

**The Department of Homeland Security (DHS)
Funding Opportunity Announcement (FOA)**

OVERVIEW INFORMATION

Issued By

U.S. Department of Homeland Security (DHS), Science and Technology Directorate
(S&T)

Catalog of Federal Domestic Assistance (CFDA) Number

97.061

CFDA Title

Centers for Homeland Security

Funding Opportunity Announcement Title

Center of Excellence (COE) - Center for Borders, Trade and Immigration Research
(CBTIR) – Center Lead

Authorizing Authority for Program

Homeland Security Act of 2002, Section 308, as amended, P.L. 107-296.
codified at 6 U.S.C. 188

Appropriation Authority for Program

Consolidated Appropriations Act, 2014, P.L. 113-76, Division F, Title IV, Science and
Technology, Research, Development, Acquisition and Operations.

FOA Number *DHS-14-ST-061-COE-002A*

Key Dates and Time

Application Start Date: *04/03/2014*

Application Submission Deadline Date: *10/01/2014 at 11:59:59 PM EDT*

Anticipated Funding Selection Date: *03/02/2015*

Anticipated Award Date: *05/01/2015*

Other Key Dates

Other Key Dates: N/A

Intergovernmental Review

Is an intergovernmental review required? ☐ Yes ☒ No

FOA EXECUTIVE SUMMARY

Program Type

Select the applicable program type: ☒ New ☐ Continuation ☐ One-time

Date of origin for Program: 04/2004

Funding Opportunity Category

Select the applicable opportunity category:

- ☒ Discretionary ☐ Mandatory
☒ Competitive ☐ Non-competitive
☐ Sole Source

Application Process

To access application forms and instructions for this funding opportunity, go to Grants.gov click on the “Search Grants” tab. Enter the FOA Number located on the cover of this announcement. Click on the highlighted Funding Opportunity # that appears and then click on the various tabs to: read the Synopsis; review the Version History; read the Full Announcement; and, complete the Application Package. Please read the entire FOA Application Package carefully before preparing and submitting an application.

If you experience difficulties accessing information or have any questions please call the grants.gov customer support hotline at (800) 518-4726.

DHS will conduct an informational webinar for interested applicants On May 5 at 3:30pm [EDT]. During the call, DHS will discuss the FOA and provide an opportunity for interested applicants to ask questions. The following is the link for this webinar: Center for Borders, Trade and Immigration Research; May 5, 3:30pm, webinar link: https://foodshield.connectsolutions.com/center_for_borders_trade_immigration_research_foa/

Eligible Applicants

- Private institutions of higher education; and
- Public & state controlled institutions of higher education.

See “Section III: Eligibility Information,” for a detailed explanation of eligibility criteria for this FOA.

Type of Funding Instrument

Select the applicable funding instrument: ☒ Cooperative Agreement ☐ Grant

DHS will exercise substantial programmatic involvement through this cooperative agreement. This includes monitoring project progress; providing technical assistance; disapproving and approving sub-projects, work plans or modifications thereto; holding kickoff meetings; conducting biennial reviews; conducting scientific reviews; and, coordinating research and development activities. See “Appendix B - Terms and Conditions” for additional details of substantial programmatic involvement.

Cost Share or Match

Select the applicable requirement: ☐ Cost Match ☐ Cost Share ☒ Voluntary

Maintenance of Effort

Is there a Maintenance of Effort (MOE) requirement? ☐ Yes ☒ No

Management and Administration Charges

Indirect Cost (IDC) is allowable by the recipient and sub-recipients. IDC is based on a federally approved and negotiated rate. Please provide a copy of the negotiated rate approved by the applicant’s cognizant agency at the time of application. Indirect costs on sub-awards are limited to the first \$25,000 of direct costs.

FULL ANNOUNCEMENT

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List of Acronyms used in this FOA

ASOA:	S&T's Acquisition Support and Operations Analysis Group
CBP:	Customs and Border Protection
COE:	DHS Center of Excellence
CBTIR:	Center for Borders, Trade and Immigration Research
DHS:	U.S. Department of Homeland Security
E2E:	End-to-End Project(s)
FEMA:	Federal Emergency Management Agency
FFRDC:	Federally Funded Research and Development Center
FOA:	Funding Opportunity Announcement
HSARPA:	S&T's Homeland Security Advanced Research Projects Agency
HSE:	Homeland Security Enterprise
ICE:	Immigration and Customs Enforcement
IMCC:	Intermodal Cargo Container
MSI:	Minority Serving Institution
NII:	Non-Intrusive Inspection
OCR:	Optical Character Recognition
OUP:	S&T's Office of University Programs
PPD:	Presidential Policy Directive
QHSR:	Quadrennial Homeland Security Review
S&T:	DHS Science and Technology Directorate
SME:	Subject Matter Expert
STEM:	Science, Technology, Engineering and Mathematics
TSA:	Transportation Security Agency
USCG:	U.S. Coast Guard
USCIS:	United States Citizenship and Immigration Services
WMD:	Weapons of Mass Destruction

I. Funding Opportunity Description

A. DHS Centers of Excellence Program Overview

The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) Office of University Programs (OUP) is requesting applications from U.S. colleges and universities to serve as a lead institution for a Center for Borders, Trade and Immigration Research (CBTIR). OUP is also posting a separate FOA for eligible applicants to submit single project proposals for consideration as a partner to this COE. Please see FOA Number DHS-14-ST-061-COE-002B or 97.061 on <http://www.grants.gov> for directions on how to submit single project proposals. DHS may add individual project partners from applications received for either the Center Lead FOA or the Center Partner FOA to the CBTIR.

The DHS Centers of Excellence (COEs) are university consortia that work closely with DHS to conduct research, develop and transition mission-relevant science and technology, and educate the next generation of homeland security technical experts. Each COE is led by a U.S. college or university and has multiple partners. COE partners include other academic institutions, industry, DHS components, Department of Energy National Laboratories and other Federally-Funded Research and Development Centers (FFRDCs), other federal agencies that have homeland security-relevant missions, state/local/tribal governments, and first responder organizations. DHS envisions the COEs as long-term trusted academic partners that provide an array of resources to help DHS achieve its missions, and carry out its operations. The COEs that make up the COE network are listed at <https://www.dhs.gov/st-centers-excellence>. The new CBTIR will be a fully-integrated component of the COE network and will take advantage of the network's resources to develop mission-critical research, education, and technology transition programs.

B. Organization of this Funding Opportunity Announcement

OUP's mission is to maximize DHS's return on investment in university research and education. DHS invests considerable resources in awarding and managing COEs. The COE evaluation and selection process described below enables DHS to get the most value out of funded university research.

This FOA is organized along the lines of OUP's COE evaluation and selection process. Applicants for COE lead institution need to address the substantive research themes that DHS has identified in "Section I. (D): Overarching Vision of the Center for Borders, Trade and Immigration Research" and "Section I. (E): Research and Education and Workforce Development Program," i.e., Border Security; Legitimate Trade and Travel; and, Immigration. Applicants must also thoughtfully address the management and organization of the COE, described in "Section I. (F): Management and Administration." Both high quality research and competent management are essential to creating and executing a successful DHS Center of Excellence program

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Evaluation and Selection Process for Establishing a New COE

Before DHS posts a COE FOA on [grants.gov](https://www.grants.gov), DHS subject matter experts (SMEs) identify priority research and education for workforce development themes, topics, and questions that will be the focus of the COE. Proposals responding to the FOA are screened for eligibility (see “Section III: Eligibility Information”). Ineligible or non-responsive proposals receive no further consideration. Eligible and responsive proposals are reviewed by three separate panels as discussed below (see “Appendix A – Center of Excellence Evaluation and Selection Process,” for a full description of how COE applicants are reviewed, rated and selected). Each panel provides ratings that determine which, if any, proposals are forwarded to the subsequent review panel. Only highly-rated proposals move on to the next phase. Each review phase is distinct, with the final phase determining the recommended COE substance and organization. DHS may combine elements from several highly-rated proposals to create a new COE.

1. External review: Objective peer review is the established standard for evaluating the quality and validity of research proposals. In the first COE proposal review phase, a panel of non-DHS SMEs provides a peer review of the scientific quality of each proposal’s research and education sections (“Section IV. (D)(3-b): Research and Education and Workforce Development Programs”). DHS selects experts based on their disciplinary expertise and how that expertise relates to the substance of the applications received. This review ensures that any funded research is of the highest scientific quality, a necessary condition for delivering reliable research results. S&T will only fund proposals that receive a high rating from external peer reviewers. This panel provides numerical ratings and corresponding rationales for the reviewed proposals.
2. Internal review: While necessary, the ability to conduct scientifically sound research alone is insufficient to qualify an applicant to become a DHS COE. In the second review phase, a team of DHS federal employee SMEs evaluates proposals that have passed the external peer review process to ensure a COE’s research matches DHS priority needs. This internal review panel also evaluates the research in light of other federally-funded research and development projects to ascertain that it is not unnecessarily duplicative. In addition, panelists consider how proposed research would impact DHS operational settings and how it is mission relevant. This panel also provides numerical ratings and corresponding rationales for the proposals reviewed.
3. Site visit: In the final review phase, senior S&T staff and DHS SMEs make site visits to the top-rated institutions (finalists) to evaluate the management, communication, outreach, and transition elements of the proposals. Site visits are intense, full day sessions. DHS gives finalists an opportunity to describe their research and education plans, introduce their team and partner institutions, tell DHS how they would integrate their research and development activities with end users in the homeland security enterprise (HSE), and explain how they would transfer research results for operational use at DHS and elsewhere. DHS staff may question every aspect of the COE proposal, but will focus on leadership, organization, ability to manage a research consortium, communication with operational agencies, and plans to transition research results to end

users (See “Section I. (F-2): Management and Administration, Transition”). This panel also provides numerical ratings and corresponding rationales for the proposals reviewed.

4. Following the three reviews, the OUP Director consults with the site review team and makes recommendations to the DHS Under Secretary for Science and Technology, whose selection decision is final. Following the selection of a COE lead and partners, all applicants receive brief summaries of their proposal reviewers’ comments.

How this FOA is Organized in Relation to Evaluation and Selection Process

It is important that applicants read every section of the FOA and its appendices thoroughly before preparing their proposals. This FOA has three sections that align with the evaluation and selection process: (Section I) Funding Opportunity Description, (Section IV) How to Apply, and (Appendix A) Evaluation and Selection Process. Table 1, on the following page, shows how these sections connect to each other and the review process.

Table 1. FOA Section Alignment with Evaluation and Selection Process

Table 1: FOA Section Alignment With Evaluation and Selection Process				
I. FUNDING OPPORTUNITY DESCRIPTION	IV. HOW TO APPLY -- RESEARCH AND RELATED OTHER PROJECT INFORMATION	(APPENDIX A) EVALUATION AND SELECTION PROCESS		
Describes the overarching vision of the Center, its structure and content	Describes how applications should be organized and provides an outline for each section's content	X's indicate which FOA sections are pertinent to each evaluation and selection phase		
		External	Internal	Site Visit
I. (D) Overarching Vision of the Coastal Resilience Center I. (E) Research and Education Program I. (F) Management and Administration	IV. (D) (3-a) Project Narrative -- Strategic Approach	X	X	X
I. (E-1) Research and Education Program -- Research Program	IV. (D) (3-b) Project Narrative -- Research Program Section	X	X	X
I. (E-2) Research and Education Program -- Education Program	IV. (D) (3-b) Project Narrative -- Education Program Section	X		X
I. (E-3) Research and Education Program -- Research and Education Themes, Topics and Questions I. (F-3) Management and Administration, Program and Project Evaluation	IV. (D) (3-c) Project Narrative -- Relevance to DHS Mission		X	X
I. (F-1) Management and Administration -- Leadership, Management and Administration Section	IV. (D) (3-d) Project Narrative -- Leadership, Management and Administration Section			X
I. (F-2) Management and Administration -- Transition	IV. (D) (3-d) Transition Section		X	X
I. (F-3) Management and Administration -- Program and Project Evaluation	IV. (D) (3-d) Program and Project Evaluation Section			X
I. (F-4) Management and Administration -- Collaboration and Integration	IV. (D) (3-d) Collaboration and Integration Section			X
I. (F-5) Management and Administration -- Communications and Outreach	IV. (D) (3-d) Communications and Outreach Section			X
	IV. (D) (3-e) Past Performance			X
SECTION REFERENCES		X = Primary Focus X = Secondary Focus		
Section references indicate where content is found in the FOA and Table of Contents. e.g., Primary Section Header - IV.; Secondary Section Header - (D); Subsections - (3-d)				

C. Program Priorities and Expectations for a COE

DHS funds the COEs through cooperative agreements, which provide support for research for general public purposes, yet enable substantial federal agency involvement in COE activities and research (for details on the agreement, please refer to Appendix B: Terms and Conditions, Programmatic Involvement). On a regular basis, OUP facilitates interactions between researchers, DHS SMEs, and end users from the public and private sectors (i.e., homeland security practitioners). The goal of this hands-on management is to develop a trusting, sustained relationship between universities and homeland security operational agencies.

The COEs are expected to develop relationships and partnerships with DHS components and the larger first responder community to provide targeted research and education resources. This may require dedicated COE representatives to be located in the Washington, DC area. OUP will work with COE management to formulate the COE's research and education projects, and to develop communication and transition strategies. Interactions commonly include COE-sponsored workshops that bring together diverse SMEs, industry representatives, and federal managers. DHS believes this frequent interaction is the most effective way to get the federal government's research investments into operational use by security, intelligence, and emergency response personnel. Only academic institutions that can embrace this type of close working relationship should apply for this funding opportunity.

The DHS mission requires that its operational components [e.g., U.S. Citizenship and Immigration Services (USCIS), Transportation Security Agency (TSA), U.S. Customs and Border Protection (CBP), U.S. Coast Guard (USCG)] be responsive to a wide range of constantly evolving homeland security challenges and threats, both natural and manmade. As a result, DHS priorities and operational challenges may change over the course of a COE's performance period. Therefore, COE research programs should be flexible enough to adapt to new homeland security challenges and priorities, while at the same time maintaining focus on their core research areas.

D. Overarching Vision of the Center for Borders, Trade and Immigration Research

The Center for Borders, Trade and Immigration Research will conduct research and education to enhance the Nation's ability to support DHS and other agencies' border security and immigration mission goals, including securing the border; facilitating lawful international trade and travel; effectively enforcing our immigration and customs laws; granting immigration and citizenship benefits; promoting an awareness and understanding of citizenship; and, ensuring the integrity of our immigration system. CBTIR will work with S&T offices such as the Homeland Security Advanced Research Projects Agency (HSARPA), the First Responders Group (FRG), and the Acquisition Support and Operations Analysis Group (ASOA), as well as DHS Component agencies [e.g., CBP, ICE,

USCIS, TSA, and USCG]. For more information about DHS S&T and its organizational structure, visit <http://www.dhs.gov/st-organization>.

The overarching goal of the Center will be to address the Nation's challenges as they relate to border control, customs, trade and travel facilitation, security and enforcement. The Centers goals will also address how to strengthen the security and integrity of the immigration system and how to support immigrants' integration and participation in American civic culture. The CBTIR's research results will include tools, technologies, and knowledge products (e.g., best practices, resource guides, case studies) for use in improving homeland security enterprise (HSE) operations, decision-making, and policy at all levels of government. The CBTIR education and workforce development programs will include innovative initiatives that: embed students with homeland security practitioners to conduct research; foster opportunities for students to gain practical experience in homeland security-related professions; integrate homeland security studies into existing science, technology, engineering, and mathematics (STEM) degree programs; and provide technical education and training programs for HSE and DHS professionals.

E. Research and Education and Workforce Development Program

Successful applicants will propose an integrated STEM research and education program plan that incorporates creative and insightful approaches to meeting CBTIR and DHS goals.

Applicants should propose multi-year projects. However, Center projects are funded in 1-year increments. Subsequent Center and project funding is based on successful performance in prior years, the relevance of project outcomes to current homeland security research priorities, and availability of funds. Multi-year project proposals should provide a summary of their long-term vision, timeframe, research and education outcomes, and potential real-world applications.

1. Research Program

Applicants should identify multidisciplinary, comprehensive approaches to address each of the research themes and a selection of topics outlined below in "Section I. (E-3): Research and Education Themes, Topics, and Questions". Each theme is organized into major topics that are related to the mission areas of DHS, other federal agencies, state, local and tribal governments, and the private and nonprofit sectors. Within each topic is a list of research questions. Successful proposals must address all themes. NOTE: DHS does not expect or encourage applicants to address every topic within a theme or every question within a topic. Rather, applicants should select topics and questions within a theme area, explain why they selected these topics or questions, and describe a proposed method, metrics and outcomes to answer the relevant questions. Applicants should: (1) describe a comprehensive approach that explains how the COE's projects would interconnect, if applicable, within a theme or across themes to ensure the whole portfolio supports the vision and goals of the Center; (2) discuss how their approach constitutes an efficient and effective use of Center resources and expertise; (3) demonstrate that they or

their partners have a high level of expertise in the areas in which they propose research; and (4) if applicable, describe an interdisciplinary approach that incorporates researchers from a variety of academic disciplines and practices with the goal of producing a more effective comprehensive solution. In addition, proposals **must** describe at least two illustrative projects that would use the End-to-End (E2E) approach (please also read Appendix C carefully).

a. E2E Projects

DHS requires applicants to outline two example End to End (E2E) projects in different theme areas to demonstrate their ability to work in complex, multi-faceted teams, and to carry research projects through multiple stages to a beneficial outcome. The E2E approach is an OUP research and development management strategy designed to develop cutting-edge, practical solutions to improve HSE operations, and to efficiently transition those improvements from COEs to DHS components and HSE partners. E2E projects necessitate continuous involvement by relevant parties throughout the project's lifetime, early development of a transition strategy, and end users' commitment to use results and facilitate partnership activities, such as hosting faculty and students. For more details on the required E2E projects, please see Appendix C.

2. Education and Workforce Development Program

The overarching goals of a COE's education and workforce development program are to:

- Build capacity in applying Science, Technology, Engineering and Mathematics (STEM) disciplines to support homeland security operations
- Diversify the homeland security workforce by building homeland security-STEM capacity at Minority Serving Institutions (MSIs)
- Link students and researchers to practitioners in operational settings
- Enhance and improve the technical knowledge base of homeland security professionals
- Develop and train homeland security professionals in STEM disciplines for the current and future workforce

Applicants must propose an integrated education program across the Center for Borders, Trade and Immigration Research Center's core STEM disciplines to align with the "Research and Education Themes, Topics, and Questions" in Section 3 below. DHS encourages proposals that include plans to integrate workforce development initiatives with other COEs, DHS components, other federal or state government agencies, and FFRDCs that have homeland security missions. Please see "Section IV: How to Apply" for detailed instructions on the format of this plan.

