U.S. AIR FORCE

USSF

AFRL

PARTNERSHIP INTERMEDIARY AGREEMENTS TRAINING

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Learning Objectives

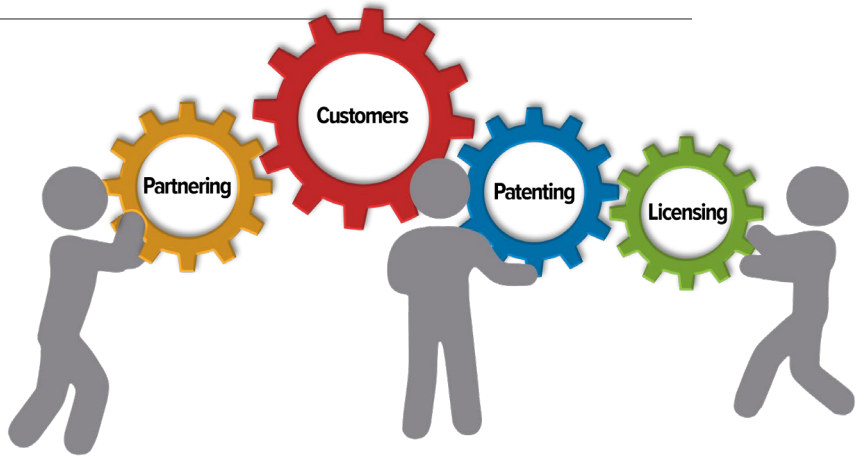
- What is a Partnership Intermediary Agreement (PIA)?
- Understanding Your Requirement
  - Technology Transfer vs. Technology Transition Activities
  - Differentiating between technology transfer/transition activities and other types of services
  - What is a Technology Assessment?
- Understand the types of services a PIA can and cannot provide
- Understand PIA Partners—Who are They?
- Understand PIA Process
- Case Studies – Practical Examples and Discussion

WHAT IS A PIA?

PIAs…..*in a nutshell!*

- Simply put, a PIA is a non FAR-based instrument used to acquire *Technology Transfer & Transition (T3) services*
  - A PIA is considered a T3 instrument–SAF/AQR has authority over all AF PIAs—AFRL/SBT is the Executive Agent for the AF T3 Program and therefore, provides oversight and guidance to all DAF PIAs
- Only a warranted Contracting Office and/or Agreements Officer can sign a PIA when obligating funds
  - PIAs can also be unfunded (looks a lot like a CRADA!) but not recommended; potential to violate Anti- Deficiency Act (31 USC 1342) unless mitigated in the unfunded agreement
- Typically, PIAs funded with 3600 funds; DoD currently exploring authority to obligate other types of funding (3400, 3010, etc); regardless, fiscal law still applies in relation to propriety of funds
- The PIA service provider is known as a Partnership Intermediary (PI)
  - The PI must be a state or local government entity or an affiliated non-profit entity—no exceptions to the law!
- Who can enter into a PIA?
  - 15 USC 3715 authorizes ANY federal lab to establish a PIA
  - 10 USC 4124 provides authority for the Director of a Center for Science, Technology, and Engineering Partnership to establish a PIA—in the AF only AFRL is designated as such a Center
    - Authority to enter into a PIA must be approved by SAF/AQR
    - Submit all requests for new PIAs to the AF T3 Office (AFRL/SBT)
- To use a PIA, the need must be for ***technology transfer and/or transition services***

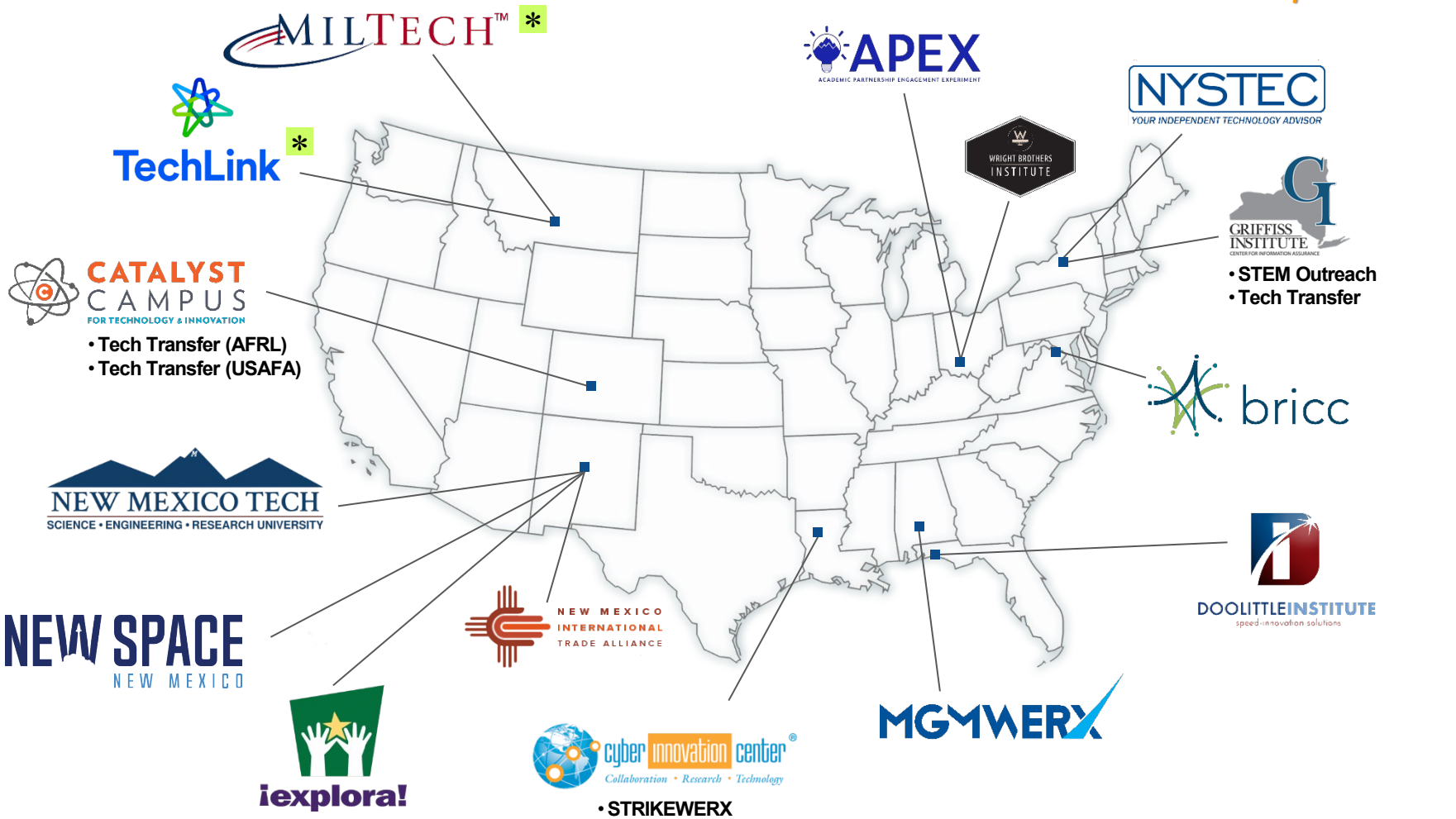
PIAs…..*the rest of the story*!



