

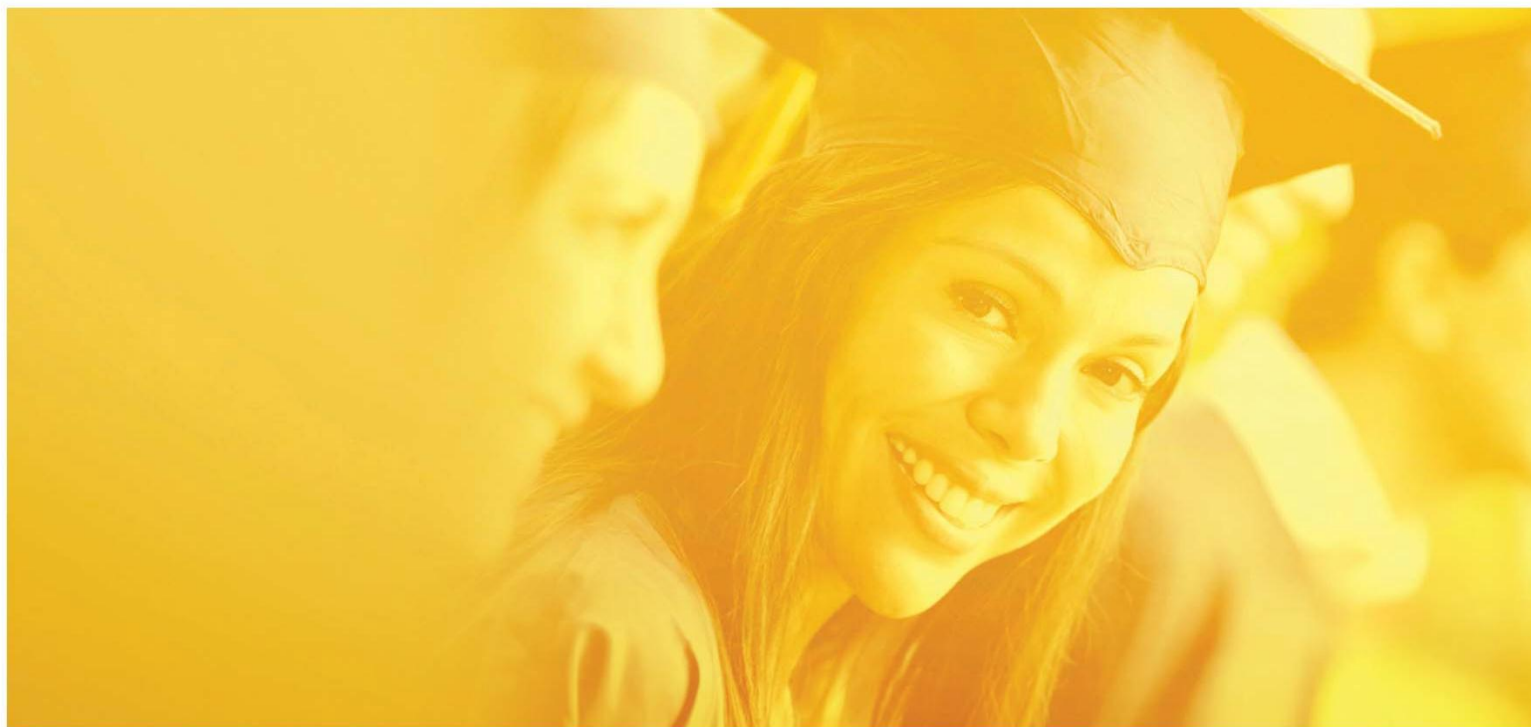


AEOP Cooperative Agreement

Program Announcement: W911SR-15-R-0003

Amendment 0004

16 Apr 2015





OVERVIEW INFORMATION

Federal Agency Name: U.S. Army Research Development & Engineering Command, 3071 Aberdeen Blvd, Aberdeen Proving Ground, MD 21005

Issuing Acquisition Office: U.S. Army Contracting Command, Edgewood Contracting Division
Aberdeen Proving Ground, E4215 Austin Road, Aberdeen Proving Ground, MD 21010

Funding Opportunity Title: Army Educational Outreach Program (AEOP) Cooperative Agreement (COA)

Announcement Type: Follow-on Award

Funding Opportunity Number: W911SR-15-R-0003

Catalog of Federal Domestic Assistance (CFDA) Number(s): 12.630 - "Basic, Applied, and Advanced Research in Science and Engineering"

Dates: The following is a summary of the events and dates associated with the AEOP COA program announcement (PA):

<u>EVENT</u>	<u>DATE</u>
Program Announcement Issued	28 January 2015
Opportunity Day	26 February 2015
Applications Due	28 April 2015
Evaluations Conducted	June 2015
Negotiations Conducted	Jul 2015
Final Applications Due	20 Jul 2015
Award	14 September 2015



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EXECUTIVE SUMMARY

1. Purpose: The purpose of the U.S. Army Educational Outreach Program (AEOP) cooperative agreement (COA) announcement is to solicit applications for a single-award to a recipient, who will carry out the K-College STEM education and outreach programs on behalf of the U.S. Department of Defense and the U.S. Department of the Army to help address the nation's need of a diverse, agile and highly competent science, technology, engineering, and math (STEM) literate talent pool. Through the AEOP COA award, the Army envisions the government to work with a recipient with an established consortium of organizations to collaboratively advance Army-sponsored STEM education and outreach programs, conducted across the United States, Puerto Rico as well as DoD locations in Europe and the Pacific.

The recipient selected to administer programs and functions under the AEOP COA will collaboratively work as a consortium to engage students from underserved and underrepresented populations¹ in STEM experiences during their elementary school years, encourage them to pursue STEM experiences and opportunities in their middle school years, and prepare them for college and career opportunities in their high school and undergraduate years. The AEOP COA envisions a collaborative approach in the management, planning and execution of the Army's STEM education and outreach program portfolio that will focus on the following Army STEM priorities and core objectives:

GOAL 1: STEM Literate Citizenry

Broaden, deepen, and diversify the pool of STEM talent in support of our Defense Industry Base

Objectives:	a. Encourage and reward student participation in STEM opportunities b. Inspire students to excel in science and mathematics c. Increase participation of underserved populations in AEOP d. Expand involvement of students in ongoing DoD research e. Increase awareness of DoD STEM career opportunities f. Increase participants' awareness of AEOP opportunities to further their interest and engagement in STEM
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¹ Underserved populations are inclusive of students from low income families, students on Federal free or reduced meals program, students belonging to race and ethnic minorities that are historically underrepresented in STEM (e.g., Alaska Natives, Native Americans, Blacks or African Americans, Hispanics, Native Hawaiians and other Pacific Islanders), students with disabilities, students with English as a second language, first generation college students, students in rural and frontier schools, and females in certain STEM fields (e.g., physical science, computer science, mathematics, or engineering).



GOAL 2: STEM Savvy Educators

Support and empower educators with unique Army research and technology resources

Objectives:	a. Partner with schools and teachers at local and state educational agencies for shared standards in science and mathematics b. Use incentives to promote teacher participation in the AEOP c. Provide online resources for educators to share best practices d. Provide and expand mentor capacity of the Army's highly qualified scientists and engineers e. Increase educators' awareness of AEOP opportunities
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GOAL 3: Sustainable Infrastructure

Develop and implement a cohesive, coordinated, and sustainable STEM education outreach infrastructure across the Army

Objectives:	a. Develop and implement cohesive program metrics for each individual program and across all of AEOP b. Provide STEM educational opportunities for students at all stages of their K-12 education c. Develop, capture and communicate program standards and best practices d. Integrate programs into strategic and comprehensive marketing strategy inclusive of a centralized website and application tool e. Establish competitive process for funding new STEM investments that align to overall program strategy f. Support and compliment the Federal STEM Strategy
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To achieve these objectives, the Consortium formed by the AEOP COA will implement several strategies, which include but are not limited to:

- Using the expertise of a marketing organization to further study and continue to develop and implement an overarching marketing strategy that synergizes all of AEOP;
- Seamlessly integrating program components in a way that is most conducive to collaboration, maximizes the expertise of all Consortium members, and effectively achieves the core objectives established by the Army;
- Ensuring Army presence and visibility at all major AEOP events and within program elements;
- A cohesive and coordinated website and application portal supporting all programs
- Develop plans for data collection, evaluations and assessment to measure the effectiveness of the COA and impact of AEOP programs, particularly with respect to the core objectives and informed by federal STEM education reporting requirements.

2. Fundamental Elements: The fundamental elements under the AEOP COA are categorized into two main efforts: AEOP/Consortium-wide Efforts and Individual AEOP Program Management. The individual AEOP components are grouped by program type, namely into apprenticeships, STEM enrichment activities and competitions.



The AEOP COA fundamental elements are: (1) Consortium Management; (2) Program Evaluations: Data Collection, Analysis and Reports; (3) Marketing/Communications; (4) AEOP Alumni Management; (5) Strategic Outreach Initiatives; (6) AEOP Apprenticeship Management: Science and Engineering Apprenticeship Program (SEAP), College Qualified Leaders (CQL), High School Apprenticeship Program (HSAP), Undergraduate Apprenticeship Program (URAP), and Research and Engineering Apprenticeship Program (REAP); (7) Gains in the Education of Mathematics and Science (GEMS) including Camp Invention Initiative; (8) Unite; (9) Research Experience for STEM Educators and Teachers (RESET); (10) Junior Solar Sprint (JSS); (11) eCYBERMISSION (eCM); and (12) Junior Science & Humanities Symposium (JSBS).

3. Award Instruments: This PA is expected to result in the award of a cooperative agreement as defined at 31 U.S.C. 6305. The cooperative agreement will be awarded to a Consortium of organizations, which may be comprised of for-profit, not-for-profit, and academic institutions. The consortium membership will be limited and defined with minimal distribution of individual program responsibility to ensure the streamlined implementation and administration of a well-focused program, to maximize efficiency and minimize the duplication of efforts. The recipient will identify a lead organization (LO) that will be charged with providing leadership to the Consortium as well as coordinating and synchronizing overarching efforts across all fundamental elements under the AEOP COA. The LO will be responsible for planning Consortium Management Committee (CMC) Meetings, submitting consolidated Consortium- wide deliverables, conducting AEOP's program evaluation and overall marketing and communications efforts. The LO will also be responsible for the distribution of AEOP funding to all members of the Consortium. The LO, in its leadership role to the Consortium, cannot simultaneously administer any of the individual AEOP components (Fundamental Elements 6-12).

4. Articles of Collaboration: The Articles of Collaboration define the operational structure within the cooperative agreement. An attachment to the Appendix of this PA provides a sample of "Articles of Collaboration" for applicants to consider in preparing their articles of collaboration; however, applicants are free to modify this document as appropriate to address and achieve the objectives outlined in support of AEOP COA priorities and must be acceptable to the Government for the applicant to be eligible for the award. The Articles of Collaboration prepared by the applicants will be evaluated under the Management Evaluation Factor. Applications must include a copy of the proposed Articles of Collaboration, signed by a duly authorized representative for each Consortium member.

5. Period of Performance: Awards made as a result of this PA will provide funding for up to ten (10) years. The Government will review the AEOP COA annually to assess the degree to which the recipient is making progress towards meeting the objectives of the agreement. Additionally, the Army reserves the right to re-compete the cooperative agreement after the initial three years, and yearly from years four through ten.



6. Place of Performance: Performance is limited to the United States, Puerto Rico as well as DoD locations in Europe and the Pacific.

7. Funding: This PA issued is subject to the availability of funds. The PA provides the estimated funding levels for the AEOP COA. The U.S. Army has submitted the requisite documents to request funding for the period covered by the AEOP COA; however, applicants are reminded that this request is subject to Presidential, Congressional and Departmental approval. **The funding levels provided in the PA are for application preparation purposes only. The actual funding level of the cooperative agreement will be updated annually as part of the appropriation process.**

8. Cost Share or Matching: Cost sharing or matching is not required to be responsive to this PA; however, it is encouraged. Cost sharing must clearly state how the funds will be used to meet AEOP's core objectives in support of its priorities. In order for cost sharing to be considered with an application, there must be a firm commitment by the organization for providing such.

9. Profit/Fee: Profit/fee is not permitted under the cooperative agreement.

10. Opportunity Day Meeting: An Opportunity Day Meeting will be held on 26 February 2015, from 9:00 a.m. to 2:00 p.m. E.S.T. at Crystal City (Arlington), VA. The Opportunity Day will take place at the Renaissance Arlington Capital View Hotel, located at 2800 South Potomac Avenue, Arlington, VA.

This one-day event will discuss the PA and include a technical briefing on program expectations and requirements, an application/contracting briefing, and a question/answer session. While attendance is strongly encouraged, attendance at this meeting is not a requirement for application submission. The presentations from this meeting, the list of attendees at this meeting, and the non-proprietary questions posed and answers provided during this meeting will be made available on www.grants.gov. Nothing said during the Opportunity Day meeting will change this PA. Any changes to this PA will be issued via an amended PA being posted on grants.gov.

Due to space limitations, attendance will be limited. Potential attendees may include up to three (3) persons per organization. When registering, please indicate how many will attend. To register for the Opportunity Day, please RSVP to Mr. Louie Lopez, AEOP Cooperative Agreement Manager at louie.r.lopez.civ@mail.mil, and Ms. Jennifer Carroll, AEOP Deputy Cooperative Agreement Manager at Jennifer.J.Carroll2.civ@mail.mil NLT 12 February 2015. Please submit specific questions pertaining to this announcement to Mr. Alex Schupp, Agreements Specialist, alex.m.schupp.civ@mail.mil and Mrs. LaVetta Wynn-Smith, Lavetta.d.wynn-smith.civ@mail.mil NLT 19 February 2015.



I. FUNDING OPPORTUNITY DESCRIPTION

A. PROGRAM OVERVIEW

The Army employs more than 800,000 military and civilian personnel, 96,000 of whom occupy science, technology, engineering or mathematic (STEM) positions, according to Defense Manpower Data Center classifications. Of that 96,000, more than 16,000 are world-class scientists and engineers within the Army's 16 laboratories and research centers. These scientists and engineers develop leading-edge technologies and advanced capabilities that give our Soldiers, the Army's greatest asset, the decisive advantage in the face of our adversaries and keep them safe from harm; however, most students and teachers are unaware of the opportunities within the Army, or DoD, that contributes to the ecosystem supporting the Soldier or our nation's capabilities.

Broadly defined, to include jobs such as technicians that don't require a bachelor's degree, science and technology (S&T) occupations make up 21 percent of the nation's workforce, and that percentage is increasing steadily, according to Georgetown University's Center on Education and the Workforce (Georgetown University Center on Education and the Workforce, 2011). The Army and the nation have a growing need for highly qualified, STEM-literate technicians and skilled workers in advanced manufacturing, logistics, management and other technology-driven fields.

The need for STEM literacy—the ability to understand and apply STEM concepts in order to solve complex problems—goes well beyond the traditional STEM occupations of scientist, engineer and mathematician. The U.S. Department of Labor predicts that in the next decade, 80 percent of jobs will require STEM skills, yet only 16 percent of college students pursuing bachelor's degrees will be specializing in STEM fields.

Emerging mission requirements further complicate the challenges for the DoD STEM workforce. Multidimensional and cross-disciplinary STEM competencies are essential to supply technical talent in our research centers for emerging fields as well as to provide STEM-literate talent for the research and analysis work that the Army does continually across every field. In other words, the Army must prepare human capital for jobs that don't yet exist, using technologies that haven't yet been invented. The success and sustainment of this STEM infrastructure depends on the STEM-literate community to support innovation, further adding to the demand for STEM talent and accentuating the STEM challenge.

The growing demand for STEM competencies, the global competitiveness for STEM talent and the unbalanced makeup of STEM fields have led to a national all-hands-on-deck approach to the STEM challenge. Developing a highly competent STEM workforce requires partnerships among government, industry and academia. The Army makes a unique and valuable contribution to the national STEM challenge by providing access to its world-class technical professionals and research centers for students and teachers.



The Army Educational Outreach Program (AEOP) manifests the Army's STEM education strategy to ensure enduring access to highly qualified U.S. talent. AEOP provides a coordinated portfolio of STEM programs across S&T commands as well as government, university and industry partners. It offers students and teachers a collaborative, cohesive array of programs that effectively engage, inspire and attract the next generation of STEM talent from kindergarten through college, thereby exposing students to STEM careers in DoD. Using the Army S&T workforce as mentors (either directly or through a near-peer mentor model), as well as our laboratories and research assets, the Army strives to build a diverse, well-prepared, STEM-literate talent pool to supply current and emerging workforce needs throughout the entire defense industry base which includes government, academia, and industrial needs. This strategy, directed by Headquarters, Department of the Army, allows the Army to capture measures of success, identify program gaps, leverage resources and defend a sustainable STEM infrastructure.

Through the AEOP COA, the Army continues its long tradition and strong commitment to the advancement of STEM education and literacy. The AEOP COA is designed to help ensure the United States continues to maintain its technological leadership in a globally competitive world. Leveraging its most valuable assets – world-class scientists and engineers and research facilities – AEOP offers our nation's youth and teachers a collaborative, cohesive portfolio of opportunities that effectively engage future workforce generations in meaningful, real-world STEM experiences, competitions and apprenticeships. From elementary school through college, students of all proficiency levels, interests, and ethnic, economic and academic backgrounds are encouraged to participate in AEOP's free STEM education programs and opportunities.

The AEOP has determined to award a COA for the management and administration of AEOP programs to create synergy and collaboration amongst its components, to leverage resources and capacity across like-minded organizations, to identify new areas for growth and expansion, and to enable the Government's direct and substantial involvement in the planning and implementation of the Army's STEM programs. The main goal of the AEOP COA is to establish a collaborative effort between Government and a Consortium of for-profit, not-for-profit, and academic partners with expertise in a variety of STEM, education, and youth outreach areas to support STEM education and stimulate interest in STEM disciplines and careers. The AEOP COA will not be used for the acquisition of supplies or services for the direct benefit of the Government.

B. GOVERNMENT ROLE & RESPONSIBILITY

Substantial Government involvement is expected under the AEOP COA and essential to the performance and successful execution of AEOP programs. The cooperative agreement enables and encourages AEOP COA Consortium members to synchronize and coordinate the program planning and execution of individual AEOP components with the Government's primary representative, the AEOP Cooperative Agreement Manager (CAM). It is the CAM's responsibility to provide technical and fiscal oversight over the entire AEOP Cooperative Agreement.



On behalf of the Office of the Deputy Assistant Secretary of the Army for Research and Technology [DASA(R&T)], the CAM must ensure that AEOP programs are planned and executed in alignment with AEOP priorities and core objectives, within the parameters of the AEOP COA and government law, in adherence to annually approved program plans and funding levels. In addition, it is the CAM's responsibility to effectively and efficiently integrate STEM assets/resources across the Army's Science and Technology (S&T) Enterprise and DoD into AEOP programs to ensure program participants are exposed to and learn about STEM opportunities and careers across the Army and DoD. Substantial Government involvement is required to provide K-College students and teachers STEM opportunities with Army S&Es and at Army laboratories, to integrate Army/DoD involvement and representation during AEOP events, and to be an integral part of the decision making process for achievement awards to be bestowed to sub-awardees under the cooperative agreement.

The CAM works hand-in-hand with the recipient throughout Requests for Proposals (RFP) and the evaluation thereof to ensure AEOP requirements and achieve intended outcomes. The CAM's role is also to ensure that individual AEOP programs take a centralized approach in registration/application, evaluations and marketing/communications. Lastly, the CAM facilitates/synchronizes between the funding and policy office at DASA(R&T), the Agreements Officer, Consortium members and Army laboratories to ensure program intent and objectives are met. In an effort to grow the AEOP COA into a more robust and dynamic program, the AEOP measures program outcomes and impact through its evaluation efforts to help the CAM and Consortium members make informed decisions on which efforts to adjust and which practices to sustain and expand. The AEOP COA allows the CAM and Consortium members to make real-time adjustments to funding, planning, implementation, and processes if needed.

The projected scope of the cooperative agreement is approximately \$190 million over the course of ten (10) years. DASA(R&T) within the Office of the ASA(ALT) has delegated the execution of the Army's strategy to take a coordinated and cohesive approach to its STEM investments to the U.S. Army Research, Development and Engineering Command (RDECOM). The Army will continue the management and implementation of its STEM educational outreach efforts by issuing a single AEOP COA follow-on award to a recipient with an established consortium that may include for-profit, not-for-profit, and academic partners, that will work with Army program managers to meet AEOP's priorities and core objectives. The Army will select the recipient based on the review and evaluation of submitted applications addressing the requirements outlined in this award announcement.