COE workforce development programs are required to track and report annually on specific measures of success. Program measures of success include but are not limited to the following:

- Number of students who graduate with homeland security-related degrees
- Number of students that participated in homeland security-related internships or research activities
- Number of students that successfully obtained homeland security-related employment
- Number of homeland security-related conference presentations given
- Number of homeland security-related papers published
- Number of homeland security research-related awards or prizes received

Prescribed education program activities include:

- Developing undergraduate, graduate or professional career enhancing programs that support the COE's research program
- Applying existing disciplines to homeland security through development of curricula, concentrations, minors, and certificates within established degree programs
- Building homeland security capacity at MSIs. Please visit the following link for a list of accredited U.S. post-secondary institutions that meet the statutory criteria for identification as MSIs: <http://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>
- Offering continuing education opportunities for first responders and homeland security professionals
- Offering student internship, scholarship, or fellowship programs that provide homeland security research experience
- Developing community college partnership programs to attract a diverse population of students and teachers into homeland security through the COE
- Offering homeland security related research opportunities to students
- Embedding students and faculty in research projects at DHS or other operational agencies within the homeland security enterprise

3. Research and Education Themes, Topics, and Questions

The transnational nature associated with border security and immigration requires innovations in technology-based tools and techniques used for border management, trade facilitation, targeting and enforcement. Border lines are where people and goods are processed through the exercise of immigration and customs authorities. Borders are also defined by the movements or flows of people and goods throughout the global community. DHS seeks research and development to determine the principal global transnational and national influences and factors that impact border, trade, security, and immigration activities. DHS is interested in how those influences might be countered through collaboration with other nations (i.e., Canada and Mexico) to achieve effective management of North America's borders. DHS must develop the appropriate doctrine and associated curricula to build the leadership elements and personnel infrastructure capable of executing its mission. Moreover, DHS seeks research to identify useful intelligence leads analytically, particularly given the volume of data collected to identify high risk subjects.

Theme Area 1: Border Security

DHS seeks innovative social science and economics research on policies that DHS might apply to border security and immigration challenges, and the impacts of those policies. DHS needs multi-disciplinary research to improve understanding of how technological change will affect policy and governance. DHS seeks innovative research to develop technologies that address border security knowledge gaps. DHS is interested in innovative technologies for surveillance, detection, and identification to improve situational awareness at and near the border, while maintaining sensitivity to privacy, effectiveness and affordability. DHS also is interested in research and development of technologies for detection, tracking, interdicting, and monitoring of high-risk or dangerous cargo, vehicles and passengers. Technologies should improve operational analysis and command, control and communications (C3), including the effectiveness and efficiency of sensor communication, and other platforms noted below. DHS is interested in research to help answer the questions below:

Topic 1a: Policies

- a. What influence would a policy requiring biometric technology have on immigration fraud?
- b. What challenges and opportunities do sovereignty, diplomacy, international law, and transnational actors present in securing international cooperation for interdiction and enforcement?
- c. In enhancing border security, what future challenges and opportunities are presented by sharing land borders with Canada and Mexico? What challenges and opportunities are presented by sharing air and sea borders with nearby Caribbean islands?
- d. How would a transnational criminal organization exploit a trusted traveler/trusted trade program?
- e. How might terrorist organizations targeting the U.S exploit transnational criminal organizations?

Topic 1b: Technologies

- a. What kinds of screening activities and programs are effective for maintaining the highest standards of integrity in the workforce?
- b. What new technologies and/or sensor systems can be developed and applied to improve the detection and tracking of vehicles, vessels, and persons along borders?
- c. What innovative power sources and systems might extend the life or increase the practicality of remote sensor systems?
- d. What innovative sensor systems and approaches are best suited to the special conditions presented in either a northern or southern border environment?
- e. How might satellite technology be utilized to conduct surveillance along the border?
- f. What innovative technologies can be modified or developed to detect and deter clandestine means of crossing borders, such as tunnels, ultra-light aircraft, etc.?

- g. What new or emerging technology advances in change detection and anomaly recognition can provide authorities the ability to anticipate or recognize threats in real time?
- h. What screening modalities can be developed that would be feasible, effective, and minimally disruptive at ports of entry?
- i. What portable biometric devices can be developed that have instant data retrieval and alerts and be viable and efficient options in operational environments?
- j. How can CBP improve security by increasing the effectiveness and efficiency of Non-Intrusive Inspection (NII) technology for detecting Weapons of Mass Destruction (WMD) threats when scanning cargo?
- k. What facial recognition technologies can be developed to review large-batch photo data systems?
- l. How might future improvements in optical character recognition (OCR) systems impact their use in the Intermodal Cargo Container (IMCC) transport environment?
- m. How would a transnational criminal organization defeat CBP non-intrusive inspection technology?
- n. What technological and human factors research will enable improved safety for operators while securing borders more effectively?

Topic 1c: Concept of operations

- a. What are suitable performance measures and metrics to evaluate the effectiveness of border security at the ports of entry that enable the appropriateness and statistical validity of each metric identified?
- b. How can CBP measure the deterrence value of scanning technology to prevent the smuggling of illegal goods or instruments of terror?
- c. How can CBP measure the security impact and economic impact of Non-Intrusive Inspection (NII) cargo inspections in comparison to physical inspections and assess the trade-offs involved, at the national, regional, and local level?
- d. What surveillance challenges and threats exist in the future and what should be the strategy to address them?
- e. What human factors issues are critical to increasing the operator's ability to recognize rare events and unusual threats?
- f. What is the optimal allocation of multiple layers of security, surveillance, interdiction, and enforcement?
- g. How can we effectively and efficiently improve the communication of information and analysis generated by surveillance and screening systems?
- h. What are the best ways of providing communications to border security personnel in remote, sparsely populated desert and forested regions, as well as in urban areas?
- i. What innovative methods can ensure that communications and command and control (C3) systems are fully interoperable and secure?
- j. How can CBP employ "rapid response" capabilities and infrastructure in cost effective ways and in what geographic locations would they be most effective?
- k. What existing or new approaches can CBP leverage to conduct surveillance over multiple domains such as land, air, and marine?

- l. What innovative interview techniques might complement border personnel's ability to assess the intent of border crossers?
- m. What innovative approaches can be taken to most effectively process trusted traveler applicants? Could automated kiosks be efficiently used to minimize the amount of time spent by CBP Officers in personal interviews with low-risk individuals?
- n. What innovative methodologies may be used to best identify travel patterns and behavioral characteristics of individual terrorists, illegitimate actors, and transnational criminal organizations?
- o. How might inspection processes be strengthened to increase the likelihood of detecting suspicious people and goods?

Topic 1d: Other impacts

- a. What can be learned from trafficking victims' oral histories to help identify major factors for how victims are drawn into labor trafficking, the sex trade and domestic servitude? Can this inform the way DHS focuses its operational and awareness activities to reach potential victims and build stronger cases?
- b. How can DHS identify the factors that enable criminal traffickers to draw people into trafficking situations? Specifically, how can DHS begin to identify and outreach to 'systemically vulnerable' populations that are underrepresented in current discussions and ways that would-be-traffickers exploit these populations?
- c. What are new sources of information and innovative methods and metrics to estimate the number and characteristics of human trafficking victims? Of criminal traffickers?
- d. What useful historical information and trends can be derived from immigration, terrorism and illegal activities to enhance border security activities? For example, what can be learned from previous attempts to combat smuggling, drug trafficking, and illegal immigration? How can the effectiveness of these efforts be measured?

Theme Area 2: Legitimate Trade and Travel

The vast majority of the flow of people and goods across the border is composed of lawful and compliant trade and travel. DHS seeks innovative multidisciplinary research to identify and interdict dangerous passengers and cargo from the legitimate mass. DHS seeks research in risk management to better measure and understand the balance of trade facilitation, the expedited movement of commerce, and security. DHS is interested in innovative ways to differentiate routinely between high- and low-risk subjects and expedite movement of the latter through the global system. DHS needs research to increase and improve the quality of the information it receives on incoming traffic to improve its validity. Moving legitimate travelers and cargo quickly through ports of entry, is essential. DHS desires technologies that do not adversely impact legitimate trade and flows of people. All new technologies must be analyzed for impacts on trade and travel. University research into "export control" topics is needed to address critical questions of balancing national security and export competitiveness. Through its export control authorities, the United States Government restricts the export of defense technologies, "dual-use" items, i.e., those having both civilian and military applications, nuclear materials and technology, and items that could proliferate weapons of mass destruction or the means of delivering them. Academic research can shed some light on

these critical questions. DHS is interested in research to help answer the questions below:

Topic 2a: Policies

- a. What are the costs and benefits of registered traveler programs to ease the screening process?
- b. What policy or process opportunities could help streamline the flow of legitimate trade and travel?
- c. Are there ways of effectively pushing borders out to reduce risks associated with the movement of people and cargo reaching U.S. borders, and what are the effects of these processes on international trade and relations with border cities?

Topic 2b: Technologies

- a. What technologies will facilitate the movement of legitimate low-risk individuals across borders while making entrance difficult for terrorists and criminals?
- b. Do biometrics and mobile technologies offer opportunities to streamline processing of legitimate trade and travel?
- c. How can we measure, assess, and predict the impact of technology on the facilitation of legitimate trade and travel?
- d. Can technology substitute for or mitigate limitations induced by infrastructure (e.g., roads, port-of-entry lanes) or inadequate numbers of personnel?

Topic 2c: Concept of operations

- a. How do border security operations affect crossing times? How can we best measure and report wait times to most effectively communicate the impact of border security operations upon trade and travel?
- b. What are innovative approaches to automating wait time determination that would facilitate the development of an effective, low cost, and rapidly deployable solution?

Topic 2d: Export Control

- a. Can reforming U.S. export controls through consolidating multiple components of the export control regulatory and oversight functions into: 1. a single commodity list, 2. a single licensing agency, 3. a single IT system, and 4. a single primary export enforcement agency achieve increased efficiencies for the international trade community? If so, what would be the best approach to ensure this?
- b. How can the U.S. best consolidate export enforcement agency functions, e.g., consider the elements of the Export Control Reform Phase III merger? Will such approaches actually eliminate duplicative and inefficient programs and improve efficiencies for the trade and enforcement communities? How can such changes be measured empirically, and what baseline information should be collected now to evaluate these changes?
- c. How can DHS and other border and trade oversight agencies adapt operations and reallocate resources to optimize compliance with the new export requirements?
- d. How would proposed export control restrictions hamper or enhance the government's capabilities to prevent and deter exports of illegally-made controlled goods?

- e. What tools, technologies, analytical approaches or operational enhancements can be developed to improve the government's ability to accurately detect illegal or potentially illegal exports?
- f. How can DHS and other border enforcement agencies improve international agreements and utilize international organizations to improve enforcement and compliance capabilities?

Theme Area 3: Immigration

DHS seeks research in innovative and improved methods to provide accurate and useful information to its customers, promoting awareness and understanding of citizenship rights and responsibilities, and making adjudication decisions in a consistent and accurate manner that furthers the goals and integrity of our nation's immigration system. DHS is interested in research on the affects and impacts of immigration policies. DHS seeks research to better predict future immigration flows to and from the U.S. DHS seeks research and innovative methods to better understand the population dynamics of the immigrant population. DHS is interested in research to help answer the questions below:

Topic 3a: Policies

- a. How do current policies affect the behavior of illegal immigrants already in the U.S.?
- b. What types of policies can be devised to promote citizenship and naturalization?
- c. Which is more effective for providing U.S. security: an immigration policy calibrated to threats originating in specific nations or one that treats all nations similarly?
- d. What effect have changes in U.S. immigration law and policy had on numbers of people applying for asylum, refugee status, visas, and citizenship?
- e. How do legal changes in the admissibility of immigrants impact future flows of migrants?
- a. What is the impact of detention and removal policies on illegal migrants and illegal migration flows? How effective are the current policies? What is the appropriate mix of detention and release to maximize deterrence of illegal immigration?
- f. What are the effects of various U.S. immigration law, policies, and practices, particularly those pertaining to repatriation and due process, on enforcement operations and effectiveness?
- g. What changes in law, policy, and/or procedures in granting admittance to the Visa Waiver Program or approving non-immigrant visas are recommended in order to reduce the incidence of visa overstays and other immigration status violations?
- h. What can be learned from comparative studies of immigration systems and policies in comparable nations (such as Canada and the UK) and how do these policies affect national security and the effective administration of immigration?
- i. What types of policies can be devised to promote citizenship and naturalization?

Topic 3b: Concepts of Operations

- a. What is the deterrence value of posting advisories at all ports of entry explaining, in explicit detail, the consequences of violating the terms of a U.S. visa?
- b. How might DHS better educate non-immigrants on the current administrative consequences and negative impact on future U.S. immigration benefit applications they may face for overstaying their period of admission?

- c. Would an increase in resources (e.g. material, systems, manpower), help to better achieve effective and timely immigration law enforcement against visa overstays and other immigration status violations in the new environment?
- d. How effective is ICE immigration enforcement against visa overstays and other immigration status violations and what improvements should be made?
- e. What motivates individuals to commit immigration benefit fraud and how can adjudicators identify these motivations and induce applicants to admit to fraud?
- f. What future forms of biometric information have the most potential for accurate identification while being the least susceptible to defects, fraud, concealment, or manipulation?
- g. What are the most effective metrics to assess the numbers of illegal immigrants in the U.S.?
- h. How can we accurately predict the future magnitude of immigration flows to the U.S.? How do the following factors influence and/or accurately predict flows?
 - a. Which economic, political or social variables allow us to most accurately predict immigration?
 - b. What factors influence or potentially predict decisions by legal permanent residents (LPRs) to stay permanently in the U.S.?
 - c. How do demographic and psycho-social characteristics affect the likelihood to naturalize?
 - d. How do levels of political, civic, social, and economic integration among LPRs affect their naturalization decisions?
 - e. How do immigrants feel that they are perceived by the native-born community? How does the context of reception impact decisions to pursue citizenship?
- i. What drives the demand curve for immigration visas (by visa type)? How do supply factors (e.g., numerical limits/caps) impact visa selection or preference by applicants? How can we better predict future demand within both the family and employment visa categories?
- j. How can we exploit existing datasets (e.g. the New Immigrant Survey and Census data) to better understand the long-term consequences of being foreign-born and the long-term effects of migration on immigrants and receiving societies?
- k. What resource demands do immigrants place on public services?
- l. How do integration practices and feelings of belongingness differ across immigrant communities?
- m. How do numerical immigration limits and ceilings affect illegal migration and legal immigrant applications?
- n. How effective are apprehension activities, such as the Consequence Delivery System (CDS), in deterring illegal migration?
- o. Are there ways to gather biographical data and immigration histories of individuals post encounter and prior to processing?
- p. How might social networking evolve and be used to identify impending threats or shifts in criminal activity? How can social networking be leveraged for interior and border enforcement purposes?
- q. What would be innovative ways to restructure the intake of immigration benefit applications and adjudication processes to enhance efficiency and maximize production?

- r. What technologies can improve data collection on migrants that will allow officials to identify, track, and individuals while placing minimal data collection burdens on migrants themselves?

Topic 3c: Other Impacts

- a. What are the most feasible and appropriate measures of immigrant integration into U.S. society?
- b. How do class of admission, national origin and immigration status correlate with eventual integration and incorporation into American society? What are the health, education, and labor market consequences of being foreign-born?
- c. How do migrants settling in non-traditional areas of the country compare with those in traditional gateway communities? What unique challenges, or advantages, do migrants in non-traditional areas of the country have regarding civic participation compared with those in traditional gateway communities?
- d. How can we assess the impact of illegal immigrants working in the U.S. on the labor market?
- e. What are the demographics of the major immigrant groups in the United States by class of admission and how are they changing over time?
- f. What are the evolving characteristics and demographics of the unauthorized population in the U.S. (e.g., age, gender, country of origin, income, education, profession, family ties, internet access, English language proficiency, etc.) and how are these characteristics changing over time?
- g. How do key socio-economic variables, such as English language proficiency and Internet access and usage, compare among immigrants in the U.S.?
- h. How are U.S. cities changing as a result of authorized and unauthorized migration? Where has there been unexpected growth in immigrant populations and what are the factors that encouraged their geographic concentration and what is their demographic profile?
- i. What are the demographics of the major immigrant groups in the United States by class of admission and how are they changed changing over time?

4. References

A list of publications is provided as a resource for applicants in Appendix D. While this list is not exhaustive, it does represent key policy documents and reports used in the development of this FOA. Applicants are expected to be aware of the diversity of available studies, policy documents, and findings relevant to this FOA.

F. Management and Administration

Each applicant must propose a plan for management and administration of the Center, its partners and projects. The plan should describe how the Center will carry out the following administrative functions.

- Leadership, Management, and Administration
- Transition

- Program and Project Evaluation
- Collaboration and Integration
- Communications and Outreach

Please see “Section IV: How to Apply” for detailed instructions on the format of this plan.

1. Leadership, Management, and Administration

Compared to individual research grants, a DHS COE requires more complex and sustained management and administration. Successful COEs have a dedicated and unified leadership team that establishes a strategic vision and direction for the Center. The leadership team must clearly communicate the Center’s goals and DHS’s expectations to all partners in its network. Center management teams are responsible for managing, coordinating, and supervising the entire range of Center activities (e.g., administration, program/project evaluation, business operations, financial management, collaboration/integration, communications and outreach, education, research, and transition).

Center leadership must ensure cohesive management and administration through clear internal communication. COE leads and partners must be responsive to DHS requests for information and assistance. Center Lead institutions should obtain a Letter of Support from their university leadership to demonstrate a long-term university resource and administrative commitment to support the COE.

The Center Director should be a full-time position in order to dedicate the required amount of attention to the COE. OUP’s experience has shown that part-time Directors have difficulty managing all of the demands placed on a COE, as well as their other duties. The Center Director should expect to work closely with the DHS Program Manager and have an effective and dynamic working relationship with DHS. Center Directors are ultimately responsible for all Center activities. Center Directors must be U.S. citizens who are eligible for a government security clearance.

2. Transition

Lead institutions are required to develop and implement an overarching strategic approach for transitioning their research and education results to end user organizations. As a mission agency, DHS funds research projects with the ultimate goal of making homeland security practitioners more effective and efficient. Therefore, COEs are expected to have concrete objectives for how their research efforts will improve processes (e.g., operations, policies, decision-making), as well as impact homeland security (e.g., protect lives, property, and economies). A significant focus of the Center will be on transitioning research outputs and outcomes for use by DHS operational components, other homeland security end users, policy makers, decision-makers across all levels of government, first responders, and community leaders. The DHS COEs must form teams of qualified professionals with the complementary skills necessary to transition research results from the research laboratory into the hands of homeland

security end users. This includes understanding customer relations, market assessments, intellectual property rights, commercialization, operations and maintenance, and training. Note: DHS does not expect all team members or principal investigators to understand all of these issues, but should be able to identify and recruit people that do, for as long as needed.

