Acquisition Hour:

Learning about DOD Critical Technology Areas

April 22 | Noon – 1:00 pm

Presented by:
Marc Violante, Wisconsin Procurement Institute

WPI Wisconsin Procurement Institute
An APEX Accelerator

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Wisconsin Procurement Institute

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Assisting Wisconsin businesses compete in the government marketplace.

WPI is Wisconsin's APEX ACCELERATOR

The APEX Accelerators program, under management of the Department of Defense (DOD) Office of Small Business Programs (OSBP), plays a critical role in the Department's efforts to identify and engage with a wide range of businesses entering and participating in the defense supply-chain. The program provides the education and training that all businesses need to participate to become capable of participating in DOD and other government contracts.

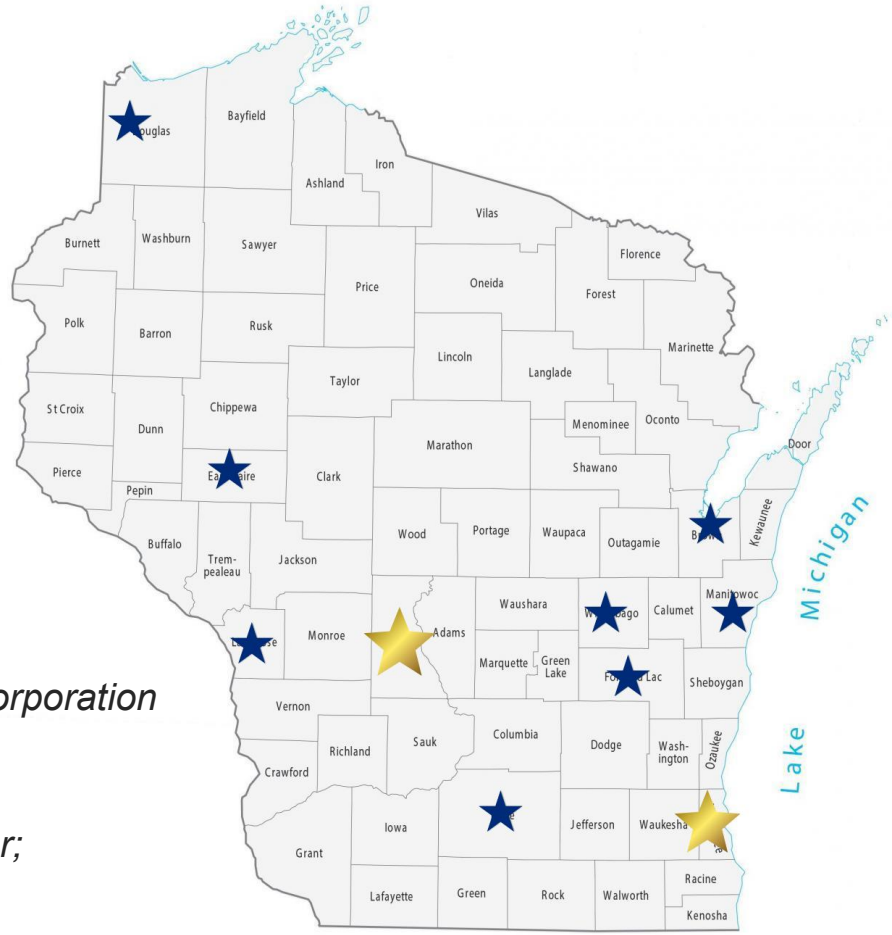
WPI provides services and training to all of Wisconsin's 72 counties