C. GUIDING POLICIES AND AUTHORITIES FOR DoD STEM PROGRAMS

1. USC Title 10, Section 2358: Research and development projects.

The Secretary of Defense or the Secretary of each military department may engage in basic research, applied research, advance research, and development projects

- b. The Secretary of Defense or Secretary of military department may perform research and development projects:
 - i. by contract, cooperative agreement, or grant, in accordance with chapter 63 of title 31.
2. USC Title 10, Section 2192: The Secretary of Defense under Title 10, U.S.C., Chapter 111, "Relating to Support of Science, Mathematics, Engineering Education and Training, Sections 2191-2199," establishes and implements policy, and assigns responsibilities and procedures to carry out DoD STEM activities. Specifically, under 10 U.S.C. § 2192:

"The Secretary of Defense, in consultation with the Secretary of Education, shall, on a continuing basis-

(i) identify actions which the Department of Defense may take to improve education in the scientific, mathematics, and engineering skills necessary to meet the long-term national defense needs of the United States for personnel proficient in such skills; and (ii) establish and conduct programs to carry out such actions."

3. USC Title 42, Section 6621 – Coordination of Federal STEM education. The STEM education programs executed under USC Title 10, Section 2192 must adhere to the guidance provided by the FC-STEM steering board as established by H.R. 5116 of the America Competes Reauthorization Act of 2010 and supported by USC Title 42, Section 6621.
4. The current *Federal STEM Strategic Plan*'s intent is to establish a coordinated, coherent portfolio of STEM education investments across the Federal Government so that efforts and assets are effectively and efficiently deployed for greatest potential impact. Federal agencies will focus on building new models for leveraging assets and expertise, and on building and using evidence-based approaches.
(http://www.whitehouse.gov/sites/default/files/microsites/ostp/stem_stratplan_2013.pdf)



D. FUNDAMENTAL ELEMENTS

AEOP / Consortium-wide Efforts		
1.	Consortium / COA Management	
2.	Program Evaluations: Data Collection, Assessment/Analysis and Reports	
3.	Marketing and Communications	
4.	AEOP Alumni Management	
5.	Strategic Outreach Initiatives	
Individual AEOP Program Management		
Apprenticeship Programs	STEM Enrichment Activities	Competitions
6. AEOP Apprenticeship Management - Science and Engineering Apprenticeship Program (SEAP) - College Qualified Leaders (CQL) - High School Apprenticeship Program (HSAP) - Undergraduate Apprenticeship Program (URAP) - Research and Engineering Apprenticeship Program (REAP)	7. Gains in the Education of Math and Science (GEMS) <i>* Camp Invention Initiative</i>	10. Junior Solar Sprint (JSS)
	8. Unite	11. eCYBERMISSION
	9. Research Experience for STEM Educators and Teachers (RESET)	12. Junior Science & Humanities Symposium

AEOP / Consortium-wide Efforts

1. CONSORTIUM/COA MANAGEMENT

1.1 Overview: The recipient will select one entity as the LO of the Consortium formed by the AEOP COA to ensure fundamental elements are focused on planning and executing programs in alignment with AEOP priorities and core objectives. It is critical that the Consortium be structured and managed to foster an open, collaborative environment in which each member of the Consortium is equal and receptive to leveraging knowledge and resources as well as sharing and adapting best practices to achieve AEOP's priorities and objectives.

This section describes a framework for the organization of the Consortium. The framework is efficient and flexible with defined areas of responsibility to minimize overhead, yet ensure relevance and proper oversight. Applicants can suggest additional management tools and mechanisms as part of the application, but in doing so they must also justify and demonstrate the benefit and cost effectiveness of these additional management activities.



The general expectation is that the LO assemble a qualified team of organizations to propose a Consortium that has expertise and a proven track record in the areas that are required to successfully manage and implement fundamental AEOP elements described in this announcement. These members can be for-profit, not-for-profit or academic institutions. The LO will propose a Consortium structure that seamlessly integrates fundamental elements and program components in a way that promotes and enables collaboration, creativity, and synergy, ultimately aiming to achieve the core objectives established by the Army in support of AEOP priorities.

At the request of the Consortium and at the discretion of the U.S. Army, additional components and/or STEM Educational Outreach oriented organizations may be added to or removed from the COA to advance the AEOP COA towards meeting the core objectives in support of AEOP priorities.

Striving for an efficient and flexible structure with defined areas of responsibility, the Government suggests that the Consortium consist of academic, not-for-profit, and for-profit organizations that possess significant expertise related to one or more of the fundamental components covered by the COA. The areas of responsibility of each organization will be distributed in a way that maximizes efficiency and collaboration among and between programs. Each organization will be a full member of the COA and will possess equal voting rights in accord with the Articles of Collaboration.

The following key positions are suggested for the technical management and oversight of the COA:

- **Cooperative Agreement Manager (CAM)**
Overall technical management and fiscal responsibility for the AEOP COA will reside with the CAM, designated under the cooperative agreement. The CAM will work closely with the AEOP funding and policy office in the Office of the DASA(R&T) and the Agreements Officer at the U.S. Army Contracting Command, Edgewood Division. All executables must be approved by the CAM, to include programmatic changes and budget. CAM is the Agreements Officer Representative.
- **Program Director (PD)**
The PD of the AEOP COA is the technical representative charged with the responsibility to manage and provide guidance to the AEOP Consortium formed by the COA. The PD will be designated by and must be a part of the Consortium's LO.
- **Individual Program Administrator (IPA)**
The IPA is the primary point of contact designated by the Consortium for each of the fundamental element(s) and should regularly communicate with the PD and CAM. It is acceptable for a Consortium member to be responsible for more than one fundamental element under this program announcement, depending on how the Consortium is formed and program responsibility is divided.



- **Local Program Coordinator (LPC)**

In a few cases, programs/components have site-specific government employees who provide localized management/oversight at an Army laboratory or research facility. In these cases, that person is designated the LPC and at times, will communicate directly with the IPA member that is administering his/her respective program(s).

- **Cooperative Management Committee (CMC)**

The AEOP COA will have a CMC that includes a representative from each member of the Consortium (should be the IPA, if possible). The CAM participates as ex officio member in all discussions except those that deal with purely internal Consortium matters. The CMC will be chaired by the LO/PD. Each member will have one vote on the CMC to support programmatic and management-related activities and decisions. In the event of a tie, the LO will cast the deciding vote. The CMC will be responsible for the management and integration of the Consortium's efforts under the AEOP COA, to include programmatic, technical, reporting, financial, and administrative matters. The CMC makes recommendations that concern the membership of the Consortium, the definition of the tasks, and goals of the participants. Quarterly meetings will be conducted by the CMC.

1.2 Tasks:

- A. Articles of Collaboration will be established by the recipient and submitted with the application. A sample is attached (Appendix). *The Articles of Collaboration* define the operational structure within the Consortium.
- B. *Annual Program Plan (APP)*: As part of the application process, applicants will submit an initial program plan (IPP) for the first year of the new AEOP COA. The IPP will include a 10-year roadmap that describes the overall plan to be accomplished by the Consortium within the AEOP COA structure. The roadmap should provide a detailed description of a well-coordinated plan of program execution, focused on AEOP priorities and objectives as outlined in the PA. It should provide approximate timelines, to the best possible extent for the various components and activities. Sample APP template is available in the appendix of this PA.

Every year after the first year of the award, the recipient will work with the consortium in developing an APP to be submitted as one document to the CAM prior to the start of the program cycle. The CAM will approve the APP and formally submit to the Agreements Officer for incorporation into the cooperative agreement. This process will continue through the life of the cooperative agreement. Each APP will cover a one-year timeframe, but may be altered, with the approval of the CAM and the Agreements Officer, if work requirements change. Funding will not be released until an approved APP is in place. Additionally, annual funding is contingent upon Congressional approval of the Federal budget.



During the course of performance, if it appears that established goals will not be met, the CMC will provide a proposed adjustment to the APP for approval by the CAM. In addition, the CAM may request that additional elements be added to the APP within the scope of the cooperative agreement and, if necessary, will provide adjusted annual budget. The APP will serve as an amendment to any programmatic changes. The Consortium, as an entity, will not solicit or accept funding from outside sources without the approval of the CAM and the Agreements Officer. During the course of performance, the Agreements Officer, in coordination with the CAM, will have approval authority for certain changes to the IPP/APP including but not limited to:

1. Changes in the scope or the objective of the program or IPP/APP;
2. Change in the PD or IPAs specified in the IPP/APP;
3. The need for additional Federal funding; and
4. Any sub-award, transfer, or contracting out of substantive program performance under an award, unless described in the IPP/APP.

During the course of performance, the Agreements Officer, in coordination with the CAM, will have approval authority for certain specific changes to the cooperative agreement including, but not limited to:

1. Changes to the Articles of Collaboration, if such changes substantially alter the relationship of the parties as originally agreed upon;
2. Solicitation or acceptance of funding under the agreement from federal partners; and
3. Changes in Consortium membership.

- C. *Annual Program Review (APR)*. With CAM approval, the Consortium will be responsible for coordinating and participating in a year-end APR to the Army to present the results and achievements of the previous program cycle and to propose plans for the following year. The program review will foster interactions and collaborations among all consortium members and government COA participants.
- D. In coordination with (ICW) the CAM, the recipient will establish quarterly consortium meetings with a minimum of one in-person meeting (preferably year-end program reviews). The quarterly meetings will provide the Consortium and the CAM the opportunity to share best practices, address programmatic issues/updates, and synchronize AEOP marketing and communications efforts.
- E. The recipient must ensure that all of AEOP's individual programs are advertised through the centralized AEOP website and that all AEOP program participants are selected through AEOP's centralized application tool. This enables the Army and recipient to collect accurate information about program and event participation. The recipient will ensure adequate personnel are in place to manage the entire AEOP application tool and website. The AEOP centralized application tool is critical to the success of the evaluation efforts in capturing and storing program data.
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1. Recipient will synchronize with Consortium members to ensure periodic maintenance of program online applications are conducted.
 2. Recipient will coordinate with the CAM and Consortium on program applications, which requires synchronization with participating Army laboratories.
- F. The recipient will invoice the Army for approved program funds of each of the fundamental elements and then distribute funds to all Consortium members accordingly.
- G. The recipient will establish and maintain an adequate accounting system. This system will include comprehensive documentation for audit purposes to justify allocation of costs for each fundamental element and tasks performed, and for operation of the administrative program management office(s).
- H. Recipient will provide quarterly Report of Federal Cash Transactions (SF 272) and, upon completion, a Financial Status Report (SF 269).
- I. Recipient will provide a compiled annual financial report to the CAM electronically. The report will summarize (a) by cost element the total funds programmed and expended during the year for the administrative management offices, (b) the funded and expended costs for each component, including information about additional/supplemental funding received from federal partners, (c) by cost element the total funds programmed and expended during the year for any subprograms within the components, including additional/supplemental funding received from other sources. This report will be due no later than 60 calendar days after the completion of each program cycle.
- J. Recipient will carry blanket accident insurance policy to cover all student participants. Cost of the accident insurance will be included as a line item in the budget for the COA. Secure an adequate life and accident insurance policy for program participants for each year of performance. Policy must cover accidental death, accidental dismemberment, and medical expense benefits for participants or survivors of participants.
- K. Recipient will assure compliance with all applicable federal and state child labor laws, with regards to all AEOP fundamental elements.
- L. Recipient will coordinate with CMC to develop a plan for cross program promotion to target audience to increase students' participation through AEOP's K-College pipeline of opportunities.



1.3 Deliverables: The recipient will be responsible for on-time submission of deliverables for all fundamental elements. It is suggested that the recipient develop a system to track required deliverables.

A. Annual Deliverables.

1. APP – *September*
 - a. Compiled APP from all fundamental elements to include LO annual execution plan.
 - b. APP will propose target outcomes for the year as baseline and project 3-year targets.
 - c. See Appendix for sample APP template.
2. Annual Program Evaluations (Individual program and summative) – *Spring*
 - a. In coordination with the CAM, establish exact completion date of individual program evaluations reports as well as summative.
 - b. *(see program evaluation requirements)*
3. APR – *September*
 - a. Compiled APR from all fundamental elements for submission to the CAM.
 - b. See Appendix for sample APR template.
4. Annual Fiscal Report – *October*
 - a. Recipient will coordinate with CAM on format of annual fiscal report.
 - b. Minimum information required include funding allocations for each of the fundamental elements and actual expenditures.
 - c. Fiscal reports will clearly capture admin/overhead costs to include labor, fringe and indirect costs, separate from program and other costs such as travel, equipment, etc.

B. *Quarterly Deliverables.* The recipient will provide quarterly performance reports to the CAM for each component beginning 30 days after award of the COA. The performance report will be sent electronically, and will provide a program and budget updates on each of the fundamental elements. Recipient will coordinate with CAM on format of the report.

All reports/documents must be marked with the distribution statement B, provided below.

DISTRIBUTION STATEMENT: Distribution authorized to U.S. Government agencies only in order to protect information not owned by the U.S. Government and marked with a statement of a legal property right as proprietary. Other requests for this document will be referred to the CAM (U.S. Army RDECOM, ATTN: AMSRD-PES, Louie Lopez, APG, MD 21005).



1.4 Evaluation of the COA. The COA will be awarded for up to ten (10) years period of performance beginning in FY16. The recipient (Consortium) is expected to provide the U.S. Army annual program plans, annual program reports to include year-end program and fiscal execution reviews, and evaluation reports. The U.S. Army will conduct an annual program review. This review will consider the annual evaluation results and cumulative performance metrics/benchmarks. Additionally, other factors taken into account include funding availability and the current fundamental core objectives under the AEOP Priorities. Performance metrics are expected to measure the COA's accomplishments against its priorities and objectives (see Executive Summary), such as successful integration of core objectives into all programs and processes; effective integration of centralized AEOP application tool, website and branding; collaboration of all organizations; effectiveness of evaluations, common metrics and data collection; and management of COA.

2. PROGRAM EVALUATIONS: DATA COLLECTION, ANALYSIS AND REPORTS

2.1 Overview: Aligned with the Federal Strategic Plan, DoD's STEM Strategic Plan and the Army's strategic plan, the AEOP calls for the evaluation of all fundamental AEOP elements based on specific metrics and evidence-based approaches to achieve key objectives of Army outreach; increased efficiency and coherence; ability to share and leverage best practices; as well as focus on AEOP priorities and core objectives. AEOP strives to make programmatic decisions that are driven by data and analysis through its evaluations efforts. While current evaluation efforts have focused on documenting activities, outputs, and indications of potential near-term outcomes through annual evaluations of its fundamental elements, AEOP envisions the incorporation of mid to long-term impacts of AEOP alumni that previously participated in AEOP. Additionally, AEOP may periodically evaluate program effectiveness through an external third party evaluator.

AEOP annual program evaluations analysis and reports may be sub-awarded – however, the recipient is ultimately responsible for ensuring a cohesive and coordinated evaluation strategy across all elements of the AEOP. The centralized AEOP Evaluation was designed to satisfy key Federal guidelines^{2 3} for rigorous evaluation, in that it:

- Is conducted by capable professionals who are external to program administrators and their institutions, to assure confidence in the objectivity of the evaluation.
- Strives to (1) assess whether programs are making satisfactory progress toward AEOP and program objectives; (2) recommend reasonable, evidence-based adjustments to programming; and (3) provide indications of potential program effects.

² National Science and Technology Council, Subcommittee on Education, "Finding out what works: Agency efforts to strengthen the evaluation of Federal STEM education programs" (Washington, D.C., 2008)

³ U.S. Department of Education, "Report of the Academic Competitiveness Council" (Washington, D.C., 2007)



- Employs study designed and methods that are appropriate, aligned to the evaluation objectives and data assessment tools, and account for the varying developmental stages of programs and the AEOP COA and its objectives.

The recipient will be responsible for transitioning and managing the current AEOP's program evaluations to include design and instrumentation, data collection and analysis, and the generation of annual evaluation reports. Overall AEOP evaluations are an AEOP-wide effort and AEOP envisions each Consortium member/program administrator to be an integral part of the process and execution. The AEOP website, application and survey tools will be used as the primary method to collect data from program participants. The recipient is responsible for assuring that complete and accurate participant data are reflected in AEOP's data collection and program evaluations. In addition to the student information collected from the AEOP centralized application and evaluation surveys, the Consortium must collect quantitative and qualitative data from students, teachers, mentors, and other participants in their individual program(s). However, as the subject matter expert and lead on evaluations and data collection, the recipient is ultimately responsible for guiding evaluation efforts, including collection, synthesis, interpretation, and reporting of data.

The recipient will also be prepared to make periodic adjustments in evaluation design based on Federal Regulations and guidance. These recommendations will be considered by the Government and Consortium to make decisions about adjustments and revisions needed to for the STEM strategic plan and the metrics to be collected.

AEOP evaluations will strive to continually improve the rigor of the studies conducted and the recipient will ensure training on current government standards and industry best practices for all participants. Historical documentation of the AEOP assessments can be found at www.usaeop.com (About > Our Impact). The recipient will be expected to build on and expand current state of the evaluations strategy.

2.2 Tasks: The recipient will ensure adequate personnel to meet AEOP evaluations requirements.

- A. The Consortium will collaboratively develop an overall AEOP evaluation plan and establish an IRB.
- B. Review AEOP's current evaluations instruments, provide recommendations and implement evaluation plan with established timelines throughout the program cycle.
- C. The development of AEOP evaluations should be informed by and strive to adhere to best practices for rigorous program evaluation. It should include:

1. Questions, methods, and assessments are designed to align with Army, DoD, and Federal STEM priorities as well as with individual program objectives; a set of common metrics are employed across AEOP programs and align with the output and outcome measures inventoried by the Office of Science and Technology Policy⁴;
2. Assessments are adapted from or informed by existing instruments of the field, and when the evaluation team must design assessments, appropriate measures are taken to assess and improve assessment performance of those measures;
3. Individual programs of the AEOP portfolio are evaluated annually to ensure the utility of evaluation findings and recommendations in program revision and policy decision-making; and,
4. Evaluation plans, including methods and assessments, are reviewed and revised annually to respond to changing AEOP or program priorities and evaluation resources, and emerging evaluation theory and practice.
5. At the minimum, AEOP evaluations should address the following near-term outcomes and mid to long-term impact:

Near Term Outcomes	Mid and Long-term Impact
• Increased student interest and engagement in STEM (formal and informal) • Increased participant STEM competencies (STEM skills, knowledge, abilities, and confidence) • Increased participant awareness of, and interest in, AEOP opportunities • Increased participant awareness of, and interest in, STEM research and careers • Increased participant awareness of, and interest in, Army/DoD STEM research and careers • S&E Mentors' impact on AEOP participants • Changes in teacher approaches to teaching about STEM concepts, practices, and careers in their classrooms • Implementation of evidence-based recommendations to improve programs	• Sustained student appreciation of STEM and Army/DoD STEM • Increased student pursuit of AEOP opportunities and DoD workforce development programs • Increased student pursuit of STEM coursework in secondary and post-secondary schooling • Increased student pursuit and achievement of STEM degrees • Increased student pursuit and achievement of STEM careers • Increased student pursuit and achievement of Army/DoD STEM careers • Continuous improvement and sustainability of the AEOP

⁴Office of Science and Technology Policy, "2010 Federal STEM Education Inventory Data Set" (Washington, D.C., 2012)



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- D. Design, develop and implement an infrastructure for measuring mid to long-term impacts of AEOP based on those that participated from FY11-FY15, and leverage that infrastructure to support longitudinal tracking and study of those AEOP alumni as they are retained and/or leave the AEOP continuum.
1. Coordinate with AEOP Alumni Management recipient to ensure there's synchronized effort in capturing/leveraging AEOP alumni and evaluations to support AEOP longitudinal study.
 2. The initial alumni study and subsequent longitudinal study should primarily seek to answer questions closely related Army's strategic goals. At the minimum, it should address the following:
 - a. Does participation in AEOP effect mid- and long-term outcomes?
 - i. To what extent do alumni report positive attitudes toward STEM, and particularly Army/DoD STEM?
 - ii. To what extent do alumni report participation in an AEOP element multiple times, in other AEOP elements, or in other DoD workforce development programs?
 - iii. To what extent do alumni report pursuit of STEM courses in secondary school, post-secondary STEM degrees, STEM careers, and Army/DoD STEM careers?
 - iv. To what extent to what extent to alumni report *achievement of* post-secondary STEM degrees, STEM careers, and Army/DoD STEM careers?
 - b. To what extent do alumni contribute participation in AEOP with positive changes in intended outcomes?
 - c. To what extent are positive attitudes and behaviors (pursuit of STEM) sustained or improved over time?
 - d. To what extent does level of participation (e.g., in an AEOP element multiple times, in other AEOP elements, or in other AEOP-marketed workforce development programs) influence intended outcomes?
- E. Designate subject matter expert for evaluations that will be available to the Consortium and Government leaders to provide recommendations and ensure quality assessment of near term and long term data support AEOP priorities and core objectives.