Lead institutions are encouraged to develop proposals that include administrative support for facilitating transition, such as a staff member dedicated to assisting project leads with developing transition plans and the partnerships needed for successful transition, including with end users or the private sector. COEs are encouraged to leverage capabilities and resources offered through their university technology transfer offices, in order to protect intellectual property by filing invention disclosures, patents, and licensing agreements. In addition, COEs are expected to participate in workshops, technology demonstrations, conferences, and other events hosted by OUP that may facilitate research and technology transition to end users.

End user and stakeholder engagement: Historically, COEs that have effectively engaged stakeholders early on in their activities have had great success. Examples of such engagement include:

- Inviting end users, such as DHS component representatives or first responders, to work with principal investigators as they develop and implement their research and transition plans
- Conducting projects in coordination with DHS S&T technical divisions
- Inviting end users/stakeholders to participate in program/project reviews
- Holding workshops that bring researchers and homeland security practitioners together
- Partnering with private industry or business
- Embedding researchers or students in an operational environment
- Hosting an operational expert to participate in COE activities

Successful applications will include a plan for engaging potential end-users and other stakeholders from federal, state, local government agencies; the private sector; laboratories; and institutions in the work of the Center in strategic planning, research and education activities.

COEs also should have specific objectives for their education efforts, which should include but are not limited to (1) capacity-building in disciplines relevant to homeland security, including at MSIs, (2) development and training of homeland security professionals for the current and future workforce, and (3) engagement of COE-supported students in research projects in applied or operational settings.

3. Program and Project Evaluation

Each year, COE funding is contingent on performance (including research quality and impact of project outcomes on the homeland security mission) and the availability of

federal funds. Center leads are responsible for ensuring the overall success of the Center and its projects. The best proposals will offer insightful and creative approaches for (1) demonstrating the success of the Center in ways that illustrate the real-life impacts and societal benefits of the Center's research and education work, and (2) using assessment outcomes to guide Center management and administration as well as its investments.

Center leadership should effectively monitor progress by continually evaluating and selecting the most promising homeland security-related research and ensuring the appropriate allocation and prioritization of resources. DHS expects COEs to continually seek out the best researchers for research within their subject areas. This includes administering peer-reviewed competitions to attract new high quality investigators throughout the period of performance.

Several COEs have established advisory boards with partners in the private and public sectors as well as academia to guide program and/or project direction. This includes providing subject matter expertise, understanding of operational environments, potential transition pathways, and end user perspectives. Individual projects may also establish and engage advisory groups to guide project direction. Note: DHS OUP will establish its own advisory panel of federal end users and SMEs, who will be available to consult with the COE leadership, as needed.

In addition, DHS will conduct formal biennial program and project reviews using an SME review panel selected by the DHS Program Manager. The review will be conducted in coordination with the Center's leadership team. DHS will use the outcomes of the biennial reviews to guide future decisions about investment in the Center and its projects. Following these reviews, some projects or entire topics may be discontinued. In such cases, funding will be reallocated to new, high-priority issues and promising E2E initiatives.

- Program Evaluation – Proposals must include the Center plan for assessing how it is achieving its short- and long-term goals, how well the Center functions as a whole, and how Center leadership will use its self-assessment outcomes to guide Center management and administration, as well as its investments. This plan should include evaluation metrics that indicate how well the Center is carrying out each of its core leadership, management, and administration functions (e.g., leadership, transition, communications, financial management). DHS encourages Centers to form appropriate review committees as a part of evaluation processes.
- Project Evaluation – Proposals must include the Center plan for conducting annual project reviews with stakeholders, including identifying metrics for project success and mechanisms for tracking those metrics. Research project metrics should, where possible, include outcome measures that demonstrate public benefit such as dollars saved or operations improved. Education projects should include output measures such as number of students enrolled in COE-funded courses, and outcome measures such as number of graduates who secure jobs in homeland security.

4. Collaboration and Integration

COEs are encouraged to form associations with DHS components, other federal agencies, FFRDCs, research laboratories, state or local homeland security and law enforcement agencies, and other public and private entities. DHS strongly encourages collaborative research or education projects with existing COEs. There are three main interrelated areas of collaboration through which COEs must strategically engage to maximize the return from their research and education programs: 1) End user and stakeholder engagement, as described in “Section I. (F-2): Management and Administration, Transition”; 2) Collaboration and Integration Within the COE’s own Consortium; and 3) Collaboration and Integration Across the COE Network.

- Collaboration and Integration Within the COE Consortium – A successful COE fosters relationships and collaborative efforts among its partners and embraces researchers who are committed to the goals of the COE and DHS. Effective Center leadership ensures all partners understand how their research supports the mission of the COE and DHS. Effective COE leadership also ensures partners understand their responsibilities. For example, preparing timely annual work plans and annual performance reports. COEs must also brief homeland security stakeholders about project status and outcomes, keep track of project activities and accomplishments for DHS reporting requirements, respond to the requests for assistance, and be aware of changing grant terms and conditions, or DHS policies and procedures. Effective internal communications across a COE’s partners are essential elements of successful coordination and integration. Successful applications will include a plan for communicating with all Center partners to promote a common mission, foster collaboration among researchers from multiple academic disciplines to address a specific homeland security challenge, and determine how to engage stakeholders in Center activities.
- Collaboration and Integration Across the COE Network – The DHS COE network is a consortium of COEs that work together to solve complex homeland security problems. This Center will be a fully integrated component of the network of COEs and will take advantage of the network's resources to develop mission-critical research, education, and transition programs. DHS expects and encourages collaboration across the COE network, including attendance at COE Directors’ meetings and monthly OUP-led calls, as well as the education, transition, and communications working groups. Applicants should plan to: (1) integrate proposed work with that of other COEs as feasible, and (2) develop methods to ensure that Center work leverages and complements, and does not duplicate, other COEs’ research or data collection efforts. Because the capabilities of each COE are available to all other COEs, OUP may decline to support research that duplicates the capabilities or activities of other Centers. Applicants should show they can leverage and integrate their efforts with the network and other DHS research and development efforts, while introducing new activities that broaden capabilities and results. For a list of current COEs and their capabilities, go to <http://www.dhs.gov/st-centers-excellence>.

5. Communications and Outreach

Effective external communications with DHS and other stakeholders are also essential elements of successful COE operations. Lead institutions must have communications and outreach expertise within the Center administration to ensure effective, professional, high-quality communications products. Successful applications will include a strategic plan for communicating about the Center and its results to DHS and other key stakeholders. Typical COE communications include websites, fact sheets, newsletters, press releases, annual reports, webinars, and lists of SMEs and resources available to stakeholders. DHS encourages COEs to leverage capabilities and resources offered through their university or their partner universities, which may include public affairs offices, media affairs offices, federal affairs offices, technology transition offices, and academic centers (e.g., schools of business, marketing, or journalism).

II. Funding Information

A. Award Amounts, Important Dates, and Extensions

Available Funding for the FOA: Up to \$4,000,000 (Subject to availability of funds) per year for 5 years.

Projected number of Awards: 1 (one)

Projected Award Start Date(s): 3/01/2015

Projected Award End Date(s): 06/30/2020

Period of Performance: Up to 65 months

B. Available Funding for the FOA

There are two funding opportunities associated with the Center for Borders, Trade and Immigration Research (CBTIR) award: (1) one for Center Lead (DHS-14-ST-061-COE-002A) and (2) one for Center Partner (DHS-14-ST-061-COE-002B). A total of up to \$4 million per year is available for the selected Center lead and Partner applications. DHS may allocate up to \$500,000 of the up to \$4 million Center lead award to Partner awards.

DHS reserves the right to select research and education projects submitted in response to the Center Lead FOA and/or the Partner FOA and combine them to create the research and education portfolio for the new CBTIR. DHS awards the up to \$4 million per year grant to the Center Lead. Partner projects selected by DHS become part of the CBTIR portfolio and are funded through the up to \$4 million per year grant to the Center Lead institution. The Center Lead is responsible for administering funding to all DHS-selected projects within the CBTIR portfolio, including funding any Partner projects that have been incorporated into the newly formed Center.

Subject to availability of funds, DHS estimates that up to \$4 million per year will be available for funding the Center and all direct and indirect costs. DHS estimates that up to \$20 million will be available for the total costs for a 65 month performance period. DHS does not guarantee any total amount of annual or cumulative funding. DHS reserves the right to award less than the amount above. Funds may be less than or greater than shown above, depending on many factors.

Note: The first year of funding may be significantly less due to startup delays, however, applicants should submit proposals for the full amount.

C. Projected Number of Awards

DHS will grant one (1) award for Center Lead. DHS reserves the right to add Partner institutions to the successful Center Lead institution from other applications, either from those received for the Center Lead FOA or from the Partner FOA, provided the applications successfully pass merit and DHS relevancy reviews.

D. Period of Performance

DHS anticipates the period of performance of the Center to be up to 65 months, encompassing five program years. DHS anticipates each program year will be 12 months. COE annual program years coincide with most academic calendars; i.e., July 1st to June 30th of the following year. The first program year may be more or less than 365 days to allow a new COE's performance periods to be synchronized with this calendar. However, because actual award dates are unknown in advance, applicants should submit proposals for the full year. Each year's annual funding is subject to the availability of appropriated funds, the performance of the Center, and DHS research priorities.

Extension Requests:

Is an extension to the period of performance permitted? ☒ Yes ☐ No

DHS will base extension approvals on the availability of funds, acceptable performance, and the reason(s) for the requested extension. DHS will not provide extensions solely to enable universities to expend unspent funds.

III. Eligibility Information

The Center Lead designation is restricted to an accredited institution of higher education in the United States, in accordance with 6 U.S.C. 188(b)(2)(A) which specifies: "The Secretary, acting through the Under Secretary for Science and Technology, shall designate a university-based center or several university-based centers for homeland security."

DHS will accept only one (1) application for Center Lead from any single university for review. Proposals must be submitted by an accredited U.S. institution of higher education

that, along with its chosen partners, has the ability and capacity to conduct the required research. The applicant institution must be identified as the official lead for proposal submission and subsequent negotiations.

Center lead applicants are strongly encouraged to partner with other academic institutions, including historically black colleges and universities (HBCUs), Hispanic serving institutions (HSIs), and/or other MSIs; institutions in states that are part of the Experimental Program to Stimulate Competitive Research (EPSCoR); public or private sector institutions, and non-profit organizations, including any organizations that meet the definition of nonprofit in OMB Circular A-122, relocated to 2 CFR Part 230. However, nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code that engage in lobbying activities as defined in Section 3 of the Lobbying Disclosure Act of 1995 are not eligible to apply. The Center Lead institution will fund partnering institutions through sub-awards.

Center Lead institution partnerships with foreign institutions are permitted, but may require special justification and approval from DHS. The applicant can include team members who are non-U.S. citizens; however, the proposed Center Director must be a U.S. citizen eligible for a security clearance.

FFRDCs or laboratories funded by federal agencies may not apply. FFRDC employees may cooperate or collaborate with eligible applicants within the limits imposed by applicable legislation, regulations, and DHS policies. FFRDC employees are not eligible to serve in a principal leadership role on a grant or cooperative agreement, and may not receive salaries or in other ways augment their agency's appropriations through awards made by this program. National laboratory employees may participate in planning, conducting, and analyzing the research directed by the COE principal investigator, but may not direct projects on behalf of the applicant organization or principal investigator. The principal investigator's institution, organization, or governance may provide funds through its assistance agreement with DHS to an FFRDC for project-specific, non-federal research personnel, supplies, equipment, facilities, data, and other expenses directly related to the research.

Federal agencies may not apply. Federal employees are not eligible to serve in a principal leadership role on a grant or cooperative agreement, and may not receive salaries or in other ways augment their agency's appropriations through awards made by this program. Nonetheless, federal employees may interact substantively with awardees in the form of cooperation. Cooperation involves consulting on the planning, management, and coordination of COE activities, sharing or comparing samples, equipment, facilities, data, models, or other support during the conduct of the research in which the interaction is substantial and requires the award of a cooperative agreement, rather than a grant. Substantial involvement occurs when the collaboration or cooperation of a federal employee or facility is necessary to achieving the overall goals of the research supported by a cooperative agreement.

A. Applications DHS Considers Non-Responsive

DHS will not consider applications that do not adhere to one or more of the following requirements:

1. **Deadlines.** DHS will not accept late applications. Without exception, applications must be received by Grants.gov on or before the deadline in this announcement or they will not be considered.
2. **Application relevance.** Applications that do not address the purpose of this announcement will not be considered.
3. **Compliance and completeness.** Applications must substantially comply with the application submission instructions and requirements in this announcement or they will not be considered.
4. **Funding limits.** Applications exceeding the funding limits will not be considered.
5. **Project period.** Applications exceeding the project period term will not be considered.

This announcement does not require cost sharing or matching. However, the ability to extend the reach of DHS funds for research and education in support of its mission is an important consideration for DHS. In-kind contributions demonstrate a university's commitment to the COE. DHS considers resource contributions as an evaluation criterion. Identification of university in-kind contributions will result in a higher rating in DHS's overall proposal review.

IV. How to Apply

A. SF424 Application for Federal Assistance (SF424-V2.0)

Please complete this form in its entirety.

- a. If you fill this form out first, other required forms will populate with basic data such as name, address, etc. Signature and date will auto-fill when you submit the application package through Grants.gov.
- b. Block 1, Type of Submission – please check “Application”
- c. Block 2, Type of Application – please check “New”
- d. Block 17, Proposed Project – please provide the start and end dates for your project.
- e. Block 18, Total Estimated Project Funding – this amount should correspond to your budget justification and the Budget Form's total for the requested budget period.
- f. Block 19 (E.O. 12372 review question): Please contact your State Single Point of Contact (SPOC) to determine whether you are required to submit this application

for review, and then check the appropriate box in Block 19. Find your State SPOCs: http://www.whitehouse.gov/omb/grants_spoc

- g. Regarding Block 21: By submitting this application, your organization is providing certifications and assurances regarding:
 - i. Drug-Free Workplace Requirements
 - ii. Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions
 - iii. Information regarding the certifications on drug-free workplace, as well as debarment, suspension, and other responsibility matters, is attached for your reference in Appendix B: Terms and Conditions.
- h. If you are requesting Indirect/Fringe Costs, please attach your indirect cost rate agreement, fringe benefit rate agreement, or a description of how fringe rates are calculated, using the “Add Attachments” button at the end of the 424.

B. Budget Information, Non-Construction Programs (SF424A-V1.1)

Filling out the Budget Form – please ensure that funds requested on the Budget Form correspond to the same items in your budget justification and that the total requested corresponds to Block 18 on the SF 424 form.

C. Certification Regarding Lobbying (GG Lobbying Form-V1.1).

Only selected applicants are required to submit this form. It will be provided by the Grants Office at a later date. If your organization used funds to participate in lobbying activities in connection with this award, then complete and submit the SF-LLL Disclosure of Lobbying, which is provided as an optional form in the application package.

D. Research and Related Other Project Information

Tips: Write for a general audience and avoid use of scientific jargon to the extent possible. Please define any technical terminology that is discipline-specific. Be concise and direct in descriptions.

1. Other Project Information

Applicants must complete the “Other Project Information” Items 1-6 on the form which include information regarding use of human subjects, use of animal subjects, proprietary information, environmental impacts, historic place designation, and international collaborators.

2. Project Summary/Abstract

For the purpose of this FOA section, “Project Summary” is intended to be the COE summary. The summary is limited to one single-spaced page with 12-point Times New Roman font and one-inch margins. Attach the Summary/Abstract to Item 6 on the Research & Related Other Project Information Form. The Summary/Abstract is for dissemination to the public and must not include any proprietary or confidential information. Include the title of the Center and provide a summary of (1) the overarching vision, mission, and goals for the Center; (2) the Center’s research and education themes and topics; and (3) examples of the Center’s potential results and how those results may benefit specific homeland security stakeholders.

3. Project Narrative

For the purpose of this FOA section, “project narrative” is intended to be the entire COE narrative. The Center narrative is limited to 65 single-spaced pages with 12-point font, Times New Roman, and one-inch margins. Applicants must adhere strictly to the page limits identified below [not included in the Center Narrative 65-page limit are the abstract, budget and investigators' credentials, past performance, or appendix.] Pages in excess of the page limitations will not be reviewed (i.e., DHS will only review pages 1-65). Attach the Center Narrative to Item 7 on the Research & Related Other Project Information Form.

The Center Narrative portion of the application must address the following requirements described below in sections (a) - (e).

a. Strategic Approach (3 pages)

Describe the strategic approach for achieving the overarching vision, mission and goals for this Center. Include the following:

- The overall focus including a brief discussion of the research themes
- The key milestones to achieve the Center’s goals for each year of the Center’s period of performance (5 years)
- The key functions within the Center and how they will work together as an integrated system to achieve the vision, mission, and goals
- The strategic partnerships needed to ensure the successful implementation of the Center’s research and education program and delivery of research outputs, tools, and technologies to end users

b. Research and Education and Workforce Development Program (43 pages)

Each applicant must propose a research and education program as described in “Section I (E): Research and Education and Workforce Development Program.” Additional space is allocated specifically to describe Relevancy to DHS.

The **Research Program Section (30 pages)** must include the following elements:

- Propose an in-depth research program for the first year specifically, and envisioned for all years thereafter, subject to demonstrated performance and availability of funding. The introduction to this section must clearly describe the research themes of this COE and how they collectively provide a comprehensive, interconnected approach that supports the vision and goals of the Center (see “Section I. (E) (1-b): Research and Education Programs, Comprehensive Interdisciplinary Approach”).
- Address all research themes. Include at least one research project for each research theme in this FOA for which the Center has a high level of expertise and capability. DHS does not expect proposals to address every topic within a theme, or every question within a topic. Applicants should specifically identify which theme area and topic they have chosen to address
- Describe how the research projects are interconnected to form an integrated approach to achieving the goals of the Center. Each theme should have a lead investigator/coordinator that will monitor projects that relate to the theme and promote efforts that foster collaboration and synergy.
- If relevant, applicants must discuss any unique data, testing, or laboratory facilities that will be required to conduct the research and how the applicant will ensure its researchers can access the data and facilities.

Each project proposed must include the following elements:

- Project Abstract
- Research significance of the proposed project
 - How does the work build upon the state-of-the-art?
 - How is the work innovative?
- Project Plan
 - Title
 - Principal investigator (name, title, school)
 - Significant Partners and their roles
 - Background/context of the research problem
 - Goals and objectives of the research
 - Theoretical approach, hypothesis to be tested, methods, metrics for success, data collection, analysis, and likely outputs and outcomes
 - A year-by-year description of the project from inception to transition including key milestones for each year
 - Total costs per year

In addition, for the two projects selected to follow the E2E approach, as described in “Section I. (E) (1-a): Research and Education Program - E2E Approach” and “Appendix C: End-to-End (E2E) Project Requirements” include:

- A description of the multidisciplinary approach
- A list of potential researchers, transition partners, and end users
- A description of the potential avenues for the Center to establish a formal commitment by end users to engage throughout the life of the project

- A transition plan with annual milestones and evaluation mechanisms for monitoring progress
- A description of how the project would support education and training opportunities for new and existing faculty, research staff, and/or students

Additionally, the application must describe its **Relevance to DHS Mission (5 pages)** and must address the following elements.

