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**RESEARCH GRANTS**

**Request for Proposals – Procurement Innovation**

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[caoe@asu.edu](mailto:caoe@asu.edu%20) | [caoe.asu.edu](https://caoe.asu.edu/)

Deadline: November 15, 2021

Submit Proposals through InfoReady [CAOE RFP PIL 2022](https://asu.infoready4.com/#CompetitionDetails/1852413)

**About the Center for Operational Efficiency**

The Center for Accelerating Operational Efficiency is a consortium of universities and industry partners whose mission is to conduct research, education and workforce development activities that will respond to challenging problems and offer innovative solutions to issues faced by decision-makers in the Homeland Security Enterprise (HSE). Led by Arizona State University, the focus of the CAOE is to support the evolution of data-enabled analysis and decision-making practices within the HSE.

In the era of Big Data, novel tools and methods need to be developed to enable DHS managers and operators to parse, manage and explore the ongoing data deluge in ways that are easy to navigate in the everyday operations of the HSE. The goal is to detect patterns, model processes, predict futures, mitigate risks and quantify the impact of threats and vulnerabilities to the HSE. Research performed by the CAOE focuses on generating predictive and prescriptive methods that can be tactically used by the HSE for more effective real-time decision-making, risk assessment and economic evaluations.

More information on CAOE may be found at <http://caoe.asu.edu/>

## Procurement Innovation Topics for Targeted RFP

## This RFP specifically targets improvements for contracting and procurement innovations in the government.

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# CAOE Research Grant Program Overview

An objective of the Center for Accelerating Operational Efficiency (CAOE) is to bring together capabilities of colleges, universities, federal laboratories, industry, and nonprofit organizations to create transdisciplinary research that links models, data analytics and quantitative methods. Unlike other DHS COEs, where research and other activities are mostly domain- or issue-specific, the CAOE focuses on the development of thematic analytical algorithms, models and tools, and seeks to integrate research to address crosscutting, multi-disciplinary issues and to create innovative approaches to tackle unsolved problems and future challenges of DHS.

With those objectives in mind, CAOE is seeking full proposals sketching research ideas intended to address research questions/challenges that CAOE, DHS, or its federal partners have posed. CAOE leadership and DHS sponsors will review proposal submissions to identify those for which funding will be considered. The purpose of the proposal is to convey to us the essential problem area, demonstrate knowledge of prior art, and identify a research gap. A formal two-phase proposal review process, including evaluation by external subject matter experts, will be conducted to select those for which a grant award will be offered. This two-phase review process will include proposals undergoing a review from our scientific advisory board. Proposals that are initially selected during this phase will then undergo an interview with DHS project sponsors at the PIL to determine final suitability of the proposed research for funding selection.

# Estimated Funding

CAOE intends to award one or two projects specifically related to procurement innovation. This (these) project(s) would have an anticipated period of performance of January 1, 2022 through 12 - 24 months following grant award including a Go/No Go decision in or around June 30, 2022 and, subsequently on June 30, 2023 for 24 month projects. Typical awards will be from $100,000 to $250,000. New investigator projects tend to be single PI projects in the $125,000 range.

# Eligible Grantees

Organizations eligible to receive CAOE grants are educational institutions. ***CAOE does not award grants to individuals or to federal, state, county, local government, private industry***, ***and private nonprofit organizations and foundations entities*** — though those groups may be partners in the work conducted by the grant recipient. Collaborations among organizations are encouraged but not required. The proposal’s designated principal investigator must be an employee of the organization applying for a CAOE grant. Collaborative proposals including funding requests from more than one organization should be submitted as a combined proposal; however, with the understanding that ASU may make awards to each separate organization with one having the lead role and others will be named as non-lead roles (similar to NSF Collaborative projects.)

# Eligible Projects

Funding decisions will be based on how well a proposal meets the evaluation criteria detailed at Appendix C. Quantitative scoring of the evaluation criteria will be provided by external expert reviewers.

ALL SELECTED PROJECTS MUST BE ABLE TO COMPLETE THE PROPOSED RESEARCH USING SIMULATED AND/OR SYNTHETIC DATA OR VIA NON-DHS DATA SOURCES. **PROJECTS NEED TO IDENTIFY THEIR ANTICIPATED DATA SOURCES.**

DHS is unable to provide operational data suitable for algorithm development and testing to performers under this award. Each proposal must identify how and where it will acquire real, simulated, or other synthetically generated data.