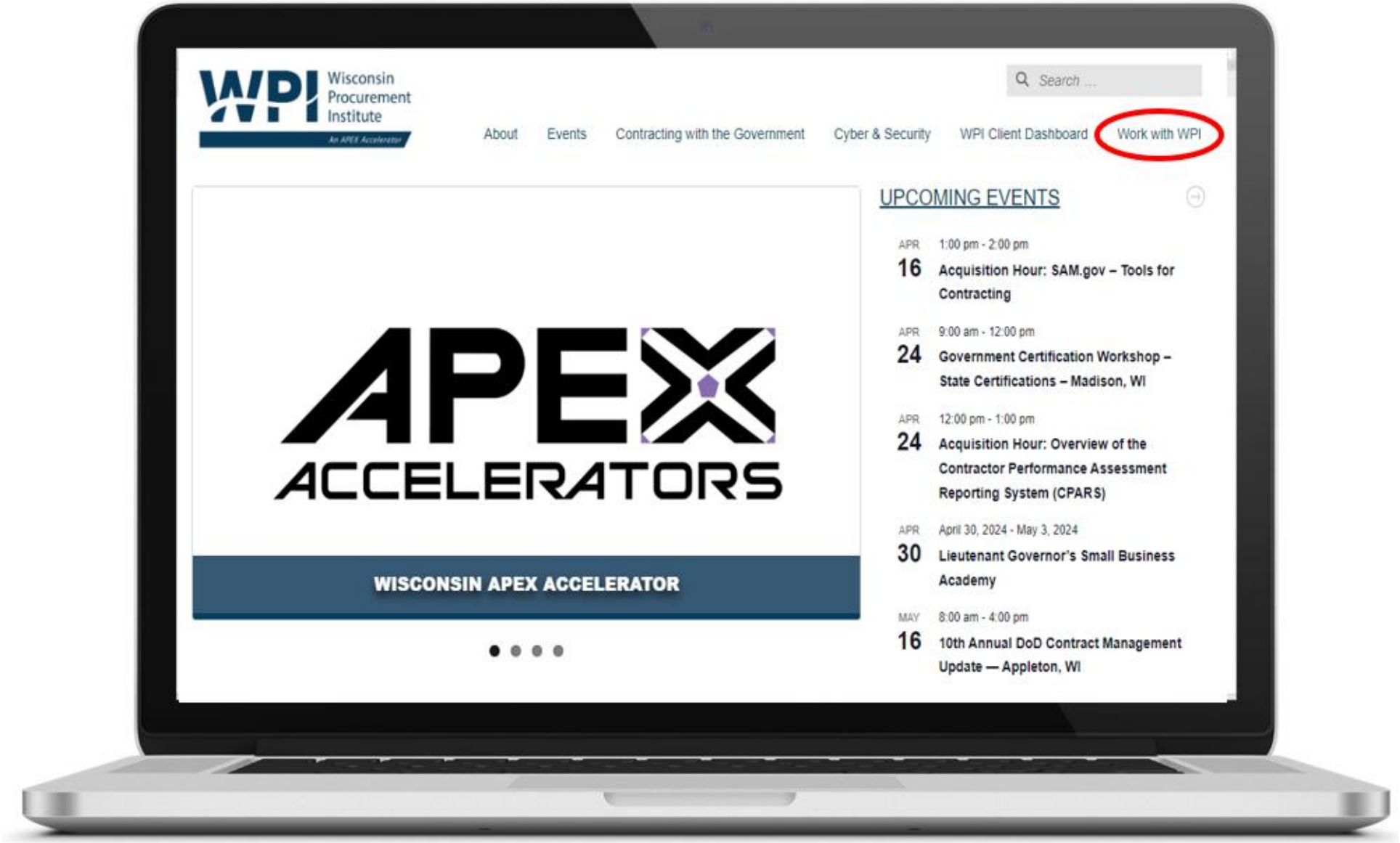
- Individual counseling at our offices, client's facility or virtually
- Small group training – webinars and workshops including Acquisition Hours, Cyber Fridays, Evening FAR sessions, Federal Market Insights and Local Government Sales Opportunities
- Conferences the Governors Marketplace, The Contracting Academy (TCA), WEDCs Small Business Academy, Wisconsin Federal Contractor Forum [DC and in-state], Government Opportunities Business Conference GOBC) with WI military bases, End of Year Federal Contractor Update, Annual DOD Contract Management Update, and more……

www.wispro.org

WPI OFFICE LOCATIONS

- **MILWAUKEE**
  - *Technology Innovation Center*
- **MADISON**
  - *FEED Kitchens*
  - *Dane County Latino Chamber of Commerce*
  - *Madison Area Technical College (MATC)*
- **CAMP DOUGLAS**
  - *Juneau County Economic Development Corporation (JCEDC)*
- **EAU CLAIRE**
  - *Western Dairyland*
- **FOND DU LAC**
  - *Envision Greater Fond du Lac*
- **GREEN BAY**
  - *NWTC Startup Hub*
- **LACROSSE**
  - *Veterans in Professions*
- **MANITOWOC**
  - *Progress Lakeshore*
- **OSHKOSH**
  - *Greater Oshkosh Economic Development Corporation*
- **SUPERIOR**
  - *Small Business Dev Center; UW Superior*

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UPCOMING EVENTS
APR 16 1:00 pm - 2:00 pm
Acquisition Hour: SAM.gov – Tools for Contracting
APR 24 9:00 am - 12:00 pm
Government Certification Workshop – State Certifications – Madison, WI
APR 24 12:00 pm - 1:00 pm
Acquisition Hour: Overview of the Contractor Performance Assessment Reporting System (CPARS)
APR 30 April 30, 2024 - May 3, 2024
Lieutenant Governor's Small Business Academy
MAY 16 8:00 am - 4:00 pm
10th Annual DoD Contract Management Update — Appleton, WI

Learning about DOD Critical Technology Areas

Wisconsin Procurement Institute

Marc Violante

22 April 2026

Why Federal Contracting Feels Confusing

- “The Government” is not a single customer
- Rules vary by agency and office
- Registration does not mean ready to sell
- Requirements depend on who you sell to
- R&D can follow different pathways

What Does “Selling to the Government” Mean?