2.3 Deliverables:

- A. Annual Program Plan (APP)
1. Evaluation APP provides clear execution strategy for individual program evaluations and for all of AEOP. Evaluation APP is part of the overall APP submitted by the Consortium.
 2. Evaluation APP includes proposed assessment tools for each program as well as common metrics across AEOP.
 3. In coordination with the Consortium and per CAM approval, establish a timeline of execution to include data collection, analysis, and report writing.



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- B. Annual Program Evaluations Report (Individual programs and summative evaluations) needs to reflect a diverse sampling of program participants and indicate how the AEOP and its individual program elements have performed against its priorities and objectives.
 - C. Annual Program Data Briefs – provides a summary report of key quantitative output and outcomes data collected by the common instruments. Data briefs will include the outputs and outcomes listed below for each program:
 - 1. # and diversity of student participant respondents
 - 2. # and diversity of mentor/instructor participant respondents
 - 3. # and diversity of teacher participant respondents (for RESET)
 - 4. Ways participants learn about AEOP programs
 - 5. Motivating factors for participating in AEOP programs
 - 6. Educational goals, including degree level, STEM field
 - 7. Awareness of, and interest in, AEOP programs
 - 8. Awareness of, and interest in, Army/DoD STEM careers

3. MARKETING / COMMUNICATIONS

3.1 Overview: A comprehensive and coordinated overarching marketing strategy is essential to the successful management, execution and measurement of AEOP. The primary objective of the AEOP marketing strategy is to promote AEOP as a coordinated and cohesive effort offering students and teachers a pipeline of STEM educational opportunities, sparking an early interest in STEM subjects by providing hands-on learning, and maintaining that interest through STEM competitions, summer enrichment activities, and competitive apprenticeships. In order to meet AEOP core objectives, AEOP marketing strategies and tactics will be designed to influence and educate K-College students, educators and other key stakeholders about the STEM educational opportunities available across the AEOP continuum, as well as DoD STEM career opportunities, while increasing participation among historically underserved/and underrepresented populations.

3.2 Tasks: In execution of the AEOP marketing component, the recipient will provide adequate qualified personnel support to ensure the proactive and successful execution of the overall AEOP marketing communications plan and performance of the following tasks, inclusive of but not limited to:

- A. Synchronization and coordination with IPAs to ensure the successful implementation of the AEOP marketing and communications strategy. The LO will act as the primary liaison to IPAs for all communications requirements.
 - 1. Management and execution of internal communications through collaboration tools, weekly messages to Consortium members, newsletter, etc.
 - 2. Develop and implement coordinated marketing/communications campaigns that leverage IPAs and their networks to increase awareness of as well as engagement and participation in AEOPs (e.g. through webinars, social media strategies and tactics, etc.).

3. Support IPAs with communications plans that are tailored to their intended program outcomes while reflecting AEOP objectives and priorities.
 4. Management and maintenance of the AEOP public-facing website, ensuring program information, AEOP News and other website content are accurate and up-to-date.
 5. Responsible for communicating AEOP milestones and successes through the development and dissemination of AEOP press releases on a regular basis.
 6. Conduct of media relations and outreach, increasing visibility and awareness of AEOPs and identifying relevant media engagements for AEOP personnel.
 7. Establish and maintain a blog that allows AEOP stakeholders to voice their opinions and share their experiences.
 8. Planning, management and execution of AEOP's social media presence and strategy.
 9. Coordination, production and distribution of printed marketing materials (e.g. AEOP Year in Review, Abstract Books, Brochures, Posters, Rack Cards, Social Media Cards, Banners, etc.).
 10. Coordination, production and distribution of Exhibits, signage and display materials.
- B. Develop a plan for the overall AEOP strategic marketing and communications campaign in support of AEOP priorities and core objectives. The recipient will coordinate with the CAM prior to implementation.
1. Development, management and execution of annual strategic communications plan and vision (in coordination with the Army and IPAs that aligns with AEOP's objectives and priorities).
 2. Development, management and execution of an annual communications schedule/editorial calendar (in coordination with Army and IPAs; based on program year).
 3. Planning, management and execution of an integrated Social Media Strategy.
 4. Provide IPAs with brand and message guidance to ensure AEOP is described consistently and compellingly in external materials.
 5. Establishment of a communication infrastructure that is efficient and scalable to strengthen AEOP's engagement with target audiences across multiple platforms integrating the website, traditional and social media channels.
 6. These are minimum benchmarks for AEOP Marketing and Communications over the course of 10-year performance period based on current baseline. The recipient will align programming, planning and execution with anticipated projections. (The Army reserves the right to adjust projections during performance period):

Marketing/Communication	Year 1	Year 2	Year 3	Year 4	Year 5
Press Releases	24	24	48	48	48
Blog Posts (from AEOP Stakeholders)	24	24	48	48	48
Increase in Social Media Followership	100%	100%	100%	50%	50%
Increase in Social Media Engagement	24	24	48	48	48
Marketing/Communication	Year 6	Year 7	Year 8	Year 9	Year 10
Press Releases	48	48	48	48	48
Blog Posts (from AEOP Stakeholders)	48	48	48	48	48
Increase in Social Media Followership	25%	25%	20%	20%	20%
Increase in Social Media Engagement	60%	60%	60%	60%	60%
Metrics listed above are based on current reach and strategic use of AEOP communications tools such as (VOCUS), AEOP social media and Google Analytics to increase effectiveness.					

- C. Purchases and contracting: With CAM approval, the recipient will be responsible for the purchase and contracting of all services, items and collateral required to support the AEOP marketing and communications plan, inclusive of but not limited to:
1. Graphic Design Services
 2. Web Design Services
 3. Print/Press Production
 4. Promotional Materials/Informational Items
 5. Marketing Suite/Memberships
 6. Video Production Services
- D. Comprehensive, coordinated communication efforts: The recipient will be responsible for leading, synchronizing and facilitating communications efforts across the AEOP Consortium. The recipient will also be responsible for providing IPAs periodic updates on AEOP's strategic direction, providing marketing/communications guidelines and engaging IPAs in overarching AEOP marketing/communications campaigns.
- E. Develop a plan to actively engage IPAs in the development and execution of AEOP marketing/communications initiatives and campaigns.



3.3 Deliverables: The recipient will be responsible for tracking and reporting the reach and effectiveness of the AEOP marketing and communications plan, and will offer guidance and input regarding the adjustment of tactics and strategies to assure continued growth and relevance of the AEOP program. Measurement and reporting tactics will include, but are not be limited to:

- A. Develop the AEOP Communications Plan as part of the overall APP, accompanied by a road map that outlines the implementation of the communications plan.
- B. The execution of all social media and public relations activities must be quantified and capture reach and effectiveness:
 - 1. Traditional media Measurement through media circulation, reach, impressions, mentions and item for media analysis.
 - 2. Digital and Social Media through item, engagement, impressions, mentions and reach.
- C. Provision of quarterly progress reports on AEOP Communications Plan.
- D. Provision of monthly reports to the Army that include marketing/communications metrics and highlights that generated key stakeholder interest and engagement.
- E. Provision of annual metrics and data in preparation for AEOP annual reviews and assessments.

4. AEOP ALUMNI MANAGEMENT

4.1 Overview: Through the AEOP, the Army has for more than 50 years established a long tradition and strong commitment to the advancement of STEM education and literacy. Over time, the AEOP programs have generated a large pool of talented, highly-skilled AEOP alumni who have benefitted from participating in Army-sponsored STEM programs. AEOP's alumni management efforts will capitalize on the outcomes and successes of its programs, which can most effectively be accessed and shared through its alumni network. The best testimonial to the value of AEOP programs are previous and current program participants, their educational and professional pathways and the experiences they can share with the greater AEOP network. AEOP believes that previous and current program participants are best suited to serve as role models and ambassadors for the AEOP programs they participated in. Therefore, AEOP's alumni management efforts will provide AEOP and its network a way to access, connect, exchange, and share information that is relevant to current and future AEOP generations.

The AEOP is poised to conduct a follow up study (herein referred to as alumni study) with FY11- FY15 alumni to ascertain the current status, achievement, attitudes, and future aspirations of AEOP alumni, and assess the extent to which participants perceive their participation as contributing to these. This study would evaluate the extent to which AEOP is successful in achieving its longer term objectives through assessing mid- and long-term outcomes.

Further, the infrastructure developed for the FY14 annual evaluations and a post-FY15 alumni study could then be used (as resources are available) to support longitudinal tracking and study of these same AEOP alumni over the next 3-5 years (herein referred to as longitudinal study). The FY14 common measures and the FY15 merging of program application and evaluation potentially allow for longitudinal tracking and study of changes in students' outcomes (mostly short term, some mid-term) as they advance and are retained in the AEOP pipeline. Because such a small proportion of participants are (historically) retained in the AEOP pipeline, the infrastructure established for the alumni study could provide a new mechanism for tracking alumni and studying changes in outcomes over time after they leave AEOP pipeline or do not otherwise participate in AEOP annual evaluation studies.

4.2 Tasks: The recipient will develop a strategy and tactics that will establish and grow AEOP's alumni database, while leveraging the existing centralized application tool.

- A. Develop AEOP alumni network that allows AEOP stakeholders to:
 - 1. Engage in a mutually beneficial, life-long connection to each other, the AEOP and its individual programs.
 - 2. Support and advance AEOP's eminence for future generations and to stimulate continued interest in AEOP programs.
 - 3. Share how they benefitted from the hands-on STEM experiences, competitions.
- B. Regularly engage and collaborate with program IPAs to maximize reach to AEOP alumni.
- C. Regularly engage with prime recipient and/or sub recipient for AEOP program evaluations to support effort on AEOP mid to long-term study on program impact on past participants. Projected benchmarks for AEOP alumni management over the course of 10-year performance period (The Army reserves the right to adjust projections during performance period).

4.3 Deliverables:

- A. Annual Deliverables
 - 1. Alumni Management APP is part of the overall APP. The Consortium will submit one combined APP. (*September*)
 - a. Includes strategic implementation plan with timelines and processes.
 - b. Establish proposed work with target outcomes for the program year and 3-year outlook with initial year as baseline.
 - 2. Alumni Management APR is part of the overall APR. The Consortium will submit one combined APR. (*September/October*)
 - a. Provides a recap with a focus on outcomes from proposed work as part of the APP and in support of AEOP priorities and core objectives.
 - b. Provides program highlights to include number of participants and funding execution.



3. Annual Program Review Presentation. (*September*)
 - a. ICW CAM, establish a template for year-end program reviews.
 - b. Will brief outcomes on APR.
4. Coordination of marketing materials for lab coordinators through LO. (*January*)

B. Monthly Deliverables

1. Monthly Progress Reports – will provide CAM monthly report on proposed activities and budget execution to ensure progress is on track.

5. STRATEGIC OUTREACH INITIATIVES

5.1 Overview: AEOP aims to grow its strategic outreach initiatives in an effort to expand its reach of its programs, to increase program awareness and impact as well as participation from diverse populations. AEOP is looking to explore and adapt innovative ways to form mutually beneficial relationships with likeminded organizations that have similar STEM goals, specifically serving students from underserved and underserved populations and military dependents. In collaboration with STEM partners and by sharing information, leveraging strong STEM networks, and building on already existing relationships, AEOP intends to promote its portfolio of opportunities to better meet objectives, maximize impact, and provide more enriching STEM opportunities for students.

5.2 Tasks:

- A. Establish strategic partnerships with like-minded organizations.
 1. Collaborate with STEM partners and leverage strong STEM networks.
 2. Promote and integrate AEOP's portfolio of STEM opportunities within the framework of partners' existing STEM programming.
 3. Enhance the educational experiences of underrepresented and military-dependent K-12 students, their parents, and teachers.
- B. Encourage AEOP program participants to engage in scientific meetings/technical symposia to showcase their STEM achievements and receive recognition. Participation in scientific meetings/technical symposia will expand and enrich educational experiences of AEOP students by interacting and networking with STEM professionals in the field, exploring a variety of STEM disciplines and careers, gaining experience in communicating their research accomplishments, and serving as AEOP ambassadors.
 1. Partner with technical associations and organizations that are willing to support AEOP program participants and offer them a platform to present their research.
 2. Develop a fair and equitable process that identifies AEOP students who are invited to attend technical symposia to present their research accomplishments.



3. Ensure that AEOP students who benefit from this opportunity provide an executive summary of their experience.
 4. Highlight AEOP student presenters through internal and external communications efforts.
- C. Develop a strategy and tactics to engage and increase participation of military dependents in AEOP programs.
1. In collaboration with CAM, establish partnership with DODEA to specifically target DoD military-dependent students and their teachers, and to make them aware of AEOP opportunities and DoD STEM careers.
 2. Target Child, Youth and School services at military installations to promote AEOP programs and increase participation of military-dependent students in AEOP programs.
 3. Partner with military-focused organizations and associations to create awareness of and engage military families in AEOP opportunities.
- D. Develop a plan with established objectives and recommend measurable impacts in support of engaging and retaining interest of students from underserved and underrepresented populations.
- E. At least 80% of funding allocation should fund approved AEOP partnership efforts.

5.3 Deliverables:

A. Annual Deliverables

1. Strategic Outreach Initiatives APP is part of the overall AEOP APP. The Consortium will submit one compiled APP. (*September*)
 - a. Includes strategic implementation plan with timelines and processes
 - b. Establish proposed work with target outcomes for the program year and 3-year outlook with initial year as baseline.
2. Strategic Outreach Initiatives APR is part of the overall AEOP APR. The Consortium will submit one compiled APR. (*September/October*)
 - a. Provides a recap with a focus on outcomes from proposed work as part of the APP and in support of AEOP priorities and core objectives
 - b. Provides program highlights to include number of participants and funding execution.
3. Annual Program Review Presentation. (*September*)
 - a. ICW CAM, establish a template for year-end program reviews
 - b. Will brief outcomes on APR.
4. Coordination of marketing materials for lab coordinators through LO. (*January*)

B. Quarterly Deliverables

1. Quarterly Progress Reports – will provide CAM quarterly report on proposed activities and budget execution to ensure progress is on track.



Individual AEOP Program Management

APPRENTICESHIP PROGRAMS

6. AEOP Apprenticeship Management

6.1 Overview: AEOP provides high school and college students with hands-on STEM research opportunities in military and university laboratories across the United States and its Territories. Participating in AEOP apprenticeships offers students the unique opportunity to be mentored and trained by senior Army, or Army-sponsored researchers as well as university faculty researchers while conducting real-world research. The apprentice-mentor relationship provides an experience and professional training unparalleled to traditional classes/courses offered at most high schools and colleges. Student apprentices work on projects which they have mutually agreed upon with their research mentors and learn how their research can benefit the Army, the Defense Industrial Base as well as the civilian community. All students are placed at a laboratory within commuting distance of their residences and receive an educational stipend for their participation and in recognition of their research achievements. Through AEOP apprenticeship programs, students gain exposure to real-world science and engineering and valuable mentorship. Furthermore, they learn about education and career opportunities in a variety of different STEM fields to help make informed career decisions.

The AEOP apprenticeship programs for high schools students are comprised of the *Science and Engineering Apprentice Program (SEAP)*, *High School Apprenticeship Program (HSAP)* and *Research and Engineering Apprenticeship Program (REAP)*. The AEOP apprenticeship programs for college students are comprised of the *College Qualified Leaders (CQL)* program and the *Undergraduate Research Apprenticeship Program (URAP)*. Please find overviews of each program below:

- **SEAP:** Provides actively enrolled high school students educational experiences as full-time research apprentices in Army laboratories for eight weeks over the summer. Participating laboratories may require specific eligibility requirements. SEAP matches talented high school students (also referred to as apprentices) with practicing Army scientists and engineers (also referred to as mentors). While open to all students, SEAP gives GEMS alumni the opportunity to advance and compete for a one-on-one STEM mentorship experience embedded in an Army research and development environment. The students also attend seminars and demonstrations to learn more about the infrastructure of an Army research laboratory. At the end of the summer, the students prepare final reports and present their research at a final professional-format poster presentation. Some SEAP participating labs also offer CQL which allows SEAP apprentices to feed into CQL.



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- **HSAP:** Provides high school students an authentic science and engineering experience at university laboratories that conduct Army-funded research. HSAP enables students with an interest in STEM to compete for an apprenticeship alongside experienced university researchers full-time during the summer or part-time during the school year. Students prepare final summaries for submission to the HSAP program coordinator at the conclusion of the program. The primary objective of the HSAP is to expose students, who are unaffiliated with an Army laboratory, to Army-relevant science and engineering career fields. HSAP apprentices contribute to the Army's research, while learning new research methods and techniques, using advanced research equipment and becoming a part of an active research group. Some HSAP sites also offer URAP which allows HSAP apprentices to feed into URAP. Sites must reapply annually for sponsorship.
 - **REAP:** Provides talented high school students from historically underrepresented and underserved groups in STEM a five to eight week summer program at higher education institutions. REAP apprentices participate in hands-on research projects under the direct supervision of a university researcher. They participate in research activities a minimum of 200 hours and receive a stipend of \$1,500 for their participation. Applicants must be 16 years of age or above. Alumni of the Unite program are encouraged to apply.
 - **CQL:** Provides actively enrolled college students educational experiences as part- or full-time research apprentices in Army laboratories year-round. There is no deadline for applying and applications are accepted all year. The CQL program matches talented college students and recent graduates with practicing Army scientists and engineers (also referred to as mentors). While open to all students, CQL allows GEMS and SEAP alumni to advance, continue their relationship with previous mentors and compete for a one-on-one STEM mentorship experience embedded in an Army research and development environment. The CQL program allows college students to participate as an apprentice at Army laboratories throughout the summer, partial year, or year-round.
 - **URAP:** Provides undergraduate students authentic science and engineering experiences in Army-funded university research laboratories. URAP enables students with an interest in STEM to compete for an apprenticeship alongside experienced university researchers full-time during the summer or part-time during the school year. Students prepare final summaries for submission to the URAP program coordinator at the conclusion of the program. The primary objective of the URAP is to expose students, who are unaffiliated with an Army laboratory to Army-relevant science and engineering career fields. URAP apprentices contribute to the Army's research, while learning new research methods and techniques, using advanced research equipment and becoming a part of an active research group. Sites must reapply annually for sponsorship.



6.2 Tasks: The recipient will ensure adequate and qualified personnel support to ensure the seamless, timely and successful execution of AEOP apprenticeship programs. The recipient will oversee and manage the strategic planning and execution of the entire program cycle in alignment with AEOP's strategic direction and guidelines. The recipient will be responsible for the following overarching tasks for all AEOP apprenticeship programs as well as program specific tasks:

A. Overarching Tasks:

1. Coordinate with CAM to define scope and direction of each AEOP apprenticeship program based on annual program budget, Annual Program Report and CAM feedback on Annual Program Plan.
2. Develop and implement an annual strategic implementation plan based on annual program budget, Annual Program Report and CAM guidance/feedback on Annual Program Plan.
 - a. The implementation plan will include a timeline of critical program elements and processes to ensure the successful, timely and seamless execution of apprenticeship programs across the Army's S&T community and universities across the United States and Puerto Rico.
 - b. Consult and coordinate with the CAM for guidance and input to ensure alignment with AEOP objectives and priorities.
 - c. Coordinate with LPCs and regional directors to ensure alignment of AEOP apprenticeship programs with local program needs and requirements.
 - d. Provide quarterly updates on the implementation of the overall AEOP apprenticeship programs timeline to LPCs and CAMs to ensure critical tasks and processes are executed on schedule. Essential program elements include: Outreach and Recruitment; Marketing/communications; Administration of centralized online applications, Website Updates; Selection, in-processing and payment of program participants; Safety & Security, Fiscal Management, Program evaluation, and CMC Participation and Coordination.
3. Periodically update centralized application for all AEOP apprenticeship programs to track program participants and their background information. Ensure all program participants register/apply through centralized AEOP website/application.
4. Participate in the planning and execution of program evaluation for AEOP apprenticeship programs ICW the LO by facilitating data collection and encouraging program participants to complete pre-and post surveys and to participate in focus groups.