## INTRODUCTION

## This RFP specifically targets improvements for contracting and procurement innovations in the Federal government, in alignment with DHS Strategic Goal 6: CHAMPION THE DHS WORKFORCE AND STRENGTHEN THE DEPARTMENT.

“Federal agencies face significant, long-standing procurement challenges that increase the risk of waste and mismanagement,” [Federal Contracting: Senior Leaders Should Use Leading Companies' Key Practices to Improve Performance | U.S. GAO](https://www.gao.gov/products/gao-21-491)

The Department of Homeland Security and other Federal agencies have sought innovative methods and approaches to address these challenges. The DHS Procurement Innovation Lab (PIL) was established in 2015 as an environment to safely test new techniques and ideas to spur innovative acquisition techniques across the homeland security enterprise.

As new methods and approaches develop, they are promulgated throughout the Federal government, bringing better efficiency, more successful outcomes and ultimately a higher level of cost-effectiveness for the American taxpayer. For example, procurements addressed in the PIL during FY 2020 had an estimate cumulative value of $2.9 billion, and increased efficiencies in this space can lead to large savings.

The DHS PIL provides a safe space to test new ideas, share lessons learned, and promote best practices. It fosters cultural changes that promote innovation and managed risk-taking through a continuous feedback cycle.

The PIL aims to improve the efficiency and effectiveness of procurements by:

* Lowering entry barriers for innovative, non-traditional contractors to compete for DHS business opportunities
* Shortening time-to-award; thereby delivering capability to the customer faster
* Encouraging competition by providing interested vendors with a greater understanding of the goals and objectives for each procurement; and
* Increasing the likelihood of successful outcomes by focusing on evaluation techniques to obtain the most qualified vendors.

These objectives enhance the Department’s mission and strengthen its industry relationships while saving taxpayer dollars. Through these objectives and the PIL’s practices, the PIL is promoting a learning culture which encourages managed risk-taking to enhance acquisition support for the DHS mission and the broader Federal acquisition workforce.

The PIL emphasizes Federal Acquisition Regulation (FAR) 1.102-4(d) that tasks each member of the Acquisition Team to exercise personal initiative and sound business judgment in providing the best value product or service to meet the customer's needs. In the case of DHS, this means a difficult task of efficient and timely delivery of mission support, conducting business with integrity, fairness, and openness.

The CAOE provides university-led, academic innovation in support of DHS missions. CAOE seeks proposals that have the potential to provide new concepts, methods and approaches to Federal government acquisition, ultimately enabling better outcomes for those the programs procuring services or goods serve.

#### **Research Challenge Area 1**

Market research is something that is required, by statute, for most Government acquisitions and procurements. While there are certain regulatory requirements that must be met, the extent and method for conducting and documenting the market research is largely left up to the discretion of the agency and specifically the acquisition team. It is somewhat customary for a Contracting Officer or Program Office lead to issue a Request for Information (RFI) through the government-wide portal ([www.sam.gov](https://urldefense.com/v3/__http:/www.sam.gov__;!!IKRxdwAv5BmarQ!NQeYv50nyrr24K6bPefEy2qyL25wtWuKr-7oKiOD4nxDA4GSYZRN8JzCG3VjwfpoBOY$)) to obtain feedback from potential sources on the marketplace, customary business practices, understanding of the government requirement, and aspects of potential acquisition strategy. Most often this satisfies the requirement by many offices to have conducted and documented market research for a procurement or acquisition. There are many other methods and examples of conducting robust market research outlined in Part 10 of the Federal Acquisition Regulation (FAR).  However, it appears that market research is often conducted as a ‘check-the-box’ exercise, whereas it can be a value-added process that supports an understanding of the marketplace to best position the acquisition team to establish an acquisition strategy that will support successful outcomes for the mission of the agency. Unfortunately, robust market research such as attending conferences to understand market players and capabilities, continuous market queries, and regular engagement with companies in a given market is time consuming and challenging.  Numerous memoranda from the Office of Management and Budget, Office of Federal Procurement Policy on this topic over the past decade have not resulted in any significant process improvement.  Simply put, the federal government needs to identify better ways of conducting market research to enable market growth, increase competition, and meet various missions.  But acquisition teams have limitations on the time they have available to support this process. The purpose of this study is to find alternative approaches to conducting appropriate and meaningful market research while being mindful of Government resources and other constraints.