- Departments, agencies, and contracting offices
- Each office buys specific products and services
- Success requires alignment—not size
- Success means detailed analysis as to where a company fits in the **evolving** supply chain
- R&D needs may differ from production requirements

The Federal Market – by the numbers

- "I want to sell to the Government"
- The issue from a Federal Perspective
  - Departments – 71
  - Agencies – 161
  - Contracting Offices ~ 2,825 (federal) - DB
  - Contracting Offices ~ 956 (DoD/DoW) - DB

DoD R&D
~63
Estimated - Copilot

~309 PSC – "A" DB

- The questions:
  - Who purchases what you sell?
  - How do they purchase?
  - How you going to identify opportunities and market?

Critical Technologies Are Dynamic and Threat-Driven

- Critical technologies are defined by current and emerging national security needs.
- DoD treats Critical Technology Areas (CTAs) as dynamic, not fixed or static.
- CTAs reflect
  - Changes in the threat environment – peers, adversaries
  - Evolving operational concepts
    - How has/is the battlefield changing - Ukraine
  - Advances in technological maturity
    - What is needed from a technology perspective

CTAs Reflect Real-Time Strategic Conditions

- CTAs shift as adversary capabilities, doctrine, and technology change.
- What is “critical” today may differ from what was critical five years ago.
- Drivers
  - Peer and near-peer competitor developments
  - New operational challenges and missions
  - Breakthroughs that alter feasibility or effectiveness

CTAs Are About Strategic Advantage, Not Just Necessity

- CTAs are not only technologies DoD needs at a moment in time.
- They are technologies required to maintain or achieve strategic advantage.
  - Overmatch against peer competitors
  - Speed of capability delivery
  - Sustained dominance across domains

Implication for Industry

- Companies should not view CTAs as static requirements.
- CTA alignment signals relevance to DoD’s future operational advantage.
  - Monitor CTA evolution regularly
  - Align capabilities to competitive advantage, not incremental need
  - Emphasize transition and operational impact

Guidance to DoD Companies

- CTAs provide a strong signal of future priorities.
- Companies cannot rely on CTAs alone
- Execution still happens through:
  - Programs of Record,
  - Combatant command requirements
  - Service-specific priorities.

  - CTAs will impact DoD demand and needs but will not be the sole source of direction.

Reduction from 14 to 6 CTAs; Driving issues

- Diluted attention
- Fragmented R&D
- Thinner fundingaccurately reflects DoD’s stated motivations.

- The six that remain signal their importance
  - The review process started with 14 and finished with 6

Why These Six Technology Areas Matter

- Critical to U.S. national security
- DoD is seeking solutions now, not in the distant future
- Funding, leadership attention, and urgency are aligned
- Commercial solutions are strongly preferred

Overmatch; today's requirements may differ

- Overmatch – overpowering
- Effective in containing the Soviets
- "Today, this overmatch is no longer absolute, thanks to the rise of peer and near-peer adversaries. If the United States is to continue to dominate the battle space, the military must think creatively about new ways of achieving overmatch, reducing its reliance on large, expensive and vulnerable military assets, and prioritizing resiliency, flexibility and interoperability."
  - Today - Creating a New Paradigm for U.S. Force Overmatch, National Defense, 4/1/2022
  - https://www.nationaldefensemagazine.org/articles/2022/4/1/creating-a-new-paradigm-for-us-force-overmatch

Why Overmatch Matters to CTAs

- CTAs are explicitly oriented toward:
  - Restoring or sustaining overmatch as peer competitors close historical capability gaps
    - "represent the priorities that will deliver the greatest impact, the fastest results and the most decisive advantage on the battlefield,"
  - Delivering technologies that enable faster sensing, deciding, and acting than adversaries
  - This is why CTAs prioritize impact, scale, and transition speed, not just technical novelty.
    - “R&E is galvanizing the War Department around 12–36-month technology development and delivery ‘sprints,’” Nov 2025

- https://defensescoop.com/2025/11/17/dod-six-critical-technology-areas-emil-michael-dow/
- Project Overmatch Achieves Historic Milestone with Five Eyes Agreement > Naval Information Warfare Systems Command > Article Display
- From lasers to logistics: Pentagon CTO announces top six tech priorities - Breaking Defense

Changing Environment, Changing drivers

- “Warfare is no longer defined or dominated by the largest, most expensive platforms, but by **low-cost, technologically capable systems** that are reshaping the battlefield.”
  - **Department of the Air Force Chief Technology Officer Scott Heitmann**
  - **The Wrap, Meri Talk, April 21, 2026**

“The Big Six”

1. **Applied Artificial Intelligence (AAI)**
2. **Biomanufacturing (BIO)**
3. **Contested Logistics Technologies (LOG)**
4. **Quantum and Battlefield Information Dominance (Q-BID)**
5. **Scaled Hypersonics (SHY)**
6. **Scaled Directed Energy (SCADE)**
   - six replaces an older list that included eight other CTAs [PDF] now cut, but many specific initiatives will be folded under one of the new big six.
   - The new big six, however, will now receive the lion’s share of high-level attention, the under secretary made clear.
     - From lasers to logistics: Pentagon CTO announces top six tech priorities - Breaking Defense

