto:kathleen.harger@fiftypoundbrains.com)

**Mark Mykleby**

Colonel, USMC(Ret)

Senior Advisor, Fifty Pound Brains

[mark.mykleby@fiftypoundbrains.com](mailto:mark.mykleby@fiftypoundbrains.com)

**Wes Naylor**

Captain, USN(Ret)

Founder/CEO, Fifty Pound Brains

[wes.naylor@fiftypoundbrains.com](mailto:wes.naylor@fiftypoundbrains.com)

**Sam Moyer**

Senior Advisor, Fifty Pound Brains

[sam.moyer@fiftypoundbrains.com](mailto:sam.moyer@fiftypoundbrains.com)