**Research Questions:**

1. Given the technology and access to information today, how can we train the homeland security acquisition workforce to better conduct market research?
2. The purpose of market research is to ensure the acquisition team arrives at the best acquisition strategy for a given requirement.  What approaches for market research are evidenced to support improved acquisition strategies?  What are efficient methods of conducting market research that still ensure enough information is obtained in order to arrive at the best acquisition strategy?
3. Are there any correlations between the efficiency of the procurement, outcomes of the procurement process for the agency mission, and satisfaction of the vendor community based on the extent of market research?
4. What are the real motivators to the conduct of meaningful market research?
5. Are there opportunities to consider different market research models for federal acquisitions based on literature or private sector practices?

#### **Research Challenge Area 2**

The Department of Homeland Security (DHS) Office of the Chief Procurement Officer (OCPO) has benefited from multi-year research grounded in socio-technical-systems theory and insight gained from an annual DHS-wide acquisition workforce assessment using a Competing Values Framework (CVF).  Research demonstrates that cultural change supportive of procurement innovation is occurring across approximately 35% of the DHS acquisition community.  Culture change models evidence that organizational change adoption includes “laggards” – those that are adverse to change.  But understanding the causes, rationale, and fears that contribute to this aversion may enable further change.  In order to reduce barriers to innovation, it is important to understand the perspective and nature of hesitation and concerns expressed by these members of acquisition teams and the oversight community. This research is focused on understanding the nature of hesitation with regard to procurement innovation, perspectives on risk, and approaches to support the development and adoption of new risk frameworks for these members of the acquisition team and oversight community.  The objective of this research is to better understand risk perspectives with the aim of increasing the ability of federal acquisition teams to test innovative procurement approaches and improve procurement outcomes for the homeland security mission.

**Research Questions:**

1. What factors contribute to the hesitation of the federal procurement oversight community, most specifically, the level above reviewers and procurement attorneys, to testing proposed innovative procurement practices?
2. What might support members of the federal procurement oversight community, most specifically procurement attorneys, in being more comfortable and willing to test innovative procurement approaches?
3. Based on trends identified in the annual Competing Values Framework assessment that OCPO has conducted since FY 2018, findings from socio-technical-systems interviews conducted since FY 2018, and other federal procurement data, what methods would enable the continued drive toward a procurement organizational culture that is supportive of the application of workforce creativity and smart risk-taking with the objective of strengthening outcomes for the homeland security mission? See the Procurement Innovation Lab Yearbook for a detailed report that may be relevant (https://www.dhs.gov/sites/default/files/publications/pil\_yearbook\_-\_fy\_2020.pdf).

#### **Research Challenge Area 3**

Outcome measures provide a real time assessment of what an organization defines as success or expected performance.  This insight and visibility allow for proactive management and can help ensure program, performance and mission success.  Outcome measures that drive beyond metrics and that demonstrate accountability for results achieved are needed.  A key area of interest is the outcomes, or performance under, the contracts that are awarded by the homeland security acquisition workforce.  However, there are many constraints that impact the ability to structure a procurement outcome measure framework, including regulations and oversight bodies that specify how procurement outcomes should be measured and the inability see trends that may influence outcome measures due to the lack of visibility of data across one or more organizations. This research seeks a structured framework for homeland security procurement outcome measures that take into consideration the many facets of procurement support, including procurement planning, execution and oversight, recruitment, training, development and retention of the acquisition workforce.

**Research Questions:**

1. What outcomes are key to measuring homeland security procurement and what is the best way to judge if the procurement system is efficiently working or needs to be revised?
2. What does the research on performance metrics indicate about how procurement outcomes can most appropriately be measured?
3. What values should be considered in interpreting how critical processes and outcomes for homeland security procurement activities are measured?
4. Are standards possible for measuring outcomes of homeland security procurement?

# Deadline

**November 15, 2021**

***All proposals must be submitted through the CAOE grant application portal at:***

[2022 CAOE Research Grants Request for Proposals](https://asu.infoready4.com/#CompetitionDetails/1852413) – Procurement Innovation

The Workplan portion of Proposals should not exceed 15 pages\*, excluding references/bibliography (item 13) and intake information (item 14.) Please note that CVs, budget narrative, letters of collaboration, consultant letters, and commitment forms are also excluded from the page limitations. All documents should be combined and uploaded as a single PDF file. Full Proposals should use Times New Roman, 1 inch margins, and 12-point font\*. Submissions that exceed the stated page limit may be rejected without review. Use of the Workplan template format is mandatory.