- a. Coordinate and facilitate with LPCs and regional directors on the planning and execution of AEOP's evaluations efforts for AEOP apprenticeship programs.
 - b. Inform LPCs and regional directors about the AEOP apprenticeship evaluation process, to include guidelines on data collection, survey completion results sharing across sites through LPCs and site visits for in-person focus groups with program participants.
 - c. Assist in the collection of data and provide leadership in evaluation training for LPCs; develop strategies and tactics to ensure program participants complete electronic/hard copy surveys and participate in in-person focus groups.
5. Based on FY14 program outcomes and FY15 program plan, below are projected benchmarks for AEOP apprenticeship programs over the next 10-years (The Army reserves the right to adjust projections during performance period):

Apprenticeships	Year 1	Year 2	Year 3	Year 4	Year 5
Students' awareness of DoD STEM careers	75%	77%	80%	83%	85%
Students' awareness of AEOP and DoD STEM opportunities	60%	63%	65%	67%	70%
Increased interest in pursuing a STEM career	50%	53%	56%	59%	62%
Increased interest in pursuing a DoD STEM career	40%	43%	46%	49%	52%
Mentors' awareness of AEOP and DoD opportunities	70%	73%	75%	77%	80%
Apprenticeships	Year 6	Year 7	Year 8	Year 9	Year 10
Students' awareness of DoD STEM careers	88%	91%	93%	95%	97%
Students' awareness of AEOP and DoD STEM opportunities	73%	75%	77%	80%	83%
Increased interest in pursuing a STEM career	67%	72%	77%	82%	87%
Increased interest in pursuing a DoD STEM career	57%	62%	67%	72%	77%
Mentors' awareness of AEOP and DoD opportunities	70%	73%	75%	77%	80%
Benchmarks listed above are calculated based on the number of survey participants that participated in annual program evaluations and meet the specific criteria. Data will be collected and entered into AEOP evaluation tool.					

6. Develop and implement outreach/recruitment campaigns that target diverse, highly qualified and skilled program participants in close proximity to AEOP apprenticeship sites. Develop strategies and tactics to conduct outreach to and stay connected with previous and future AEOP apprentice alumni.
7. Solicit abstracts from all AEOP apprenticeship students for inclusion in the annual AEOP Abstract Book.
8. Develop and implement marketing/communications campaigns aligned with overall AEOP strategy. Promote AEOP apprenticeship programs and other Army and DoD STEM opportunities and careers:
 - a. Ensure the AEOP website reflects accurate, up-to-date program information on all AEOP apprenticeship programs.
 - b. Coordinate with LPCs/regional site directors to ensure AEOP website reflects accurate, up-to-date program information.
 - c. Solicit new and recent content on AEOP apprenticeship programs from LPCs/regional directors.
 - d. Solicit program materials, photos, testimonials and success stories from LPCs/regional directors for the website and other communications/marketing purposes.

B. Apprenticeship Program-Specific Tasks:

1. SEAP/CQL

- a. Current program sites are listed on the AEOP website: www.usaeop.com (Programs > Apprenticeships). AEOP intends to expand SEAP/CQL sites to other Army laboratories and research centers during the 10-year period of performance.
- b. Based on FY14 outcomes and FY15 program plan, below are projected benchmarks for SEAP/CQL programs over the course of 10- year performance period (The Army reserves the right to adjust projections during performance period):

SEAP/CQL	Year 1	Year 2	Year 3	Year 4	Year 5
Student Participation	120 / 365	120 / 380	145 /405	155 / 435	180 / 465
Student Applicants	990 / 650	1,089 / 700	1,198 / 750	1,318 / 825	1,449 / 908
Students who are GEMS or SEAP alumni	40%	43%	45%	47%	50%
Underserved / Underrepresented	20%	21%	22%	23%	24%
# of Mentors	120 / 365	120 / 380	145 /405	155 / 435	180 / 465

SEAP/CQL	Year 6	Year 7	Year 8	Year 9	Year 10
Student Participation	200 / 500	220 / 535	230 / 570	240 / 610	250 / 650
Student Applicants	1,594 / 998	1,754 / 1,098	1,929 / 1,208	2,122 / 1,329	2,334 / 1,462
Students who are GEMS or SEAP alumni	53%	55%	57%	60%	63%
Underserved / Underrepresented	25%	26%	27%	28%	29%
# of Mentors	200 / 500	220 / 535	230 / 570	240 / 610	250 / 650
Benchmarks listed above will be obtained from centralized application tool.					

- c. Support LPCs throughout the selection, in-processing and stipend payment of SEAP and CQL program participants. Synchronize efforts with participating labs to ensure alignment with AEOP priorities and core objectives throughout the selection process.
 - i. The recipient is responsible for preparing notification packages, finalizing required formalities for program participation and scheduling stipend payments. The LPCs will validate stipend payments for participants.
 - ii. Keep accurate records of all participant selections and subsequent stipend funds.
 - iii. Issue educational stipends to SEAP and CQL students at each Army site within 21 days of receiving notification from LPCs that program requirements have been completed.
- d. Perform sound fiscal management and accounting of SEAP and CQL funds.
 - i. Develop and maintain a system that helps accurately monitor and track the stipend funds obligated to AEOP COA and stipends funds disbursed to apprentices by site.
 - ii. Schedule and issue stipend payments for all participants per approval from LPCs. Track and monitor stipend disbursements to SEAP and CQL students, categorized by Army laboratory.
 - iii. Provide monthly financial statements to the CAM of programs, ensuring transparent and consistent SEAP-CQL accounting and stipend processing.
 - iv. Establish methods and processes to securely collect personal information (that do not require social security numbers) of program participants.
 - v. Ensure institutional capability to process all SEAP and CQL stipend payments within five business days of stipend list approval (current volume - approximately 2,250 checks annually, cumulatively estimated at \$4,000,000).

- e. Provide a letter detailing insurance coverage to parents/guardians of minor participants and collect and confirm agreement as a condition of participation. Collect security information needed in advance of program start dates in coordination with LPCs.
- f. Coordinate with LPCs to ensure Army's and site-specific safety and security requirements are met for SEAP-CQL.

2. REAP

- a. Current program sites are listed on the AEOP website at www.usaeop.com (Programs > Apprenticeships). AEOP intends to strengthen the connection between REAP and Unite sites during the 10-year period of performance.
- b. Based on FY14 outcomes and FY15 program plan, below are projected benchmarks for REAP programs over the course of 10-year performance period (The Army reserves the right to adjust projections during performance period):

REAP	Year 1	Year 2	Year 3	Year 4	Year 5
Student Participation	132	140	146	160	174
Student Applicants	425	450	475	500	550
Underserved / Underrepresented	77%	80%	83%	85%	87%
# of Mentors	66	70	73	80	87
REAP	Year 6	Year 7	Year 8	Year 9	Year 10
Student Participation	190	206	220	240	260
Student Applicants	600	650	700	800	900
Underserved / Underrepresented	90%	93%	95%	97%	100%
# of Mentors	95	103	110	120	130
Benchmarks listed above will be obtained from centralized application tool.					



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- c. Conduct an RFP for the selection of REAP host institutions and include HBCU/MI institutions who have existing partnerships with the Army in call for proposals. At minimum, the proposals should describe the research experience to be provided to the student, the PI for the project and their research background, and designated mentor and their research credentials. In coordination with the CAM, a set of standard selection criteria will be established by which all REAP host university proposals will be evaluated.
 - i. Develop RFP requirements in alignment with AEOP priorities and objectives in preparation for the RFP announcement.
 - ii. Review proposals for technical requirements and program costs to determine which universities will provide the best quality REAP experience for students.
 - iii. Present a list of recommended sites to CAMs based on proposals received, for review and approval prior to award/placement.
 - iv. Establish a review panel in coordination with the CAM.
 - d. Distribute REAP funding to host institutions to cover costs associated with (i) the recipient to conduct and administer the program, including periodic RFP for REAP site/mentor selection; (ii) participating college/university mentors (qualified faculty researcher) to provide students guidance and instruction; and (iii) financial assistance in the form of an education stipend to the selected students during the summer months. Host institutions are responsible for providing the administrative management, facilities, support effort and mentors for the selected students conducting research at their institutions.
 - e. Coordinate with selected REAP host universities to award funds and select start/end dates. Consideration should be given to all institutions who submit proposals that are determined to be acceptable IAW published criteria. Evaluate REAP host university applications and select those that can provide the best opportunity to ensure program goals are an inherent part of the recipient's responsibility. Funding negotiations will be handled by the recipient. However, CAM must approve final selection of REAP host universities and students prior to award/placement.
 - f. Maintain and expand existing database of academic and research institutions capable of being REAP host universities. Since students from throughout the country will be applying, database will constantly grow and will require periodic updates to ensure the top student applicants can be placed in a lab, with minimal constraints due to location.
 - g. Screen initial students based on a set of evaluation criteria. Encourage colleges/universities to select students that do not have any prior affiliation with the PI, mentor or laboratory.
 - h. Coordinate with selected REAP sites to ensure program is conducted
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in alignment with AEOP priorities and objectives:

- i. Submission of annual program budget.
- ii. Plan and implement distribution of educational stipend awards to competitively selected REAP students. (The current educational stipend provided to REAP students is \$1,500).
- iii. Implement marketing and outreach strategies and tactics.
- iv. Plan and processes for recruitment and enrollment of program participants.
- v. Student projects, development and anticipated outcomes.
- vi. Plan and processes for selection of REAP mentors.
- vii. Facilitate data collection process in support of AEOP's evaluations.
- i. Coordinate with the CAM and REAP sites to integrate Army resources, in particular Army scientists and engineers, into the programming of REAP experiences to increase awareness of DoD STEM and career opportunities.

3. HSAP/URAP

- a. Assist the HSAP/URAP program coordinator in conducting outreach to prospective HSAP/URAP sites and in conducting RFP for host site selection. Current sites are listed on AEOP site: www.usaeop.com (Programs > Apprenticeships).
- b. Assist the HSAP/URAP program coordinator in tracking funds provided to host sites and apprentices. Funding of HSAP/URAP sites to include apprentice stipends will be executed by the program coordinator external to AEOP cooperative agreement award via qualifying Army Research Laboratory (ARL)/Army Research Office (ARO) research grants. The current educational stipend award provided to an HSAP or URAP apprentice is up to \$3,000 for a maximum of 300 hours of research activity.
- c. Assist HSAP/URAP program coordinator in the administration of AEOP program evaluations, coordination of PI apprentice selection, and marketing of apprentice opportunities, and communications.
- d. Based on FY14 outcomes and FY15 program plan, below are projected benchmarks for HSAP/URAP programs over the course of 10-year performance period. ICW with program coordinator, recipient will align programming, planning and execution of HSAP/URAP with anticipated projections (The Army reserves the right to adjust projections during the performance period):

HSAP/URAP	Year 1	Year 2	Year 3	Year 4	Year 5
Student Participation	50 / 60	55 / 65	60 / 70	65 / 75	70 / 80
Student Applicants	120 / 288	130 / 312	140 / 336	150 / 360	175 / 384
Underserved / Underrepresented	20%	21%	22%	23%	24%
HSAP/URAP	Year 6	Year 7	Year 8	Year 9	Year 10
Student Participation	75 / 85	75 / 90	75 / 95	80 / 100	80 / 105
Student Applicants	200 / 408	250 / 432	300 / 456	350 / 480	400 / 504
Underserved / Underrepresented	26%	28%	30%	32%	34%
Benchmarks listed above will be obtained from centralized application tool.					

6.3 Deliverables

A. Annual Deliverables

1. Annual strategic implementation plan for AEOP apprenticeship programs that includes timelines and processes for the seamless execution. *(October)*
2. APP for AEOP Apprenticeship Programs as part of the overall AEOP APP. *(September)*
 - a. Establish proposed work with target outcomes for the program year and 3-year outlook with initial year as baseline.
3. APR for AEOP Apprenticeship Programs as part of the overall AEOP APR. *(September/October)*
 - a. Provides a recap with a focus on outcomes from proposed work as part of the APP and in support of AEOP priorities and core objectives.
 - b. Provides program highlights to include number of participants and funding execution.
4. Annual Program Review Presentation. *(September)*
 - a. ICW CAM, establish a template for year-end program reviews.
 - b. Will brief outcomes on APR.
5. Consolidation and submission of AEOP apprentice abstracts for inclusion in the AEOP Abstract Book. *(August/September)*
6. Establishment/revision of centralized application shells. *(October/November)*
7. Coordination of marketing materials for lab coordinators through prime recipient. *(January)*



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- B. Quarterly Progress Reports - will provide CAM quarterly report on proposed activities and budget execution for all apprenticeship programs to ensure progress is on track.
 - C. Monthly Financial Statements:
 - 1. SEAP/CQL stipend disbursements and funds received/invoiced sorted by participating sites.
 - D. Additional Deliverables
 - 1. Payment of SEAP/CQL stipends to program participants.
 - 2. Submission of AEOP apprenticeship content in support AEOP's communications strategy.
 - 3. Regular AEOP apprenticeship website updates.
 - 4. REAP RFP Announcement.
 - 5. Package of recommended REAP sites.

STEM ENRICHMENT ACTIVITIES

7. GAINS IN THE EDUCATION OF MATHEMATICS AND SCIENCE (GEMS)

7.1 Overview: The Gains in the Education of Mathematics and Science (GEMS) program provides students and teachers a unique learning experience at Army research laboratories or affiliated sites. The GEMS program is a one-week, summer STEM enrichment program that is designed to nurture interest and excitement in STEM for elementary, middle and high school students, while providing an entry point into the pipeline of AEOP opportunities. The GEMS program enables program participants to experience the real world application of STEM concepts and to increase their knowledge and skills in targeted STEM areas. The program allows students to interact with Army scientists and engineers (S&E)s, high school and college-aged Near-Peer Mentors (NPM)s and/or Resource Teachers (RT)s. Army S&Es, NPMs and RTs facilitate educational hands-on STEM activities, expose students to Army research and STEM careers, and provide adaptive mentorship to students.

Aiming to diversify the nation's STEM talent pool, AEOP through GEMS, emphasizes targeted outreach to diverse group of students especially those from underserved populations (AEOP definition of underserved – see page 27), to offer early engagement in STEM activities by introducing students to STEM competencies, application, and a continuation of experiences based on their interests and capabilities. The program is based on a multi-disciplinary, inquiry-based curriculum with age- and grade-appropriate hands-on activities that reinforce the real-world application of STEM disciplines. Each GEMS site customizes its curricula to reflect the laboratory's mission and research areas as well as meeting AEOP priorities while leveraging its existing subject matter expertise and resources. The program provides students the opportunity to progress through various levels of program rigor in multiple GEMS session offerings at participating Army laboratories.



Camp Invention and the successive GEMS program efforts will serve to collectively develop students STEM capabilities from underserved and underrepresented communities and support competitive development so students are prepared for more competitive STEM programs and experiences as they progress in their education. It is the intention that these programs work together not as a one-time, hands-on experience but as a programmatic effort to support longer term student educational growth and student development. Successive participation in Camp Invention and GEMS will ideally lead to more underrepresented student participation and success in competitive program efforts like eCYBERMISSION, SEAP, Near Peer Mentorship opportunities, JSHS and eventually in other DoD and Federally sponsored competitive scholarship and fellowship opportunities.

7.2 Tasks: The recipient will ensure adequate and qualified personnel support for seamless, timely and successful execution of GEMS and Camp Invention Initiative. AEOP's GEMS programs are executed at participating Army laboratories or other designated locations. See www.usaeop.com (Programs > STEM Enrichment Activities) for current GEMS and Camp Invention sites. The recipient will oversee and manage the strategic planning and execution of the entire GEMS program cycle in alignment with AEOP's strategic direction and guidelines.

AEOP intends to expand GEMS to other Army laboratories and research centers during the 10-year period of performance.

- A. Develop and implement an annual strategic implementation plan based on annual program budget, Annual Program Report and CAM guidance/feedback on Annual Program Plan.
 - 1. The implementation plan will include a timeline of critical program elements and processes to ensure the successful, timely and seamless execution of GEMS programs across the Army's S&T community.
 - 2. Consult and coordinate with LO, CAM, and CLCs for guidance and input to ensure the GEMS implementation plan is aligned with AEOP objectives and priorities.
 - 3. Provide quarterly updates on the implementation of the overall GEMS timeline to LPCs, CLCs, LO and CAM to ensure critical tasks and processes are executed on schedule. Essential program elements include Outreach and Recruitment; Marketing/communications; Management of centralized online applications; Website Updates; Selection, in-processing and payment of program participants; Safety & Security; Fiscal Management; Program evaluation; CMC Participation and Coordination.
- B. Conduct periodic updates to centralized online application for GEMS programs ICW CAM, LO and respective local program coordinators (LPCs). Ensure all program participants register/apply through the centralized AEOP website/application.
 - 1. Projected GEMS participant benchmarks for the 10-year period of performance (The Army reserves the right to adjust projections during performance period):

GEMS	Year 1	Year 2	Year 3	Year 4	Year 5
Student Participants	2,600	2,750	3,000	3,200	3,400
# of Applicants	3,750	3,850	4,000	4,250	4,500
% of Underserved Under-represented	65%	67%	69%	71%	73%
# of Sites	12	12	14	14	16
Camp Invention Alumni	20%	22%	24%	26%	28%
Participants' awareness of other AEOP opportunities	60%	63%	65%	67%	70%
Participants' awareness of Army and DoD STEM Careers	75%	78%	80%	83%	86%
Participants' increased interest in future STEM activities	40%	43%	46%	49%	52%
GEMS	Year 6	Year 7	Year 8	Year 9	Year 10
Student Participants	3,600	3,800	4,000	4,250	4,500
# of Applicants	5,000	5,500	6,000	6,500	7,000
% of Underserved Under-represented	75%	77%	78%	79%	80%
# of Sites	16	18	18	20	20
Camp Invention Alumni	30%	35%	40%	45%	50%
Participants' awareness of other AEOP opportunities	89%	91%	93%	97%	100%
Participants' awareness of Army and DoD STEM Careers	89%	92%	95%	98%	100%
Participants' increased interest in future STEM activities	55%	58%	61%	64%	67%
Benchmarks listed above are calculated based on the number of survey participants that participated in annual program evaluations and meet the specific criteria in addition to the AEOP centralized application tool.					

- C. Support LPCs throughout the selection, in-processing and payment of program participants. Coordinate with LPCs to ensure program execution is aligned with AEOP Priorities and core objectives throughout the selection process.
1. When LPCs submit their selected program candidates (with associated stipend rates), the Recipient is responsible for preparing notification packages, finalizing required formalities for program participation and scheduling stipend payments.
 2. Keep accurate records of all participant selections and subsequent stipend funds.