Applied Artificial Intelligence (AAI)

- **From back-office to frontline warfighting**
- This category covers AI from back-office business functions to frontline warfighting, DoD said the priority on AI is “aligned with the White House AI Action Plan,” which envisions a zero-sum AI race between the US and China. (A recent reorganization brought the Pentagon’s Chief Digital & AI Office, the CDAO, under Michael’s direct control).

https://breakingdefense.com/2025/11/from-lasers-to-logistics-pentagon-cto-announces-top-six-tech-priorities/

Biomanufacturing (BIO)

- “Harnessing living systems for …”
- This refers to “harnessing living systems” for mass production of key materials. In essence, biomanufacturing brews vital chemicals, like lubricants or anti-corrosion coatings, in giant vats of genetically engineered microorganisms, instead of using traditional petrochemical processes, which have been increasingly outsourced overseas. This could “eliminate any supply chain vulnerabilities,”

https://breakingdefense.com/2025/11/from-lasers-to-logistics-pentagon-cto-announces-top-six-tech-priorities/

Contested Logistics Technologies (LOG)

- “LOG refers to using **whatever tech can help** “ensure seamless resupply and operational continuity”
- Less a specific technology than a broad mission, in contested environments.” It’s worth noting that the term “contested,” in Pentagon jargon, applies particularly to the Pacific during a war with China.

https://breakingdefense.com/2025/11/from-lasers-to-logistics-pentagon-cto-announces-top-six-tech-priorities/

Quantum and Battlefield Information Dominance (Q-BID)

- Technologies to help – communicate and navigate
- “Dominance” requires improving both longstanding radio-frequency tech and emerging quantum technologies to help US forces communicate and navigate. Officials have said for over a decade that they’re particularly concerned about the potential for traditional GPS and radio to be jammed by a high-tech adversary like Russia or China.

https://breakingdefense.com/2025/11/from-lasers-to-logistics-pentagon-cto-announces-top-six-tech-priorities/

Scaled Hypersonics (SHY)

- Massed produced – Mach 5 or higher
- Mach 5 ~ 3,806 mph
- East to West Coast ~ .75 hours
- “Scaling” means moving hypersonic missiles from the current array of small-scale prototypes to mass production. Hypersonic systems can move at Mach 5 or higher within the atmosphere, making them faster than current cruise missiles and more agile than ballistic missiles. For years, US officials have warned Russia and China are investing heavily and testing more frequently.

https://breakingdefense.com/2025/11/from-lasers-to-logistics-pentagon-cto-announces-top-six-tech-priorities/

Scaled Directed Energy (SCADE)

- “could take effectively unlimited shots against incoming drone swarms and missile barrages”
- Much as in hypersonics, scaling “directed energy” means moving high-energy lasers and microwave-beam weapons from the promising small-scale demonstrations into mass production. The Pentagon, like other global militaries, hopes energy weapons could take effectively unlimited shots against incoming drone swarms and missile barrages that could overwhelm existing defenses such as Patriot and THAAD.

https://breakingdefense.com/2025/11/from-lasers-to-logistics-pentagon-cto-announces-top-six-tech-priorities/

Technology Readiness Levels

- TRL 1 – Basic principles observed and reported
- TRL 2 – Technology concept and application formulated
- TRL 3 – Analytical or experimental proof of concept demonstrated
- TRL 4 – Component validated in a laboratory environment
- TRL 5 – Component validated in a relevant environment
- TRL 6 – System or subsystem prototype demonstrated in a relevant environment
- TRL 7 – System prototype demonstrated in an operational environment
- TRL 8 – Actual system completed and qualified through testing
- TRL 9 – Actual system proven through successful operational use

Acquisition/Information/Awareness Tools

- Track OUSD(R&E) and Service S&T Budget Signals (Not Just Solicitations)
- Follow Service Labs and Warfare Centers, Not “CTA Announcements” – BAAs and Industry Day
- Use SBIR/STTR Topics as a CTA Early-Warning System*
- Build Direct, Persistent Touchpoints with One CTA-Relevant Organization
- BAAs, CSOs, Consortium membership, other
- In reality, there is not one CTA pipeline for information

Supply Chain

- Where do you fit?
  - Capabilities
  - Qualifications
  - Resources
  - Capacity

Security

- Information security
- Cybersecurity
- Physical
- FOCI
- Financial – part of FOCI
- Supply Chain
- Staff

Start with the end in mind.
Requirements can move more quickly than changing states.

Outreach

- DoD
- Primes
- Key Subcontractors
- Material suppliers

What will you communicate?
What is your message?
Is a Capability Statement the best tool to use in this environment?