Partnership Intermediary Agreement (PIA)
(15 USC 3715 and 10 USC 4124 [DoD])

- Enables a long-term partnership between a federal government laboratory and a state, local government, or affiliated non-profit
  - Facilitates technology transfer (spin-out) from the federal labs to non-federal entities
  - Facilitates technology transition (spin-in) to the federal labs from non-federal entities
- Purpose: Encourages national economic growth through T2 and commercialization of technology developed in the federal labs.
- PIA Benefits to AF activities
  - "Force Multiplier" for AF T3 activities
  - Conduct focused marketing to businesses, academic institutions and other non-federal entities of AF technologies, capabilities, facilities and partnering opportunities
  - Identify qualified potential partners and introduce them to AF activities
  - Help establish successful T3 agreements (e.g. CRADAs, EPAs, CTAs, etc.) by facilitating communication between AF activities and non-federal parties during the negotiation process

Current as of 6 September 2022



* — Denotes DoD PIA

PIA SERVICES…. TECHNOLOGY TRANSFER AND TRANSITION

PIA…..“MUSTs”

The Requirement

- How can I determine if my requirement is a technology transfer and/or transition requirement?
  - *(HINT: To use a PIA, the effort **must** be a technology transfer and/or transition activity!)*
- Why is it important to differentiate between a T3 requirement and other types of requirements like research and development and services that support research and development when using a PIA?
  - ➢ *(HINT: The T3 activity **must** align with the services provided under the scope of the PIA!)*

The Partner

- Who is the transfer/transition partner?
  - ➢ *(HINT: To use a PIA, the transfer/ transition partner **must** be an industry or an academic institution!)*

Let's look at the first question….

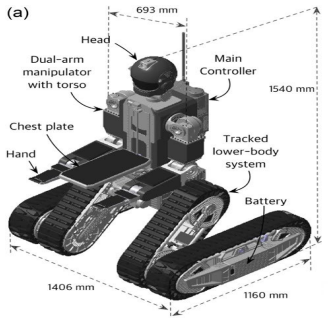
(How do I determine if I have a T3 requirement?)

- One must consider a combination of factors…..
  - **FACTOR 1**: The definition of transfer and transition activities
  - **FACTOR 2**: What is the nature of the work?
  - **FACTOR 3**: What is the ultimate goal or objective of the work?
- Practical Exercise: We will apply these factors to determine whether a government need can be defined as a tech transfer/transition activity or another type of service

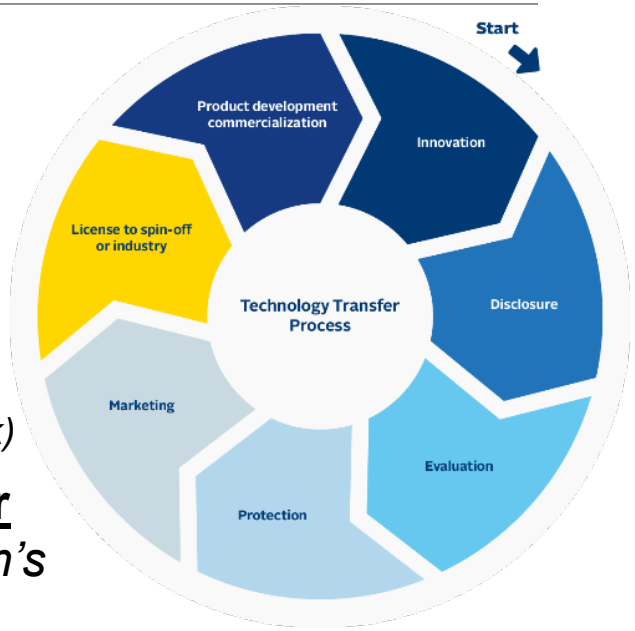
***NEED #1*: Determine tolerance level for laser hardened material**