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3. Issue educational stipends to GEMS participants (students, Resource Teachers and Near-Peer Mentors) at each Army sponsored site at the end of each program session. The recipient will coordinate with LPCs in ensuring timely distribution of educational stipends to participants.
- D. Participate in planning and execution of AEOP's evaluations efforts, led by the LO, in coordination with LPCs and CLCs.
1. Coordinate with LPCs on AEOP evaluations effort for GEMS to ensure they are informed on AEOP evaluations strategic implementation. Additionally, LPCs should be informed on guidelines for data collection, survey completion results sharing across sites through LPCs and site visits for in-person focus groups with program participants.
 2. Assist in the collection of data and provide leadership in evaluation training for LPCs. Ensure program participants complete electronic/hard copy surveys and participate in in-person focus groups.
 3. Develop a plan to capture 'lessons learned' from GEMS Resource Teachers and Near-Peer Mentors to promote best practices across participating labs.
- E. Perform sound fiscal management and accounting of GEMS funds.
1. Develop and implement an execution plan for distributing educational stipends to all program participants as validated by LPCs at participating Labs. Track and monitor stipend disbursements to GEMS program participants, categorized by Army laboratory/organization.
 2. Provide current financial statements of programs, ensuring transparent and consistent GEMS accounting and stipend processing.
 3. Establish methods and processes to securely collect personal information (that do not require social security numbers) of program participants.
- F. Develop and implement outreach campaigns that target a diverse pool of potential program participants, to include underserved and underrepresented populations as well as groups with limited opportunities in STEM education, in close proximity to Army GEMS sites.
1. ICW LPCs and CAM, develop strategies and tactics to conduct outreach to schools nearby participating host laboratories.
 2. Develop a strategy to stay connected with previous and future GEMS alumni.
- G. Coordinate execution of AEOP established Camp Invention initiative (K-6) with the Army LPC and CAM.
1. Camp Invention (CI) is designed to attract participating students into GEMS programs that are located nearby. In collaboration with the CAM, identify CI programs that are located close to Army GEMS sites for program implementation. Current program sites are listed below (AEOP intends to expand Camp Invention sites to other Army laboratories and research centers during the 10-year period of performance).
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2. Projected participant benchmarks for CI initiative for the 10-year period of performance (The Army reserves the right to adjust projections during performance period):

Camp Invention	Year 1	Year 2	Year 3	Year 4	Year 5
Student Participants	1,050	1,100	1,150	1,200	1,250
% of Underserved Under-represented	70%	72%	74%	76%	78%
# of CI Sites	15	15	17	17	19
# of CI applicants to GEMS	20%	22%	24%	26%	28%
Participants' increased interest in future STEM activities	40%	43%	46%	49%	52%
Participants' awareness of other AEOP opportunities	50%	53%	55%	57%	60%
	Year 6	Year 7	Year 8	Year 9	Year 10
Student Participants	1,300	1,375	1,450	1,525	1,600
% of Underserved Under-represented	82%	84%	86%	90%	94%
# of Sites	19	21	21	25	25
# of CI applicants to GEMS	30%	35%	40%	45%	50%
Participants' increased interest in future STEM activities	55%	58%	61%	64%	67%
Participants' awareness of other AEOP opportunities	63%	65%	67%	70%	73%
Benchmarks listed above are calculated based on the number of survey participants that participated in annual program evaluations and meet the specific criteria. Data will be collected and entered into the AEOP evaluation tool.					

3. AEOP CI initiative allows AEOP to provide scholarships to students from underserved populations to participate in a summer STEM enrichment experience which features collaborative learning opportunities led and administered by local teachers. CI features fun, hands-on activities using problem-based learning.
4. In coordination with CI Army POC and CAM, the recipient will provide sub-awards (student scholarships) to designated CI sites for selected/recommended students.
5. The recipient will work with the Army POC and CAM to ensure AEOP's program expectations are met.



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- H. Implement marketing/communications campaigns for GEMS aligned with overall AEOP strategy in support of core objectives.
 - 1. Promote GEMS, other AEOP programs, DoD STEM and career opportunities to prospective and current participants.
 - 2. Solicit traditional and social media content from LPCs and CLCs and submit for inclusion and integration into overall AEOP communications efforts.
 - 3. Coordinate with AEOP Communications Manager in ordering AEOP marketing materials.
 - I. Coordinate with LPCs to ensure centralized AEOP website reflects accurate, up-to-date program information; solicit new and recent content on GEMS programs from LPCs; solicit program materials, photos, testimonials and success stories from LPCs for the website and other communications/marketing purposes.
 - J. Coordinate with LPCs to ensure Army's and site-specific safety, security, and liability insurance requirements are met for GEMS.

7.3 Deliverables

- A. Annual Deliverables
 - 1. Annual strategic implementation plan that includes timelines and processes for the seamless execution of the GEMS program. (*October*)
 - 2. GEMS Annual Program Plan is part of the overall APP. The Consortium will submit a compiled AEOP APP. (*September*)
 - 3. GEMS Annual Program Report is part of the overall AEOP APR. The Consortium will submit a compiled annual program report. (*September/October*)
 - 4. GEMS Annual Program Review Presentation. The Consortium will develop brief compiled presentation at the end of each program cycle. (*September*)
 - 5. Establishment/revision of centralized application shells. (*October/November*)
 - 6. Coordination of marketing materials for lab coordinators. (*January*)
- B. Monthly Deliverables
 - 1. Monthly Progress Reports. (against the strategic implementation plan)
 - 2. Monthly Financial Statements of GEMS stipend disbursements.
- C. Additional Deliverables
 - 1. Payment of GEMS stipends to program participants.
 - 2. Submission of GEMS content in support AEOP's communications strategy.
 - 3. Regular GEMS website updates.



8. UNITE

8.1 Program Overview: Unite is a four-to six-week pre-collegiate summer program, hosted at high education institutions, for talented high school students from groups historically underserved and underrepresented. The main objective of the Unite program is to encourage high school students to prepare for a STEM major in college and to ultimately pursue a career in STEM through hands-on experiences, rigorous academics, enrichment and career exploration. Unite courses are comparable to the academic experience of a first-year college or university student. In an effort to provide program participants a two-year internship experience, Unite sites are selected through a competitive bi-annual process. Similarly, Unite sites select students to participate in summer enrichment courses as rising 10th graders and to return to the same campus as rising 11th graders the following year.

Funding for Unite covers costs associated with (i) the recipient or IPA to conduct and administer the program, including periodic RFP for Unite site/mentor selection; (ii) participating college/university staff (qualified faculty researcher) to provide students STEM enhancement courses; and (iii) an educational stipend to the selected students during the summer months.

Students apply through the AEOP website and applications are initially screened by the IPA based on a set of evaluation criteria published on the website. Participating colleges/universities are strongly encouraged to select students that do not have any prior affiliation to university/college personnel. Unite is designed to provide opportunities for students that otherwise might not have a chance to conduct research work at college/university laboratory settings.

The two-year program experience is contingent on the approval of Unite's annual program budget. Currently, there are ten Unite sites serving more than 100 students in 7 States. For current listing of Unite sites, please visit AEOP website at www.usaeop.com (Programs > STEM Enrichment Activities). Many sites supplement the AEOP funds they receive with additional funds from their university or other organizations to offset costs. Army funds are distributed to each of the universities hosting a Unite site through the recipient.

8.2 Tasks: The Recipient will oversee and manage the strategic planning and execution of the entire Unite program cycle in alignment with AEOP's strategic direction and guidelines. In coordination with the CAM and LO, the Recipient will perform the following tasks:

- A. Coordinate with the CAM and LO to define program scope and direction based on annual program budget, Annual Program Report and CAM feedback on Annual Program Plan. AEOP intends to expand Unite beyond its current sites.

- B. Establish and update centralized application for Unite ICW the LO to track program participants and their background information. AEOP intends to strengthen the connection between Unite and REAP sites during the 10-year period of performance.
- a. Based on FY14 and FY15 programming, below are projected participant benchmarks for Unite for the 10-year period of performance (The Army reserves the right to adjust projections during performance period):

Unite	Year 1	Year 2	Year 3	Year 4	Year 5
Student Participants	300	320	340	340	340
# of Applicants	475	500	525	550	600
% of Underserved Under-represented	85%	85%	87%%	87%	90%
# of Sites	10	10	11	11	12
Participants' awareness of other AEOP opportunities	60%	63%	65%	67%	70%
Participants' awareness of Army and DoD STEM Careers	75%	77%	80%	83%	85%
Participants' increased interest in future STEM activities	40%	43%	45%	47%	50%
Unite	Year 6	Year 7	Year 8	Year 9	Year 10
Student Participants	360	360	400	400	400
# of Applicants	650	700	800	900	1,000
% of Underserved Under-represented	90%	92%	92%	95%	95%
# of Sites	13	15	17	19	21
Participants' awareness of other AEOP opportunities	73%	75%	77%	80%	83%
Participants' awareness of Army and DoD STEM Careers	88%	91%	93%	95%	97%
Participants' increased interest in future STEM activities	53%	55%	57%	60%	63%
Benchmarks listed above are calculated based on the number of survey participants that participated in annual program evaluations and meet the specific criteria, in addition to data derived from centralized application tool.					



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- C. Participate in the planning and execution of program evaluation for Unite ICW the AEOP COA lead organization by facilitating data collection and encouraging program participants to complete pre-and post- surveys and to participate in focus groups.
 - D. Ensure website is updated with accurate, timely Unite information. Adhere to AEOP marketing and branding guidelines and synchronize Unite communications efforts with AEOP communications efforts ICW AEOP COA lead organization. Keep a repository of Unite alumni and success stories to help communicate the value and impact of Unite. Develop, advertise and distribute Unite program materials.
 - E. Conduct a competitive bi-annual RFP process to select higher education institutions that will provide high school students academic summer courses in preparation for STEM majors and future STEM careers for two consecutive summers. Recipient will distribute the RFP to host universities to include HBCU/MI institutions with existing Army partnerships. In coordination with the CAM, a set of standard selection criteria will be established by which all Unite host university proposals will be evaluated.
 - F. Coordinate with the selected Unite sites to ensure compliance with program requirements and the proposals they submitted. The Recipient must coordinate any changes to the Unite program through the CAM. To ensure the program is conducted in alignment with AEOP priorities and objectives, the Recipient will coordinate with Unite sites and provide guidelines on essential program components that include:
 - 1. Submission of annual program budget.
 - 2. Development and implementation of marketing and outreach strategies and tactics.
 - 3. Plan and processes for recruitment and enrollment of program participants.
 - 4. Establishment of curriculum structure, academic setting and instructional strategies.
 - 5. Plan and processes for selection of Unite mentors.
 - 6. Facilitate data collection process in support of AEOP's evaluations efforts.
 - G. Coordinate with CAM and Unite sites to integrate Army resources, in particular Army scientists and engineers, into the programming of Unite courses to increase awareness of STEM opportunities across the Defense Industrial Base.
 - H. Conduct annual site visits to Unite locations to observe and review course content, to provide feedback on programming and to consolidate/share best practices and lessons learned across Unite sites.

8.3 Deliverables

- A. Annual Deliverables
 - 1. Annual Program Plan. (*September*)
 - 2. Annual Program Report. (*September/October*)
 - 3. Annual Program Review Presentation. (*September*)



4. Unite RFP Announcement.
5. Package of recommended Unite sites.
6. Consolidation and submission of Unite student abstracts for inclusion in the AEOP Abstract Book. (*August/September*)
7. Establishment/revision of centralized application shells. (*October/November*)

B. Additional Deliverables

1. Payment of Unite stipend to program participants.
2. Submission of Unite content in support AEOP's communications strategy.
3. Regular Unite website updates.

9. RESEARCH EXPERIENCE FOR STEM EDUCATORS AND TEACHERS (RESET)

9.1 Program Overview: AEOP's RESET is designed to provide teachers and educators from 'high need' areas a summer research experience at participating Army Laboratory in collaboration with institutions of higher education, preferably HBCUs and/or MIs. Additionally, RESET will extend opportunities to DODEA school educators and teachers. The goal of RESET is to reinforce teachers' content knowledge through research experience and interactions with Army and DoD scientists and engineers. The Army envisions AEOP's RESET to establish a collaborative relationship with the Department of Education. This opportunity will provide teachers access to cutting-edge technologies and research principles/techniques applied at Army research and development laboratories. This experience is designed to help educators and teachers enhance STEM curricula and content through additional knowledge and experience gained in emerging and trans-disciplinary areas, e.g. cybersecurity, nanotechnology, robotics, etc. This program exposes educators and teachers to strategies and tactics to integrate inquiry-based, hands-/minds-on STEM experiences into their lesson plans.

9.2. Tasks: The Recipient will oversee and manage the strategic planning and execution of the entire RESET program cycle in alignment with AEOP's strategic direction and guidelines. In coordination with the CAM and LO, the Recipient will perform the following tasks:

- A. Coordinate with the CAM and LO to define program scope and direction based on annual program budget, Annual Program Report and CAM feedback on Annual Program Plan.
- B. Establish and update centralized application for RESET ICW the LO to track program participants and their background information. Ensure all program participants register/apply through centralized AEOP website/application.
- C. Participate in the planning and execution of program evaluation for RESET ICW the AEOP COA LO by facilitating data collection and encouraging program participants to complete pre-and post- surveys and to participate in focus groups.



- D. Ensure website is updated with accurate, timely information on RESET. Adhere to AEOP marketing and branding guidelines and synchronize RESET communications efforts with AEOP communications efforts ICW AEOP COA lead organization. Keep a repository of RESET alumni and success stories to help communicate the value and impact of RESET. Develop, advertise and distribute RESET program materials.
- E. In coordination with the CAM, the recipient will establish formal partnerships with institution of higher education with emphasis HBCU/MI as prospective RESET partners.
- F. Coordinate with the CAM to identify Army research laboratories, who are interested in hosting and mentoring educators and teachers at their labs or research facilities.
- G. Develop a schedule/agenda for the RESET program that includes inquiry-based, hands-/minds-on experiences that teachers can incorporate into their lessons to:
 - 1. Align RESET schedule/agenda with AEOP priorities and core objectives.
 - 2. Incorporate STEM state standards into programming.
 - 3. Demonstrate the connection between STEM curricula and their real-world application for available STEM careers across the Defense Industrial Base.
- H. RESET stipend rates will be the same rates as stipends set for GEMS Resource Teachers. Issue participating teachers and educators stipends within 21 days of notification. The Government will determine and approve any changes to participant stipends.

9.3 Deliverables

A. Annual Deliverables

- 1. RESET APP is part of the overall AEOP APP. The Consortium will submit one compiled APP. *(September)*
- 2. RESET APR is part of the overall AEOP APR. The Consortium will submit one compiled APR. *(September/October)*
- 3. Annual Program Review Presentation. *(September)*
- 4. Strategic Implementation Plan of RESET Initiative. *(October/November)*
- 5. Consolidation and submission of RESET teachers abstracts for inclusion in the AEOP Abstract Book. *(August/September)*
- 6. Establishment/revision of centralized application shells. *(October/November)*

B. Additional Deliverables

- 1. Payment of RESET stipends to participating teachers.
- 2. Submission of RESET content in support AEOP's communications strategy.
- 3. Regular RESET website updates

COMPETITIONS

10. JUNIOR SOLAR SPRINT (JSS) [Grades 5 – 8]

10.1 Overview: Junior Solar Sprint (JSS) is a solar car competition for students in grades five through eight, where teams design, build, and race solar electric vehicles. JSS is designed to support the instruction of STEM in categories such as alternative fuels, engineering design, and aerodynamics. Through JSS, students develop teamwork and problem-solving abilities, investigate environmental issues, gain hands-on engineering skills, and use principles of science and math to create the fastest, most interesting, and best crafted vehicle possible. This interdisciplinary science and engineering program develops students' technical knowledge and skills while building enthusiasm for STEM at an age when children are both impressionable and inspired by creative exploration.

AEOP has supported JSS since 2001 by sparking students' interest in STEM through hands-on, problem solving challenges. In 2014, regional JSS competitions were held at Army laboratories with winners advancing to a national competition.

10.2 Tasks: The sub recipient will oversee and manage the strategic planning and execution of the entire JSS program cycle in alignment with AEOP's strategic direction and guidelines. In coordination with the CAM and LO, the sub recipient will perform the following tasks:

- A. Coordinate with CAMs and LO to define program scope and direction based on annual program budget, Annual Program Report and CAM feedback on Annual Program Plan. Current program sites are listed on www.usaeop.com (Program > Competitions). AEOP intends to expand JSS to other Army laboratories and research centers during the 10-year period of performance.
- B. Transition and update centralized application for JSS ICW the LO to track program participants and their background information. Ensure all program participants register/apply through centralized AEOP website/application.
 1. JSS benchmarks during the 10-year period of performance are as follows (the Army reserves the right to make adjustments to benchmarks at any time during the period of performance):

JSS	Year 1	Year 2	Year 3	Year 4	Year 5
Student Participation	1,014	1,100	1,190	1,245	1,295
Teacher Participation	338	366	396	415	431
% of participating students from Title 1 Schools	20%	23%	26%	29%	32%
% of participating students from underserved populations	50%	53%	56%	59%	62%

Participants' awareness of DoD STEM careers	60%	65%	70%	75%	80%
Participants' awareness of AEOP and DoD STEM opportunities	60%	63%	65%	67%	70%
JSS	Year 6	Year 7	Year 8	Year 9	Year 10
Student Participation	1,350	1,400	1,450	1,500	1,550
Teacher Participation	450	466	483	500	516
% of participating students from Title 1 Schools	35%	37%	24%	26%	28%
% of participating students from underserved populations	65%	70%	75%	80%	85%
Participants' awareness of DoD STEM careers	75%	80%	85%	90%	95%
Participants' awareness of AEOP and DoD STEM opportunities	73%	75%	80%	83%	85%
Benchmarks listed above are calculated based on the number of survey participants that participated in annual program evaluations and meet the specific criteria, in addition to data collected from the centralized application tool.					

- C. Participate in the planning and execution of program evaluation for JSS ICW the AEOP COA lead organization by facilitating data collection and encouraging program participants to complete pre-and post surveys and to participate in focus groups.
- D. Ensure website is updated with accurate, timely information on JSS. Adhere to AEOP marketing and branding guidelines and synchronize JSS communications efforts with AEOP communications efforts ICW AEOP COA lead organization. Keep a repository of JSS alumni and success stories to help communicate the value and impact of JSS. Develop, advertise and distribute JSS program materials.
- E. Support student-inspired, inquiry-based experiments to investigate design and construction of photovoltaic-powered vehicles.
- F. Coordinate with the CAM in identifying prospective Army sites interested in hosting or co-hosting a regional JSS competition or supporting regional JSS competitions hosted by recipient organizations/chapters. Participating Army sites will be issued a limited number of solar panels to be provided to participating students.



- G. Develop a plan to provide educators with the information and training to nurture students in deepening their understanding about solar energy, math, physical science, and craftsmanship. Modules may be provided/delivered virtually through the website or webinars.
- H. Develop and implement plan and strategy for a national JSS competition.
- I. Develop and implement strategy to ensure that participants (students, teachers, and parents) are informed of other AEOP opportunities as well as Army and DoD STEM careers.
- J. Collaborate with other AEOP program administrators and where feasible leverage networks to maximize impact.
- K. Collaborate with Lead Organization on program evaluation efforts including preparation of annual program plan and annual program report.

10.3 Deliverables

A. Annual Deliverables

1. JSS APP is part of the overall AEOP APP. The Consortium will submit a compiled APP. *(September)*
2. JSS APR is part of the overall AEOP APR. The Consortium will submit one compiled APR. *(September/October)*
3. Annual Program Review Presentation. *(September)*
4. Establishment/revision of centralized application shells. *(October/November)*

B. Additional Deliverables

1. National JSS guidelines.
2. Submission of JSS content in support AEOP's communications strategy.
3. Regular JSS website updates.

11. eCYBERMISSION (eCM) [Grades 6 – 9]

11.1 Overview: eCM provides virtual learning experiences to students in grades six through nine across the United States, its Territories, and Department of Defense Educational Activity (DODEA) school sites. The goal of eCM is to engage students early in STEM and encourage them to take on a more rigorous STEM coursework in their secondary years as well as consider STEM as the focus of their post-secondary education/career. eCM students and teachers are provided an opportunity to engage with the Army's scientists and engineers as they work through their project. eCM was built upon the framework of collaborative online learning of real- life applications of STEM. Participants investigate local community problems through scientific inquiry and propose solutions through implementation of the best scientific principles or the engineering design process.



Since 2002, AEOP's eCM has registered more than 150,000 student participants, and have provided more than \$10 million dollars in awards to winning eCM projects in the form of US Series EE Savings Bonds (matured value) for use towards enhancing their educational opportunities.