Quad Charts
Pitch Decks
Solution Briefs
Other
May be a combination
Tailored

Outreach – conferences - example

- AFCEA TechNet Cyber Early June (typically first week of June)
  - Focus: Cyber, zero trust, AI-enabled operations, data dominance
- Defense One Tech Summit (Virtual or hybrid) Late June
  - Focus: AI, autonomy, emerging defense tech, adoption barriers
- Defense Technology Review Conference (OUSD(R&E)-linked) Early–mid July
  - Focus: AI scaling, federation, trusted autonomy, R&E priorities
- Service-Hosted R&E / S&T Symposia (Regional, July)
  - Focus: Service-specific tech challenges

Source: Web search MS Copilot

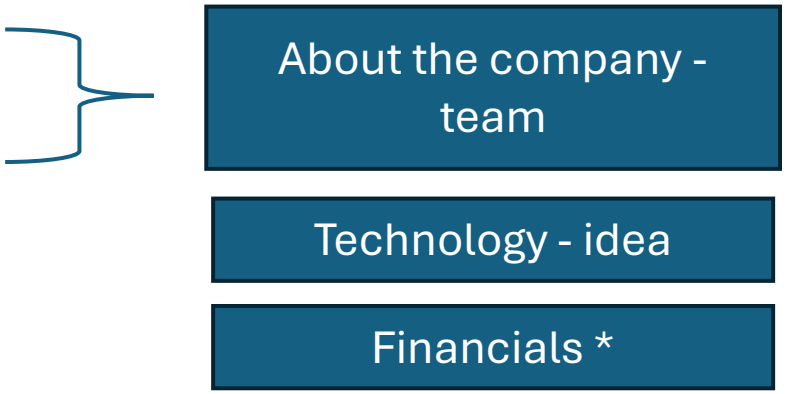
Tools Resources –

- SAM
- RFQ
- RFP
- OTA
- BAA
- CSO
- SBIR/STTR
- Unsolicited Proposal

Requirements
Differences
Eligibility

Communications – email v. in person

- Capability Statements
- Website
- Quad chart
- Pitch Deck
- Portal submission
- Solution Brief
- White Paper



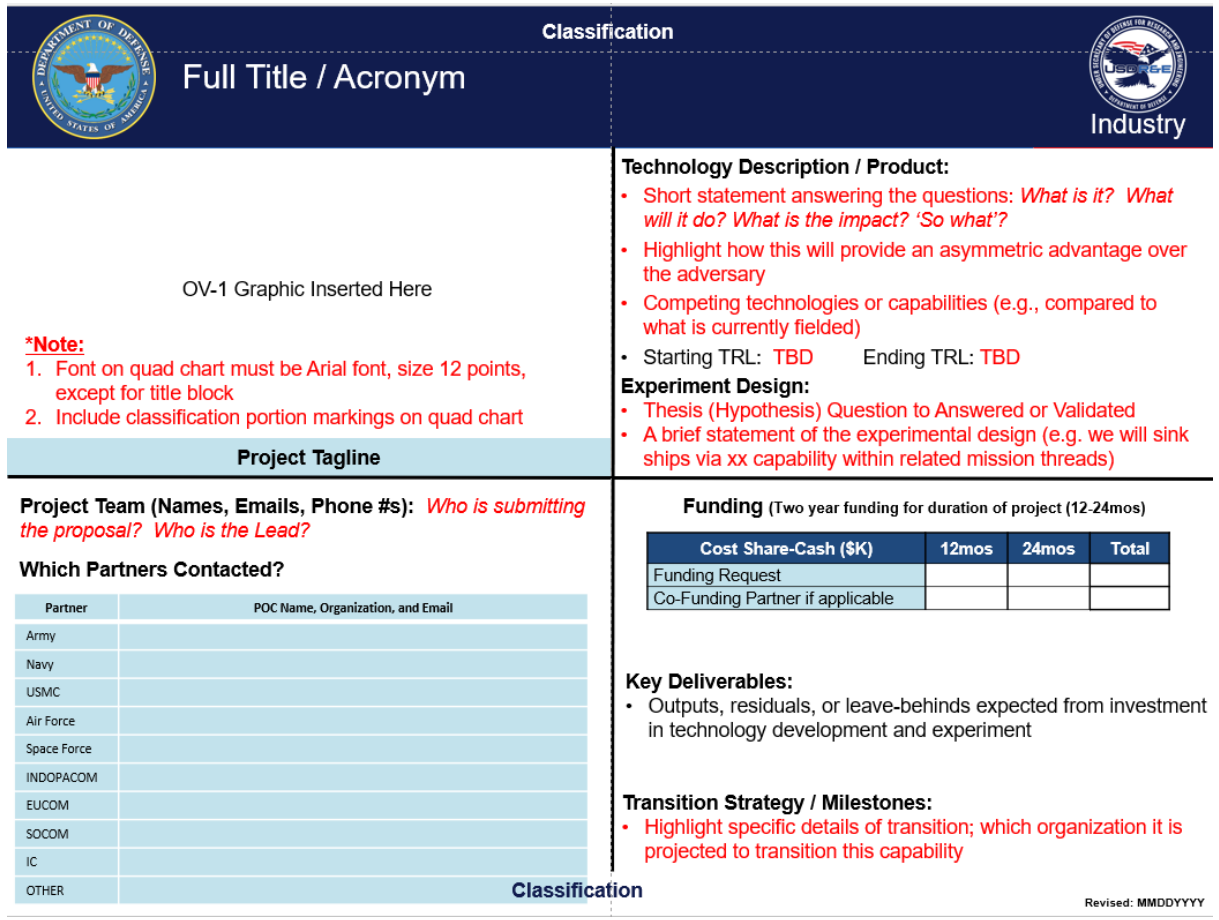
*Administration's – interest, leanings, backgrounds