***NEED #2*: Provide support for displays, graphics and trade shows.**

***NEED #3*: Commercialization of robotics casualty extraction technology developed by a federal laboratory.**



Let's Consider Factor 1, The Definition of Technology Transfer vs. Technology Transition

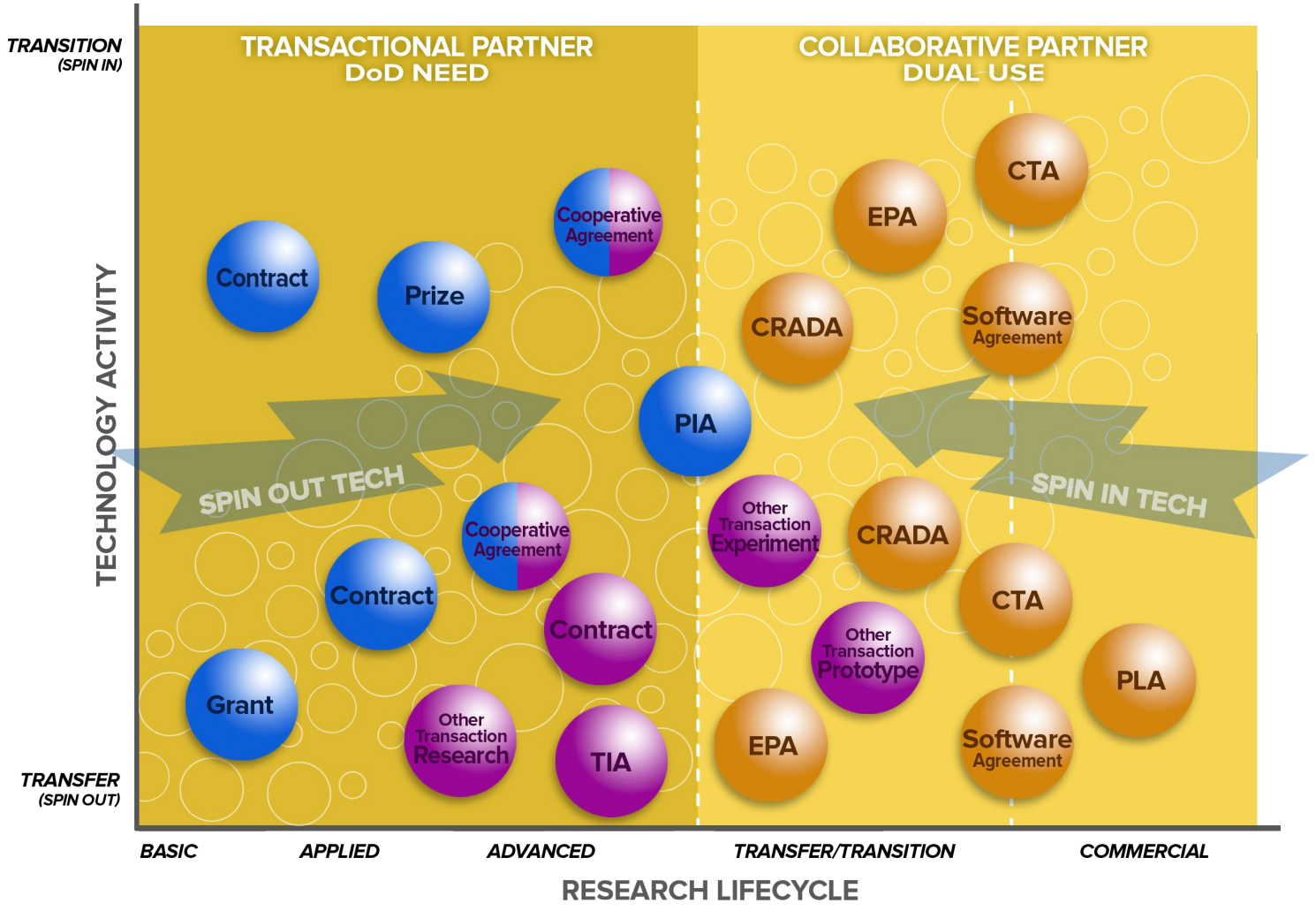


The process of sharing, developing, or transmitting ideas, data, information, and technology between government agencies, industry, and academia. *(AF T2 Handbook)*

- Federal agencies are required by law (15 USC 3710) to attempt to **transfer** their inventions to industry *"to ensure the full use of the results of the nation's Federal investment in research and development."* *(AF T2 Handbook)*

  - **Spin-Out/Spin-Off (Transfer):** *Transfer of DoD originated technology* to non-DOD activities including the private sector and other public sectors for commercialization into new products/services. *(DODI 5535.08)*
  - **Spin-In/Spin-On (Transition):** *Transition of technology into the DoD* in support of a planned or projected capability advancement by the DoD, which may be useful in any project or effort typically involving technology selection and/or technology maturation *(DODI 5535.08)*
  - **Dual Use:** Technology that has both DoD and private sector applications *(DODI 5535.08)*

The Public-Private Partnership (P3) Continuum



ARRANGEMENT	USE FOR:
Contract	DoD acquisition of service/supply
Grant	Public purpose - little government involved
Cooperative Agreement (CA)	Public purpose - government involved
Technology Investment Agreement (TIA)	Integrate commercial and defense sections
Partnership Intermediary Agreement (PIA)	Transfer & Transition Assistance
Cooperative Research and Development Agreement (CRADA)	Partner sharing of resources
Educational Partnership Agreement (EPA)	Partnering with Academia
Patent License Agreement (PLA)	Transfer of DoD technology
Commercial Test Agreements (CTA)	Partner access to DoD testing facilities & services
Software License Agreement (SLA)	Partner sharing of software
Prize Competition	DoD access to innovation
Other Transaction Agreement-Research, Prototype, Experimentation (OTR, OTP, OTE)	DoD Access to non-traditional companies

LEGEND

- Government Funding
- Mixed Funding
- No Funding

Getting back to our practical exercise…..