\*Workplan tables may be revised to increase/decrease the number of rows, as applicable. 11-point font may be used for tables.

CAOE will treat proposals as proprietary. If a full proposal submission results in a grant award, that proposal may become subject to public disclosure. Non-selected proposals may be retained by CAOE for possible future consideration and, if retained, will continue to be treated as proprietary. Please note that proposals may be reviewed by external expert reviewers and that there will be public disclosure of funded projects.

# Applicant Notification

CAOE will strive to notify applicants within 6 weeks after proposal submission whether an award is anticipated to be made. The grant award process may take an additional 4 to 6 weeks after submission of proposals, so applicants should adequately accommodate this in the project planning.

NOTE: Research grant awards will be subject to the Terms and Conditions found in the Current CAOE Cooperative Agreement Terms and Conditions which are included in InfoReady as a separate document and require acknowledgement upon proposal submission. Potential applicants are encouraged to review this Appendix prior to drafting and submitting a proposal to determine their ability and/or willingness to adhere to the project requirements and to accept the terms and conditions in a sub-award should one be awarded.

# Questions about this Request for Proposals

Specific questions about this request for proposals should be addressed in writing to Ross Maciejewski, Director of the Center for Accelerating Operational Efficiency, at [caoe@asu.edu.](mailto:caoe@asu.edu.)

*The Center for Accelerating Operational Efficiency reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to this request for proposals. Submission requirements for this grant program may be waived at the discretion of CAOE.*

*In accordance with Arizona State University policy, CAOE does not discriminate on the basis of race, color, age, ethnicity, religion, national origin, pregnancy, sexual orientation, gender identity, genetic information, sex, marital status, disability, or status as a U.S. veteran.*

# Appendix A

## Full Proposal Requirements & Additional Project Expectations

**Full Proposal Requirements**

**Cover Page Information to be Entered Directly in InfoReady System**

Project information:

* Principal Investigator contact information
* Co-Principal Investigators
* Administrative contact
* Project title
* Brief Abstract

Proposal Document (uploaded as one single PDF):

1. Completed Workplan document\*, maximum 15 pages (Word template provided)

2. Bibliography/References

3. Two page CV/Biographical Sketch for each key personnel named in the project (NSF Format is acceptable)

4. Budget Narrative (see Appendix B)

5. Subrecipient Letter of Commitment\*\* or Subrecipient Commitment Form (template provided) signed by an authorized representative of the submitting institution(s).

Budget Document:

Preferred template provided. Please provide separate tabs for multiple years and/or sub-recipient organizations, as applicable.

\*Please note: For Collaborative proposals including more than one organization, the workplan should specify which organization will be recognized as the lead organization and which will be the non-lead organization(s). Clear delineation of project deliverables should be stated for each organization in the proposed workplan. Separate budgets should be submitted for each organization. ASU reserves the right to make separate awards directly to each performing organization rather than as tiered sub-awards, as deemed appropriate.

\*\*Institutions who are registered with the Federal Demonstration Project (FDP.)

**Additional Project Expectations**

Awarded CAOE Project investigators are expected to present bi-monthly reports, prepare quarterly updates, and participate in communications briefings in a specified report format (available upon request.)

# APPENDIX B

## Budget Narrative Guidelines

Provide narrative information for the following budget categories:

**A. Personnel**

1. Identify project director/principal investigator (PI), investigators and students. Administrative staff is not an allowable cost for research projects.
2. Budget narrative must include personnel name, title, percent of effort and/or effort months, and relevant impact on the project.
3. Fringe Benefits (Employee Related Expenditures) must be included as required by the requesting institutions and according to approved rate agreements.
4. Do NOT include consultants or contracted services in this section. (See Section E below.)

**B. Non-Capital Equipment**

1. Budget narrative must include a detailed description of computers and other non-capital equipment and planned exclusive use and need for the project.
2. Generally, Capital Equipment having a useful life of more than one year and an acquisition cost which exceeds the lesser of (a) the capitalization level established by the organization financial statement purposes, or (b) $5,000) is not allowable per CAOE guidelines.

**C. Materials & Supplies**

1. Please describe the types of materials and supplies needed for the execution of the project.
2. Office supplies, general duplication costs, etc. are generally not allowable as a direct cost for research projects.