For each theme area and E2E project, applicants answer the following questions:

- What is the significance of the proposed project to homeland security?
- What are the goals of the research and how they relate to DHS's mission?
- What capability or knowledge gap does this project address?
- Who are the envisioned end users, and how will the research team partner with them?
- Where and in what circumstances would the results be used?
- When would COE research results be available in a usable format?
- What is the transition pathway from lab to field?

Note: While not all Center projects will result in a final product that transitions to actual use by an end user, even earlier phase or exploratory research should still include a plan for disseminating results to end users/stakeholders in a form that enables end users/stakeholders to understand the potential applicability of the work and take advantage of research outcomes to the maximum extent possible.

The ***Education and Workforce Development Program Section (8 pages)*** must address the following elements.

Each applicant must provide specific details for the education program for the first year, and a general outline of goals and objectives for the out years. Applicants must propose an integrated education program that incorporates multiple science and engineering disciplines that support critical research areas as described in "Section I. (E-2): Education and Workforce Development Program." The introduction to this section must clearly describe how the education initiatives would connect with the research program to support the vision and goals of the Center.

The education program must include the below information for each project proposed:

- Project Abstract
- Homeland security significance of the proposed project
 - A description of the mission relevance (i.e., how does the project align with DHS missions, as described in DHS Strategic Plan or QHSR, and contribute to improvements in homeland security?)

- o A description of how the project would build capacity in science and engineering disciplines relevant to homeland security, including at MSIs and/or
 - o A description of how the project would partner with a MSI and/or
 - o A description of how the project will develop and train homeland security professionals for the current and future workforce (if applicable)
- Project Plan
 - o Title
 - o Principal investigator (name, title, school)
 - o Major partners
 - o Goals and objectives of the project
 - o A description of how the project aligns with and integrates into the Center's research program
 - o A description of how the Center would track specific education programs measures of success such as the number of students who graduate with homeland security relevant degrees, the number of students that participated in homeland security-related internships or research activities, the number of students that successfully obtained homeland security-related employment, the number of homeland security-related conference presentations given, the number of homeland security-related papers published, and the number of homeland security-related awards or prizes received.
 - o A year-by-year description of the project including key milestones for each year
 - o Total costs per year

c. Leadership, Management, and Administration Plan (19 pages)

Each applicant must propose a leadership, management, and administration plan as described in "Section I. (F): Management and Administration" of this FOA. The plan must include the following sections:

- Leadership, Management, and Administration (5 pages)
- Transition (5 pages)
- Program and Project Evaluation (3 pages)
- Collaboration and Integration (3 pages)
- Communications and Outreach (3 pages)

The **Leadership, Management, and Administration Section (5 pages)** must provide and describe the following elements:

- The organizational structure and charts for the Center management and administration as well as the COE as a whole
- The Center Director and Center staff responsible for each major COE activity (e.g., leadership, management, administration, program/project evaluation, business operations, financial management, resource management,

collaboration/integration, communications and outreach, education, research, strategic planning, and transition). Include a description of the major responsibilities for each member of the leadership and management team. Discuss how team members will work together to ensure successful operation of the Center.

- How the Center will leverage the resources or take advantage of the resources available within the lead institution's existing complex (e.g., university technology transfer offices, sponsored research offices, communications offices, or other departments that can contribute to business plans, marketing plans, and communications)
- Any major committees (e.g., steering committees, advisory boards, industry panels, end user working groups) that will be established to guide Center activities and functions. Include a description of committee roles, responsibilities, proposed membership composition, and how committee guidance will be implemented by Center management/administration.

The ***Transition Section (5 pages)*** must provide and describe the following elements:

- The Center's overarching strategic approach for transitioning its research and education results to end user organizations using the E2E approach
- The process for identifying projects with transition potential and carrying them through the transition process to actual use by an end user
- How the COE will identify and establish ongoing engagement with potential user groups
- How end users/stakeholders will be engaged at each step of the transition process
- How end users/stakeholders will be engaged in both strategic planning and research and education activities
- How the Center will leverage the resources or take advantage of the resources available within the lead institution's university technology transfer offices
- The Center's process for identifying intellectual property and filing invention disclosures, patents, or developing license agreements
- How the Center will measure ongoing progress and success of transition across the Center's research and education projects

The ***Program and Project Evaluation Section (3 pages)*** must provide and describe the following elements:

- **Program Evaluation Plan** – Include the Center's plan for assessing how it is achieving its short- and long-term goals, how well the Center functions as a whole, and how Center leadership will use the self-assessment's outcomes to guide Center management and administration as well as its priorities and investments. This plan should include specific evaluation metrics that indicate how well the Center is carrying out each of its core leadership,

management, and administration functions (e.g., leadership, transition, communications, financial management). Review committees may be part of evaluation processes.

- **Project Evaluation Plan** – COEs must include procedures for evaluating and selecting the most promising homeland security-related research. It is expected that research projects that have shown little potential will be discontinued and that new projects with greater potential will be initiated through a competitive process as the program evolves and matures. It is also expected that Center leadership will propose the best combination of projects to achieve the Center’s overarching goals. The addition, termination or major modification of projects will be reviewed and approved by DHS S&T program staff. Include a description of the Center’s:
 - Proposed evaluation process, including any review panels;
 - Specific evaluation metrics;
 - Plan for monitoring and tracking project progress, using outcomes to determine which projects will end; and incorporating outcomes into projects that will continue; and
 - Process and evaluation criteria to hold competitions for and select new projects.

The ***Collaboration and Integration Section (3 pages)*** must include the following elements:

- **Collaboration and Integration Within the Center’s Consortium** – Applicants should (1) list consortium members, their expertise, and how their engagement will enable the Center to achieve its goals; and (2) discuss their plan for the following:
 - Foster relations and collaborative efforts among all partners
 - Ensure partners understand what their responsibilities are as research partners
 - Disseminate effective internal communications across the Center partners to promote a common mission, foster collaboration among researchers from multiple academic disciplines to address a specific homeland security challenge, and engage stakeholders in Center activities
- **Collaboration and Integration Across the COE Network** – Applicants should (1) describe how the proposed Center would build upon or complement related work across the COE Network, and (2) describe any unique partnerships, capabilities or other resources the proposed Center would bring to the COE Network.

Note: COEs are encouraged to form associations with other federal agencies (including the National Laboratories); research laboratories; state and local homeland security and law enforcement agencies; and public and private

entities. Collaborative research or education projects with existing COEs are also highly encouraged.

In the ***Communications and Outreach Section (3 pages)*** each applicant must propose a communications plan describing how it will engage with key stakeholders; market its research and education activities, capabilities and outputs to stakeholders and the public; and recruit students to its program.

d. Past Performance (up to an additional 5 pages)

Applicants who have experience managing assistance agreements similar in size, scope, and relevance to this FOA should add **up to an additional 5 pages to the 65-page limit**.

Applicants must submit a list of federally and/or non-federally funded assistance agreements (assistance agreements include federal grants and cooperative agreements but not federal contracts) similar in size, scope and relevance to the proposed project that the applicant performed within the last three years (no more than five agreements, and preferably DHS agreements). Applicants must describe (1) whether and/or how you were able to successfully complete and manage those agreements; and (2) your history of meeting the reporting requirements under those agreements, including whether you submitted adequate and timely reports on your progress toward achieving the expected outputs and outcomes of those agreements (if not, explain why not), and whether you submitted acceptable final technical reports under the agreements. In evaluating applicants under these factors in Appendix A: Center of Excellence Evaluation and Selection Process, DHS will consider the information provided by the applicant and may also consider relevant information from other sources, including information from DHS files and from current/prior grantors (e.g., to verify and/or supplement the information provided by the applicant). Past performance narratives should:

- Discuss successful research projects and results, especially transition results that had significant positive impacts to homeland security;
- Discuss successful education efforts such as new courses developed, internships, and students who entered homeland security STEM disciplines or careers;
- Describe collaborations that occurred among Center partners and other research centers;
- Discuss the Center's collaboration with end users, including federal agencies;
- Discuss challenges with funding agencies, end users, the PI's own institution, other institutions or researchers from other disciplines
- Provide information about numbers of publications, licenses, patents, and additional funds secured;
- Describe how the Center was managed;
- Provide information about the Center's established facilities and available resources; and

- Provide lessons learned from the first grant period.

If you do not have any relevant or available past performance or past reporting information, please indicate this in the proposal. Not having a past performance history will neither improve nor diminish an applicant's rating.

E. Optional Forms

1. Attachments Form – use this form to attach other documents if you need another place to electronically attach portions of your application.
2. SF-LLL Disclosure of Lobbying Activities – fill out and submit this form ONLY if Condition 2 in the Lobbying Certification applies.

V. Funding Restrictions

DHS does not envision any specific funding restrictions at this time. However, DHS substantial programmatic involvement and performance/progress reviews may result in funding restrictions in conjunction with initial and annual continuation awards.

VI. Center of Excellence Selection Process

See Appendix A: Center Of Excellence Evaluation and Selection Process

VII. Post-Selection and Pre-Award Guidelines

A. Notice of Award

Customarily, applicants are notified about evaluation decisions within six months of the application closing date. A summary statement of the scientific review by the peer panel will be provided to each applicant with an award or declination letter. DHS also requires successful applicants to provide responses to comments or suggestions offered by the peer reviewers and revise and resubmit their proposal accordingly. Successful applicants may also be requested to submit a revised budget. DHS will contact the applicant to obtain these materials. Before or after an award, applicants may be required to provide additional quality assurance documentation. A cooperative agreement award will be executed by a DHS Grants Officer authorized to obligate DHS funding. The successful applicant will receive the award and cover letter by e-mail. The successful applicant will have the option to request an original by mail.

B. Work plan Development Workshop Requirement

After award and subject to agreement from the DHS Program Manager, the selected Center lead will hold a work plan development workshop with homeland security practitioners to develop work plans for each project or theme area selected as part of this funding opportunity. Project proposals will receive an initial year of funding once DHS has approved a project work plan. Additional funding beyond the first year will depend upon performance and availability of funds. DHS expects this workshop to occur within 30 days of the award.

C. Administrative and Federal Financial Requirements

See Appendix B: Terms and Conditions

D. Program Performance Reporting Requirements

See Appendix B: Terms and Conditions

VIII. Other Critical Information

A. Government Property/Furnished Equipment (GFE) and Facilities

Each applicant must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. The purchase on a direct reimbursement basis of special test equipment or other equipment will be evaluated for allow ability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged. Government research facilities and operational military units are available and should be considered as potential government furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs.

B. Consolidated List of Partners and Principal Investigator(s)

Applicants must provide a consolidated list of all Partners and principal investigator(s) to facilitate identification of reviewers that are free of any organizational or personal conflicts of interest.

C. Research & Related Senior/Key Personnel Profile

Applicants must complete a profile for the principal investigator(s) as well as other Senior Key Personnel identified for the project. Provide biographical a sketch for each senior/key person that include education and research activities and accomplishments and each individual's role in the proposed project. Each biographical sketch may not exceed two pages.

IX. Application and Submission Information

Application forms and instructions for this funding opportunity are available through Grants.gov (<http://www.grants.gov>). Submit through the Grants.gov portal. Applicants may download the Grants.gov user manual at:
http://www07.grants.gov/assets/GrantsGov_Applicant_UserGuide_R12.2.0_V2.0.pdf

For a hardcopy of the full announcement, please write or fax a request to:

Jacqueline Greely, Grants Technician
Jacqueline.greely@hq.dhs.gov
FAX: (202) 447-5600

X. DHS S&T Contact Information

A. Grants Officer

The Grants Officer is the DHS official that has the full authority to negotiate, administer and execute all terms and conditions of this Award in concurrence with the Program Officer.

Arvette M. Leake-Davis
Phone: 202-447-5537
Email: Arvette.Leake-Davis@hq.dhs.gov

B. Program Manager

The Program Officer shall be the DHS staff member responsible for monitoring the completion of work and technical performance of the projects or activities described in the Program Narrative Statement.

Theophilos Gemelas
Phone: 202-254-6108
E-mail: Theophilos.Gemelas@hq.dhs.gov

C. Office of University Programs Mailing Address

S&T Stop 0205
Department of Homeland Security
245 Murray Lane, SW
Washington, DC 20528-0217

XI. APPENDICES

A. Appendix A – Center Of Excellence Evaluation And Selection Process

DHS S&T will use a review process with three distinct phases to select the lead institution(s) for a Center of Excellence (COE). The phases are: (1) an external scientific quality review by a panel of peers external to DHS, (2) an internal relevancy review by a panel of DHS subject matter experts (SMEs), and (3) site visits by a team of DHS SMEs, usually some DHS offices represented on the internal review panel, and other relevant SMEs. Only the highest scoring proposals will be referred from the external to the internal review, and only the highest scoring of those will be referred from the internal review to the site visit team. Each review phase has separate ratings based on different criteria (e.g., scientific quality, relevance to DHS, management). A detailed description of the selection process follows:

Applicant submission of proposal by closing date: 07/03/2014.

Note: All proposals will be the intellectual property of the applicants up until a proposal is approved and an award is made. Additionally, the proposal will be incorporated by reference in the award.

Scientific Quality Review (External Review)

DHS will conduct a scientific quality review of proposals by an external review panel of SMEs from academia, non-profit research organizations, industry, and/or federal, state, or local agencies. The panelists will have expertise and/or experience in academic disciplines relevant to border, and trade facilitation and security, immigration, and law enforcement. This includes engineering, planning, demography, sociology, criminology, economics, behavioral sciences, formal sciences (i.e., statistics, computer science), communications, education, transportation, and other academic disciplines with an emphasis in homeland security-related science, technology, engineering, and mathematics.

The external review panel will consider only evaluation criteria and weightings identified in this FOA that focus on the quality and influence of the researchers and proposed research and education programs, as well as the appropriateness of research costs.

The OUP Program Manager responsible for the COE serves as chairperson for the external review panel. His/her role is to summarize and convey results (including calculating mean and median ratings) to the Selection Manager (SM) for further consideration, and to answer questions posed by review panelists. The chairperson does not rate the applications. However, the chairperson will serve in an advisory capacity to clarify aspects of the COE program and selection process. In addition, the chairperson maintains order, ensures the absence of conflicts of interest, ensures that all panelists have completed and signed non-disclosure agreements, and ensures proper documentation of the review and rating of the applications. Finally, the chairperson ensures that all documentation is collected from the panel members and all proprietary information is destroyed at the conclusion of the review.

A lead reviewer, or rapporteur, and at least two other SMEs review each proposal thoroughly. With the exception of those deemed to have a conflict of interest, all reviewers have access to all proposals, although each reviewer is only assigned a subset of proposals for formal review. Reviewers will rate applications on a set of weighted criteria using numerical ratings of 1 to 5 (poor to excellent). Prior to the in-person review meeting, all reviewers will enter their narrative reviews and their preliminary ratings for their assigned proposals into a secure web-based peer review database.

After all the external reviewers have submitted their preliminary reviews through the secure web-based peer review database, an in-person external review panel meeting will take place in Washington, DC. At the in-person meeting, panelists discuss proposals in a randomly assigned order. Following the introductory description, the rapporteur leads the entire panel in a discussion of the proposal using the evaluation criteria. Primary reviewers and other panelists who have read the entire proposal may provide their final rating for each proposal following these discussions. The rapporteur is responsible for crafting the final summary evaluation of the primary reviewers' comments, as well as other substantive comments from the panel discussion. DHS does not seek reviewer consensus on a summary review, but rather expects a diversity of opinions. Each primary reviewer must sign off on each summary evaluation form to ensure his or her comments adequately reflect their evaluations.

For each proposal, DHS will calculate the mean and median rating for all reviewers. DHS reserves the right to use either the mean or the median rating as the final rating for applications. A minimum threshold level will be established for referral of applications from the external review phase to the internal review phase. DHS will select the minimum threshold based on the ratings of applications for this funding opportunity. For example, if DHS receives six applications, three of which have a rating of 4.0 or higher in the external review phase, while the other three are less than 3.5, 4.0 will be the minimum threshold for passing applications to the internal review phase. If the rating—mean or median—is above the threshold established for the external review phase, the application will be considered to be of high scientific quality and will be forwarded for the internal review phase. Under no circumstances will an application be considered if both the mean and the median overall ratings are below 3.0 (Good).

This summary review is critical as it forms a substantive basis for pre-award negotiations with the selected institution(s). The chairperson is responsible for conveying the summary reviews of successful proposals; i.e., those with ratings above the threshold, to the SM for consideration by the internal review panel. The chairperson is also responsible for conveying the summary reviews of the unsuccessful proposals; i.e., those with ratings under the threshold, to the DHS Grants Officer for processing declination letters.

DHS Relevancy Review (Internal DHS SMEs)

As soon as feasible after the external review concludes, the SM convenes an internal review panel of DHS SMEs to review proposals transmitted from the external review phase (those proposals having mean or median ratings at or above the quality threshold). The

chairperson of the external review panel will also serve as the chairperson of the internal review panel. His/her role is to summarize and convey results (including calculating mean and median ratings) to the SM for further consideration and to answer substantive questions posed by review panelists. The chairperson does not rate the applications. However, the chairperson will serve in an advisory capacity should questions arise during the review that may require clarification of the COE program or selection process. In addition, the chairperson maintains order, ensures the absence of conflicts of interest, and ensures proper documentation of the review and rating of the applications. Finally, the chairperson ensures that all documentation is collected from the panel members and destroyed at the conclusion of the review.

The internal review panel will focus on the mission relevance of the proposed research; the relation of the proposed research to DHS operations and other research and development in this area; and, the potential for the research results to transition to the user community.

The internal review panel will also describe perceived knowledge gaps in the subject area as a further basis for discussions during the site visit phase and for negotiations with the selected institution(s). This panel can also suggest how elements of different proposals referred by the external review panel from either the Center Lead FOA (DHS-14-ST-061-COE-002A) or the Partner FOA (DHS-14-ST-061-COE-002B) could be combined to better serve the research needs of DHS S&T and relevant DHS components. A discussion about DHS's reorganization of research areas or projects will be documented in an Additional Comments section.

With the exception of those deemed to have a conflict of interest, all reviewers have access to all proposals, although they may only be assigned a subset of these proposals for formal review. Reviewers will rate applications on a set of weighted criteria using numerical ratings of 1 to 5 (poor to excellent). Prior to the in-person review meeting, all reviewers will provide their narrative reviews and ratings for their assigned proposals to the chairperson, or if a secure web-based peer review database is used, then they will enter their ratings directly into the on-line database. Narrative comments must support the numerical ratings.

After all internal reviewers have submitted their preliminary reviews to the chairperson, or through the secure web-based peer review database, an in-person internal review panel meeting will take place in Washington, DC. At the in-person meeting, panelists discuss proposals using the selected evaluation criteria described below. Primary reviewers and other panelists who have read the entire proposal may provide ratings for each proposal following these discussions.