- Consideration of Factor 1: Application of the **definition of transfer/transition activities** as it relates to the requirement.

NEED #1: ***Determine tolerance level for laser hardened material***

PIA

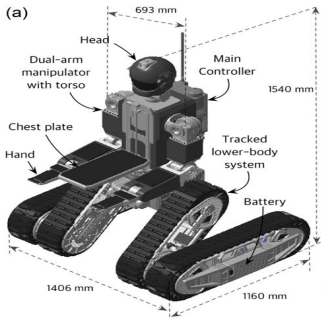
Research*:* Systematic study directed toward greater knowledge or understanding; scientific study and experimentation directed toward increasing fundamental knowledge and understanding; determine/exploit the potential of scientific discoveries/improvements in technology; advance the state of the art

NEED #2*: Provide support for displays, graphics and trade shows.*

PIA

Management and Professional Support Services (A&AS): *Services that provide assistance, advice or training for efficient/ effective management and operation of organization; provide analytical assessments/ evaluation in support of policy development.*

NEED #3*: Commercialization of robotics casualty extraction technology developed by a federal laboratory.*



PIA

Transition/Transfer*: (“Spin Out”) Transfer of DoD originated technology to private sector for commercialization.*

Let's Consider Factor 2, the nature of the work…..

- Defining the nature of the work is closely associated with how one determines if a requirement is within scope of a contract/agreement
  - Research is generally defined in terms of **broad objectives** as opposed to specific tasks
  - Support services are generally defined in terms of **specific tasks** and are recurring
  - Technology Transfer and/or Transition may be defined by **both a broad objective** as well as **specific tasks** to achieve the broad objective
- When determining the nature of the work, ask yourself these questions…..
  - What is the primary purpose/objective of the effort?
  - Is the goal of the proposed effort to increase the government's technical knowledge and understanding in a particular technology/scientific area? *(Research)*
  - Is the goal to advance the state of the art or technology? *(Research)*
  - Is the goal to "move" technology between government and industry/academia? *(T3)*
  - Is the goal to understand a particular technology ecosystem? *(T3)*

To use a PIA, the nature of the proposed effort must relate to T3 activities!

T3 Services provided under a PIA……

- Consulting, strategic planning, military and technology assessments
- Facilitating transfer of technologies from the laboratory to industry
- Evaluating patents and patent applications to identify the most viable candidates for licensing to industry
- Marketing AF technologies to potential licensees
- Providing support and assistance for medial/legislative interactions as they relate to Technology Transfer Transition
- Working with industry and regional economies interested in commercializing federal technology
- Arranging technical conferences, workshops and seminars as they relate to Technology Transfer Transition activities
- Identifying companies with innovative technologies which match AF operational needs
- Facilitates STEM-related partnerships

A PIA serves as an "Intermediary" between the federal lab and the outside world
They broker and facilitate partnerships for tech transfer/transition!

Snapshot of one T3 service—A Technology Assessment

- A technology assessment (TA) refers to early identification and assessment of eventual impacts of technological change and applications
- Purpose:
  - Highlights potential short, medium, and long-term effects of a technology
  - Elaborates on and communicates the challenges and benefits associated with a technology, including insight into the potential effects of a technology
  - Highlights the status, viability, relative maturity, and public and private uses of a technology
  - Supports planning and evaluation of federal investments in S&T
  - Describes the regulatory environment of a technology
  - Explores ethical, legal, and social questions that may arise from the application of a technology
- Four phases in conducting a TA *(refer to backup charts for TA steps)*
  - Discovery
  - Analysis
  - Development
  - Document

A PIA is a valuable resource in conducting a Technology Assessment!

Technology Assessment Objectives; some examples….

- What is the current state of a particular technology?
  - What are alternative applications of the technology?
  - Does the status of technology vary across different applications or sectors where technology is being developed?
    - Approach: Identify and describe status of select applications of the technology; Assess technical capabilities of select applications or sectors where technology is being developed
- What are technical challenges to the development of a particular technology?
    - Approach: Review and observe applications of the technology, Gather and analyze reports or other evidence of technical challenges to development of technology
- What technologies are available or under development that could be used to address a specific problem or issue?
  - What challenges do these technologies face?
    - Approach: Gather and analyze documentary and testimonial evidence of technologies in use or that could be put to use to address problem of interest; Identify challenges and potential approaches addressing both the problem of interest and challenges in developing technology.

Other Technology Assessment questions to consider…..

- What are the expected or realized benefits of the technology?
- What unintended consequences may arise from using the technology?
- Do uses or outcomes of the technology differ across geographic, economic or other social groups of sectors?
- What are the costs and benefits of specified technologies?
- What are the policy implications resulting from advances in the technology
- What policy options could address challenges related to a technology to achieve a specified outcome?
- Assessment of emerging technologies
- Engaging relevant stakeholders (specifically, industry and academia in the case of a PIA)

Getting back to our practical exercise…..