Quad Chart vs. Pitch Deck (at a glance)

Aspect	Quad Chart	Pitch Deck
Purpose	Rapid decision snapshot	Persuasion and storytelling
Typical length	1 page (single slide)	10–20+ slides
Audience	DoD PMs, SES, technical reviewers	Investors, executives, partners
Use case	Tech scouting, S&T reviews, CTAs	Funding, strategic buy-in
Detail level	Highly compressed, factual	Narrative and contextual
Format	Fixed four-quadrant layout	Flexible slide sequence
Time to consume	1–3 minutes	15–45 minutes

Copilot

DoD Quad Chart - example



Classification

Full Title / Acronym

Industry

OV-1 Graphic Inserted Here

*Note:
1. Font on quad chart must be Arial font, size 12 points, except for title block
2. Include classification portion markings on quad chart

Project Tagline

Project Team (Names, Emails, Phone #s): *Who is submitting the proposal? Who is the Lead?*

Which Partners Contacted?

Partner	POC Name, Organization, and Email
Army	
Navy	
USMC	
Air Force	
Space Force	
INDOPACOM	
EUCOM	
SOCOM	
IC	
OTHER	

Technology Description / Product:
- Short statement answering the questions: *What is it? What will it do? What is the impact? 'So what'?*
- Highlight how this will provide an asymmetric advantage over the adversary
- Competing technologies or capabilities (e.g., compared to what is currently fielded)
- Starting TRL: TBD Ending TRL: TBD

Experiment Design:
- Thesis (Hypothesis) Question to Answered or Validated
- A brief statement of the experimental design (e.g. we will sink ships via xx capability within related mission threads)

Funding (Two year funding for duration of project (12-24mos)

Cost Share-Cash ($K)	12mos	24mos	Total
Funding Request			
Co-Funding Partner if applicable			

Key Deliverables:
- Outputs, residuals, or leave-behinds expected from investment in technology development and experiment

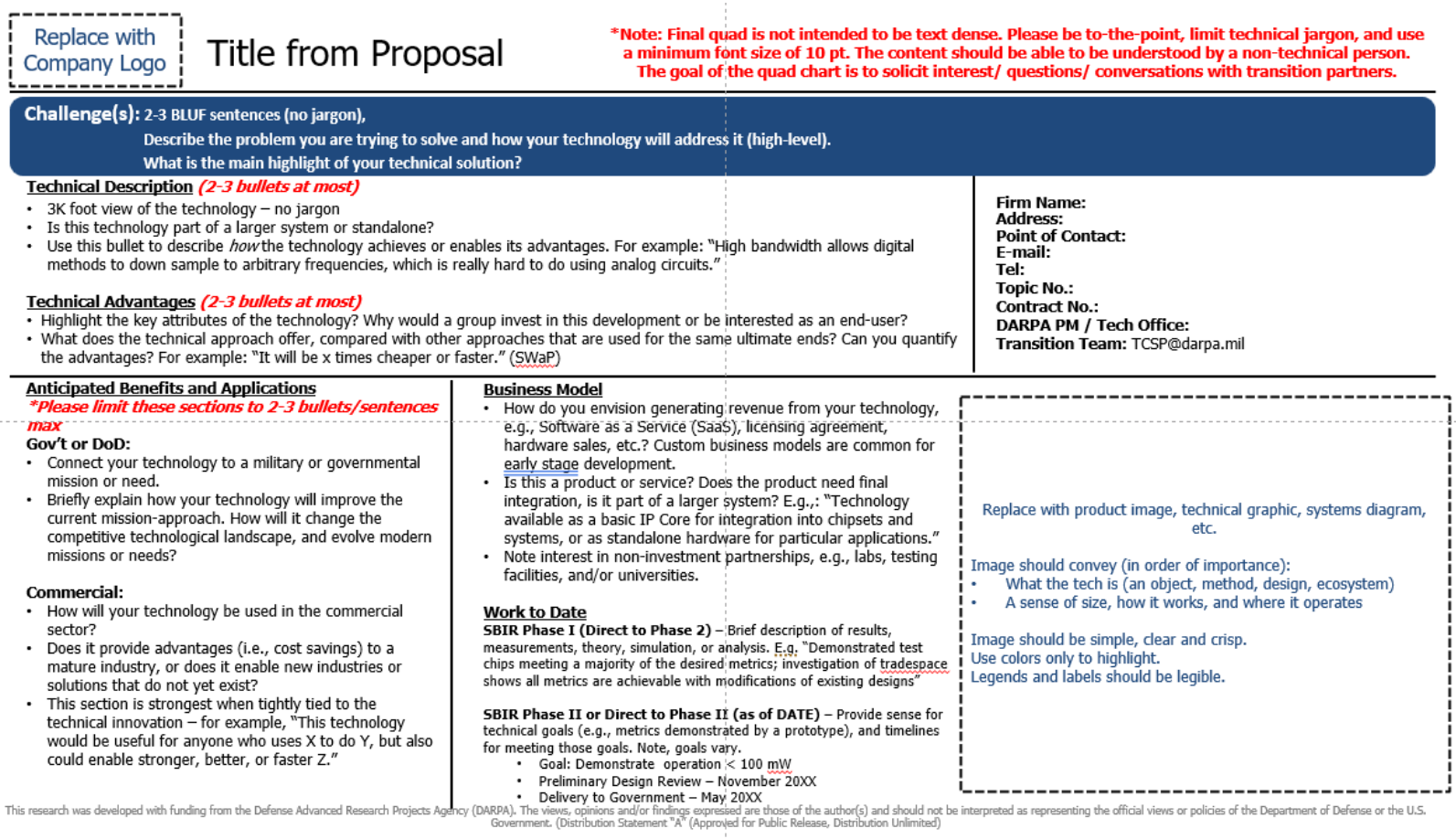
Transition Strategy / Milestones:
- Highlight specific details of transition; which organization it is projected to transition this capability