11.2 Tasks: The sub recipient will develop a plan to address the following tasks in completing program objectives.

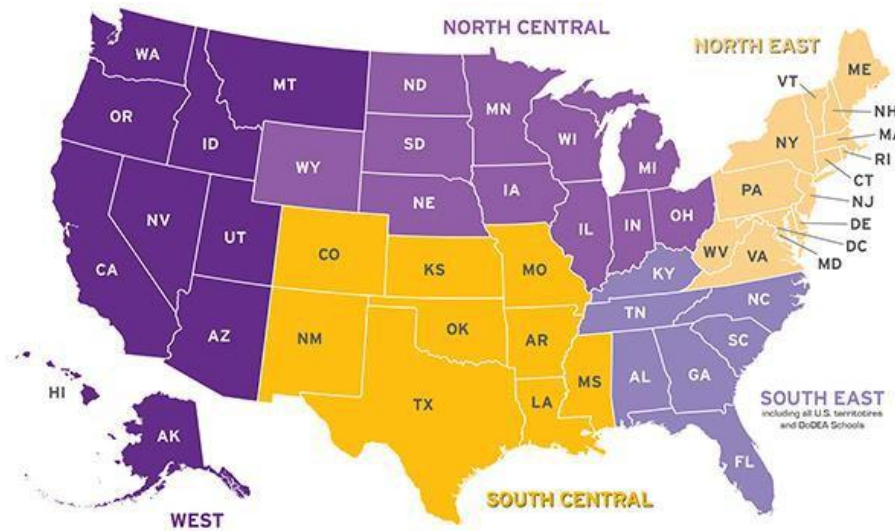
- A. Outreach: Develop and execute annual marketing, promotion, communications and outreach plan, to be executed throughout all phases of the program, in support of current year and long-term program goals to include promotion of AEOP pipeline of opportunities. The goal of this task to increase program awareness and participation from students (especially those from underserved populations), teachers, and Army scientists and engineers. Below are some specific requirements under this task:
1. Demonstrate flexibility and creativity to make immediate changes to all or parts of the annual plan, strategies, marketing, communications and outreach campaigns as necessary to meet objectives per Government's direction.
 2. Coordinate with the CAM to ensure marketing and communications plan is aligned with overall AEOP strategic plan.
 3. Ensure the annual marketing and outreach campaign is innovative and multi-faceted inclusive of, but not limited to, printed communications, exhibits, web based communications (social media, etc.), in person communications and alternative outreach methods, such as grass roots marketing tactics.
 4. In collaboration with the Army Program Manager for eCYBERMISSION, develop and implement a plan for volunteer recruitment. eCYBERMISSION volunteers are integral to the program's success.
 - a. Increase volunteer participation among the U.S. Army, DoD, academia, industry and other federal agencies.
 5. Conduct targeted marketing and communications campaign to increase awareness of eCM and AEOP among key target audiences, inclusive of but not limited to: colleges and universities, State Boards of Education, non-profit STEM focused organizations, DoD, industry, academia and other federal agencies.
 6. Manage the design, selection, production and storage of all program materials (brochures, promotional items, etc), to be distributed at various phases of the competition and with U.S. Army legal concurrence.
- B. Competition Management: Develop and execute all phases of the state, regional and national competition, including awards and 'STEM in Action' grants. STEM in Action grants provide eCM teams the opportunity to receive seed funding for actual implementation into their communities and to further their research. The STEM in Action grant is independent of the eCM competition. The eCM IPA will develop a plan and administer the execution of the annual eCM competition, inclusive of participant and volunteer registration, submission and judging at all phases of the competition and of the National Judging & Educational Event (NJ&EE).
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Below are some specific requirements under this task.

1. Establish and manage website, telecom, and on-site (NJ&EE) “Mission Control” participant support center; maintain operating hours conducive to all program participants. IPA must ensure eCM maintains Children’s Online Privacy Protection Act (COPPA) compliance.
2. Maintain the eCM application tool to ensure alignment with all AEOP applications requirements and with AEOP evaluation efforts.
3. Coordinate, execute and document all state, regional and national competitions to include the STEM in Action grants. Administer and execute all phases of the STEM in Action grant as part of the virtual regional competition and national judging & educational event (NJ&EE).
 - a. Current competition categories: Alternative Energy Sources; Environment; Food, Health & Fitness; Forces & Motion; National Security & Safety; Robotics; and Technology.
 - b. Coordination and execution of eCM NJ&EE inclusive of, but not limited to: venue selection; technical requirements (AV/IT); participant transportation, lodging and meals; overall NJ&EE program agenda to include printed materials (invitations, certificates, signage, etc.); communications and media relations; coordination of speakers; awards (Certificates, trophies, plaques, U.S. Savings Bonds); security; and VIP guest attendee.
4. Develop, establish and manage a comprehensive award structure for awards and incentives at all phases of the competition including the STEM-in-Action Grants.
 - a. Current awards provided to state, regional and national place winners in the form of U.S. Savings Bonds, Series EE, with max cost of \$864K at 50% purchase rate.
 - i. State Winners: 1st place team (3 to 4 students) receives \$1,000 U.S. Savings Bonds, Series EE (matured value); 2nd place team receives \$500.
 - ii. Regional finalists: Top 3 from each of the 5 regions will receive an additional \$1,000 per student of U.S. Savings Bonds, Series EE. (matured value)
 - iii. Regional Winners/National Finalists: 1st place winner for each grade level from each of the 5 regions will receive \$2,000 per student of U.S. Savings Bonds, Series EE. (matured value)
 - iv. National Winners: 1st place winner for each grade level will receive an additional \$5,000 per student of U.S. Savings Bonds, Series EE. (matured value)
 - b. Current awards provided to STEM-in-Action awardees are in a form of a check from the program administrator with a max cost of \$25K

- i. STEM in Action Awards: Up to 5 teams out of 60 regional finalists will be awarded up to \$5,000 in cash to further their research and implement solutions into local communities.
 - ii. The recipient will coordinate with Government eCM PM in the issuance of the STEM-in-Action awards.
5. Develop an execution plan to meet student participation goals with focused recruitment to underserved/underrepresented populations, U.S. Territories, and DODEA/DODDS schools.
 - a. Current eCM Regions:



- b. Projected student registration and submission goals for the 10-year period of performance are as follows (The Army reserves the right to adjust projections during the 10-year performance period):

eCM	Year 1	Year 2	Year 3	Year 4	Year 5
Number of students registered on complete teams	27,500	30,000	32,500	35,000	37,500
Number of students with submitted projects	76%	77%	78%	79%	80%
% of students registered from Title I Schools	50%	52%	54%	56%	58%
% of students from underserved/under-represented populations	30%	35%	40%	42%	44%
Student Retention	20%	22%	24%	26%	28%

eCM	Year 6	Year 7	Year 8	Year 9	Year 10
Number of students registered on complete teams	40,000	42,500	45,000	47,500	50,000
Number of students with submitted projects	81%	82%	83%	84%	85%
% of students registered from Title I Schools	60%	62%	64%	66%	68%
% of students from underserved/under-represented populations	46%	48%	50%	54%	58%
Student Retention	30%	32%	34%	36%	38%
Benchmarks listed above are calculated based on the number of survey participants that participated in annual program evaluations and meet the specific criteria, in addition to data collected from centralized application tool.					

6. Develop and implement a plan to increase recruitment and retention of Team Advisors (TA).
- Provide virtual resources to TAs to encourage maximum participation.
 - Recognize outstanding TAs regionally and nationally.
 - Projected TA participation and retention over 10-year performance period are as follows (The Army reserves the right to adjust projections during the 10-year performance period):

eCM	Year 1	Year 2	Year 3	Year 4	Year 5
TA Registration	1,900	2,100	2,300	2,500	2,700
% of TAs on Complete Teams	35%	40%	45%	47%	49%
% Retention	25%	25%	30%	30%	35%
eCM	Year 6	Year 7	Year 8	Year 9	Year 10
TA Registration	2,900	3,100	3,300	3,500	3,700
% of TAs on Complete Teams	52%	55%	58%	63%	66%
% Retention	35%	40%	40%	45%	45%
TA benchmarks listed above are derived from the program's centralized application tool.					

7. ICW Government eCM PM, develop and implement a plan to increase recruitment and retention of eCM volunteers to include Ambassadors, Virtual Judges, CyberGuides and National Judges.
 - a. Provide adequate training for all volunteers through Webinars or other web-based media.
 - b. Provide premium customer service to prospective volunteers to ensure experience results in increased volunteer retention.
 - c. Minimum volunteer registration benchmarks over 10-year performance period are as follows (The Army reserves the right to adjust benchmarks during the 10-year performance period):

eCM	Year 1	Year 2	Year 3	Year 4	Year 5
Total Volunteers	3,075	3,265	3,675	3,895	4,125
Virtual Judges	2,800	2,970	3,150	3,340	3,540
CyberGuides	125	135	145	155	165
Ambassadors	150	160	170	180	190
eCM	Year 6	Year 7	Year 8	Year 9	Year 10
Total Volunteers	4,125	4,370	4,635	4,915	5,210
Virtual Judges	3,750	3,975	4,215	4,470	4,740
CyberGuides	175	185	195	205	215
Ambassadors	200	210	225	240	255
Volunteer benchmarks listed above are derived from the program's centralized application tool.					

8. Coordinate with Government eCM PM to ensure Ambassadors and CyberGuides have proper background investigation and clearance(s). The Government eCM PM will coordinate with Government security office to verify clearances of Army personnel.
- C. Content Management: Manage all aspects of eCM website, database content and application tool. Perform web development and maintenance, content management and content update of eCM program website and database/application tool throughout all phases of the competition and the period of performance. Below are some specific requirements under this task:
1. Ensure program website and database content provides comprehensive services and information required for successful participation in eCM and AEOP.
 2. Ensure website and database content are in compliance with COPPA and AEOP's established IRB protocol.

3. Incorporate data analytics on website such as Google Analytics to ensure program website is current and useful.
4. Maintain fully functional backup copy of the eCM website and database including all existing data. When necessary, IPA may be asked to provide back-up copy of web site and database at any time (“snap shot” of current database, including all existing data) to eCM PM.
5. Manage and host live commercially-based web server with adequate memory, storage and bandwidth to achieve current and projected program objectives. Management will include labor, purchases and fees related to the system database, necessary licenses, daily backups, installation and configuration, domain name stewardship, and other services and materials that become necessary to provide a high-availability site accessible to a wide range of stakeholders with minimal access restriction or limitation.
6. Maintain capability for online forums and chat rooms for eCM teams and CyberGuides to engage. Conduct periodic research for recommendations on system upgrades to online forums/chat rooms.

D. Program Development: Develop and implement a strategic plan for eCM initiatives to allow for program expansion, maximizes impact and leverages partnerships.

1. Establish strategic partnerships with academia, non-for-profit STEM organizations, industry, DoD and other federal agencies to facilitate program enhancement and expansion, and increase participation from underserved populations.
2. Administer eCM mini-grants to teachers, schools and districts for classroom-wide, school-wide and/or district-wide implementation. Current # of awards to include funding amount and net participation numbers are as follows:

Type of Mini-grant	# of Awards	Net Participation
Teacher/Classroom	6	678
School	5	1,885
District	4	8,043

3. Develop a plan to increase participation of military dependents from DODEA schools. DODEA participation trends over the past 3 years are as follows:

DODEA Participation	FY12	FY13	FY14
Number of Students	313	504	827
Number of TAs/Teachers	19	28	46
Number of Schools	16	21	25

- E. Program Evaluations: Participate in the planning and execution of program evaluation for eCM ICW the AEOP COA LO by facilitating data collection and encouraging program participants to complete pre-and post surveys and to participate in focus groups.
1. Leverage established partners for data sharing.
 2. Ensure data collection complies with established IRB.
 3. ICW CAM and the AEOP evaluations effort, continue longitudinal evaluation of eCM impact. (alumni study)
 4. Important benchmarks for AEOP and eCM and their 10-year projections:

eCM	Year 1	Year 2	Year 3	Year 4	Year 5
Participants' Awareness of other AEOP and DoD STEM Opportunities	20%	25%	30%	35%	40%
Participants' Awareness of Army and DoD Technologies	20%	25%	30%	35%	40%
Increased student interest in STEM Learning	70%	72%	74%	76%	78%
Increased student interest in pursuit of STEM related degrees	50%	52%	54%	56%	58%
eCM	Year 6	Year 7	Year 8	Year 9	Year 10
Participants' Awareness of other AEOP and DoD STEM Opportunities	45%	50%	60%	70%	80%
Participants' Awareness of Army and DoD Technologies	45%	50%	60%	70%	80%
Increased student interest in STEM Learning	80%	82%	84%	86%	88%
Increased student interest in pursuit of STEM related degrees	60%	65%	70%	75%	80%
Benchmarks listed above are calculated based on the number of survey participants that participated in annual program evaluations and meet the specific criteria, in addition to data collected from centralized application tool.					

11.3 Deliverables:

A. Annual Deliverables

1. eCM APP as part of the overall AEOP APP. The Consortium will submit one compiled AEOP APP. (*September*)
2. eCM APR as part of the overall AEOP APR. The Consortium will submit one compiled APR. (*September/October*)
3. Annual Program Review Presentation. (*September*)
4. Registration Report. (*January/February*)
5. Submission Report. (*July*)



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6. Volunteer Report. (*April*)
 7. Judging, Scoring and Notification Report. (*August*)
 8. Establishment/revision of centralized application shells. (*October/November*)

B. Additional Deliverables

1. Submission of eCM content in support AEOP's communications strategy
2. Regular eCM website updates & maintenance (backup copy of current eCM database).
3. Quarterly program and financial reports.
4. Weekly registration and submission report.
5. Marketing & outreach collateral.

12. JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM (JSHS) [Grades 9 – 12]

12.1 Program Overview: The Junior Science and Humanities Symposium (JSHS) was established by the US Army in 1958 as a localized science symposium to encourage high school students to conduct original research and provide a forum for students to present their projects, network with their peers, and interact with scientists and engineers from Army, Navy, Air Force and academia. In 1962, the first National JSHS was held and for the 33 years following, the US Army worked to expand the number of states/regional symposia. In 1995/1996, the US Navy and US Air Force joined with the US Army to expand the reach of the JSHS program further, provide substantial scholarship awards, and change the program from an Army-focused initiative to a tri-service partnership. Today, JSHS is a tri-service program– sponsored by the U.S. Army, Navy and Air Force– that promotes original research and experimentation in the sciences, engineering, and mathematics at the high school level and publicly recognizes students for outstanding research achievements through JSHS regional and national symposia. JSHS aims to encourage continued interest STEM disciplines and the pursuit of a STEM career field by connecting talented students, their teachers, and research professionals; by exposing program participants to STEM careers in DoD laboratories and by rewarding research excellence.

Regional JSHS. Currently, forty-eight regional symposia are conducted annually, where high school students present original research and compete for scholarships and awards throughout the United States, Puerto Rico, and at Department of Defense Dependents Schools of Europe and the Pacific. Each regional symposium is administered by a university or another approved educational institution. These scientific meetings are conducted from December through April of each program cycle. Teachers, university researchers, and military personnel attend as mentors, judges, and guest speakers. After regional JSHS symposia are completed, regional finalists compete at the National Competition for additional scholarships awards.

National JSHS. The national symposium is typically held during the last week of April or the first week of May for 4-5 days (including travel). The services (Army, Navy or Air Force) alternate in selecting locations/venues for the national competition. Five students and one



director/designated representative from each region (approximately 300 attendees) are selected to attend NJSHS. National symposia include both the formal scholarship competition through oral presentations as well as the poster session for students attending as delegates. The sub recipient will coordinate with service representatives to successfully plan and execute the NJSHS.

12.2 Tasks: The sub recipient will be responsible for the administration of the full JSHS program cycle, which includes the planning and execution of regional JSHS symposia as well as the National JSHS. The sub recipient will be responsible for the following tasks:

- A. Coordinate with CAMs, service representatives and LO to define program scope and direction based on annual program budget, Annual Program Report and CAM feedback on Annual Program Plan. Current program sites are listed on AEOP website at www.usaeop.com (Programs > Competitions).
- B. Establish and update centralized application for the overall program (regional JSHS symposia as well as National JSHS) ICW the AEOP COA lead organization to track program participants and their background information.
 1. JSHS benchmarks during the 10-year period of performance are as follows (the Army reserves the right to make adjustments to benchmarks at any time during the period of performance):

JSHS	Year 1	Year 2	Year 3	Year 4	Year 5
Student Participation	7,700	7,950	8,050	8,150	8,300
Teacher Participation	1,100	1,136	1,150	1,164	1,185
School Participation	1,100	1,136	1,150	1,164	1,185
# of Regional Sites	48	48	48	49	49
% of Title I Schools	10%	12%	14%	16%	18%
% of participating students from underserved populations	16%	18%	20%	22%	24%
Participants' awareness of DoD STEM careers	75%	77%	80%	83%	85%
Participants' awareness of AEOP and DoD STEM opportunities	60%	63%	65%	67%	70%
Student interest in pursuit of a DoD STEM career	40%	43%	46%	49%	52%
JSHS	Year 6	Year 7	Year 8	Year 9	Year 10
Student Participation	8,450	8,600	8,750	8,900	9,050
Teacher Participation	1,207	1,228	1,250	1,271	1,293
School Participation	1,207	1,228	1,250	1,271	1,293
# of Regional Sites	50	50	51	51	52

% of Title 1 Schools	20%	22%	24%	26%	28%
% of participating students from underserved populations	26%	28%	30%	32%	34%
Participants' awareness of DoD STEM careers	88%	91%	93%	95%	97%
Participants' awareness of AEOP and DoD STEM opportunities	73%	75%	77%	80%	83%
Student interest in pursuit of a DoD STEM career	55%	60%	65%	70%	75%
Benchmarks listed above are calculated based on the number of survey participants that participated in annual program evaluations and meet the specific criteria, in addition to data collected from centralized application tool.					

- D. Participate in the planning and execution of JSBS program evaluation ICW the LO by facilitating data collection; encourage program participants to complete pre-and post surveys and to participate in focus groups.
- E. Plan and execute National JSBS in coordination with the CAM and Service POCs.
1. Plan and execute a comprehensive RFP for venue selection of the National JSBS to ensure DoD's investment is maximized while meeting event and program objectives. Approval of venue selection will be provided by the CAM.
 2. National JSBS requirements include the coordination of oral presentations, poster sessions, general session speakers and additional educational activities during the National Symposium; sub recipient is responsible for communicating instructions and guidelines with program participants, coordinating transportation and lodging for program participants, handling on-site logistics and staffing, developing and printing of program materials, and ensuring the seamless execution of National JSBS.
 3. The sub recipient will work with the CAM and Service POCs in ensuring a safety and security assessments as well as protocols are in place for National JSBS.
 4. Facilitate data collection in support of AEOP's evaluations efforts by encouraging program participants to complete surveys and to participate in focus groups, if requested.
 5. Communicate National JSBS instructions, expectations and guidelines with program participants.
 6. Coordinate transportation and lodging for program participants.
 7. Handle on-site logistics and staffing, ensuring seamless execution of National JSBS event.
 8. Develop and print program materials.



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- F. Oversee the planning and execution of regional JSBS symposia
1. If necessary, conduct an RFP to select academic institutions that have the resources, expertise and experience to organize and administer regional JSBS symposia (scientific symposia for high school students and teachers). The IPA will coordinate with the CAM during the RFP, selection and award process.
 2. Train new regional symposia directors on the JSBS program and requirements, when necessary. Educate regional directors about other DoD STEM opportunities and careers and provide supporting materials.
 3. Provide selected institutions sub-awards as well as guidance on overall program requirements, to include centralized online application, program evaluations as well as synchronized communications efforts.
 4. Ensure that costs proposed by selected academic institutions are commensurate with the effort to be performed.
 5. Coordinate with regional JSBS directors on the following tasks:
 - a. Conduct outreach to a diverse audience of 9-12 grade high school students to participate in regional JSBS symposia. Maximize representation from underserved and underrepresented populations.
 - b. Develop and disseminate informational materials to promote regional and national JSBS symposia.
 - c. Invite and solicit researchers from academia and DoD to support regional JSBS symposia (e.g. as judges and in other volunteer capacities). Train judges on their roles and responsibilities prior to symposium.
 - d. Integrate (local and/or virtual) DoD S&T resources into the regional JSBS programming to create awareness of and inspiration for STEM opportunities and career pathways across the Defense Industrial Base.
 - e. Facilitate data collection in support of AEOP's evaluations efforts by encouraging program participants to complete surveys and to participate in focus groups, if requested.
 - f. Assist regional JSBS hosts in arranging transportation, food, lodging, speakers, and other JSBS-related support.
- G. Administer the scholarship program for the regional and national JSBS programs; the sub recipient will coordinate with regional directors in developing a distribution plan for student scholarships (current structure include 134 scholarships at the regional level totaling \$4,500 for each region; 24 scholarships at the national level totaling \$192,000); scholarships are distributed in increments over a 4 year period; determine eligibility of students receiving scholarships and process the payment of each scholarship to the student's chosen institution; include information about other DoD STEM opportunities in the award package; the current scholarship amounts and distribution schedule can be modified with the written approval of the CAM.
-



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- H. Ensure JSHS content on the centralized AEOP website is updated with accurate, timely JSHS information. Adhere to AEOP marketing and branding guidelines and synchronize JSHS communications efforts with AEOP communications efforts ICW AEOP COA lead organization; keep a repository of JSHS alumni and success stories to help communicate the value and impact of JSHS. Develop, advertise and distribute JSHS program materials.
 - I. Establish a Regional Director's Executive Council (RDEC), which will consist of a sampling of Regional JSHS Directors (elected by their regional director peers annually), a sampling of high school teachers involved in JSHS, a representative from the Regional host organization, and one representative from each of the three sponsoring military services. RDEC meetings are designed to provide a forum for open communication between the JSHS regions, the sub recipient, and the services, to increase collaboration and communication across regions, and to improve the quality of the regional symposia.
 - J. Administer the Teachers' Award/School Award Program and develop standardized and competitive selection process in coordination with the regions and Service POCs to recognize the efforts of one teacher/school at each JSHS regional symposium for their contributions to STEM education; students should be given the opportunity to nominate their teacher/school at the regional symposia; a selection panel formed by the Regional Director will select the winning teacher/school; per notification from the regions, sub recipient will purchase trophies (design must be approved by the CAM), distribute to regional directors for presentation to winning teachers/schools, issue \$500 awards to winning school/teacher for the purchase of STEM equipment, in consultation with the CAM; include official letters of recognition from the services to accompany the teacher award checks in coordination with the CAM; identify DoD representative to participate in presenting the awards to teachers/schools, if possible; allow the teachers of regional winners to request funding up to \$500 to supplement the costs of their attendance at National Symposium, if they are not already the designated representative.
 - K. AEOP Initiatives in JSHS. The recipient will conduct periodic research on programs similar/beneficial to JSHS and develop a plan to establish partnerships with like-minded organizations/programs. Pending availability of funds, AEOP will provide guidance/approval to engage in the following activities:
 - 1. *International Math Olympiad (IMO)*: The twelve top scoring United States of America Mathematics Olympiad (USAMO) students are invited to a two day Olympiad Awards Ceremony in Washington, DC sponsored by the Mathematical Association of America (MAA), the Akamai Foundation, the Microsoft Corporation and the Matilda Wilson Foundation. Six of these twelve students will be identified at the awards ceremony to comprise the United



States team that competes each summer in the International Mathematical Olympiad (IMO). AEOP provides support to the US team of 6 students and 2 team leaders to travel to and compete in the IMO annually. The sub recipient is responsible only for providing AEOP funds to American Mathematics Competitions (AMC) in consultation with the CAM. No involvement is needed in selection of students, presentation of awards, or coordination of travel. The recipient will be contacted by AMC, the organizers of the annual trip, to request funds. IMO should not exceed \$10,000 annually.