- Consideration of Factor 2: ***Nature of the Work***

NEED #1: ***Determine tolerance level for laser hardened material***

PIA

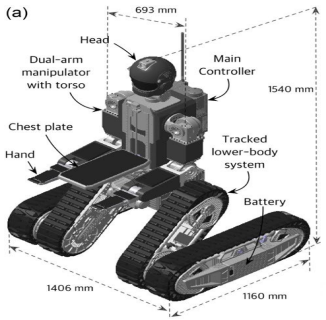
Research: *Government's need is for the offeror to provide the best technical solution. Very broad objectives—difficult to identify specific tasks.*

NEED #2: ***Provide support for displays, graphics and trade shows.***

PIA

Management and Professional Support Services (A&AS): *Government's need is for the provider to perform specific tasks that are recurring. Tasks can be defined by measurable performance standards.*

NEED #3: ***Commercialization of robotics casualty extraction technology developed by a federal laboratory.***



PIA

Transition/Transfer*: Government's need is for assistance in transferring technology from the lab to a private entity for ultimate commercialization of that technology.*

Finally, let's consider Factor 3, the goal or objective…..

- The goal or objective of a requirement will drive the nature of the requirement and subsequently, the type of instrument used to acquire the service
- Determining the intent of requirement to be performed under the PIA
  - What is the primary purpose of the requirement?
  - Is the ultimate goal to obtain assistance in transferring/transitioning technology?
  - Is the ultimate goal to conduct further research or accomplish prototyping?
  - Is the ultimate goal to obtain advisory support for a particular R&D effort?
  - Is the ultimate goal to obtain support for a conference or other event?
  - What non-federal partner connections are we hoping to achieve?

Going back to our practical exercise……

- Let's re-examine need #2 by changing the primary purpose of the requirement:

The Original Requirement

The primary objective was to provide set-up support for trade shows.

NEED #2: Provide support for displays, graphics and trade shows.

PIA

✓ Applying the three factors, we determined this requirement to be a recurring support service. Outside the PIA scope!

The Revised Requirement

The primary objective is to conduct a Technology Assessment on robotics technologies. As part of the TA, the PIA will conduct "discovery" to assess the robotics technology ecosystem. The PIA may need to hold TA workshops with Small Business and Academic Institutions that are part of the robotics ecosystem. Services inherent to conducting the TA workshops may include displays and set-up which the PIA can provide as part of the primary effort of assessing the technology.

PIA

Why is it ok for the PIA to perform set-up activities on the revised requirement and not on the original requirement?

It's all about the primary purpose/objective/goal!

Original Project
Primary purpose is Support
No T3 activities!

Revised Project
Primary purpose is T3!

The primary purpose may completely change the nature of the requirement!

PIAs cannot…..

- Conduct research and development activities
  - Cannot directly develop, demonstrate, prototype or test a technology solution/product; however, a PIA may ***assist*** in facilitating these activities as they relate to the transfer/transition of technology between industry/academic institution and the federal government
- Directly commercialize federally-developed laboratory technologies
  - PIAs may ***assist*** in commercializing federal technologies
- Be used as a pass-through to provide funding to non-federal entities
  - Cannot procure goods or services for the laboratory
  - Cannot be used to circumvent standard procurement procedures
  - Cannot provide technical R&D and/or A&AS services; cannot provide program management
- Act as a “prime” entity for a company or academic institution
  - PIAs may ***assist*** industry/academia in drafting/processing T2 agreements (i.e. patents, CRADAs, CTAs, EPAs, etc.) but they cannot sign a T2 agreement on behalf of the company/academic institution
- Provide facility space unless use of space is specifically tied to a T3 activity
  - All meetings/events/activities conducted in a PIA’s facility ***must*** be T3 related
- Determine T3 policy, such as determining content and application of regulations
  - PIAs may ***assist*** in the development of such policy
- Determine program priorities for budget requests
- Direct federal employees or employees of industry/academic institutions

Subcontractors under a PIA……

Let's examine a subcontractor/sub-recipient role under a PIA :

- Need: Government requires prototype development for "chatbots" technology to assist Information Technology helpdesks; requests PIA to facilitate/assist with development.

Approach #1: Chatbots Prototype

- PIA conducts assessment of emerging market in chatbot tech; identifies two promising companies working on this technology
- Neither gov't nor the two companies have the bandwidth to develop the prototypes
- The PIA issues a "subcontract" to each company to develop the prototypes for the government through the PIA.
- Prototype development is completed and the PIA assists in transitioning the technology to the government.

Approach #2: Chatbots Prototype

- PIA conducts assessment of emerging market in chatbot tech: identifies two promising companies working on this technology
- Both companies have developed some initial prototypes for potential use of tech by gov't
- The PIA assists government in transitioning potential technology to government via a separate business arrangement (contract, OT, CRADA, etc)

Approach #3: Chatbots Prototype

- PIA conducts assessment of emerging market in chatbot tech: identifies two promising companies working on this technology
- Neither gov't nor the two companies have the bandwidth to develop prototypes
- The gov't accomplishes a separate business arrangement (e.g. contract, OTP, etc) directly with each company to accomplish prototype development.

What is the best solution? (Hint: Keep in mind PIA limitations!)

Subcontractors under a PIA……

Let's examine a subcontractor/subrecipient role under a PIA :

- Need: Government requires prototype development for "chatbots" technology to assist Information Technology helpdesks; requests PIA to facilitate/assist with development.