For each proposal, DHS will calculate the mean and median rating for all reviewers to determine a final rating. DHS reserves the right to use either the mean or the median rating as the final rating for all applications. A minimum threshold level will be established for referral of applications from the internal review phase to the site visit review phase. DHS will select the minimum threshold based on the ratings of applications for this funding opportunity. For example, if six applications are passed from the external review phase,

three of which have a rating of 4.0 or higher in the internal review phase, while the other three are less than 3.5, 4.0 will be the minimum threshold for passing applications to the site visit review phase. If the rating—mean or median—is above the threshold established for the internal review phase, the application demonstrates both scientific quality and relevance. These applications will be forwarded to the site visit review phase. Under no circumstances will an application be considered if both the mean and the median overall ratings are below 3.0. Proposals with ratings above the threshold carry the presumption that the applicant institutions have the capabilities required to establish a successful research and education COE in the relevant topic area.

Site Visit Review

The site visit review team is comprised of the SM, the chairperson, and DHS SMEs, which may include a subset of DHS offices represented on the internal review panel, as well as others with specialized knowledge in managing COEs, education programs, or technology transition. The chairperson's role is to convey results (including calculating mean and median ratings) to the SM for further consideration, make arrangements for site visits, request and collect site visit materials, maintain order, ensure the absence of conflicts of interest, and ensure proper documentation of the review and rating of the applications. In addition, the chairperson ensures that all documentation is collected from the team members and destroyed at the conclusion of the review. The chairperson may also be designated as a reviewer by the SM for the site visit to ensure the appropriate experience and composition of the review team. The SM will manage the site visit discussions with applicant leadership and staff.

The site visit review team will evaluate proposals transmitted from the internal review phase (those proposals having mean or median ratings above the threshold). Reviewers will determine the extent to which the applicant's proposal and any site visit materials address the criteria identified in the FOA.

The site visit team will focus on the applicant's capabilities and/or experience in management and administration; past performance; university commitment in support of the proposed COE; collaboration, integration, communication and outreach;; other factors; and, by adding in the weighted total score from the external scientific quality review for each remaining proposal, research quality and influence. Reviewers will rate applications on weighted criteria using numerical ratings of 1 to 5 (poor to excellent).

The team will also describe remaining knowledge gaps in the subject area as a further basis for discussions during the site visit phase and for negotiations with selected the lead institution(s). This team will also consider how elements of different proposals referred by the external review panel from either the Center Lead FOA (DHS-14-ST-061-COE-002A) or the Partner FOA (DHS-14-ST-061-COE-002B) could be combined to better serve the research mission of DHS S&T and relevant DHS components.

Application Selection Process

DHS will review and evaluate proposals in accordance with the evaluation criteria identified below. Each proposal will be evaluated on its own merit and the relevance of the specific proposal as it relates to the DHS COE Program and the DHS mission.

Geographic Distribution of the COEs

The COE Program’s authorizing legislation states: “... *the Under Secretary for Science and Technology, shall operate extramural research, development, demonstration, testing and evaluation programs so as to ensure that colleges, universities, private research institutes and companies from as many regions of the United States as practicable participate.*” The geographic location of the lead institution and its major partners with respect to each other and the proximity to other COE lead institutions will be a factor in evaluating proposals submitted in response to this COE. Close proximity to another COE lead institution may result in a lower rating, except where an existing COE would be replaced by the new COE established through this Funding Opportunity.

Evaluation Process

Each panel or team will be comprised of a set of reviewers and will focus on the evaluation criteria as described in this section. For the external and internal reviews, a minimum of three SMEs will review each proposal and provide comments and ratings based on the relevant criteria. Each phase of the review process is scored separately. The weighting of each criterion is identified under each review phase.

Reviewers will consider the proposals in terms of strengths and weaknesses for each evaluation criterion. DHS will rate each criterion using the following scale: 1=Poor, 2=Fair, 3=Good, 4=Very Good and 5=Excellent.

- | | |
|----------------|---|
| 1 (poor): | A proposal where weaknesses far outweigh strengths. |
| 2 (fair): | A proposal with strengths and weaknesses approximately equal. |
| 3 (good): | A proposal where there are more strengths than weaknesses. |
| 4 (very good): | A proposal with many strengths and few weaknesses. |
| 5 (excellent): | A proposal where strengths far outweigh weaknesses. |

Each reviewer’s overall rating for a proposal will be calculated by first multiplying the weight for each criterion by its rating, then adding the weighted scores together for an overall proposal rating.

The charts below provide examples of how one reviewer’s overall rating for a proposal would be calculated for each review phase.

Scientific Quality Review (External):

Evaluation Criteria/Weight (%)	Scaled Score	Weighted Score
Research Quality (75%)	5	3.75
Education Program (20%)	4	0.80
Costs (5%)	3	0.15
External Review Rating		4.70

Only those applications meeting the threshold rating for the external review phase will be forwarded to the internal review phase.

DHS Relevancy Review (Internal):

Evaluation Criteria/Weight (%)	Scaled Score	Weighted Score
Mission Relevance (60%)	5	3.00
Capability Gaps (20%)	4	.80
Transition Strategy (20%)	2	.40
Internal Review Rating		4.20

Only those applications meeting the threshold rating for the internal review phase will be forwarded to the site visit review phase.

Site Visit Review:

Evaluation Criteria/Weight (%)	Scaled Score	Weighted Score
Management/Administrative (25%)	4	1.00
Past Performance (20%)	4	0.80
Resource Commitment (10%)	4	0.40
Collaboration, Integration, Communication and Outreach (15%)	3	0.45
Research Quality (20%)*	5*	1.00
Other Factors (10%)	4	0.40
Site Visit Review Rating		4.05

*To emphasize the proposal's scientific quality, the aggregate weighted rating for the proposal's Research Quality criterion from the external review phase is included as a criterion in the determinative site visit review, and is assigned a weight of 20%.

For each proposal, DHS will calculate the mean and median rating for all reviewers to determine a final rating. DHS reserves the right to use either the mean or the median rating as the final rating for all applications.

Final Rating:

Final Rating	4.05
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The site visit review rating is the ultimate rating assigned to a proposal, and represents the conclusion of the three-phase evaluation process. The results of the site review, combined with recommendations of site visit SMEs, and the SM's professional judgment in consideration of geographic diversity, university resources commitments, etc., determine the selection of the COE lead and partner institutions, subject to negotiations.

Evaluation Criteria:

Scientific Quality Review (External): Reviewers will rate how the proposal addresses the following criteria using numerical ratings of 1 to 5 (poor to excellent) and apply the percentage-weighting factor as indicated for an overall rating.

A. Research Program and Projects: Research Quality and Influence (75% total)

(1) Research Program Originality and/or Innovativeness (20%)

- Is it original (i.e., does the proposed effort challenge and seek to shift current research or paradigms by utilizing novel theoretical concepts, approaches or methodologies)?
- Is it innovative (i.e., is the proposal a novel refinement, improvement, or new application of theoretical concepts, approaches, or methodologies proposed)?
- Does this research have the potential to generate influential peer-reviewed publications in the scientific community or lead to new discoveries or areas of investigation?

(2) Project Goals, Approaches, and Methodologies (20%)

Reviewers will rate how the proposal themes and example projects address the following criteria.

- Are the research goals clear and based on sound theory?
- Are the proposed goals and methods feasible?
- Are the proposed methods clearly-stated and appropriate for testing the hypotheses?
- Are the data generation or collection approaches appropriate for the research methods?
- Is the proposed timeframe to complete the project(s) appropriate?

(3) Program Integration and Partnerships (20%)

- Does the application show an appropriate balance of effort among relevant FOA research theme areas?
- Does the application show partnerships and cooperative initiatives with other institutions/organizations?

- Does the research program have an integrated approach that supports the vision and goals of the Center?
- Does the research program appropriately incorporate education initiatives?

(4) Qualifications of Personnel and Suitability of Facilities (15%)

- Does the research team have the qualifications – credentials, expertise, and experience – to carry out the proposed research?
- Are the facilities suitable for the proposed research? If so, does the applicant demonstrate a commitment from facility owners to allow researchers to use necessary facilities?

B. Education Program (20%)

- Does the proposal demonstrate a sound education plan and the ability to establish a program of study for the relevant disciplines related to DHS's mission?
- Are the disciplines of potentially supported students relevant to DHS?
- Does the education program describe the development of new courses, certificates, degrees, or other targeted initiatives that involve students?
- Is there a plan to ensure the student population reflects the diversity of the U.S. population?
- Is the mix between undergraduate and graduate studies appropriate?
- Does the proposal demonstrate a long-term plan to build student capacity in homeland security-relevant STEM disciplines?

C. Costs (5%): Are the proposed research and education costs appropriate and reasonable?

DHS Relevancy Review (Internal): Reviewers will rate how the proposal addresses the following criteria. Reviewers will rate applications using numerical ratings of 1 to 5 (poor to excellent) and apply the percentage-weighting factor as indicated for an overall rating.

A. Mission Relevance (60% total)

(1) Research Program (30%)

- Do proposed projects address the research themes that DHS has identified in the FOA?
- Do the goals of the research and education relate to DHS's mission?
- Does the applicant discuss where, in what circumstances, and by whom would research results be used? Are these relevant to DHS' mission?
- Are the potential research outcomes and end users of the research well-described?

- Has the applicant demonstrated an understanding of DHS's existing research and development programs, information systems, and databases in relevant areas?
- Does the proposed program address a knowledge gap not addressed by research and development programs sponsored by DHS or others?

(2) Collaboration, Integration, Communications, and Outreach (15%)

- Does the application demonstrate a viable plan for developing substantial and continuing engagement with the HSE?
- Does the proposal show ability to work with mission agencies?
- Is there a plan to communicate with and integrate end users into research programs?
- Does the proposal show a workable plan to communicate the Center's capabilities and research results to mission agencies?

(3) Workforce Development (15%)

- Will the applicant incorporate relevant case studies or content linked to homeland security-related science and technology issues and challenges?
- Does the proposal describe university/industry/government partnerships that could potentially provide internship experiences, employment opportunities, or career mentorships for the Center's students?
- Does the proposal describe initiatives for tracking career development of the Center's students post-graduation?
- Does the applicant have a plan to ensure that students and research faculty have opportunities to work in homeland security settings?
- Does the plan incorporate information on the current workforce needs within the relevant HSE sectors?

B. Capability Gaps (20%)

- Does the research program and its individual elements focus on areas that DHS has identified as capability or knowledge gaps, either explicitly or implicitly in the FOA?

C. Transition Strategy (20%)

- Is there an estimated reasonable timeframe for when COE research results would be available in a usable format?
- Does the transition plan describe viable transition pathways for technologies, tools, and knowledge products to end users in the HSE?

- Does the transition plan propose a process to identify and engage end users?
- Does the applicant have a university resource (e.g., technology transition office) to provide assistance (e.g., filing invention disclosures, patents, licensing agreements)?
- Has the program laid a compelling strategy for transition success?

Site Visit Review: The site visit is for proposals that have made it to the third and final review phase. The site visit review team will examine the results of the external and internal reviews and determine the extent to which the applicant's proposal and any site visit materials address the following criteria. Reviewers will rate applications using numerical ratings of 1 to 5 (poor to excellent) and apply the percentage-weighting factor as indicated for a final rating.

A. Management/Administrative (25%)

(1) Ability to Lead Multidisciplinary Efforts (10%)

- Does the proposal contain a viable plan for leadership and management of the Center as described in this FOA?
- Has the applicant demonstrated its ability to lead multidisciplinary, collaborative team projects that (1) are designed to address complex homeland security issues, and (2) included a variety of partners, e.g., universities, industry, national labs, international partners, and MSIs?
- Does the COE bring together partners from as many regions of the United States as practicable to participate?
- Has the applicant secured the best expertise from around the country to address DHS research priorities?

(2) Project Management (15%)

- Does the proposal contain a viable plan for program and project management as described in this FOA?
- Has the applicant developed or proposed a plan to sponsor open competitions for research projects?
- Does the applicant identify appropriate milestones and metrics for success to monitor and track the progress of research and education activities?

B. Past Performance (20%): The following criteria refer to the applicant's existing programs and capabilities supported by DHS or any other funding source.

(1) Collaboration/Partnerships (5%)

- Does the applicant have a track record of demonstrated engagement with the HSE?

- Does the applicant have experience conducting multidisciplinary and multi-institutional research?
- Does the applicant have existing partnerships with MSIs?
- Has the applicant demonstrated responsiveness to homeland security-related stakeholders when their expertise or assistance was requested?

(2) Integration of Research and Education (5%)

- Has the applicant successfully integrated homeland security related content and research activities?
- Has the applicant supported courses/workshops/training sessions that bring together relevant researchers and stakeholders?
- Has the applicant developed initiatives for tracking career development of the Center's students in the HSE?

(3) Transition (5%)

- Has the applicant successfully transitioned research to appropriate stakeholders, specifically:
 - o Developed strategic transition plans for applied research
 - o Demonstrated experience with the technology transition process (e.g., conducting market assessments, applying for patents, filing invention disclosures, obtaining licensing agreements) from academia to the HSE
 - o Applied best practices in testing and evaluation (e.g., those available from American Society for Testing and Materials (ASTM), National Institute of Standards and Technology (NIST), or other similar organizations) to objectively identify capabilities and limitations of projects being readied for transition
 - o Demonstrated experience with established technology test and evaluation processes (e.g., piloting, testability, producibility, maintainability, reliability, availability, affordability, human factors, and environmental impacts)

(4) Assistance Agreements (5%):

- Has the applicant successfully completed and managed an assistance agreement similar in size, scope, and relevance? If so,
 - o Does the applicant have a history of completing tasks and expending government funds appropriately and on time?
 - o Does the applicant have a history of submitting interim and final reports on time?
 - o Does the applicant have a history of producing high quality technical reports that meet or exceed reporting requirements?

- o Does the applicant submit appropriate and well-documented invoices on time?

C. Resource Commitment (10%)

- Does the applicant demonstrate or propose a substantive commitment to supporting a DHS COE through:
 - o University-supported faculty
 - o University-supported students
 - o Capital investments such as lab and office space
 - o Incentives (e.g., tenure and promotion procedures) that reward interdisciplinary and practical research
 - o Technology transition support (e.g., technology transition office)
 - o Marketing support (e.g., public affairs, media affairs, federal affairs offices)

D. Collaboration, Integration, Outreach and Communication (15%)

- Does the proposal include a viable communication and outreach strategy that specifies how the Center will communicate with its partners, across the COE network and with external stakeholders such as HSE practitioners and end users?
- Does the applicant have a plan or track record to effectively communicate with its partners so that they clearly understand how they fit in with the Center and the DHS mission?
- Does the applicant have a plan or track record to effectively communicate results to homeland security stakeholders?
- Does the applicant have experience developing effective communications materials (e.g., websites, fact sheets, newsletters, press releases)?

E. Research Quality and Influence (20%)

- The rating for this criterion is carried over from the aggregate rating for Research Quality and Influence criterion provided by the Phase 1 external review panel.

F. Other Factors (10%)

- DHS S&T reserves the right to consider other factors such as geographical distribution of COE lead and partner institutions; and strength of commitment to engage and conduct mission-related research with DHS and others in the HSE.

B. Appendix B – Terms and Conditions

CENTER OF EXCELLENCE (COE)
COOPERATIVE AGREEMENT TERMS AND CONDITIONS
GRANTS AND FINANCIAL ASSISTANCE DIVISION (GFAD)

In addition to the **DHS Standard Terms and Conditions** shown in Article II, below, and at: <http://www.dhs.gov/publication/fy14-dhs-standard-terms-and-conditions>, the following Terms and Conditions apply specifically to this Center of Excellence (COE) Award as administered by the DHS Grants and Financial Assistance Division (GFAD):

ARTICLE I. ADMINISTRATIVE TERMS AND CONDITIONS	
A. RESEARCH PROJECT and MANAGEMENT AWARD SPECIFIC TERMS AND CONDITIONS AND/OR RESTRICTIONS	
1. Recipient shall submit all projects and programs funded under this Award to DHS for review and approval. 2. Recipient shall compete fully and fairly, subcontracts for all projects funded under this Award unless DHS has approved otherwise. 3. Recipient shall submit annual work plans for the activities for this Award to DHS for review and approval ahead of the next budget period, including individual recipient activities or projects. Modifications to any project or program funded under this award should be submitted to DHS for review and approval before initiating new work. The work plan is a comprehensive annual document that describes the overall objectives of the research efforts, methodology, milestones, performance metrics, transition plans, stakeholder engagement and homeland security mission relevance. 4. Recipient shall organize and participate in technical review of the research and education efforts funded under this Award annually, at a minimum, or as determined by the DHS Program Officer. 5. Recipient shall participate in a DHS managed, biennial review of the Center's long-term strategy, relevance of the research to DHS mission needs and technology gaps, relevance of the education efforts, research quality, outreach efforts, and management of the activities funded under this Award. The DHS Program Manager will select a review panel of subject matter experts representing government, industry and academia, to the extent practicable. 6. Recipient shall participate in at least two DHS Science and Technology (S&T) outreach events per year for the purposes of sharing information on the research,	

development, and education efforts funded under this Award. One of these events shall be the DHS S&T conference (DHS University Networking Summit) in years in which it is held. DHS may hold other events to inform COEs of DHS priorities to assist in research project selection and management. Additionally, recipient shall annually attend and present COE-developed tools or technologies in one (Summit years) or two (non-Summit years) technology showcases sponsored by DHS S&T or others in the homeland security enterprise (HSE).

7. Recipient agrees to work with the technology transfer office of recipient's institution to engage in technology transfer and commercialization activities, as appropriate.
8. DHS has an interest in publications generated from DHS-funded research for program awareness. Recipient shall forward one electronic and one hard copy of all publications generated under this Award to the Program Officer at the time of publication, and shall send a near-final pre-publication draft to the DHS Program Officer.
9. Co-Authoring of Reports and Articles. Papers, presentations, or other documents co-authored by a DHS employee and a COE researcher will be subject to DHS's publications approval process prior to dissemination of the publication by the authors. Recipient shall submit these publications to the DHS author for DHS clearance at least sixty (60) days prior to dissemination of the publication. Recipient agrees to submit all required DHS clearances with the publication materials to the DHS Program Officer of Record.
10. Information Protection Plan
 - a. The Parties agree that all research conducted under this Award is intended to have publicly releasable results. Accordingly, no research under this Award should involve, use, or generate sensitive information, which includes export control information or classified information (see Item d of this section for Definitions).

In order to ensure research under this Award does not involve, use, or generate sensitive or classified information, intentionally or accidentally, Recipient shall develop an Information Protection Plan that incorporates policies and procedures that properly define, recognize, and protect such sensitive or classified information. Recipient will submit its plan to the DHS Program Officer for review and comment within 30 days of award. The Recipient will be notified of any concerns that may be identified once the plan is reviewed by DHS. The recipient will review the Information Protection Plan at least annually and update as necessary for new or existing areas of research that may involve sensitive information. Recipient will submit any updates to the Information Protection Plans along with annual reports to the DHS Program Officer for review and comment.

