

# **Army Strategy for Engagement with Historically Black Colleges and Universities and Minority-Serving Institutions of Higher Education**



**The estimated cost of this report or study for the Department of Defense is approximately \$1,740 for the 2016 Fiscal Year. This includes \$2 in expenses and \$1,740 in DoD labor.**

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# **Army Strategy for Engagement with Historically Black Colleges and Universities and Minority-Serving Institutions of Higher Education**

*Develop a strategy for how to engage with and support the development of scientific, technical, engineering, and mathematics capabilities of covered educational institutions in carrying out section 2362 of Title 10, United States Code*

## **Introduction**

The United States of America thrives on diversity and is by definition a place of freedom and equality for all. It is the synthesis of the world's plentiful and varied races, religions, and cultures; however, we continue to struggle with processes and business practices that do not adequately reflect nor take advantage of America's diversity. As we look to the rising demand for science, technology, engineering, and mathematics (STEM) capabilities and the unbalanced representation in STEM fields; we recognize the need to collectively, along with our industrial and academic partners, do a better job of developing STEM capabilities among underrepresented and underserved communities. Diversity of perspective and thought is critical to the ability to address the challenges that the Army faces both domestically and globally, yet STEM degrees continue to attract talent from historical and all too similar pipelines. In order to broaden our competencies and to grow the Army's capabilities, we must work together on ensuring we have enduring access to highly capable and competitive STEM talent that is reflective of our nation's diverse population.

Minority-serving institutions (MSIs), which currently include historically black colleges or universities (HBCUs), tribal colleges or universities (TCUs), Hispanic-serving institutions (HSIs), Alaska native-serving institutions or Native Hawaiian-serving institutions, Predominantly Black Institutions, Asian American and Native American Pacific Islander-serving institutions (AANAPISIs), and Native American-serving nontribal institutions have a significant impact on our nation's advanced capabilities as a diverse nation. With its historical establishment, HBCU/MSI's are a premier and often critical pathway for students from underrepresented communities. The Army supports a national approach, together with our federal, academic, and industrial partners, to strategically work our investments in collaboration and ensure that these covered institutions are capable of providing the highest quality experiences and contributing to a robust, exceptional and diverse talent workforce. We must move from independent efforts to collective efforts that bring together our strongest thought and strategic partners to provide solutions that effectively engage the right people to take on the complex challenge of having our investments move towards organically reflecting the best of our diverse nation. This strategy will provide a basic Army structure that can

maximize the Army's ability to contribute to a national strategy. The Army will contribute by supporting grass root initiatives that work collectively within the Army to impact national progress and also by capturing some of the complex contributions that can prohibit effectively engaging with our HBCU/MSIs in research and development efforts across the Army. Some of these areas already have been identified as gaps are efforts that the Army can actively work to minimize. It is important to address these gaps, with our covered institutions, on how we can work together to minimize gaps and best support the development of STEM capabilities of covered educational institutions in carrying out Section 2362, Title 10, United States Code (U.S.C.) that serve some of our country's most important asset – our future workforce.

For these reasons, and in support of Section 233 of the National Defense Authorization Act for Fiscal Year 2016 (FY16), the Army has established this Historically Black Colleges and Universities & Minority Serving Institutions Partnerships Strategy. The intent of this strategy is to provide a basic but strategic framework for our basic research entities to execute and to allow for an evolving response that will lead to meaningful support to and from our academic partners; one that will also serve to align our research endeavors with MSIs to support similar priorities with meaningful and achievable objectives that are mutually beneficial. This strategy will serve to provide a baseline that efforts may be measured against and provide data-driven recommendations and decision-making to ensure productivity in our continued HBCU/MSI basic research engagements across the Army Science and Technology Enterprise.

## **Strategic Elements**

### ***Goal and Vision***

The goal of Army is to develop and maintain a strategy for how to engage with and provide sustainable, measurable, and exceptional support for the development of STEM capabilities of covered educational institutions in carrying out section 2362 of Title 10, U.S.C. Through this strategy, the Army will execute investments in HBCU/MSIs in full collaboration and partnership with the Army Science and Technology (S&T) enterprise to leverage and develop a full range of postsecondary opportunities that provides a highly competitive and diverse pool of talent and research institutions, working in STEM fields, and that are also supportive of the Army's STEM investments.

**Priority 1: Target covered schools, faculty and students for inclusion in research mentoring opportunities and internships.**

*Promotion of mentoring opportunities between covered educational institutions and other research institutions*

*Targeting of undergraduate, graduate, and postgraduate students at covered educational institutions for inclusion into research or internship opportunities within the military department*

Our HBCU/MSI partners should be targeted for inclusion of all our basic research investments; from building the STEM-literate talent pool by investments in the K-12 grades, to supporting and encouraging the pursuit and attainment of STEM degrees using our internships and research partnerships, and participating in solving some of our toughest research challenges that serve the Army's greatest asset, the U.S. Soldier. We will identify and promote successful methods of meaningful engagement that build the capacity of both the Army and the covered schools.