Approach #1: Chatbots Prototype

- PIA conducts assessment of emerging market in chatbot tech; identifies two promising companies workin[illegible]is technology
- Neither gov't [illegible]o companies have the bandwidth to [illegible]he prototypes
- The PIA issue[illegible]bcontract" to each company to develop the prototypes for the government through the PIA.
- Prototype development is completed and the PIA assists in transitioning the technology to the government.

➢ **A PIA nor its subcontractors can develop prototypes under a PIA!**

Approach #2: Chatbots Prototype

- PIA conducts assessment of emerging market in chatbot tech; identifies two promising companies working [illegible]echnology
- Both companie[illegible]eloped some initial prototypes for pote[illegible]f tech by gov't
- The PIA assists go[illegible]ment in transitioning potential technology to government via a separate business arrangement (contract, OT, CRADA, etc)

➢ **A PIA may assist in transitioning tech to gov't but *<u>further prototype development</u>* must be accomplished via a separate business arrangement between the gov't and the company**

Approach #3: Chatbots Prototype

- PIA conducts assessment of emerging market in chatbot tech; identifies two promising companies working [illegible]chnology
- Neither gov't no[illegible]ompanies have the bandwidth to de[illegible]otypes
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➢ **A PIA may assist in transitioning tech to gov't but *<u>initial prototype development</u>* must be accomplished via a separate business arrangement between the gov't and the company**

Subcontractors under PIAs are required to perform T3 activities!

POTENTIAL PARTNERS….