Recipient further understands and agrees that despite the best efforts of the

Parties to avoid research under this Award that involves, uses, or generates sensitive or classified information, the possibility exists that such information could nonetheless be involved, used or generated and be subject to protection by law, executive order, regulation or applicable DHS policies. The Recipient is, therefore, responsible for compliance with all applicable laws, regulations and policies. Nothing in this Award shall be construed to permit any public disclosure of sensitive and/or classified information in violation of these restrictions.

The Information Protection Plan will ensure the Recipient identifies, secures, and prohibits public disclosure of “sensitive or classified information.”

b. Required Notifications to DHS:

- i. If Recipient determines that research under this Award involved, used, or generated sensitive or classified information, it agrees to secure the information in accordance with its Information Protection Plan and notify the DHS Program Officer immediately.
- ii. The Recipient shall inform the DHS Program Officer in writing within three days of the Recipient becoming aware of any potential security lapses involving either: the handling requirements for sensitive or classified information; or material failure of individuals to follow the Information Protection Plan.

c. Flowdown Requirements: The Recipient shall include the substance of this section in all sub-awards/contracts at any tier where the sub-Recipient may use, generate or have access to government facilities and sensitive or classified information.

d. Definitions: For purposes of this section.

- i. Sensitive Information. General Definition. Any information, the loss, misuse, disclosure, or unauthorized access to or modification of which could adversely affect the national or homeland security interest, or the conduct of federal programs, or the privacy to which individuals are entitled under Section 552a of title 5, United States Code (the Privacy Act), but which has not been specifically authorized under criteria established by an Executive Order or an Act of Congress to be kept secret in the interest of national defense, homeland security or foreign policy. This definition includes the following categories of information:

Protected Critical Infrastructure Information (PCII) as set out in the Critical Infrastructure Information Act of 2002 (Title II, Subtitle B, of the Homeland Security Act, Public Law 107-296, 196 Stat. 2135), as amended, the implementing regulations thereto (Title 6, Code of Federal Regulations, Part 29) as amended, and any supplementary guidance officially communicated in writing by an authorized official of the Department of Homeland Security (including the PCII Program Officer

or his/her designee);

Information designated as “For Official Use Only,” which is unclassified information of a sensitive nature and the unauthorized disclosure of which could adversely impact a person’s privacy or welfare, the conduct of federal programs, or other programs or operations essential to the national or homeland security interest; and

Information subject to export control as regulated by the International Traffic in Arms Regulations (22 CFR 120-130) and the Export Administration Regulations (15 CFR 730-774).

- ii. Classified Information. Defined as information designated in accordance with Executive Order 12958.

11. Research Safety Plan

- a. DHS COE research addresses issues of importance to intelligence and counter-terrorism agencies, law enforcement, or emergency responders, all of which involve inherent risks. To ensure that researchers and research facilities funded through this Award meet the highest safety standards possible, DHS requires every Recipient of a COE award to develop a Research Safety Plan. The Recipient shall review the Research Safety Plan at least annually and identify or update, as necessary, any new areas of research or sub-recipients conducting research activities under this plan. This review will also ensure that all sub-recipients conducting research covered by this plan have developed and implemented appropriate safety plans and periodic safety training in accordance with their institutional policies and procedures. Recipient will submit any updates to the Research Safety Plan to the DHS Program Officer for review and comment. See also Article IIC Biosafety and Select Agent Security.
- b. The Research Safety Plan must include, at a minimum, the following:
 - i. Identification of possible research hazards associated with the types of research to be conducted under this Award;
 - ii. Research protocols or practices that conform to generally accepted safety principles applicable to the nature of the research;
 - iii. The Recipient’s processes and procedures to ensure compliance with the applicable protocols and standards;
 - iv. The Recipient’s processes and procedures to ensure the prevention of unauthorized activities conducted in association with this Award;
 - v. Faculty oversight of student researchers;
 - vi. Research safety education and training to develop a culture of safety;
 - vii. Access control, where applicable;
 - viii. Independent review by subject matter experts of the safety protocols and practices; and
 - ix. Demonstrated adherence to all safety-related terms and conditions

contained elsewhere in this Award.

- c. Flowdown Requirements: The Recipient shall include the substance of this section in all sub-awards/contracts at any tier where the sub-Recipient may conduct research where safety protocols are necessary to conduct safe research.

B. DHS PROGRAMMATIC INVOLVEMENT

In addition to the usual monitoring and technical assistance, the following identifies DHS responsibilities under this Award:

1. DHS shall ensure coordination of and participation in a kickoff meeting with appropriate DHS staff, Center staff and Center researchers prior to project initiation.
2. DHS shall facilitate federal stakeholder participation in the Center Work plan Development Workshop following the initial award. This workshop will guide development of the Center's first annual work plan.
3. DHS shall approve or disapprove annual work plans and any modifications to the work plans for this Award (See Article 1. A.).
4. DHS shall conduct ongoing monitoring of the activities of Recipient's work plan and activities funded through this Award through face-to-face and/or telephone meetings and review of progress reports.
5. DHS shall coordinate biennial reviews in cooperation with the Recipient during the Project Period. The reviews will provide guidance on how the research and education programs need to evolve to ensure high performance and to align with the needs of the Homeland Security Enterprise consistent with the COE mission. The biennial review evaluates the Center's long-term strategy, relevance of the research and education to DHS mission needs and technology gaps, stakeholder engagement, research quality, outreach efforts and management of the activities funded under this Award. The DHS Program Officer will select a review panel of subject matter experts representing government, industry and academia for the biennial review.
6. DHS coordination with the Recipient will include, but is not limited to:
 - a. Providing strategic input as necessary on an ongoing basis;
 - b. Coordinating research and development activities that support the national research agenda; and
 - c. Creating awareness and visibility for this program.
7. DHS may modify this Award to support additional research projects funded by DHS or other sources provided that these projects meet three conditions:
 - a. Are research for a public purpose that addresses homeland security research priorities;

- b. Fall within scope of the grant or cooperative agreement; and
 - c. Conform to federal assistance agreements (grant and cooperative agreement) guidelines.
8. DHS employees may co-author publications with COE researchers. Any publication co-authored by DHS staff will be subject to DHS's publications approval process prior to dissemination of the publication.
9. DHS shall review and provide comments on the Recipient's Information Protection Plan as required under Item 8, in Section A.
10. DHS shall review and provide comments on the Recipient's Research Safety Plan as required under Item 9, in Section A.
11. DHS shall create a Federal Coordinating Committee that provides guidance and direction to the DHS Program Officer regarding the Recipient's research plan.
12. DHS shall invite subject matter experts, end users, or stakeholders to assist in evaluating the Center's annual work plan, annual meetings, or other events for the purpose of reviewing project quality and/or providing relevant operational perspectives.
13. DHS shall facilitate initial engagement with Homeland Security Enterprise stakeholders, but recipient is expected to maintain ongoing engagement for research areas of interest to the stakeholders.

C. AMENDMENTS AND REVISIONS

1. Budget Revisions.
- a. Transfers of funds between direct cost categories in the approved budget when such cumulative transfers among those direct cost categories exceed ten percent of the total budget approved in this Award require prior written approval by the DHS Grants Officer.
 - b. The Recipient shall obtain prior written approval from the DHS Grants Officer for any budget revision that would result in the need for additional resources/funds.
 - c. The Recipient is not authorized at any time to transfer amounts budgeted for direct costs to the indirect costs line item or vice versa, without prior written approval of the DHS Grants Officer.
2. Extension Request.
- a. Extensions to the Period of Performance can only be authorized in writing by the DHS Grants Officer.

- b. The extension request shall be submitted to the DHS Grants Officer sixty (60) days prior to the expiration date of the performance period.
- c. Requests for time extensions to the Period of Performance will be considered, but will not be granted automatically, and must be supported by adequate justification to be processed. The justification is a written explanation of the reason or reasons for the delay; an outline of remaining resources/funds available to support the extended Period of Performance; and a description of performance measures necessary to complete the project. Without performance and financial status reports current and justification submitted, extension requests shall not be processed.
- d. DHS has no obligation to provide additional resources/funding as a result of an extension.

D. EQUIPMENT

- 1. Title to equipment acquired by the Recipient with federal funds provided under this Award shall vest in the Recipient, subject to the conditions pertaining to equipment in the applicable OMB circulars: http://www.whitehouse.gov/omb/circulars_default
- 2. Prior to the purchase of Equipment in the amount of \$5,000 or more per unit cost, the recipient must obtain the written approval from DHS.
- 3. For equipment purchased with Award funds having a \$5,000 or more per unit cost, the Recipient shall submit an inventory that will include a description of the property; manufacturer model number, serial number or other identification number; the source of property; name on title; acquisition date; and cost of the unit; the address of use; operational condition of the property; and, disposition data, if applicable. This report will be due with the Final Progress Report 90 days after the expiration of the project period, and emailed to DHS-GrantReports@hq.dhs.gov.

E. FINANCIAL REPORTS

- 1. (Annual/) Federal Financial Reports. The Recipient shall submit a Federal Financial Report (SF425) to the DHS Grants Officer no later than 90 days after the end of the budget period end date. The report shall be emailed to DHS-GrantReports@hq.dhs.gov and include the grant program name and number in the subject line.
- 2. Final Federal Financial Report. The Recipient shall submit the final Federal Financial Report (SF425) to the DHS Grants Officer no later than 90 days after the end of the Project Period end date. The report shall be emailed to DHS-GrantReports@hq.dhs.gov and include the grant program name and number in the subject line.

3. Quarterly Federal Financial Reports (Cash Transaction). The Recipient shall submit the Federal Financial Report (SF425) Cash Transaction Report to the Department of Health and Human Services, Payment Management System. Quarterly Cash Transaction reports shall be submitted no later than 1/30, 4/30, 7/30, and 10/30.

F. PAYMENT

The Recipient shall be paid in advance using the U.S. Department of Health and Human Services/Payment Management System, provided it maintains or demonstrates the willingness and ability to maintain procedures to minimize the time elapsing between the transfer of the funds from the DHS and expenditure disbursement by the Recipient. When these requirements are not met, the Recipient will be required to be on a reimbursement for costs incurred method.

Any overpayment of funds must be coordinated with the U.S. Department of Health and Human Services/Payment Management System.

G. PERFORMANCE REPORTS

1. Annual Performance Reports. The Recipient shall submit annual performance reports to the DHS Grants Officer for review and acceptance by DHS as a condition for receiving further annual funding increments. Annual performance reports are due no later than 90 days after the end of the Center's budget period of each year. The report shall be emailed to DHS-GrantReports@hq.dhs.gov and include the grant program name and number in the subject line.
 - a. Performance reports must provide information on the overall progress of the Center. These reports shall include:
 - i. Summary reports on the Center's strategic vision and activities; Center management efforts; performance reports on each funded Center project, along with explanations of any changes from the initially approved work plan, discussion of progress for each milestone and explanations of why milestones were not reached, the performance metrics used; budget expenditures and changes; unanticipated problems and plans for addressing them; and information on how project outcomes will advance or impact current technologies or capabilities.
 - ii. Budget information categorized by both object class and project.
 - iii. If applicable, include a certification that no patentable inventions were created during the budget period.
 - iv. Updates to the Center's Information Protection Plan and Researcher Safety Plan as needed.
 - b. If the performance report contains any information that is deemed proprietary, the Recipient will denote the beginning and ending of such information with the following heading: *****PROPRIETARY INFORMATION*****

2. Final Performance Report. The Recipient shall submit the Final Performance Report to the DHS Grants Officer no later than 90 days after the expiration of the Project Period (See Section I). The report Final Performance Report with an executive summary and final summary abstracts for each sub-project shall be emailed to DHS-GrantReports@hq.dhs.gov and include the grant program name and number in the subject line.

H. PERIOD OF PERFORMANCE

The Period of Performance is the Project Period approved for the supported activity and is comprised of one or more Budget Periods as reflected on the Notice of Award cover page.

1. Project Period. The Project Period shall be for approximately 5 years, unless extensions are approved. All COEs' annual performance periods shall run from July 1 to July 30 of the following year. An exception is made for the first performance period, which will run from the date of award to June 30 of the following year. Subsequent years' funding is contingent on acceptable performance, as determined by the Department of Homeland Security's (DHS's), acceptance and approval of each non-competing continuation application, and the availability of the next year's annual DHS appropriations. The Recipient shall only incur costs or obligate funds within the Project Period for approved activities.
2. Budget Period. The Budget Period shall be for a period of 12 months, from July 1, 20 **XX** through June 30, 20**XX**.
 - a. Additional funding will be provided for subsequent Budget Periods of the project, contingent on all of the following:
 - i. Acceptable performance of the project as determined by the DHS under this Award;
 - ii. Acceptance and approval by the DHS of each noncompeting continuation application;
 - iii. Acceptance and approval by the DHS of each previous Annual Performance Report and
 - iv. Subject to the availability of appropriated funds.
 - b. Carryover of Funds. Recipients are required to submit a separate Carryover Application for the unobligated balances remaining from funds awarded in one budget period to be carried over to the next succeeding budget period. This submission is due to the DHS Grants Officer 90 days prior to budget period expiration (e.g., March 31) and is a best estimate at the budget period expiration from the recipient (lead university and all sub-recipients). The Program Officer will review the Carryover justification, in consultation with the DHS Grants Officer, and provide input to the Grants Officer that the justification is reasonable and the carryover funds should be used to complete any objectives

which remain unmet from the prior budget period. Requests for carryover of funds from one Budget Period to the next Budget Period shall be submitted separately via email to the DHS Grants Officer with an SF 424 (R&R) face page and shall include:

- i. A brief description of the projects or activities and milestones to be carried forward,
- ii. The amount of funds to be carried over,
- iii. The reason the projects or activities were not completed in accordance with the project time line, and
- iv. The impact on any future funding for the projects or activities.

3. Non-Competing Continuation Requirements.

- a. Recipients are required to submit a draft work plan to the DHS Program Officer no later than 6 months prior to the start of the next budget period (e.g., December 30). This work plan will focus on preliminary plans for project activities in the next budget year, preliminary estimates of required funding allocations to accomplish the planned research or education activities, and expected progress from the project's status at the end of the current budget year. The DHS Program Officer will provide feedback as the basis for more detailed programmatic and financial planning necessary for submission of the Continuation Application or provide general guidance on adjusting priorities.
- b. Ninety (90) days prior to the expiration date of each budget period; the Grants Officer will request submission of the annual incremental funding request details via Grants.gov website. The Recipient shall submit a non-competing continuation application to request the next Budget Period's incremental funding and a separate request for any possible carryover of prior year funds (See Article I, Item 2b for detailed requirements.).

The non-competing continuation application shall include:

- i. An annual project work plan, that describes overall Center strategies and focus, detailed individual project descriptions (including sub-recipient projects) to enable scientific and relevance reviews, project milestones, project performance metrics to be used to evaluate progress, potential programmatic risks to completion, and information on how project outcomes will advance or impact other currently available technologies or capabilities;
- ii. A Center budget and budget justification, and the financial assistance application forms designated by DHS; and

The DHS Program Officer will review the continuation application submission and provide input to the Grants Officer as to whether the Continuation Application is consistent with the approved work plan.

- c. Recipients are required to submit Annual Reports due 90 days after the end of each budget period (e.g., September 30 – see Article I (G) for detailed requirements). These formal reports are comprehensive submissions that identify all academic institutions and principal investigators participating in the Award, significant highlights, descriptions of the recipients overall research and education strategy and objectives, project and technical accomplishments, expenditure information, listing of published articles, peer-reviewed papers, patents, etc. The DHS Program Officer will review the annual reports and will advise to the Grants Officer whether they are acceptable, or what modifications are needed.
- d. The Recipient shall input and update all required project information into relevant webpage(s) hosted on the www.hsuniversityprograms.org. Posting and updating Center and project level information is a condition for receiving further annual funding increments. This website is one of the primary mechanisms used to communicate COE information to the public. Project updates follow pre-determined categories of information that must be populated at least annually. The DHS Office of University Programs maintains the right to edit and post submissions to www.hsuniversityprograms.org, as needed.

I. PRIOR APPROVAL REQUIRED

The Recipient shall not, without the prior written approval of the DHS, request reimbursement, incur costs or obligate funds for any purpose pertaining to the operation of the project, program, or activities prior to the approved Budget Period.

ARTICLE II. GENERAL TERMS AND CONDITIONS

A. ACCESS TO RECORDS.

The Recipient shall retain financial records, supporting documents, statistical records, and all other records pertinent to this Award for a period of 3 years from the date of submission of the final expenditure report. The only exceptions to the aforementioned record retention requirements are the following:

1. If any litigation, dispute, or audit is started before the expiration of the 3-year period, the records shall be retained until all litigation, dispute or audit findings involving the records have been resolved and final action taken.
2. Records for real property and equipment acquired with federal funds shall be retained for 3 years after final disposition.
3. The DHS Grants Officer may direct the Recipient to transfer certain records to DHS custody when he or she determines that the records possess long term retention

value. However, in order to avoid duplicate recordkeeping, the DHS Grants Officer may make arrangements for the Recipient to retain any records that are continuously needed for joint use.

DHS, the Inspector General, Comptroller General of the United States, or any of their duly authorized representatives, have the right of timely and unrestricted access to any books, documents, papers, or other records of the Recipient that are pertinent to this Award, in order to make audits, examinations, excerpts, transcripts and copies of such documents. This right also includes timely and reasonable access to Recipient's personnel for the purpose of interview and discussion related to such documents. The rights of access in this award term are not limited to the required retention period, but shall last as long as records are retained.

With respect to sub-recipients, DHS shall retain the right to conduct a financial review, require an audit, or otherwise ensure adequate accountability of organizations expending DHS funds. Recipient agrees to include in any sub-award made under this Agreement the requirements of this award term (Access to Records).

B. COMPLIANCE ASSURANCE PROGRAM OFFICE TERMS AND CONDITIONS

The Compliance Assurance Program Office (CAPO) is comprised of the DHS Treaty Compliance Office (TCO), Export Control Group (ECG), and the DHS Regulatory Compliance Office (RCO). The Compliance Assurance Program Manager (CAPM) is the DHS official responsible for overseeing CAPO and implementing procedures to ensure that the Recipient and any Recipient institutions/collaborators under this Award comply with international treaties, federal regulations, and DHS policies for Arms Control Agreements, Biosafety, Select Agent and Toxin Security, Animal Care and Use, the Protection of Human Subjects, Life Sciences Dual Use Research of Concern, and Export Controls.

CAPO collects and reviews relevant documentation pertaining to this Award on behalf of the Compliance Assurance Program Manager. Additional guidance regarding the review process is provided in the following sections, along with contact information for the TCO, RCO, and ECG. This guidance applies to the Recipient and any/all Recipient institutions involved in the performance of work under this Award. The Recipient is responsible for ensuring that any/all Recipient institutions and collaborators comply with all requirements and submit relevant documentation, as outlined in sections C – G below, for work being performed under this Award.

