

# Cross-Border Threat Screening and Supply Chain Defense - COE Request for Insect and Pathogen Detection Tools Proposals

## **This is a Request for Proposals (RFP)**

This RFP is issued solely for information and planning purposes to accomplish market research and to identify institutions capable of performing the services described in this request. This request for information does not commit the Cross-Border Threat Screening and Supply Chain Defense DHS Center of Excellence (CBTS) or the Government to contract for any supply or service. Responders are solely responsible for any preparation, information or administrative costs incurred in response to this RFP.

## **Deadline and Submission Information**

Proposals must be received by March 15, 2024 at 11:59 PM (CST). Proposals must be submitted via email to CBTS at [CBTS@ag.tamu.edu](mailto:CBTS@ag.tamu.edu) in PDF format. Direct all questions regarding this RFP to the main CBTS email address at [CBTS@ag.tamu.edu](mailto:CBTS@ag.tamu.edu). For all details on submission requirements, please refer to the CBTS website, which contains the call, templates, and a proposal guide at <https://cbts.tamu.edu/proposals>.

## **About CBTS**

To provide capabilities for securing our Nation's supply chain against threats and hazards without compromising the pace and operational structures of commercial enterprises, the Texas A&M University System formed the Cross-Border Threat Screening and Supply Chain Defense (CBTS) Center of Excellence (COE) in partnership with the U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T) Office of University Programs (OUP). The goal of CBTS is to work in collaboration with DHS and other partners to develop public research projects that expand our understanding of threats and to enhance capabilities to support operations designed to counter threats and secure our Nation.

## **Expected Project Stage of Development**

For this request the DHS Technology Readiness Level of proposed tools or systems should be between 2 and 7, which includes assessment of emerging technologies, or the integration of basic technologies and ready for testing in a laboratory setting as well as more complete system prototypes that are ready for testing and evaluation in more realistic operational settings.

## **Description of Issue**

Our nation's borders are constantly at risk of invasive species and pathogens that can threaten American agricultural, natural resources, and the economy. Invasive species are a major cause of crop loss and directly affect food security. Annual losses in the United States due to invasive insects and pathogens are estimated at ~\$100 billion per year. Insect and pathogen detection are critical to help prevent these risks to our vulnerable borders and their security. Various technologies and methods are utilized to help prevent the spread of diseases, protect agriculture, and ensure public health. Successful delivery of new tools and technologies hinges on sustained efforts by public and private enterprises to establish effective operational detection technologies that balance cost, capability, and flexibility.

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## Research Objectives

Identify the research objective(s) from the following set that you plan to examine and describe how you expect to accomplish the objective(s) in a project that does not exceed 24 months:

1. Explore methods used to detect insects and pathogens in a range of settings from laboratory to simulated operational environments. Explore approaches for rapid screening of threats at ports of entry.
2. Identify novel detection tools and methods and validate the reliability and accuracy of those tools/methods based on comparisons with existing detection systems.
3. Frame approach to establish a testing/proving ground for novel pest and pathogen tools and methods that include capacity to demonstrate technology and assess adoption strategies.
4. Conduct landscape analysis of ports and the factors that affect the adoption of innovative technologies.
5. Assess lessons learned by other agricultural product importers with respect to adoption of new detection technologies.
6. Develop systems that enable the use of mobile detection tools matched with event record keeping technologies.
7. Improve the speed, accuracy and reliability of tests and communication of results across decision-making and reporting processes.
8. Explore methods and technologies for screening and detection in small parcel packages within high volume channels.

## Proposal Format and Submission Deadline Requirements

The proposals must meet specific content, formatting, deadlines, and page limit requirements. CBTS will reject proposals that do not address project requirements, or do not follow formatting, and page limit requirements. Proposals arriving after the submission deadline will not receive funding consideration.

### Proposal Format (20-page maximum)

1. Proposal coversheet (1-page)
  - a. List all key personnel with contact information.
  - b. Identify which of the potential research objective(s) the project will address.
  - c. Identify which NOFO questions most closely align with the project.
  - d. Provide a brief abstract of the project.
2. In a separate appendix that does not count against the proposal's page limit include bio-sketches (2-page maximum per person) for each primary investigator (note expected

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percent FTE on project). Bio-sketches should highlight experience and any relevant publications.