Potential T3 Partners

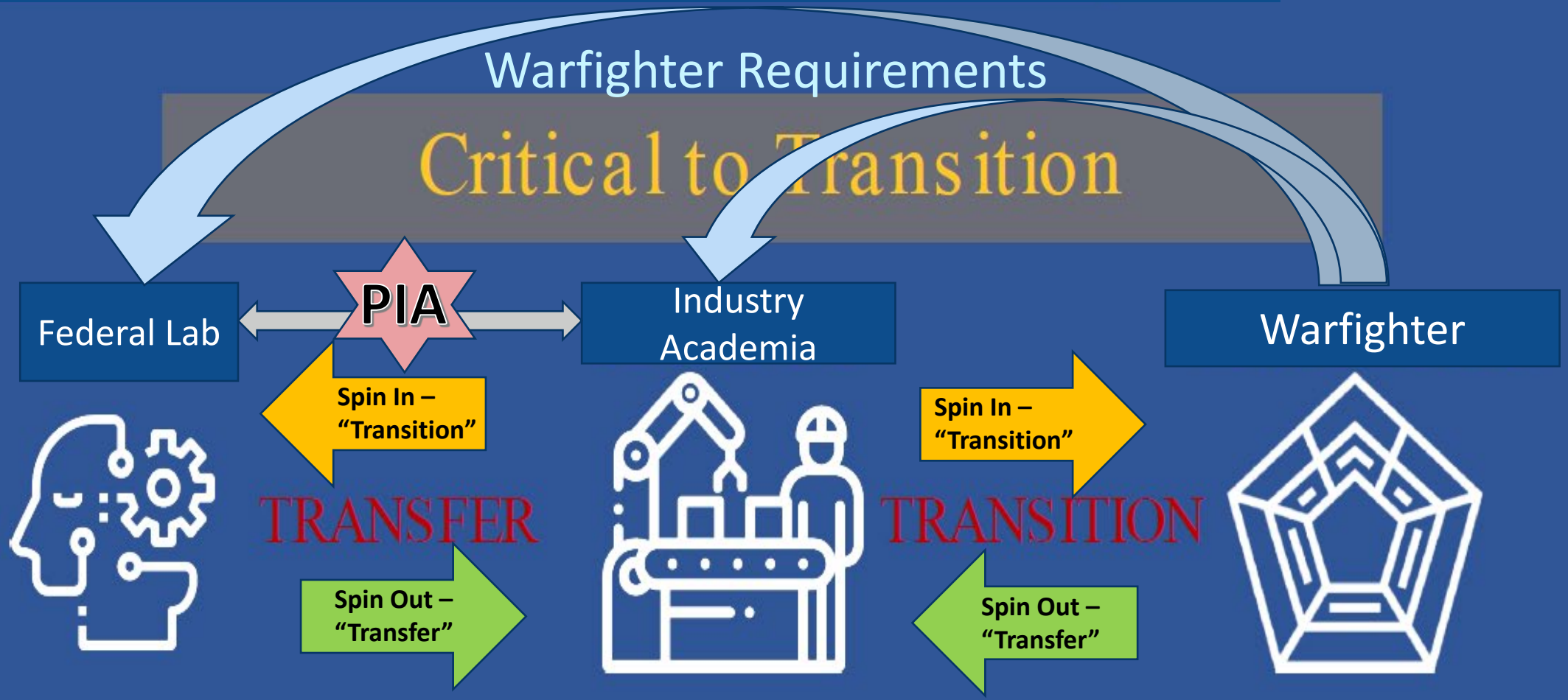


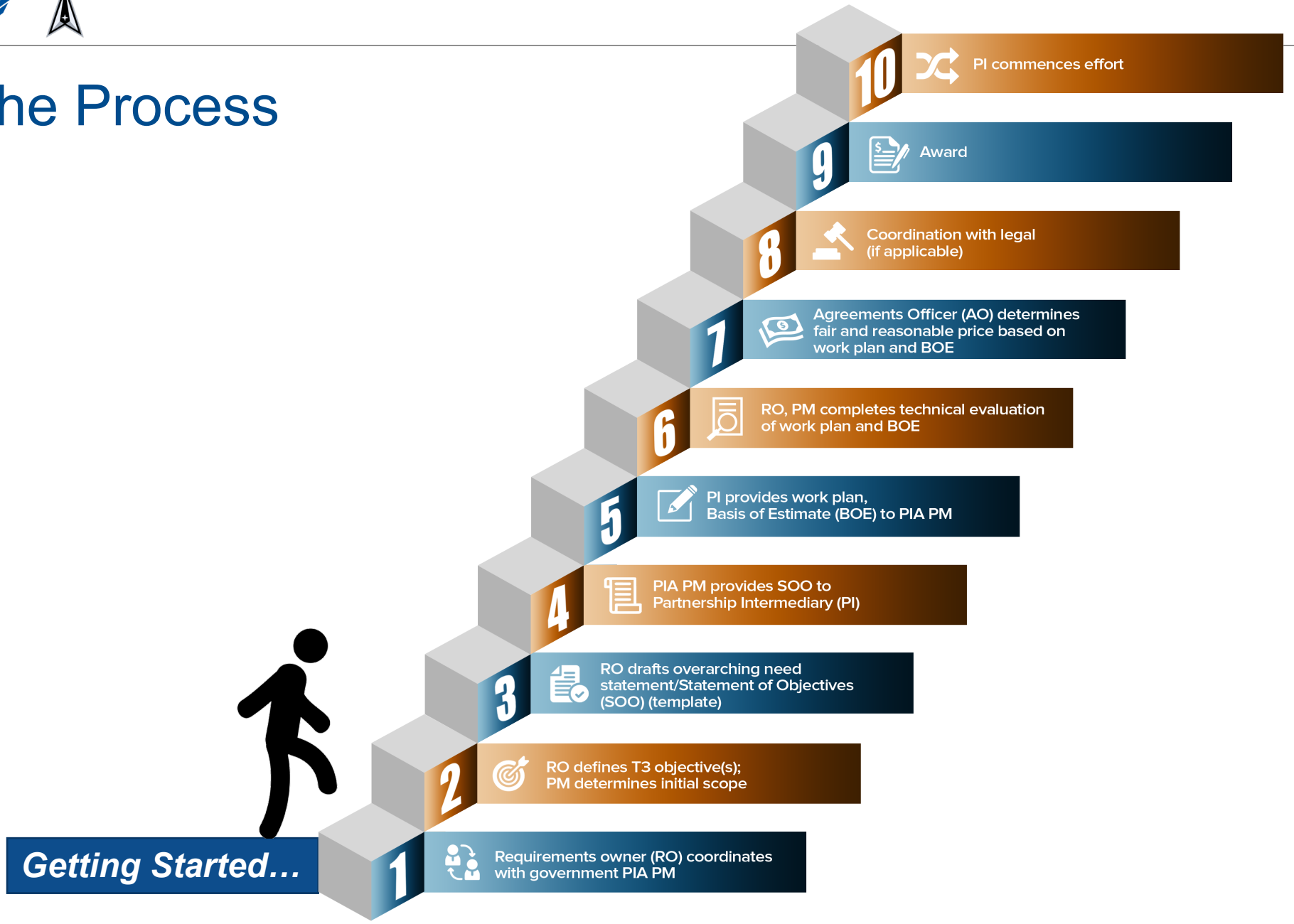
Chart taken from FLC First Timers Training (Modified by AFRL/SB)
https://federallabs.org/learning-center/on-demand/online-courses/2020-us-department-of-defense-technology-transfer-first

Partners – Industry and Academic Institutions

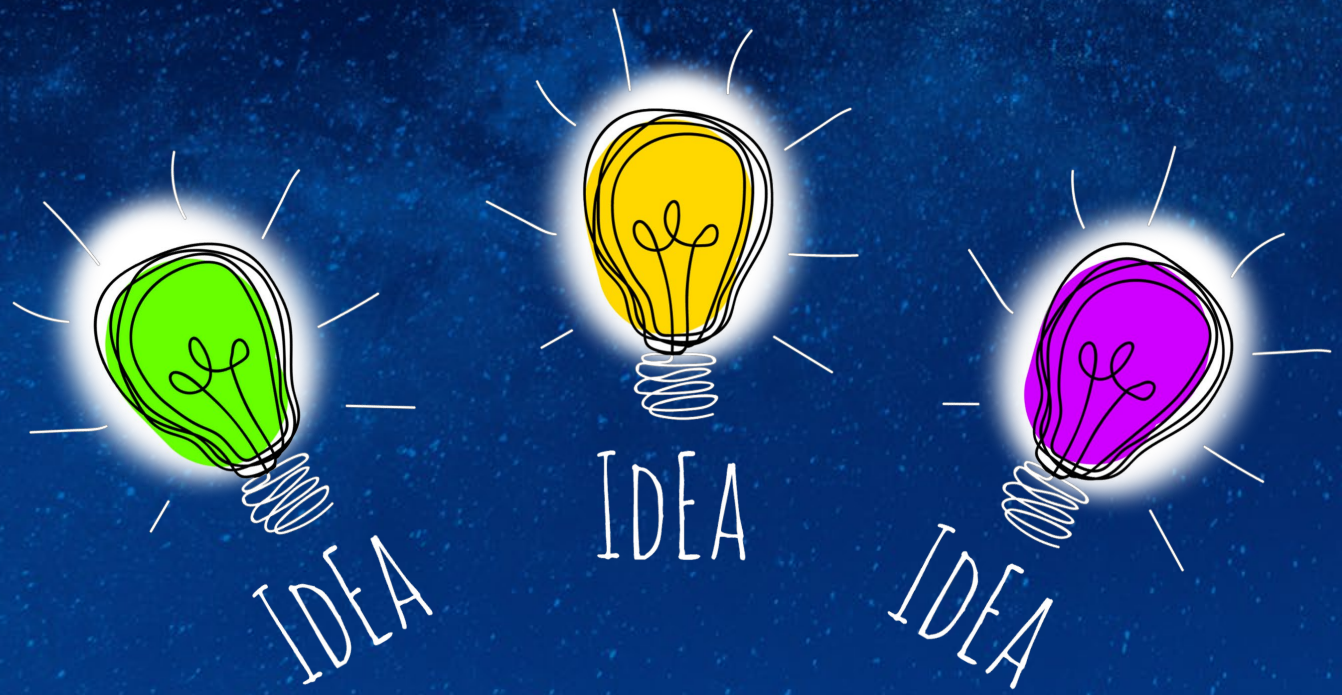
- Any federal laboratory *(15 USC 3715)*
  - Exclusive focus on “small business firms or educational institutions”
  - Exclusive focus on “Institutions of higher education as defined in Titles 10 and 20
- AF Center for Science, Technology, and Engineering (AFRL) *(10 USC 4124)*
  - Establishes no limit on the size of the industry or commercial *entity—may include both small and large business partners*
  - Refers to “academic institutions” with no limitations on the educational entities eligible for assistance by the PIA
- PIA benefits to Industry/Academic Institutions
  - Helps industry/academia discover AF technology-related solutions and partnering opportunities
  - Explains partnering opportunities as well as AF activity requirements and expectations
  - Assists potential T2 partners in evaluating licensable AF technologies for their intended applications
  - Helps develop viable license applications, commercialization plans, CRADA scopes of work, and applications for other T3 projects