C. TREATY COMPLIANCE FOR BIOLOGICAL AND CHEMICAL DEFENSE EFFORTS

The Recipient and any Recipient institution shall conduct all biological and chemical defense research, development, and acquisition projects in compliance with all arms

control agreements of the U.S., including the Chemical Weapons Convention (CWC) and the Biological Weapons Convention (BWC). DHS Directive 041-01, *Compliance With, and Implementation of, Arms Control Agreements*, requires all such projects to be systematically evaluated for compliance at inception, prior to funding approval, whenever there is significant project change, and whenever in the course of project execution an issue potentially raises a compliance concern.

1. Requirements for Initial Treaty Compliance Review. To ensure compliance with DHS Directive 041-01, for each new biological and/or chemical defense-related effort (including paper and modeling studies) to be conducted under this Award, the Recipient must submit the following documentation for compliance review and certification prior to funding approval: a completed Treaty Compliance Form (TCF), which includes a Project Summary; a BWC Checklist; and/or a CWC Checklist.
2. Requirements for Ongoing Treaty Compliance Review. To ensure ongoing treaty compliance for approved biological and/or chemical defense-related efforts funded through this Award, the Recipient must submit the following documentation for review and approval prior to any significant project change and/or whenever in the course of project execution an issue potentially raises a compliance concern: a detailed description of the proposed modification, and written request for approval.

The Recipient should contact the Treaty Compliance Office (TCO) at treatycompliance@hq.dhs.gov to obtain the TCF template, submit the completed Form, or request additional guidance regarding TCO documentation and review requirements, as applicable to (1) new biological and/or chemical defense-related efforts, or (2) modifications to previously approved efforts. The TCO will review all submitted materials and provide written confirmation of approval to initiate work to the Recipient once the treaty compliance certification process is complete. The Recipient and any Recipient institution shall not initiate any new activities, or execute modifications to approved activities, until receipt of this written confirmation.

D. REGULATORY COMPLIANCE FOR BIOLOGICAL LABORATORY WORK

The Recipient and any Recipient institution shall conduct all biological laboratory work in compliance with applicable federal regulations; the latest edition of the CDC/NIH *Biosafety in Microbiological and Biomedical Laboratories*; DHS Directive 066-02, *Biosafety*; and any local institutional policies that may apply for Recipient institution facilities performing work under this Award. The Regulatory Compliance Office (RCO) will review the submitted Treaty Compliance Form (TCF) for planned work under this Award to determine the applicability of the requirements outlined in this section. **The** Recipient must contact the RCO at STregulatorycompliance@hq.dhs.gov for guidance on the requirements, and then submit all required documentation based on RCO guidance, prior to the initiation of any biological laboratory work under this Award.

1. Requirements for All Biological Laboratory Work. Biological laboratory work

includes laboratory activities involving: (1) recombinant DNA or 'rDNA'; (2) Biological Select Agents and Toxins or 'BSAT'; or (3) biological agents, toxins, or other biological materials that are non-rDNA and non-BSAT. Each Recipient and any Recipient institution to be conducting biological laboratory work under this Award must submit copies of the following documentation, as required by the RCO after review of the TCF(s), for review prior to the initiation of such work:

- a. Research protocol(s), research or project plan(s), or other detailed description of the biological laboratory work to be conducted;
- b. Documentation of project-specific biosafety review for biological laboratory work subject to such review in accordance with institutional policy;
- c. Institutional or laboratory biosafety manual (may be a related plan or program manual) for each facility/laboratory to be involved in the biological laboratory work;
- d. Biosafety training program description (should be provided as available in existing policies, plans, and/or manuals for all relevant facilities/laboratories where work is conducted);
- e. Documentation of the most recent safety/biosafety inspection(s) for each facility/laboratory where the biological laboratory work will be conducted;
- f. Exposure Control Plan, as applicable;
- g. Documentation from the most recent Occupational Safety and Health Administration (OSHA) or State Occupational Safety and Health Agency inspection report; a copy of the OSHA Form 300 *Summary of Work Related Injuries and Illnesses* or equivalent, for the most recent calendar year; and documentation of any OSHA citations or notices of violation received in the past 5 years; and
- h. Documentation from the most recent U.S. Department of Transportation (DOT) inspection report; and documentation of any DOT citations or notices of violation received in the past 5 years.

2. Requirements for Research Involving Recombinant DNA (rDNA). Laboratory activities involving rDNA research are defined by the *NIH Guidelines for Research Involving Recombinant DNA Molecules*, "*NIH Guidelines*". Each Recipient and any Recipient institution shall conduct all rDNA work in compliance with the *NIH Guidelines*. In addition to the documentation referenced in Section B.1 above, each facility conducting research activities involving rDNA under this Award must submit copies of the following documentation to the RCO for review prior to the initiation of such activities:

- a. Institutional Biosafety Committee (IBC) Charter, and/or other available documentation of IBC policies and procedures;
- b. Most recent Office of Biotechnology Activities (OBA) acknowledgement letter of the annual IBC Report;
- c. IBC-approved rDNA research protocol(s); and

- d. Documentation of final IBC approval for each rDNA research protocol and all subsequent renewals and amendments as they occur.
3. Requirements for Activities Involving Biological Select Agents and Toxins (BSAT). Planned activities involving the possession transfer, and/or use of BSAT must be reviewed by the RCO prior to initiation. This requirement also applies to activities involving select toxins that fall below the Permissible Toxin Limits, both at facilities registered with the National Select Agent Program and at unregistered facilities. Each Recipient and any Recipient institution shall conduct all BSAT work in compliance with all applicable regulations, including 42 C.F.R. § 73, 7 C.F.R. § 331, and 9 C.F.R. § 121, related entity- and laboratory-specific policies and procedures, and DHS Directive 026-03, *Select Agent and Toxin Security*. In addition to the documentation referenced in Section B.1 above, each facility conducting activities involving BSAT under this Award must submit copies of the following documentation to the RCO for review prior to the initiation of such activities:
 - a. Current APHIS/CDC Certificate of Registration;
 - b. Most recent APHIS/CDC inspection report(s), response(s), and attachment(s);
 - c. Current versions of the Biosafety, Security, and Incident Response Plans required and reviewed under the Select Agent Regulations; and
 - d. Documentation of the most recent annual BSAT facility inspection, as required of the Responsible Official under the Select Agent Regulations.

The Recipient should contact the RCO at STregulatorycompliance@hq.dhs.gov to obtain the RCO Documentation Request Checklist, submit documentation, or request more information regarding the DHS RCO documentation and compliance review requirements. The RCO will provide written confirmation of receipt of all required documentation to the designated Point(s) of Contact. The RCO will evaluate the submitted materials, along with available documentation from any previous reviews for related work at the Recipient and Recipient institution. Additional documentation may be required in some cases and must be submitted upon request. The RCO will review all submitted materials and provide written confirmation to the Recipient once all requirements have been met.

RCO review of submitted materials may determine the need for further compliance review requirements, which may include documentation-based and on-site components. The Recipient, and any Recipient institutions conducting biological laboratory work under this Award, must also comply with ongoing RCO compliance assurance and review requirements, which may include but are not limited to initial and periodic documentation requests, program reviews, site visits, and facility inspections.

The Recipient must promptly report the following to the RCO, along with any corrective actions taken: (1) any serious or continuing biosafety or BSAT program issues as identified by the APHIS/CDC National Select Agent Program, other compliance oversight authorities, or institutional-level reviews (*e.g.*, IBC or equivalent, laboratory safety/biosafety inspections); (2) any suspension or revocation of the APHIS/CDC

Certificate of Registration; and (3) any for-cause suspension or termination of biological, rDNA, or BSAT activities at the laboratories/facilities where DHS-sponsored work is conducted.

Foreign Contractors/Collaborators and U.S. Institutions with Foreign Subcomponents. Foreign organizations (including direct Contractors, Subcontractors, Grant Recipients, Sub-recipients, and subcomponents or collaborating partners to U.S. Recipients) are subject to applicable DHS requirements for biological laboratory activities. All entities involved in activities under this Award must comply with applicable national and regional/local regulations, and standards and guidelines equivalent to those described for U.S. institutions (*e.g.*, *BMBL* and *NIH Guidelines*). The Recipient must provide RCO documentation sufficient to illustrate this compliance. The RCO will evaluate compliance measures for these institutions on a case-by-case basis. The Recipient must not initiate work nor provide funds for the conduct of biological laboratory work under this Award without RCO's formal written approval.

E. RESEARCH INVOLVING ANIMALS

The Recipient and any Recipient institution shall conduct all research involving animals under this Award in compliance with the requirements set forth in the Animal Welfare Act of 1966 (P.L. 89-544), as amended, and the associated regulations in 9 C.F.R., Chapter 1, Subchapter A; the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals (which adopts the "U.S. Government Principles for the Utilization and Care of Vertebrate Animals used in Testing, Research, and Training", 50 FR 20864, May 20, 1985); the National Research Council (NRC) Guide for the Care and Use of Laboratory Animals; the Federation of Animal Science Societies (FASS) Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching; and any additional requirements set forth in the DHS Directive for the Care and Use of Animals in Research (026-01). Each Recipient and any Recipient institution planning to perform research involving animals under this Award must comply with the requirements and submit the documentation outlined in this section.

1. Requirements for Initial Review of Research Involving Animals. Research Involving Animals includes any research, experimentation, biological testing, and other related activities involving live, vertebrate animals, including any training for such activities. Each facility conducting research involving animals under this Award must submit copies of the following documentation to the RCO for review **prior to the initiation of such research:**
 - a. Institutional Animal Care and Use Committee (IACUC)-approved animal research protocol(s), including documentation of IACUC approval, any protocol amendments, and related approval notifications;
 - b. Public Health Service (PHS) Animal Welfare Assurance, including any programmatic amendments, and the most recent NIH Office of Laboratory Animal Welfare (OLAW) approval letter for each Recipient and Recipient

institution; OR DHS Animal Welfare Assurance, if the Recipient is not funded by the PHS and does not have a PHS Assurance on file with OLAW. Any affiliated IACUCs must be established under the same requirements as set forth in the PHS Policy;

- c. Most recent IACUC semiannual program review and facility inspection reports covering all relevant facilities/laboratories involved in DHS-funded work; and
- d. Most recent Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) inspection report(s) for AAALAC-accredited institution(s) housing and/or performing work involving animals under this Award.

All documentation, as well as any questions or concerns regarding the requirements referenced above, should be submitted to the RCO at STregulatorycompliance@hq.dhs.gov. Additional documentation may be required in some cases and must be submitted upon request. The RCO will review all submitted materials and provide written confirmation to the Recipient once all documentation requirements have been met. Upon receipt of this written confirmation, the Recipient may initiate approved animal research projects under this Award, but must address any potential compliance issues or concerns identified by the RCO. Research involving the use of nonhuman primates or international collaborations involving animal research will require more extensive review prior to approval, and must not begin under this Award without first obtaining a formal certification letter from the RCO.

The Recipient, as well as any Recipient institution and partner institutions conducting animal research under this Award, shall also comply with ongoing RCO compliance assurance functions, which may include but are not limited to periodic site visits, program reviews, and facility inspections.

2. Requirements for Ongoing Review of Research Involving Animals. For ongoing animal research activities, each Recipient and any Recipient institutions must submit updates to the RCO regarding any amendments or changes to (including expiration, renewal, or completion of) ongoing animal protocols as they occur, and may be required to submit annual updates regarding the ACU program at Recipient and Recipient institutions. Annual updates may include, but are not limited to, the IACUC semiannual (program review and facility inspection) reports, the USDA inspection report, and the most recent AAALAC inspection report, as applicable.

The Recipient must promptly report the following to the RCO, along with any corrective actions taken: (1) any serious or continuing noncompliance with animal care and use regulations and policies adopted by DHS (as referenced above); (2) any change in AAALAC accreditation status; (3) any USDA Notice of Violation; and (4) IACUC suspension of any animal research activity conducted under this Award.

Foreign Contractors/Collaborators and U.S. Institutions with Foreign Subcomponents. Foreign organizations (including direct Contractors, Subcontractors, Grant Recipients, Sub-recipients, and subcomponents or collaborating partners to U.S. Recipients) are subject to all DHS requirements for work involving animals. All entities involved in

activities under this Award must comply with applicable national and regional/local regulations, and standards and guidelines equivalent to those described for U.S. institutions (e.g., Title 9, C.F.R, Chapter 1, Subchapter A; *Public Health Service Policy on Humane Care and Use of Laboratory Animals*; the *Guide for the Care and Use of Laboratory Animals*; and the *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching*). The Recipient must provide RCO documentation sufficient to illustrate this compliance. The RCO will evaluate compliance measures for these institutions on a case-by-case basis to determine their sufficiency. The Recipient must not initiate nor provide funds for the conduct of work involving animals at foreign institutions under this Award without formal written approval from the RCO.

F. LIFE SCIENCES DUAL USE RESEARCH OF CONCERN (DURC)

The Recipient and any Recipient institutions shall identify, report, and conduct any research involving life sciences dual use research of concern (as defined by the United States Government Policy for Oversight of Life Sciences Dual Use Research of Concern) in compliance with federal regulations, DHS Directive 026-08, *Oversight of Life Sciences Dual Use Research of Concern*, as well as any additional requirements set forth in related DHS policies and instructions.

G. RESEARCH INVOLVING HUMAN SUBJECTS

The Recipient and any Recipient institutions shall conduct all Research Involving Human Subjects in compliance with the requirements set forth in 45 C.F.R. § 46, Subparts A-D, DHS Directive 026-04, *Protection of Human Subjects*, and any related DHS policies and instructions prior to initiating any work with human subjects under this Award. Each Recipient and any Recipient institutions planning to perform research involving human subjects under this Award must submit the documentation outlined in this section for RCO review.

1. Requirements for Research Involving Human Subjects. Each facility conducting work involving human subjects under this Award is required to have a project-specific Certification of Compliance letter issued by the RCO. Each Recipient must submit the following documentation to the RCO for compliance review and certification prior to initiating research involving human subjects under this Award:
 - a. Research protocol, as approved by an Institutional Review Board (IRB), for any human subjects research work to be conducted under this Award;
 - b. IRB approval letter or notification of exemption (see additional information below on exemption determinations), for any human subjects research work to be conducted under this Award;
 - c. IRB-approved informed consent document(s) (templates) or IRB waiver of informed consent for projects involving human subjects research under this Award; and

- d. Federal-wide Assurance (FWA) number from the HHS Office for Human Research Protections (OHRP), or documentation of other relevant assurance, for all Recipient institutions (including Sub-recipients) involved in human subjects research under this Award.
2. Exemptions for Research Involving Human Subjects. Exemption determinations for human subjects research to be conducted under this Award should only be made by authorized representatives of (1) an OHRP-registered IRB, or equivalent, or (2) the RCO. Exemption determinations made by an OHRP-registered IRB, or equivalent, should be submitted to the RCO for review and record-keeping. Program Officers, principal investigators, research staff, and other DHS or institutional personnel should not independently make exemption determinations in the absence of an IRB or RCO review. DHS Program Officers (or institutions conducting human subjects' research under this Award) seeking an exemption determination from the RCO should submit a request to STregulatorycompliance@hq.dhs.gov that includes the following:
 - a. Research protocol or detailed description of planned activities to be conducted under this Award.
 - b. Identification of the exemption category that applies to the project(s) to be conducted under this Award and explanation of why the proposed research meets the requirements for that category of exemption.

All documentation, as well as any questions or concerns regarding the requirements referenced above, should be submitted to the RCO at STregulatorycompliance@hq.dhs.gov. The submitted documentation will be retained by the RCO and used to conduct a regulatory compliance assessment. Additional documentation may be required in some cases to complete this assessment. The Recipient must provide this documentation upon request, and address in writing any compliance issues or concerns raised by the RCO before a certification letter is issued and participant enrollment can begin under this Award. The RCO will review all submitted materials and provide written confirmation to the Recipient once all documentation requirements have been met.

The Recipient and any Recipient institution shall submit updated documentation regarding ongoing research involving human subjects, as available and prior to the expiration of previous approvals. Such documentation includes protocol modifications, IRB renewals for ongoing research protocols ("Continuing Reviews"), and notifications of study completion.

The Recipient must promptly report the following to the RCO, along with any corrective actions taken: (1) any serious or continuing noncompliance with human subjects research regulations and policies adopted by DHS (as referenced above); and (2) suspension, termination, or revocation of IRB approval of any human subjects research activities conducted under this Award.

Foreign Contractors/Collaborators and U.S. Institutions with Foreign Subcomponents.

Foreign organizations (including direct Contractors, Subcontractors, Grant Recipients, Sub-recipients, and subcomponents or collaborating partners to U.S. Recipients) are subject to all DHS and RCO requirements for research involving human subjects. All entities involved in activities under this Award must comply with applicable national and regional/local regulations, and standards and guidelines equivalent to those described for U.S. institutions (*e.g.*, 45 C.F.R. § 46, including all Subparts, as relevant). The RCO will evaluate compliance measures for these institutions on a case-by-case basis to determine their sufficiency. The Recipient must not initiate nor provide funds for the conduct of work involving human subjects at foreign institutions under this Contract without formal written approval from the RCO.

H. COMPLIANCE WITH U.S. EXPORT CONTROLS

Activities performed by the Recipient and any Recipient institution under this Award may or may not be subject to U.S. export control regulations. The Recipient and any Recipient institution shall conduct all such activities, to include any and all DHS-funded research and development, acquisitions, and collaborations in full compliance with U.S. export controls—to include the Export Administration Regulations (EAR), the International Traffic in Arms Regulations (ITAR), and the Office of Foreign Assets Control (OFAC) Regulations. The Recipient and any Recipient institution will ensure that all legal requirements for compliance with U.S. export controls are met prior to transferring commodities, technologies, technical data, or other controlled information to a non-U.S. person or entity. Upon DHS request, the Recipient and any Recipient institution must provide to CAPO documentation and any other information necessary to determine satisfaction of this requirement.

All documentation, as well as any questions or concerns regarding export controls, should be submitted to the RCO at exportcontrols@hq.dhs.gov.

I. CENTRAL CONTRACTOR REGISTRATION AND UNIVERSAL IDENTIFIER REQUIREMENTS

1. Requirement for Central Contractor Registration (CCR). Unless you are exempted from this requirement under 2 CFR 25.110, you as the Recipient must maintain the currency of your information in the CCR until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.
2. Requirement for Data Universal Numbering System (DUNS) Numbers. If you are authorized to make sub-awards under this award, you:
 - a. Must notify potential sub recipients that no entity (see definition in paragraph 3 of this award term) may receive a sub-award from you unless the entity has

provided its DUNS number to you.

- b. May not make a sub-award to an entity unless the entity has provided its DUNS number to you.

J. CONTRACT PROVISIONS

All Contracts executed under this award will contain contract provisions as listed in the applicable cost principles: http://www.whitehouse.gov/omb/circulars_default.