### 3. Proposal body (18-pages)

- a) Identify how the proposed effort will achieve the selected potential research objective(s).
- b) Identify expected outcomes and milestones over the course of the project as they relate to the potential research objective(s).
- c) Identify major project deliverables and the means for assessing the success of the research using the SMART framework - specific, measurable, achievable, realistic, and timely.
- d) Describe ability to access and necessary facilities or other critical equipment and data.
- e) Describe experience planning and executing projects of similar scope, subject matter focus, and complexity.
- f) Describe the role of undergraduate and graduate students on the project.

### 3. Budget with brief narrative by category (1-page) (max. \$250,000/per year for up to two years)

- a) Salaries and benefits
- b) Data and related contracts
- c) Equipment
- d) Travel
- e) Indirect costs

### Formatting Requirements

All proposals must be single-spaced, use an 11-point or greater font, use 1-inch margins, and include page numbers.

### Proposal Scientific Merit Reviews

CBTS and DHS reviews of proposals use the following questions to assess the merits of each proposal. CBTS will organize a Proposal Review Panel composed of subject matter experts, who will review the scientific merit of submitted proposals. CBTS will screen its potential reviewers for potential conflicts of interest prior to the initiation of reviews. Reviewers will evaluate proposals based on the following criteria and apply the weighting factors as indicated to determine their overall ranking of each proposal.

#### 1. Scientific Merit and Originality/Innovation (35%)

- a) Does the proposal clearly focus on achieving the selected research objectives?
- b) To what extent are the proposed activities designed to achieve the research objectives?
- c) Does the proposal outline a path to meet the research objectives and deliverables within an appropriate timeline?

#### 2. Proposed Approach/Methods and Risks (25%)

- a) Does the proposal use appropriate approaches/methodologies, and highlight and significant risks associated with the proposed approaches?
- b) Has the team defined metrics and milestones appropriate for the stated goals?

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- c) If relevant, are data collection, integration, and information security approaches appropriate?
  - a. Are there major data or other developmental hurdles?
- d) Does the proposal provide an appropriate platform and clear path to transitioning information through appropriate research channels?

### 3. Qualification of Personnel (15%)

- a) Does the team have the qualifications to conduct and complete the proposed work?
- b) Does the team demonstrate the ability to deliver products that meet the proposed objectives and deliverables within their proposed budget and schedule?
- c) Are undergraduate/graduate education aspects included in this proposal?

### 4. Budget and Schedule (10%)

- a) Are the anticipated costs reasonable based on the one-page budget?
- b) Is the budget proportional to the work performed and the resources used?
- c) Does the proposal demonstrate an ability to deliver within the proposed budget and on schedule?

### 5. Facilities and Equipment (15%)

- a) Do the necessary facilities and information systems exist and are they adequate to achieve proposed research objectives?

### Conversion of Proposal Ideas into Project Work Plans and Budgets

If CBTS selects a proposal for funding, CBTS will ask the authors to prepare a project work plan and detailed budget. CBTS will share workplan and budget requirements with the authors. As needed, CBTS may seek additional scientific merit reviews for workplans.

### Funding and Agreement Terms and Conditions

If funding is available, CBTS will fund up to three projects through cooperative agreements with CBTS. Successful projects may be **funded up to \$250,000 per year** to accomplish systematic mapping, conduct conferences and write a complete annotated summary of food and agriculture defense/security research (2-year maximum period of performance). CBTS is responsible for administering funding to all projects within its portfolio. Successful proposal teams need to agree to the terms and conditions of the cooperative agreement between DHS and Texas A&M University (TAMU). All awardees and sub-awardees must meet all DHS – TAMU Cooperative Agreement Terms and Conditions.

### Questions

If you have any questions, please send them to [cbts@aq.tamu.edu](mailto:cbts@aq.tamu.edu).