2. *London International Youth Science Forum (LIYSF)*. The recipient will coordinate and fund the travel of the eight first place student winners from the National JSHS Symposium and one adult chaperone to London for the annual international scientific forum. LIYSF is a two week event held annually in July. Approval of JSHS students' engagement at LIYSF will be provided by the CAM.

12.3 Deliverables

A. Annual Deliverables

1. JSHS APP as part of overall AEOP APP. The Consortium will submit one compiled APP. (*September*)
2. JSHS APR as part of overall AEOP APR. The Consortium will submit one compiled APR. (*September/October*)
3. Annual Program Review Presentation. (*September*)
4. National JSHS budget proposal to include comprehensive cost analysis of possible venues with a minimum of three recommendations. (*September/October*)
5. Annual Budget break-down for JSHS.
6. Regional JSHS RFP Announcement.
7. Consolidation and submission of JSHS abstracts for inclusion in the AEOP Abstract Book. (*August/September*)
8. Establishment/revision of centralized application shells. (*October/November*)

B. Additional Deliverables

1. Payment of JSHS stipends to program participants
2. Submission of JSHS content in support AEOP's communications strategy
3. Regular JSHS website updates

E. PROGRAM TRANSITION

The current AEOP COA will conclude 31 October 2015. The U.S. Army intends to award the follow-on, single award of the AEOP COA in September 2015 to allow a transitional period between the current consortium and the new consortium formed by the recipient. Upon award,



the recipient will work immediately with the CAM to develop transition plan with existing Consortium to include transfer of any intellectual and physical properties. The CAM will facilitate the transition of all fundamental elements from current Consortium to new recipient.

Specific items to be transitioned to the new recipient are listed below:

- A. Domain ownership to www.usaeop.com.
- B. Social media accounts administrative rights.
- C. License agreements to Cvent application and survey tools.
- D. License agreement to BaseCamp. (online collaborative tool)
- E. License agreement to VOCUS.
- F. 100 Samsung Tablets and 10 MIFIs.
- G. Historical and existing accounting documents and financial/budget reports.
- H. Historical and existing agreements with vendors.
- I. Long-term evaluation plan and milestone, evaluation instruments and reports, data briefs, data collection and analysis methods, Institutional Review Board (IRB) protocol documentation and processes.
- J. Reporting documents. (IPPs, APPs, APRs, Annual Program Review slides)
- K. Historical and existing communications/marketing plans and products.
- L. Standard Operating Procedures and supporting documents of Consortium-wide projects. (i.e. Annual deliverables and reports, centralized evaluation, centralized application/AEOP common questions, CMC agendas and slides, AEOP best practices, communications processes and content, etc.)
- M. SEAP and CQL stipend disbursements: beginning 1 OCT 2015, the recipient will be responsible for disbursing education stipends to new SEAP and CQL students.
- N. eCYBERMISSION specific items:
 - 1. Competition website and database administrative rights.
 - 2. Database of historical program key stakeholders. (teachers, principals, other educators, etc.)
 - 3. eCM social media accounts administrative rights.
 - 4. 30 Samsung Tablets and 6 MIFIs.
 - 5. Historical records.
 - 6. Any surplus promotional materials.

F. FUNDING

Table 1 presents the estimated annual funding for the AEOP COA over the 10-year period of performance. The projected funding includes all costs associated with the COA. Table 2 presents the projected allocation of funds by fundamental element for Year 1 of the period of performance. This should be used as a guide when developing an application. Annual funding of the AEOP COA is contingent upon an on-time submission of required program deliverables and a Congressionally-approved Federal budget.



Table 1: Estimated Annual Funding over the Period of Performance

Period	Amount (x 1,000)
Year 1	Up to \$14,505
Year 2	Up to \$15,180
Year 3	Up to \$16,340
Year 4	Up to \$17,340
Year 5	Up to \$18,407
Year 6	Up to \$19,467
Year 7	Up to \$20,519
Year 8	Up to \$21,698
Year 9	Up to \$22,903
Year 10	Up to \$24,075
T O T A L	Up to \$190,432

Table 2: First year approximate allocation of Funds (in thousands)

AEOP COA Fundamental Elements		Amount (x 1,000)
1	Lead Organization COA Management	\$300
2	Program Evaluations: Data Collection, Assessment/Analysis, and Reports	400
3	Marketing and Communications	350
4	AEOP Alumni Management	200
5	Strategic Outreach Initiatives	800
6	AEOP Apprenticeship Management (includes stipend funds))	
	SEAP/CQL	4,450
	HSAP/URAP	80
	REAP	400
7	Gains in the Education of Math and Science (GEMS) <i>includes Camp Invention (CI) Initiative</i>	1,500
8	Unite	425
9	Research Experience for STEM Educators and Teachers (RESET)	125
10	Junior Solar Sprint (JSS)	175
11	eCYBERMISSION (eCM)	3,300
12	Junior Science & Humanities Symposium (JSHS)	2,000
TOTAL		\$14,505



II. AWARD INFORMATION

Applicants selected for this single award will be notified by the Agreements Officer or his/her designee via email. Once notified the selected applicants will be required to sign the cooperative agreement. The award is not official until the applicant has signed the cooperative agreement and the Agreements Officer has signed the cooperative agreement.

III. ELIGIBILITY INFORMATION

Through the AEOP COA, the Army envisions the government to work with a consortium of organizations to collaboratively advance Army-sponsored STEM education and outreach programs conducted across the United States, Puerto Rico as well as DoD locations in Europe and the Pacific. An Applicant is reminded that formation of a Consortium is a requirement in order to be responsive to this PA. All Consortium Members are expected to have significant involvement and input into the program. The Consortium lead organization will be charged with spearheading the efforts to meet previously identified core objectives and in managing overall efforts in program evaluations, communications and marketing. This organization will be designated as the Lead Organization (LO) and all activities will be conducted in the United States. Additionally, applicants are expected to consider carefully the construct of their proposed consortium to ensure clarity of each member's area(s) of responsibility and in providing flexibility when and where necessary, to efficiently achieve the core objectives in support of AEOP priorities. To be qualified, potential Consortium Members must:

- be judged to have adequate financial and technical resources, given those that would be made available through the cooperative agreement, to execute the program of activities envisioned,
- have no known recent record of lack of responsibility or serious deficiency in executing such programs or activities,
- have no known recent record indicating a lack of integrity or business ethics,
- be otherwise qualified and eligible to receive an award under applicable laws and regulations.

NOTE: Upon implementation of the OMB guidance in 2 CFR part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards," by DoD, prior to making an award, the DoD is required to review information available through any OMB designated repositories of Government-wide eligibility qualification of financial integrity information, such as the Federal Awardee Performance and Integrity Information System (FAPIIS). Note, however, that FAPIIS is cited only as an example in 2 CFR 200.205. The US Government- wide policy regarding use of FAPIIS in the award of grants, cooperative agreements, and TIAs is still pending. Once issued in final form, the FAPIIS policy may affect DoD's process for judging proposed recipients to be qualified to receive financial assistance awards (note that the current process and standards for a Agreements Officer's determination of a recipient's qualification are



described in the DoD Grant and Agreement Regulations, in subpart D of 32 CFR Part 22). For additional background information, see the Supplementary Information section in Office of Management and Budget's (OMB) proposal of the policy for comment, which appeared in the Federal Register on February 18, 2010 [75 FR 7316]. Note that the particulars of the proposed guidance may change when OMB issues the final guidance.

IV. APPLICATION AND SUBMISSION INFORMATION

A. APPLICATION PROCESS

Applications will be submitted electronically through the www.grants.gov portal. Applications sent by fax or email will not be considered.

Registration Requirements for www.grants.gov: There are several one-time actions that an applicant must complete in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the System for Award Management (SAM), register with the credential provider, and register with Grants.gov). See www.grants.gov/GetStarted to begin this process. Use the Grants.gov Organization Registration Checklist at www.grants.gov/assets/OrganizationRegCheck.doc to guide you through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in the SAM registration process. Applicants, who are not registered with SAM and Grants.gov, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible.

Questions: Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov.

B. CONTENT AND FORMAT OF APPLICATION SUBMISSION

Application forms and instructions will be available at Grants.gov. To access these materials, go to <http://www.grants.gov>, select "Apply for Grants", and then select "Download Application Package." Enter the funding opportunity number, W911SR-15-R-0003.

NOTE: Please refer to Grants.gov site <http://www.grants.gov/web/grants/support/technical-support/software/adobe-reader-compatibility.html> for the latest compatible versions of Adobe Reader.

Applicants must complete the mandatory forms and any optional forms (e.g., SF-LLL Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below. The required fields should be completed in accordance with the "pop-up" instructions on the forms. To activate the instructions, turn on the "Help Mode" (icon with the pointer and question mark at the top of the form). Files that are attached to the forms must be in Adobe Portable Document Form (PDF) unless otherwise specified in this announcement.



The following formatting rules apply for the file attachments:

Paper size when printed – 8.5 x 11 inch paper

Margins – 1 inch

Spacing – single

Font – No smaller than Times New Roman, 12 point

Form: SF 424 (R&R) (Mandatory) – Complete this form first to populate data in other forms. Authorized Organization Representative (AOR) usernames and passwords serve as “electronic signatures” when your organization submits applications through Grants.gov. By using the SF 424 (R&R), applicants are providing the certification required by 32 CFR Part 28 regarding lobbying.

Form: Research & Related Other Project Information

- **Complete questions 1 through 6** – Provide explanation for responses to questions if needed.
- **Project Summary/Abstract (Field 7 on the form)** - The Project Summary should be a brief abstract that summarizes the content of the application. The project summary should provide a brief summary of the applicant’s strategy and implementation plan to address the requirements of this PA. **The project summary must not exceed 5 pages.** Pages in excess of the page limit may be removed for the evaluation of the application.
- **Project Narrative (Field 8 on the form)** - The Project Narrative section is to contain the chapters set forth below and may not exceed the stipulated page counts for those chapters. Pages in excess of the page limits may be removed for the evaluation of the application. All chapters set forth below should be in a single PDF file.

Chapter 1: Technical Component. The pages included in Chapter 1 are to be numbered. Applicants are advised that Chapter 1 **will not exceed 50 pages**, utilizing one side of the page. Tables that extend beyond one page (fold out tables) will only count as one page. The application must include a discussion of the strategy and the implementation plan to be employed to advance the Army’s STEM mission in support of AEOP priorities and core objectives. The application must also clearly:

- Address the requirements in each of the AEOP fundamental element on this PA and how efforts across the Consortium will collectively lend to achieving AEOP’s core objectives.
- Propose detailed activities to address 10-year projected benchmarks (where applicable) for all fundamental elements and reference which AEOP priority (may be more than one) and core objectives are being addressed; provide evidence that the proposed activities are likely to result in advancing Army’s STEM programs and in meeting/exceeding projected benchmarks. (see sample annual program plan



template in the Appendix)

- Highlight the Consortium's network and propose innovative activities to leverage the Consortium's reach in promoting AEOP opportunities to students especially those from underserved/underrepresented populations.

Chapter 2: Collaboration Plan. The pages included in Chapter 2 must be numbered. Applicants are advised that Chapter 2 of the proposal **must not exceed 10 pages**. The application must include a detailed plan for leadership and effective management of the AEOP cooperative agreement, creation of a collaborative environment, and organizational structures. The application must include plans on how each member of the Consortium will collaborate within each fundamental element of this PA and across all of the AEOP. The application must describe the processes and tools to facilitate collaboration. The application must describe the strategy for collaborating with the CAM(s) and other Government POCs, to ensure programs efficiently executed. The application must demonstrate flexibility in adjusting proposed activities to address any changes to the Army, DoD and/or Federal STEM Strategic Plans.

Chapter 3: Cost Component. The pages included in Chapter 3 will be numbered and the chapter does not have a page limitation. Cost Proposal must include a budget for the entire period of performance. The applicant must provide an annual budget breakdown by each fundamental element on this PA. The cost portion of the application will contain cost estimates sufficiently detailed for meaningful evaluation. Budget justification should also be attached in this chapter. For budget purposes, assume a performance start date of 14 September 2015. For all proposals, the elements of the budget should include:

- **Direct Labor** - Individual labor category or person, with associated labor hours and unburdened direct labor rates.
- **Indirect Costs** - Fringe benefits, overhead, G&A, etc. (must show base amount and rate). Justify.
- **Travel** - Number of trips, destination, duration, etc. Justify and include basis for costs.
- **Sub-award** - A cost proposal, as detailed in the applicant's cost proposal, will be required to be submitted by each proposed sub recipient.
- **Consultant** - Provide consultant agreement or other document that verifies the proposed loaded daily/hourly rate. Include a description of the nature of and the need for any consultant's participation. Provide budget justification.
- **Materials** - Specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, will be provided. Include a brief description of the applicant's procurement method to be used (competition, engineering estimate, market survey, etc.). Justify.



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- **Other Direct Costs** - Particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the recipient (justifications must be provided when Government funding for such items is sought). Include a brief description of the applicant's procurement method to be used (competition, engineering estimate, market survey, etc.). Justify.

All Consortium Members included in the Cost Proposal are to provide detailed information on all cost elements included in their proposed budgets to Lead Organization as part of the Application submission process.

Chapter 4: Biographical Sketches. Biographical sketches are to be limited to two (2) pages per individual, and only to key personnel of the Consortium. The application must include the names, biographies, and availability of key personnel who will be involved in overseeing the management of the program. The application is to demonstrate how the aggregate skills/expertise across the Consortium provides required breadth and depth to effectively meet program requirements and advance Army's STEM education goals in AEOP.

- **Bibliography and Reference Cited** – Attach a listing of applicable publications cited in above sections.
- **Facilities and Other Resources** (Field 10 on the form) - The applicant is to include a listing of facilities and other resources available to support the application. Any Government resources necessary for performance are to be clearly identified. Attach this information at Field 10.
- **Equipment** (Field 11 on the form) - The applicant is to include a listing of equipment available to support the application. Any Government equipment necessary for performance is to be clearly identified. Attach this information at Field 11.
- **Other Attachments** (Field 12 on the form) are as follows:
 1. Attached the completed Application Cover Sheet. (See Paragraph IV.F below.)
 2. Attached the completed certifications. (See Paragraph VI.B below.)
 3. Attach any exceptions or conditions to the Draft Cooperative Agreement.
 4. Attach the signed Articles of Collaboration (AoC) for all Members. AoC will not be included in the page count.
- 5. **SF-LLL – Disclosure of Lobbying Activities.** If applicable, attach a complete SF- LLL at Field 12 of the R&R Other Project Information form. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying."



C. SUBMISSION DATES AND TIMES

Applications are due by 4:00pm (Eastern Daylight Time) on **Thursday, 28 April 2015**.

After an application is submitted through Grants.gov, the Authorized Organization Representative (AOR) will receive a series of three e-mails. It is extremely important that the AOR watch for and save each of the e-mails. Applicants will know that the application has been properly received when the AOR receives e-mail Number 3. Retain the Submission Receipt Number (e-mail Number 1) to track a submission. The three emails are:

E-mail Number 1 – The applicant will receive a confirmation page upon completing the submission to Grants.gov. This confirmation page is a record of the time and date stamp for the submission.

IMPORTANT: Once email number 1 has been received, please forward this email to Mrs. Lavetta D. Wynn-Smith, Agreements Officer at the U.S. Army Contracting Command, Edgewood Contracting Division (ECD) at Lavetta.d.wynn-smith.civ@mail.mil and Mr. Alex M. Schupp, Agreements Specialist at alex.m.schupp.civ@mail.mil. This email may be used by the Government for verification of the timeliness of the application submission.

E-mail Number 2 – The applicant will receive an email indicating that the application has been validated by Grants.gov within a few hours of submission. (This means that all of the required fields have been completed.)

E-mail Number 3 – The third notice is an acknowledgment of receipt in email form from the designated agency within ten days from the application due date. The email is sent to the authorized representative for the institution. The email for applications notes that the application has been received and provides the assigned tracking number.

Provisions for Late Submissions. The Government will review the confirmation page of E-mail Number 1 to determine if the applicant's application was submitted in accordance with the date and time limitation specified above. Applications deemed to be late may be considered non-responsive and receive no further consideration for award. This notification will be included in E- mail Numbered 3.

D. INTERGOVERNMENTAL REVIEW - NOT APPLICABLE

E. FUNDING RESTRICTIONS

F. OTHER SUBMISSION REQUIREMENTS

The following Application Cover Sheet is required to be submitted by each applicant:



APPLICATION COVER SHEET

1. Information concerning the Consortium Lead Organization:

Technical POC: _____

Phone No.: _____

Fax No.: _____

Email Address _____

Business POC _____

Phone No.: _____

Fax No.: _____

Email Address: _____

2. List the names and relationships of all organizations included in the application:

(Please also indicate for each Member the program component they will be responsible for, should the Applicant's application be selected for award.)

Consortium Members _____

Subawardees



3. Provide a point of contact for each organization included in the Cost Proposal. *These individuals may be contacted for questions concerning the Cost Proposal:*

Organization: _____

POC: _____

Phone No.: _____

Email Address _____

Organization: _____

POC: _____

Phone No.: _____

Email Address _____

4. Signature of one person for the Lead Organization, authorized to submit an application and bind that organization: *(These signatures may be provided on separate sheets.)*

Organization Name: _____

Signature: _____

Type Name/Title: _____

Date (Application): _____

V. APPLICATION REVIEW INFORMATION

A. CRITERIA

All information necessary for the review and evaluation of an application must be contained in the application. No other material will be provided to the panel. Applications should contain sufficient technical detail to allow for in-depth technical assessment.

An initial review of the applications will be conducted to ensure compliance with the requirements of this PA. Failure to comply with the requirements of the PA may result in an application receiving no further consideration for award.



A Selection Assessment Panel (SAP) will review the applications. The SAP, consisting of qualified groups of scientists, managers, and cost specialists, will conduct an assessment of each application and provide the results to the Selecting Official (SO). The SO will review the results to determine if an award can be made from the initial assessment conducted. When it is not possible to award on the initial assessment, the SO will make a decision concerning a competitive range and the applicants to include for discussions.