K. CONTROLLED UNCLASSIFIED INFORMATION

The parties understand that information and materials provided pursuant to or resulting from this Award may be export controlled, sensitive, for official use only, or otherwise protected by law, executive order or regulation. The Recipient is responsible for compliance with all applicable laws and regulations. Nothing in this Award shall be construed to permit any disclosure in violation of those restrictions.

L. E.O. 13224 – EXECUTIVE ORDER ON TERRORIST FINANCING

The Recipient is reminded that U.S. Executive Orders and U.S. law prohibits transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. It is the legal responsibility of the recipient to ensure compliance with these Executive Orders and laws. This provision must be included in all contracts/sub-awards issued under this agreement.

M. INTELLECTUAL PROPERTY RIGHTS

Patent rights.

The Recipient is subject to applicable regulations governing patents and inventions, including government-wide regulations issued by the Department of Commerce at 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements.” The clause at 37 CFR 401.14 is incorporated by reference herein. All reports of subject inventions made under this Award should be submitted to DHS using the Interagency Edison system website at <http://www.iedison.gov>.

Data rights.

1. General Requirements. The Recipient grants the Government a royalty free, nonexclusive and irrevocable license to reproduce, display, distribute copies, perform, disseminate, or prepare derivative works, and to authorize others to do so, for Government purposes in:

- a. Any data that is first produced under this Award and provided to the Government;
 - b. Any data owned by third parties that is incorporated in data provided to the Government under this Award. Recipient will provide written notice of any third party intellectual property, open source, business confidential or proprietary data incorporated in any proposal; or
 - c. Any data requested in paragraph 2 below, if incorporated in the Award.
- “Data” means recorded information, regardless of form or the media on which it may be recorded.

2. Additional requirement for this Award.

- a. Requirement: If the Government believes that it needs additional research data that was produced under this Award, the Government may request the research data and the Recipient agrees to provide the research data within a reasonable time.
- b. Applicability: The requirement in paragraph 2.a of this section applies to any research data that are:
 - i. Produced under this Award, either as a Recipient or sub-recipient;
 - ii. Used by the Government in developing an agency action that has the force and effect of law; and
 - iii. Published, which occurs either when:
 - 1) The research data is published in a peer-reviewed scientific or technical journal; or
 - 2) DHS publicly and officially cites the research data in support of an agency action that has the force and effect of law
- c. Definition of “research data:” For the purposes of this section, “research data:”
 - i. Means the recorded factual material (excluding physical objects, such as laboratory samples) commonly accepted in the scientific community as necessary to validate research findings.
 - ii. Excludes:
 - 1) Preliminary analyses;
 - 2) Drafts of scientific papers;
 - 3) Plans for future research;
 - 4) Peer reviews;
 - 5) Communications with colleagues;
 - 6) Trade secrets;
 - 7) Commercial information;
 - 8) Materials necessary that a researcher must hold confidential until they are published, or similar information which is protected under law; and
 - 9) Personnel and medical information and similar information the disclosure of which would constitute a clearly unwarranted invasion of personal privacy, such as information that could be used to identify a particular person in a research study.
- d. Requirements for sub-awards: The Recipient agrees to include in any sub-award

made under this Agreement the requirements of this award term (Patent Rights and Data Rights) and the award term titled “Copyright” above.

3. Publications. All publications produced as a result of this funding which are submitted for publication in any magazine, journal, or trade paper shall carry the following:
 - a. Acknowledgement. “This material is based upon work supported by the U.S. Department of Homeland Security under Grant Award Number {insert Award Number as outlined in Item #5 on Notice of Award cover page}
 - b. Disclaimer. “The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Department of Homeland Security.”

Recipient agrees to include in any sub-award made under this Agreement the requirements of this award term (Publications).
4. Use of DHS Seal. Recipient shall acquire DHS’s approval prior to using the DHS seal and any DHS trademarks.
5. Enhancing Public Access to Publications. DHS continues to encourage authors and journals to publish research findings from DHS-funded activities, in accordance with current practice. DHS requires that investigators submit their final, peer-reviewed, pre-publication manuscript upon acceptance for publication, to the DHS Program Officer, to be made publically available no later than 12 months after the official date of publication. Final, peer-reviewed manuscripts should be emailed to the DHS Program Officer in pdf format. Recipients and sub recipients may post the final, peer-reviewed accepted publication to the publically visible website www.hsuniversityprograms.org. DHS will post submitted publications in a manner consistent with all applicable laws and regulations. Prior to posting publications on the website, Recipients shall ensure compliance with any copyright laws. While individual copyright arrangements can take many forms, DHS encourages investigators to sign agreements that specifically allow the manuscript or software to be deposited with DHS for U.S. Government use after journal publication. Institutions and investigators may wish to develop particular contract terms in consultation with their own legal counsel, as appropriate.

N. REPORTING SUB-AWARDS AND EXECUTIVE COMPENSATION

1. Reporting of first-tier sub-awards.
 - a. Applicability: Unless you are exempt as provided in paragraph 4 of this award term, you must report each action that obligates \$25,000 or more in federal funds that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111–5) for a sub-award to an entity (see definitions in paragraph 5. of this award term).
 - b. Where and when to report:

- i. You must report each obligating action described in paragraph 1.a. of this award term to <http://www.fsrs.gov>.
- ii. For sub-award information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)
- c. What to report: You must report the information about each obligating action that the submission instructions posted at <http://www.fsrs.gov> specify.

2. Reporting Total Compensation of Recipient Executives.

- a. Applicability and what to report: You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if—
 - i. the total federal funding authorized to date under this award is \$25,000 or more;
 - ii. in the preceding fiscal year, you received—
 - 1) 80 percent or more of your annual gross revenues from federal procurement contracts (and subcontracts) and federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and sub-awards); and
 - 2) \$25,000,000 or more in annual gross revenues from federal procurement contracts (and subcontracts) and federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and sub-awards); and
 - The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)
- b. Where and when to report: You must report executive total compensation described in paragraph 2.a. of this award term:
 - i. As part of your registration profile at <http://www.sam.gov>.
 - ii. By the end of the month following the month in which this award is made, and annually thereafter.

3. Reporting of Total Compensation of Subrecipient Executives.

- a. Applicability and what to report: Unless you are exempt as provided in paragraph 4. of this award term, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's

five most highly compensated executives for the subrecipient's preceding completed fiscal year, if—

- i. in the subrecipient's preceding fiscal year, the subrecipient received—
 - 1) 80 percent or more of its annual gross revenues from federal procurement contracts (and subcontracts) and federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and sub-awards); and
 - 2) \$25,000,000 or more in annual gross revenues from federal procurement contracts (and subcontracts), and federal financial assistance subject to the Transparency Act (and sub-awards); and
 - The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

b. Where and when to report. You must report sub-recipient executive total compensation described in paragraph 3.a. of this award term:

- i. To the recipient.
- ii. By the end of the month following the month during which you make the sub-award. For example, if a sub-award is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

4. Exemptions. If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

- a. Sub-awards, and
- b. The total compensation of the five most highly compensated executives of any sub-recipient.

5. Definitions. For purposes of this award term:

- a. Entity means all of the following, as defined in 2 CFR part 25:
 - i. A Governmental organization, which is a state, local government, or Indian tribe;
 - ii. A foreign public entity;
 - iii. A domestic or foreign nonprofit organization;
 - iv. A domestic or foreign for-profit organization;
 - v. A federal agency, but only as a subrecipient under an award or sub-award to a non-federal entity.

- b. Executive means officers, managing partners, or any other employees in management positions.
- c. Sub-award:
 - i. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible sub-recipient.
 - ii. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see the attachment to OMB Circular A-133, “Audits of States, Local Governments, and Non-Profit Organizations”).
 - iii. A sub-award may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.
- d. Sub-recipient means an entity that:
 - i. Receives a sub-award from you (the recipient) under this award; and
 - ii. Is accountable to you for the use of the federal funds provided by the sub-award.
- e. Total compensation means the cash and noncash dollar value earned by the executive during the recipient’s or subrecipient’s preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):
 - i. Salary and bonus.
 - ii. Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.
 - iii. Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.
 - iv. Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.
 - v. Above-market earnings on deferred compensation which is not tax-qualified.
 - vi. Other compensation, if the aggregate value of all such other compensation (e.g., severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

O. SITE VISITS

The DHS, through authorized representatives, has the right, at all reasonable times, to

make site visits to review project accomplishments and management control systems and to provide such technical assistance as may be required. If any site visit is made by the DHS on the premises of the Recipient, or a contractor under this Award, the Recipient shall provide and shall require its contractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representatives in the performance of their duties. All site visits and evaluations shall be performed in such a manner that will not unduly delay the work.

P. TERMINATION

Either the Recipient or the DHS may terminate this Award by giving written notice to the other party at least thirty (30) calendar days prior to the effective date of the termination. All notices are to be transmitted to the DHS Grants Officer via registered or certified mail, return receipt requested. The Recipient's authority to incur new costs will be terminated upon arrival of the date of receipt of the letter or the date set forth in the notice. Any costs incurred up to the earlier of the date of the receipt of the notice or the date of termination set forth in the notice will be negotiated for final payment. Closeout of this Award will be commenced and processed pursuant to the applicable Uniform Administrative Requirements as outlined by OMB:
http://www.whitehouse.gov/omb/circulars_default

Q. TRAVEL

Travel required in the performance of the duties approved in this Award must comply with the applicable OMB Cost Principles:
http://www.whitehouse.gov/omb/circulars_default

Foreign travel must be approved by DHS in advance and in writing. Requests for foreign travel identifying the traveler, the purpose, the destination, and the estimated travel costs must be submitted to the DHS Grants Officer 60 days prior to the commencement of travel.

R. GOVERNING PROVISIONS

The following are incorporated into this Award by this reference:

31 CFR 205

Rules and Procedures for Funds Transfers

OMB Circular A-110,
relocated to 2 CFR part 215

Uniform Administrative Requirements for Grants and
Agreements with Institutions of Higher Education, Hospitals,
and Other Non-Profit Organizations

44 CFR Part 13	Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments
OMB Circular A-21, relocated to 2 CFR part 220	Cost Principles for Educational Institutions
OMB Circular A-122, relocated to 2 CFR part 230	Cost Principles for Non-Profit Organizations
OMB Circular A-87, relocated to 2 CFR part 225	Cost Principles for State, Local, and Indian Tribal Governments
OMB Circular A-133	Audits of States, Local Governments, and Non-Profit Organizations
Application	Grant Application and Assurances dated [DATE], as revised [DATE]
S. ORDER OF PRECEDENCE	
1. [CITE], “Uniform Administrative Requirements for Grants and Cooperative Agreements []” 2. [CITE], “Cost Principles for []” 3. The terms and conditions of this Award 4. The Funding Opportunity, [FOA NUMBER], “[FOA TITLE]” 5. Application and Assurances dated [DATE], as revised [DATE]	

C. Appendix C: End-to-End (E2E) Project Requirements

After 2 years of operation (or sooner at the COE's discretion), OUP and the COE leadership will eliminate some projects and reallocate those projects' funds to one or two E2E projects that will continue for at least 3 years. The COE must identify its preferred E2E project(s) and form a project team by no later than the end of the second year. This team of people must represent all phases of the technology creation-transition-adoption continuum, from early stages of research to use in practice. Using the E2E approach will focus the project team on proposed research goals, data collection, analytical approaches, performance metrics, outcomes and outputs, market assessments, potential transition paths, test and evaluation plans, intellectual property issues, legal and privacy issues, practical barriers to technology adoption, and development of comprehensive case studies.

The E2E approach involves much more hands-on management, planning, and engagement with outside parties by a COE Director or management team than is common in most academic research. The E2E approach can encompass a single larger research project, or it can integrate several related projects under the direction of a single management team that works closely with the researchers, project advisors, commercial partners, end users, and SMEs. There may be significant uncertainty in assessing potential outcomes for early stage E2E initiatives. Some uncertainty will be eliminated by conducting a thorough market assessment for the technologies being developed. Most importantly, applicants must demonstrate a willingness to partner with end users to facilitate transition of their research into use, and describe how they would accomplish this. Note: DHS does not expect all team members of principal investigators to have a complete understanding of transition issues, but to be able to identify and recruit people that do, for as long as needed.

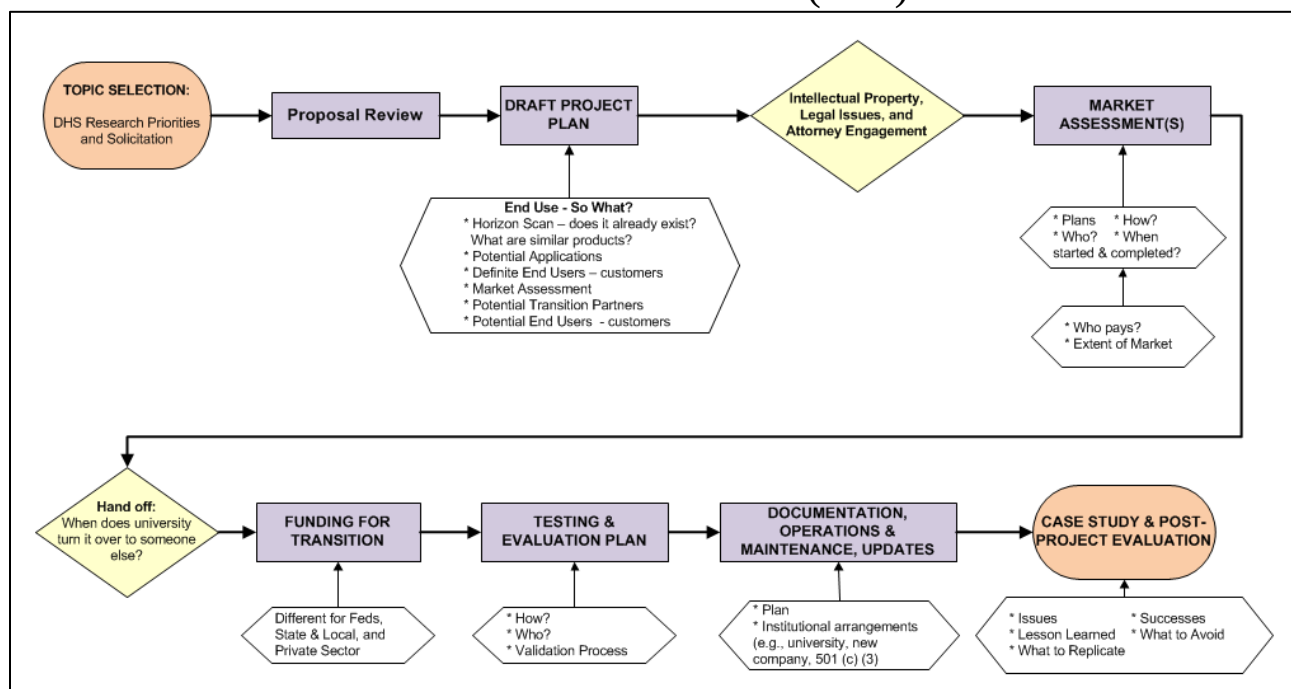
The following are key characteristics of the E2E approach:

- A multi-year timeframe (3-5 years)
- A multi-disciplinary approach
- A formal commitment, e.g., Memorandum of Understanding (MOU) by the intended end users to work directly with the COE throughout the life of the project [Note: an MOU is not required at the application stage].
- Exchange opportunities for students, researchers, and homeland security practitioners to foster mutual understanding of academic research and real-life experience in operational environments, and
- A transition plan that addresses the following questions:
 - What is the end user need?
 - What is the gap in knowledge, capabilities, or technology?
 - How would the proposed project significantly advance existing end user capabilities? (i.e., how will the research make the Nation more secure or make homeland security operations more cost-effective?)
 - Who are the key partners to enable effective transition?
 - How would the COE address intellectual property (IP) challenges, and how would the COE share IP among team members?
 - What is the potential market for the technology or other research results? (e.g., recipients will conduct both a technology "horizon scan" and a market assessment at the appropriate times)

- o Who would be responsible for post-transition management, repair, updates, training, and operations and maintenance?
- o At what point would the research product(s) be handed off to an end user? (e.g., will the output become part of an official government system, remain a service offering within the university complex, or be delivered (sold, licensed) to a commercial interest?)
- o How would the Center work with end users to identify testing, evaluation, or standards needed for end users to incorporate outputs into their operations?
- o What training curricula or materials would be needed to support successful transition?
- o What are the metrics for measuring the ongoing progress and success of the effort?

To recap, a successful E2E project will capture the life-cycle of a research effort starting with an idea and ending with a working product in the hands of an end user. In addition, E2E should support education and training opportunities in real-world venues for new and existing faculty, research staff, and students. The application should provide an overview of how the prospective COE leadership team would expect the E2E project to reach fruition.

DHS S&T Office of University Programs Centers of Excellence End-to-End (E2E) Process



D. Appendix D: References for CBTIR Research Themes, Topics, and Questions

The following list of publications is provided as a resource for applicants. While this list is not exhaustive, it does represent key policy documents and reports used in the development of this FOA. Applicants are expected to be aware of the diversity of available studies, policy documents, and findings relevant to this FOA.

- [Beyond the Border: A Shared Vision for Perimeter Security and Economic Competitiveness \(2011\)](#)
- [Border Patrol Strategic Plan \(2012-2016\)](#)
- [21st Century Border Management Initiative](#)
- [National Strategy for Global Supply Chain Security](#)
- [Federal Strategic Action Plan on Services for Victims of Human Trafficking in the United States \(2013-2017\)](#)
- [CBP's Trusted Traveler programs](#)

E. Appendix E: Checklist for Applicants

This checklist is meant to provide applicants with a starting place in developing and submitting a responsive proposal. Applicants will be evaluated against the criteria outlined in the FOA, **not** this checklist.

Did you:

- ☐ Ensure you are eligible to apply (Section III)
- ☐ Read entire FOA
- ☐ Familiarize yourself with past and current research at the current COE Network at <https://www.dhs.gov/st-centers-excellence>
- ☐ Clearly describe the following in the narrative of your application:
 - ☐ How you would address the major theme areas
 - ☐ Topics you propose to address for each theme area
 - ☐ Two example End to End (E2E) projects in different theme areas
 - ☐ How your research program is original and/or innovative
 - ☐ Project goals, approaches, and methodologies
 - ☐ Relevance to the homeland security mission for every project you propose
 - ☐ How project results would be transitioned to end users
 - ☐ How your program will be integrated with both internal and external partners
 - ☐ Qualifications of personnel and suitability of facilities
 - ☐ How you will manage the Center
 - ☐ How you will work closely with DHS Component agencies and other homeland security practitioners to identify priority research
 - ☐ How education programs will complement the research to increase homeland security community workforce development, for both current and future workforce.
- ☐ Submit all forms listed in the IV. How to Apply Section
- ☐ Funding requested does not exceed the available funding for the FOA
- ☐ Project period requested does not exceed the FOA
- ☐ Submit application by Deadline: *07/03/2014 at 11:59:59 PM EDT*
- ☐ Mark your calendar for the informational webinar for interested applicants on 5/5/2014 at 3:30 PM EDT.