Classification

Revised: MMDDYYYY

DARPA - example

The goal of the quad chart is to solicit interest/ questions/ conversations with transition partners. - DARPA



Replace with Company Logo

Title from Proposal

*Note: Final quad is not intended to be text dense. Please be to-the-point, limit technical jargon, and use a minimum font size of 10 pt. The content should be able to be understood by a non-technical person. The goal of the quad chart is to solicit interest/ questions/ conversations with transition partners.

Challenge(s): 2-3 BLUF sentences (no jargon),
Describe the problem you are trying to solve and how your technology will address it (high-level).
What is the main highlight of your technical solution?

Technical Description *(2-3 bullets at most)*

- 3K foot view of the technology – no jargon
- Is this technology part of a larger system or standalone?
- Use this bullet to describe *how* the technology achieves or enables its advantages. For example: "High bandwidth allows digital methods to down sample to arbitrary frequencies, which is really hard to do using analog circuits."

Technical Advantages *(2-3 bullets at most)*

- Highlight the key attributes of the technology? Why would a group invest in this development or be interested as an end-user?
- What does the technical approach offer, compared with other approaches that are used for the same ultimate ends? Can you quantify the advantages? For example: "It will be x times cheaper or faster." (SWaP)

Firm Name:
Address:
Point of Contact:
E-mail:
Tel:
Topic No.:
Contract No.:
DARPA PM / Tech Office:
Transition Team: TCSP@darpa.mil

Anticipated Benefits and Applications
**Please limit these sections to 2-3 bullets/sentences max*

Gov't or DoD:

- Connect your technology to a military or governmental mission or need.
- Briefly explain how your technology will improve the current mission-approach. How will it change the competitive technological landscape, and evolve modern missions or needs?

Commercial:

- How will your technology be used in the commercial sector?
- Does it provide advantages (i.e., cost savings) to a mature industry, or does it enable new industries or solutions that do not yet exist?
- This section is strongest when tightly tied to the technical innovation – for example, "This technology would be useful for anyone who uses X to do Y, but also could enable stronger, better, or faster Z."

Business Model

- How do you envision generating revenue from your technology, e.g., Software as a Service (SaaS), licensing agreement, hardware sales, etc.? Custom business models are common for early stage development.
- Is this a product or service? Does the product need final integration, is it part of a larger system? E.g.,: "Technology available as a basic IP Core for integration into chipsets and systems, or as standalone hardware for particular applications."
- Note interest in non-investment partnerships, e.g., labs, testing facilities, and/or universities.

Work to Date

SBIR Phase I (Direct to Phase 2) – Brief description of results, measurements, theory, simulation, or analysis. E.g. "Demonstrated test chips meeting a majority of the desired metrics; investigation of tradespace shows all metrics are achievable with modifications of existing designs"

SBIR Phase II or Direct to Phase II (as of DATE) – Provide sense for technical goals (e.g., metrics demonstrated by a prototype), and timelines for meeting those goals. Note, goals vary.

- Goal: Demonstrate operation < 100 mW
- Preliminary Design Review – November 20XX
- Delivery to Government – May 20XX

Replace with product image, technical graphic, systems diagram, etc.