HOW DO I USE A PIA?

The Process



CASE STUDIES…. DISCUSSION



BACKUP CHARTS

Technology Assessment Steps

- Conduct needs assessment
- Prioritize needs
- Identify technologies relevant to needs
- Prioritize technologies for assessment
- Identify and consult with external experts (specifically in industry and academic ecosystem)
- Define assessment objectives
- Define target audience
- Define specific research questions
- Conduct Literature search
- Synthesis of data analysis, evaluation
- Review by external experts
- Final assessment
- Dissemination

PIA Request Form (Template)

PIA Work Request Form

PROJECT TITLE:

CUSTOMER/GOVERNMENT PROJECT LEAD POC:

PROJECT TIMELINE:

TECHNOLOGY TRANSFER & TRANSITION (T3) ACTIVITY DESCRIPTION:

- **Executive Summary**: Provide a brief overview of the proposed project in a single paragraph.

- **Statement of Objectives**: Describe the objectives of the project. ***PIAs cannot perform technological research, development work, procure goods or services that a contract can accomplish.***
  - What does the government hope to achieve?
  - What problem are we trying to solve?
  - What technology do we need help in transferring from the lab to industry?
  - What technology are we hoping to transition from commercial industry to the AF?

- **Proposed Partners**: Identify potential partner(s) **(industry, academia, small business)** the lab would like to engage with on the T3 activities. (The PI may identify proposed partners if unknown, will need to specify requirement under the technical tasks)

- **Technical Tasks**: Describe specific tasks the government requires the PI to accomplish for the project. ***Identify the category(s) that best fits the need for the project and provide an explanation of expectations and usage of the PIA. Delete categories that do not apply to your request.***
  - Does the lab need assistance identifying a partner(s) for transfer/transition?
  - Has the lab identified a potential partner(s) and has identified the partner(s) needs assistance in developing a specific T2 agreement, patent licensing, commercialization plan, etc?
  - Does the lab need assistance in conducting a specific technology assessment?
  - If the service required includes the demonstration/testing of a prototype to prove a technology, identify the partners (e.g. small business, academia, etc.) required to engage in the prototype activity. Keep in mind, the PI cannot conduct the development, demonstration or testing of a prototype. The PIs role is to identify potential partners and facilitate partner engagement in prototype activities.
  - If requirement is to transfer technology from the lab to industry, identify the areas where the PI may assist:
    - Identifying potential partners; this could entail the PI conducting conferences, workshops, seminars, collider events to explore specific technology ecosystem
    - Provide assistance with establishing T2 agreements
    - Development of commercialization plan
    - Evaluation of patents to determine the most viable candidates for licensing to industry
  - If requirement is to transition technology into the federal government, identify the areas where the PI may assist:
    - Conduct military and technology assessment to determine need for technology with the DOD
    - Identify qualified potential partners and facilitate engagement to match DOD/AF technology needs
    - Assist with establishing T2 agreements
  - If requirement is STEM-related, identify areas where the PI may assist:
    - Identify DOD/AF technology needs and facilitate alignment with potential academic institution partnerships (e.g. student summer technology camps, internships, etc.)
    - Facilitate activities with visiting faculty/scientists from academic institutions
  - If the requirement is for data analysis, identify how the PI may assist:
    - What is the purpose of the data analysis? How will the data be used by the government?
      - Example: assist with strategic planning as related to technology transfer/transfer
      - Example: conduct military and/or technology assessment

- **Estimated Cost:**
  - Identify ROM (rough order of magnitude) of the cost for this effort
  - If ROM not available, identify the government's budget estimate for the effort
  - Identify funds type (i.e. 3600, 3400, SBIR admin funds, etc)