**D. Travel**

1. Travel is limited to project personnel and students receiving support under this project.
2. Do NOT include sub-contractor or consultant travel in this section. (See Section E below.)
3. Estimated travel costs to attend the CAOE Annual Meeting in Washington, DC may be included; however, this cost is not required at this time due to current COVID travel restrictions. Budget should include travel, meals and lodging for the PI for up to two nights. Funding for up to one Co-PI or student may also be included for this meeting.
4. Up to one additional professional meeting related to the homeland security enterprise may be funded for PI, investigator or student if COVID travel restrictions are lifted at least 60 days prior to travel. Travel justification should include destination and purpose of trip. You may also use a descriptive placeholder, e.g. “academic meeting,” if specific event has not been identified at this time.
5. Foreign travel is not allowable per CAOE guidelines.

**E. Other Direct Costs**

1. **Consultants and/or Other Services**
   1. Include consultant travel costs as part of consultant budget. Provide a description of services, scope of work, and consultant credentials in Budget Narrative including a Consultant Letter of Commitment (including Consultant Rates.)
   2. Amazon Web Services and other Cloud-based services should be described as required for the project needs.
2. **Subcontracts/Partner Organizations**

Include a separate detailed budget tab in the excel budget provided for subcontracts to be issued to another institution. Rationale including description of services and scope of work should be included in Budget Narrative.

1. **Miscellaneous**

Include Human Subjects Costs or other miscellaneous costs and a detailed explanation.

1. **Tuition Remission**

Please include institutional rates for graduate research students included in the budget.

1. **Participant Support**

Include details for any needed participant support costs including the number of participants estimated for the project goals.

**F. Indirect Costs (Facilities & Administrative Costs)**

If applicable, provide a copy of the latest rate agreement negotiated with a cognizant Federal agency in the appendices section (IDC rate). (Not required for ASU proposals. The IDC rate for ASU projects is 57% of MTDC.) Reminder: The total direct, indirect and totals in the Budget Narrative should match amounts entered on the Research Proposal Workplan.

Budget and Budget Narrative do not count toward the page count limitations.

For additional assistance concerning budget or narrative, contact [caoe@asu.edu](mailto:caoe@asu.edu)

# Appendix C

## Invited Proposal Evaluation Criteria

|  |  |
| --- | --- |
| **Weight** | **Criteria** |
| 25% | Technical Merit |
| 30% | Impact |
| 20% | Capability |
| 15% | Collaboration |
| 10% | Cost |

The technical description of the proposed project and the work plan convincingly present and justify the following:

1. Validity of the proposed approach and likelihood of success based on current state of the art and on the scientific principles underpinning the proposed approach.
2. Development of a comprehensive and complete workplan and schedule with milestones and interrelated tasks that clearly lead to the successful completion of the project.
3. The identification of key technical risks and mitigation strategies to address them.
4. A clear set of deliverables.

The project significantly advances CAOE’s ability to address the operational needs identified by the Department of Homeland Security and its federal partners.

1. The team provides an appropriate level of expertise and capability.
2. Past performance of the team provides high confidence of success.

* The team has sought collaboration with stakeholders to better address the federal government’s needs.

1. The proposed budget is appropriate and reasonable for the planned work.

# Appendix D

## Intellectual Property Guidelines

Intellectual Property (IP) that will either be brought into the project (Background Intellectual Property) or will be developed via the project will require a basic IP Management Plan **PRIOR TO BEING AWARDED** should your project be selected. While this Plan is not required at the proposal stage, please consider that the IP plan should address the following if applicable to your project.

* + - * Identify ownership of Project IP (who will *own* the IP?);
      * Licensing rights of project-developed IP, including revenue sharing amount of joint owners of project participants, if applicable (who will have what license rights to the IP?);
      * The project participant(s) that will have rights to enforce rights in project-developed IP (who can enforce those rights?)
      * Background Intellectual Property (BIP) needed for the Project and terms (if any) under which that BIP will be made available to Project Participants both during and after performance of the Project;
      * Terms under which the collective IP will be made available to government and/or industry upon its transition to general use;
      * Who will bear the filing and other costs of managing that Project IP, including the cost of prosecuting foreign and domestic patent rights;
      * An affirmation of the adoption, without exception, of the provisions of Article I, Section A, paragraph 15 and Article II, Section J, of the Terms & Conditions of Cooperative Agreement #17STQA00001-05-00.