Image should convey (in order of importance):

- What the tech is (an object, method, design, ecosystem)
- A sense of size, how it works, and where it operates

Image should be simple, clear and crisp.
Use colors only to highlight.
Legends and labels should be legible.

This research was developed with funding from the Defense Advanced Research Projects Agency (DARPA). The views, opinions and/or findings expressed are those of the author(s) and should not be interpreted as representing the official views or policies of the Department of Defense or the U.S. Government. (Distribution Statement "A" (Approved for Public Release, Distribution Unlimited)

DIU Solution Brief

- **Responding to a DIU Solicitation: Best Practices**
  - Be specific
  - Share relevant company details
  - Show us your technology
  - Uniqueness
  - Provide real-world examples
  - Demonstrate market viability
  - Check and double check the deadline
  - *Review – adhere to instructions

View Youtube videos -- https://www.diu.mil/solution-brief-guidance

DIU Solution Brief Guidance

- There is no one-size-fits-all way to submit a solution brief.
- We want to keep the barriers to entry low, and companies should feel comfortable reworking existing materials.
- That said, we strongly recommend that Solution Briefs not exceed 5 written pages using 12-point font or 15 briefing slides.
- These limits are not requirements but are strongly recommended.
- Please save your document or brief as a PDF before you include it in your online response to a DIU solicitation.

https://www.diu.mil/solution-brief-guidance

How To Create A Pitch Deck

- The pitch deck is a presentation that entrepreneurs put together when seeking a round of financing from investors.
- On average pitch decks have no more than 19 slides.
- Versions – text > email; visuals > in person
- Clear and simple
- Compelling
- Easy to act on
- Note that according to research done by DocSend, investors spend on average 3 minutes and 44 seconds per pitch deck.

https://www.forbes.com/sites/alejandrocremades/2018/03/02/how-to-create-a-pitch-deck/

Essential DoD Pitch Deck Structure

- Cover Slide: Company Name, Project Title, Contact Information, and clear value proposition.
- Executive Summary: A concise summary of the problem, solution, and high-level mission impact.
- The Problem/Operational Gap: Define the specific, urgent problem in the DoD's context (e.g., "prolonged field care" or "data overload"). Use their language.
- The Solution (Proposed Tech): Clear description of your technology and how it addresses the stated problem.
- Technical Merit & Differentiation: Explain why your technology is better than competitors and why it works.
- Dual-Use Application: Showcase existing commercial use to show market viability and lower costs, alongside military utility.
- Transition Plan (Prototype to Production): The most crucial slide—how you will move from a pilot to a program of record.
- Team Capabilities: Highlight technical expertise and experience with federal acquisitions, if any.
- Traction & Validation: Provide real-world examples, testing results, or past performance.
- The Ask/Milestones: Clearly state funding needs (e.g., Phase I/II SBIR/STTR) and expected milestones.

https://afwerx.com/wp-content/uploads/AF_CSO_OPEN_TOPIC_TECH_VOL_TEMPLATE_9.23-2.pdf & DIU Solution Brief guidance

Looking forward

- Nimble
- Qualified
- Capable
- Targeted – focused
- Tailored solutions – not, “what do you need”

- Technology, Business, Contract - capabilities

Questions

Cyber Thursday

Cyber Friday is a series of one-hour webinars focusing on critical topics for DOD contractors and subcontractors in cyber security, data security, and CMMC. Attendees receive 1 CPE credit for attending.

- **April 30** – CMMC: Control Set Series: 3.3 Audit and Accountability
- **May 28** – CMMC: Control Set Series: 3.4 Configuration Management

…More information and registrations at wispro.org/events

Federal Market Insights

Federal Market Insights [FMI] is an informal podcast designed to provide valuable information about the government marketplace for businesses interested in government contracting.

- ~~**April 21** – Is It Possible to Create Your Own Contract? Let's See What FAR 15.6 Says~~
- **April 28** –Seeking Innovative Research and Development (R&D) Ideas
- **May 5** – SAM Data Bank – Follow the Data to Identify Customers
- **May 12** – Navigating the Federal Laboratory Consortium: A Guide for Small Business Innovators

…More information and registrations at wispro.org/events

Acquisition Hour

The Acquisition Hour webinar series covers a range of topics from market entry, sales growth, small business certifications, compliance, and more. Attendees receive 1 CPE credit for attending.

- **April 22** – Learning about DOD Critical Technology Areas
- **May 13** – CONTRACTING IN DISASTERS: Doing Business with Emergency Agencies

…More information and registrations at wispro.org/events

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April 22 2026

This webinar is eligible for

1 CPE credit

To receive a certificate of completion, contact apexaccelerator@wispro.org

PRESENTED BY

Wisconsin Procurement Institute (WPI)

www.wispro.org

Marc Violante

Wisconsin Procurement Institute

MarcV@wispro.org | 920-456-9990

10437 Innovation Drive Suite 320
Milwaukee WI 53226
414-270-3600