If negotiation discussions are held, the Agreements Officer will coordinate with the applicants at that time.

Applications submitted in response to this PA will be assessed against the Elements set forth below, using an adjectival rating system. Cost will be evaluated for realism, reasonableness, and affordability. Panel members will identify strengths, weaknesses and clarifications concerning the application. Information from any and all application volumes may be used for any and all Elements described in Paragraph B below.

Definitions:

The following definitions will be used in the review and assessment of applications submitted in response to this PA.

- 1) **Strength** - Strength is an aspect of an applicant's application that has merit or exceeds specified performance or capability requirements in a way that will be advantageous to the Government during performance.
- 2) **Weakness** - Weakness means a flaw in the application that increases the risk of unsuccessful performance.
- 3) **Deficiency** - Deficiency is a material failure of an application to meet a Government requirement or a combination of weaknesses in an application that increases the risk of unsuccessful performance to an unacceptable level.
- 4) **Clarification** - Clarification is defined as limited exchanges between the Government and applicants, for the purpose of enhancing the Government's understanding of applications, without entering into discussions, or requesting a revision to the application.
- 5) **Discussions** - Discussions are defined as exchanges between the Government and applicants for the purpose of identifying to the applicant's weaknesses, deficiencies, and other aspects of its application that could, in the opinion of the agreement's officer, be altered or explained to enhance materially the application's potential for award.
- 6) **Application Risk** – Risk, as it pertains to source selection, is the potential for unsuccessful performance. The consideration of risk assesses the degree to which an applicant's proposed approach to achieving the technical factor may involve risk of disruption of schedule, increased cost or degradation of performance, the need for increased Government oversight, and the likelihood of unsuccessful performance.



An assessment will be made at the factor level for the Plan/Approach to Execution assessing a ranking of Low (L), Moderate (M), or High (H) risk assessment. This addresses the degree of risk associated with the applicant's proposed approach to accomplishing requirements in PA.

- 7) **Performance Risk** - An assessment will be made at the factor level for the Past Performance. A risk ranking of Low (L), Moderate (M), or High (H) will be assessed. This assesses the applicant's ability to successfully complete relevant technical efforts on time and within costs.

B. BASIS FOR AWARD

The Government intends to make one award based upon the integrated assessment of the applicant's application that represents the best value to the Government. This assessment will be the result of a thorough analysis of the applicant's application with consideration of an acceptable rating or better based upon the rating criteria for each element described below. An application receiving less than an acceptable rating for any non-priced element (except past performance – High Risk) will receive no further consideration for award. The assessment will address the technical merit and affordability assigned to each application to determine which application provides the most optimum solution. Therefore the Government may award to other than the highest technically merit rated or the lowest priced applicant. The adjectival merit criteria for the elements are indicated within the section for each element.

Relative Importance of Elements

The relative importance of the assessment elements are as indicated: Element 1 – Plan/Approach to Execution is significantly more important than Element 2- Management. Element 2 is more important than Element 3 – Credentials which is more important than Element 4 – Past Performance.

Technical Merit: The technical merit reflects the degree to which the proposed approach meets or does not meet the minimum performance or capability requirements through the assessment of strengths, weaknesses, deficiencies and risks of an application with consideration given to Elements. To assist the Government in determining technical merit, applicants should provide the information requested below in concert with instructions at Section IV to demonstrate its capability to complete the requirements outlined in the PA.

ELEMENTS (1-4): Technical Component consist of the following factors: 1) Plan/Approach to Execution; 2) Management; 3) Credentials; and 4) Past Performance

1) ELEMENT 1 - Plan/Approach to Execution. This element will focus upon the plan and approach for executing STEM outreach efforts and upon furthering STEM education and outreach efforts nationwide. The applicant's application shall include a detailed discussion on its overall plan/approach to execute the AEOP COA. The plan shall clearly describe its creativity, innovation, feasibility, efficacy to achieve the AEOP COA objectives.



This plan shall include details on how the AEOP COA fundamental elements will be executed; focusing on how such plans will lead to achieving the AEOP COA objectives. The applicant's proposed plan shall discuss how each consortium member will be integrated into the process to minimize duplication as well as how the Government will be involved. The applicant's application shall include a discussion on how appropriate program participants will be selected. The applicant shall clearly address its plan for increasing awareness of AEOP's continuum of opportunities. The applicant's application shall also address the process the applicants will use to facilitate transitioning from the current COA to the resulting COA once awarded.

The Government's assessment of this element will focus on the degree to which the applicant's application sufficiently describes its overall plan and approach to executing the COA. The Government will assess the adequacy of the applicant's overall plan/approach to execute the AEOP COA, including the plan's creativity, innovation, feasibility, efficacy, and likelihood of achieving the AEOP COA objectives. The Government will assess the effectiveness and efficiency of the applicant's proposed plan to execute the AEOP COA fundamental elements; focusing on how such plans will lead to achieving the AEOP COA objectives. The Government will also assess the plan and mechanisms of how the applicant proposes to involve all members of the Consortium into an integrated STEM education and outreach program, including proposed processes for selection of appropriate program participants. The Government will assess how the applicant proposes to consolidate components to minimize duplication of actions and assure efficiency. It will also assess the adequacy of the proposed plan to increase awareness of AEOP's continuum of opportunities in addition to describing its plan for the substantial involvement of the Government. Finally, the Government will assess the proposed plan for detailed steps for transitioning the ongoing efforts of all components to the new AEOP COA cooperative agreement.

2) ELEMENT 2 - Management. This element will focus upon the plan for managing execution of Consortium activities over the lifetime of the AEOP COA. The applicant should demonstrate a viable management approach by providing a feasible, comprehensive management plan considering each of the following items as a minimum: a detailed description of its overall management concept; proposed Articles of Collaboration signed by each consortium member; a detailed description of its methodology and mechanisms for development of a comprehensive program plan; sufficient description of the leadership roles and management to be provided by the PD; management procedures to oversee and maximize progress; management concepts to foster collaboration among components and communication among consortium members to include clearly identifying the consortium member responsible for each component; specifics of the integration of AEOP website into all components/efforts; and controls to assure timely submission and tracking of consortium invoices submitted to the Government. The Government's assessment of this element will focus on the degree to which the applicant's application sufficiently describes its overall management concept; including the proposed Articles of Collaboration signed by each proposed consortium member. The Government will also evaluate the methodology and mechanisms of the proposed comprehensive program plan to ensure that it provides for adequate oversight and management of the AEOP CA in the furtherance of the Government's objectives.



The Government will assess the leadership role/functions and management to be provided by the PD; management procedures to oversee and maximize progress; management concepts to foster collaboration among components and communication among consortium members as well as the assignment of components to consortium members to capitalize on their strengths and maximize efficiency. The Government will assess the degree to which specifics of the integration of AEOP website into all components/efforts will be effective and efficient. Lastly, the Government will assess the controls proposed by the applicant to ensure timely submission and tracking of consortium invoices to the Government.

3) ELEMENT 3 - Credentials. This factor will focus on the applicant's credentials, as an organization as well as the credentials of the specific individuals proposed, including, but not limited to, the PD and all IPAs. The applicant's application shall include the names, brief biographies and availability of key personnel substantially and meaningfully engaged in the AEOP COA, including, but not limited to the PD and all of the IPAs. The applicant's application shall clearly identify the components and/or functions each of the named persons will be responsible for managing.

The Government's assessment of this factor will focus on how the demonstrated education and experience of proposed personnel is expected to contribute to the applicant's understanding of the Army's goals for STEM education and outreach and the core objectives of the AEOP COA. The Government will assess the applicant's application to determine if data has been provided for all personnel whose performance will significantly impact the successful completion of the requirements outlined in the PA. The Government will also assess the applicant's application to determine if the biography data demonstrates that the consortium member has the capability to successfully perform the requirements for the components allocated to them.

MERIT CHART: The following merit criteria definitions will apply to the Technical Elements 1–3.

RATING	DEFINITION
OUTSTANDING	Application meets requirements and indicates an exceptional approach and understanding of the requirements. Strengths far outweigh any weaknesses. Risk of unsuccessful performance is very low.
GOOD	Application meets requirements and indicates a thorough approach and understanding of the requirements. Application contains strengths which outweigh any weaknesses. Risk of unsuccessful performance is low.
ACCEPTABLE	Application meets requirements and indicates an adequate approach and understanding of the requirements. Strengths and weaknesses are offsetting or will have little or no impact on completing requirements in the PA. Risk of unsuccessful performance is no worse than moderate.
UNACCEPTABLE	Application does not meet requirements of the PA and contains one or more deficiencies. The application is un-awardable.



4) ELEMENT 4 - Past Performance. This element will focus on previous or current efforts performed by the applicant and its proposed consortium member that demonstrates the ability to successfully performed requirements similar to those outlined in the PA. The applicant shall include contact information (agency/company name, point of contact, telephone and facsimile numbers, e-mail address, etc.) as well as the project/contract/grant/agreement name and number of three (3) references that can verify and validate its ability to successfully perform the requirements in the PA. The applicant shall provide a brief description of its ongoing and previous Government Agreements/contracts during the past three (3) years, which are relevant to the effort required in this PA. Identify in specific detail for each contract/grant/agreement listed why or how the effort is relevant or similar to the effort required in this PA. Applicants shall discuss in detail corporate experience solving challenging problems similar to those that may arise with this program. The performance can be of the proposed Lead Organization or its proposed Consortium members. However, since the Lead Organization will be responsible for overall management and administration, its past performance shall clearly demonstrate that it has successfully done so in the past three (3) years. Additionally, the past performance for each proposed Consortium member shall clearly demonstrate that it has successfully performed in the area(s) where they will have administrative management control. Applicants are encouraged to include information on performance problems encountered on identified contracts/grants/agreements and the corrective actions taken.

The Government's assessment of this element will result in a performance risk assessment based on the applicant's on-going and prior experience within the last three (3) years on relevant projects to the work described in the PA. The Government will determine the degree to which the applicant's (and its proposed Consortium members) previous projects were successful and its demonstrated ability to meet the Government's stated requirements. The Government will assess the past performance information provided and determine the performance risk based upon similar efforts to promote STEM education and outreach nationwide. The Government reserves the right to contact references and previous customers to discuss past performance. The combination of the evaluation of relevancy and assessments for projects will then result in an overall performance risk rating. Applicants without a record of relevant past performance or for whom information on past performance is not available, will not be evaluated favorably or unfavorably for this evaluation factor.

MERIT CHART: The following merit criteria definitions will apply to the Technical Element 4.

RATING	DEFINITION
LOW	Has little potential to cause disruption of schedule, increased cost or degradation of performance. Normal recipient effort and normal Government monitoring will likely be able to overcome any difficulties.
MODERATE	Can potentially cause disruption of schedule, increased cost or degradation of performance. Special recipient emphasis and close Government monitoring will likely be able to overcome difficulties.



HIGH	Is likely to cause significant disruption of schedule, increased cost or degradation of performance. Is unlikely to overcome any difficulties, even with special recipient emphasis and close Government monitoring.
UNRATED	No record of relevant past performance or for whom information on past performance is not available.

5.) ELEMENT 5 - Cost. This element will not be weighted but the assessment of this element will consider cost realism, cost reasonableness, and affordability. Applicants shall provide only data under this section that pertains to its cost proposal. No other information will be accepted or analyzed. The Cost Section shall include descriptions of cost estimating techniques and allocation methods, utilized by the applicant. Estimating technique(s) that are used in creating the proposal shall be clearly identified. Commercially available parametric cost models and in-house developed parametric cost models may be used if available. However, reasonable allocation techniques may be used to spread hours within individual projects in accordance with the applicants existing accounting systems and procedures. For comparison purposes, applicants shall clearly identify labor categories with the number of labor hours and labor rates for both direct and indirect labor. Indicate if the proposed rates are current or projected. If projected, provide the indirect rates for the last three year period. The applicant is to provide its administration office (Defense Contract Administration Office or Office of Naval Research if known) and cognizant Audit Office (if known) and date of last audit. See additional requirements listed at Section IV of this document for the cost element.

The Government will analyze the estimated cost proposed by the applicant for performing all the requirements outlined in this PA to include the rationale used to build the proposal. The Government will be the sole judge of these determinations. The proposal will be analyzed in comparison to the Government's Independent Cost Estimate and other applications received. The Government will also consider the cost proposed for sub recipients and its overall impact on the total cost. As part of its cost realism analysis the Government may make adjustment to the cost of the total proposed efforts deemed necessary to reflect what the effort should cost. These adjustments will consider the task undertaken and approach proposed. These adjustments may also include upward or downward adjustments to the proposed labor hours, rates, quantity of materials, overhead rates and G&A, etc. The Government will determine the affordability of the application based upon the cost realism analysis and the anticipated return on its investment (the achievement and enhancement of the overall goals for AEOP).

C. REVIEW AND SELECTION PROCESS

Applications received in response to the PA will undergo review to determine technical merit using a selection assessment panel.

The panel will not compare one application against another, but rather assess each application against the element and merit definition published within the PA. The assigned merit consistent with the elements will be derived from the demonstrated ability of the



applicant, as represented in the Technical Section (Elements 1 – 4), to perform the work in accordance with all aspects of the requirements outlined in this PA and from the affordability and realism of the Cost Section (Element 5). Applications which are unrealistic in terms of technical commitments or price, will be deemed to reflect an inherent lack of technical competence or failure to comprehend the complexity and risks of requirements, may be rejected.

The panel will assess each application solely on the merit criteria contained in the PA and provide a comparative analysis of the offers to make a recommendation to the SO. A single award will be made based upon an integrated assessment of each applicant's ability to satisfy the requirements of the PA (See paragraph B). The Government anticipates that discussions will be conducted however the Government reserves the right to award without discussions. When discussions are to be held, a competitive range will be established by the SO.

Applicants invited to participate in discussions shall at its conclusion submit a Final Application Package within the time constraint provided. Final Application Packages will be assessed using the same procedures used with the initial applications.

VI. AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES

Should your application be selected for this award, you will be contacted via email by the Agreements Officer or his/her representative. At that time the applicant will be asked to execute the cooperative agreement. The Award will not be enforceable until the cooperative agreement is signed by both the successful applicant and the Agreements Officer.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

Applicants are to complete the following certifications to be submitted with the application:

1. CERTIFICATION REGARDING LOBBYING

This certification is required for an award of a Federal contract, grant, or cooperative agreement exceeding \$100,000 and for an award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000.

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.



(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned will complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying," In accordance with its instructions.

(3) The undersigned will require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contacts under grants, loans, and cooperative agreements) and that all subrecipients will certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification will be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Organization (Applicant): _____

Signature: _____

Typed Name: _____

Title: _____ Date: _____

2. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS-PRIMARY COVERED TRANSACTIONS

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
- (d) Have not within a three-year period preceding this application had one or more public transactions (Federal, State or local) terminated for cause or default.



(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant will attach an explanation to this application.

Organization (Applicant): _____

Signature: _____

Typed Name: _____

Title: _____ Date: _____

3. CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS

A. The recipient certifies that it will or will continue to provide a drug-free workplace by:

- (a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
- (b) Establishing an ongoing drug-free awareness program to inform employees about –
 - (1) The dangers of drug abuse in the workplace;
 - (2) The recipient's policy of maintaining a drug-free workplace;
 - (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
 - (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
- (c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);
- (d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the cooperative agreement, the employee will –
 - (1) Abide by the terms of the statement; and
 - (2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;
- (e) Notifying the agency in writing, within ten calendar days after receiving notice under paragraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice will include the identification number(s) of each affected grant or cooperative agreement;



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- (f) Taking one of the following actions, within 30 calendar days of receiving notice under paragraph (d)(2), with respect to any employee who is so convicted –
- (1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or
 - (2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;
- (g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

B. The recipient may insert in the space provided below the site(s) for the performance of work done in connection with the proposed cooperative agreement:

Place of Performance (Street address, city, county, state, zip code)

Check mark if there are workplaces on file that are not identified here.

Organization (Applicant): _____

Signature: _____

Typed Name: _____

Title: _____ Date: _____

C. REPORTING

Reporting requirements for the Cooperative Agreement are contained in the draft Articles of Collaboration. The Consortium may revise as necessary to ensure that Consortium Members and the Army are provided the flexibility to efficiently execute AEOP.



VII. AGENCY CONTACTS

There are two cutoff dates for submission of questions pertaining to this announcement: 19 February 2015 (with the anticipation that answers will be posted prior to Opportunity Day) and 26 March 2015. Questions concerning this PA should be submitted via email to alex.m.schupp.civ@mail.mil and Lavetta.d.wynn-smith.civ@mail.mil. A document containing answers to submitted questions will be posted as an attachment to the Grants.gov announcement. Questions and comments should be concise and to the point. In addition, the relevant part and paragraph of the PA should be referenced. Should an applicant have questions it believes are of a proprietary nature, the applicant must clearly state so in the question when posed. Answers to questions of a proprietary nature will be provided via email directly to the poser of the question. A location on the website will be provided for potential applicants to post their availability for teaming with others.

VIII. OTHER INFORMATION – NOT APPLICABLE



APPENDICES

- Sample Articles of Collaboration
- AEOP Annual Program Plan Template
- AEOP Annual Program Review Template
- GEMS-SEAP-CQL Stipend Policy
- Background Check Guidance
- Personal Identifiable Information Policy
- Organizational Conflict of Interest Provision

Summary of Changes* - 3 February 2015

Page 1, Overview Information: "Program Announcement Issued" date corrected

Page 5, Purpose: Definition of "underserved and underrepresented populations" added as footnote (moved from page 35.)

Page 8, Opportunity Day Meeting: noted that questions and answers will be posted to www.grants.gov.

Page 87, Agency Contacts: Added two (2) cutoff dates for submission of questions.

Page 87, Agency Contacts: Clarified procedure for posting of answers to submitted questions.

Summary of Changes* - 19 February 2015

Page 7, Awards Instruments: Specified that LO cannot simultaneously administer individual AEOP programs

Page 26, Strategic Outreach Initiatives (5.2, B.2) – Deleted duplication of 5.2, B.1

Page 29, Strategic Outreach Initiatives: Added "E. At least 80% of funding allocation should fund approved AEOP partnership efforts."

Page 36, Apprenticeships>REAP (2.c): Reworded "Conduct RFP for the selection of REAP host institutions..."

Page 47, Tasks: Specified that "AEOP intends to strengthen the connection between Unite and REAP sites during the 10-year period of performance."

Summary of Changes* - 19 March 2015

Page 37, deleted "At 85% of the REAP funds will be allocated by the recipient directly to the host academic organizations. Fifty percent of the funds are designed to cover stipends. Additionally, hosts institutions will use the remaining funds for laboratory supplies, instructional books, etc. to support student research."

Page 8 and 87, updates and amendments to the AEOP COA public announcement are only made to grants.gov and no longer made to <https://acquisition.army.mil/asfi>.

Page 87, the second cut-off date for submission of questions pertaining to this announcement was adjusted to March 26.

Page 88, "Organizational Conflicts of Interest Provision" was added to the Appendices. This document was added in support of Q&A #68.

Pages 17, 35, 41 and 45, adjusted language to clarify the "Insurance Policy" requirement of the recipient. The LO is expected to provide a blanket Insurance Policy with "adequate coverage" for all AEOP program participants.

Page 47, Deleted Camp Invention requirement "J" under 7.2.

Throughout the document: the term "offeror" has been replaced with "applicant."

Throughout the document: the term "proposal" has been replaced with "application."

Summary of Changes* - 16 April 2015

Page 69, Award Information: changed "Grants Officer" to "Agreements Officer."

Page 70, Registration requirements: changed "CCR" to "SAM."

Page 71, Research and Related: created extra bullet for Questions 1 through 6.

Page 72, moved details about "Cost Proposal", which were initially under bullet 5 of "Other Attachments" in "Chapter 4 – Biographical Sketches," under "Chapter 3 – Cost Component;" clarified where actual budget and budget justification should be presented.

Page 73, bullet 5 of "Other Attachments" in "Chapter 4 - Biographical Sketches" now only outlines the option to include an SF-LLL Form.

Page 74: Changed "Eastern Standard Time" to "Eastern Daylight Time."

Page 74: Corrected multiple Field numbers.

Page 75, Section C: changed "Mrs. LaVetta D. Wynn-Smith, Point of Contact" to "Mrs. LaVetta D. Wynn-Smith, Agreements Officer."

Page 82, corrected "Factor 5" to read "Element 5."

*Excluding formatting and clerical revisions.