Objective 1.1: Identify and utilize our mentor research opportunities for HBCU/MSIs as well as undergraduate, graduate, and faculty that will work to strengthen research capabilities at HBCU/MSIs.

Sample metrics:

- Identify and promote opportunities available, as well as the current level of interest and engagement specifically by HBCU/MSI partners looking at school, faculty and student interest in conjunction with Army research interests
- Identify successful models of engagement (both for institutions and individuals) with a high percentage of successful awards
- Identify interest and award attainment challenges

Objective 1.2: Encourage and support a pipeline of experiences available to students to build on interest and capacity.

Sample metrics:

- Identify and build relationships with programs and agencies which have a proven method of success and evaluation capability and which mentor students in grades K-12 and help prepare them for post-secondary education opportunities

- Identify and build relationships with programs and agencies, which have a proven method of success and evaluation capability, which mentor students in undergraduate, graduate, and post-graduate studies that build their skills, capabilities, and confidence while encouraging sustained interest in STEM fields
- Identify strong mentorship methods with successful indicators and scale up capability

Objective 1.3: Develop, produce, and evaluate a comprehensive marketing and communication process to specifically and successfully engage underserved and underrepresented audience in Army research opportunities.

Sample metrics:

- Produce a comprehensive communication plan that includes methods for continuous feedback on successful implementation and lessons learned
- Identify successful models of communication and engagement as well as gap areas for understanding Army research opportunities available
- Provide data indicators for improved engagement

Objective 1.4: Mobilize our HBCU/MSI research talent for near-peer mentorship opportunities.

Sample metrics:

- Assess the number and quality of targeted opportunities to engage diverse, highly qualified, mentors from HBCU/MSIs in efforts to develop the interest and capacities of younger generation learners
- Working with our STEM investment partners, expand high quality STEM mentorship opportunities between HBCU/MSI partners

**Priority 2: Develop mutually beneficial research relationships with our HBCU/MSI partners for the purposes of developing highly qualified STEM talent from diverse backgrounds.**

*Inclusion of faculty of covered educational institutions into program reviews, peer reviews, and other similar activities*

The Army needs to better invest in having a deeper understanding of what investment capabilities and limitations are involved with our MSI partners. We need to develop and sustain a more personal relationship with the more than 500 MSIs, specifically our 101 HBCUs, our 34 TCUs, 315 HSIs, and our 145

AANAPISIs. We must make certain we are leveraging our assets and maximizing capabilities.

Objective 2.1: Ensure inclusion of HBCU/MSI institutions and faculty into program reviews, peer reviews, and other similar activities.

Sample metrics:

- Identify mutually beneficial collaboration opportunities and engage HBCU/MSIs along with other research partners to participate
- Track number and type of participation

Objective 2.2: Identify all Army research opportunities inclusive of STEM early development efforts, research networks, and workforce efforts and provide a method of engagement for our HBCU/MSI partners.

Sample metrics:

- Number of programs and/or collaborative opportunities
- Track engagement along with stakeholder perceived benefits and challenges
- Identify and communicate the value these specific engagements offer in these processes
- Quality of program and its ability to impact HBCU/MSIs specifically
- Student achievement and the connection to each investment

Objective 2.3: Identify strong thought leaders and HBCU/MSI advocates to develop and coordinate evaluation strategies by leading qualitative and quantitative surveys and focus groups to identify and report on best practices, lessons learned, and gap areas across program efforts.

Objective 2.4: Each command should identify STEM strategy subject matter experts and well-informed of research opportunities and supportive of HBCU/MSI investments to participate in the coordination of research efforts with our HBCU/MSI partners. These HBCU/MSI advocates should develop and coordinate evaluation strategies like those mentioned in Objective 2.3.

Sample metrics:

- Identify and support a community member from each Army major command that will serve to support achieving these goals and objectives within their labs and research investments
- Evaluate progress and coordination of stakeholders working towards these shared priorities

- Products available that meaningfully identify challenges and best practices among stakeholders

Objective 2.5: Develop a coordinated effort and relationship with other Army investments, like grades K-12 STEM programs and workforce efforts, to build and attain diverse and competitive STEM workforce talent.

Sample metrics:

- Identify existing opportunities, shared mission and goals, and expand capacity to serve students
- Establish Memorandums of Understanding that are firmly tied to spell out and documented goals and objectives for the shared investment

### **Priority 3: Sustainable infrastructure**

*Metrics to enhance scientific, technical, engineering, and mathematics capabilities at covered educational institutions, including with respect to measuring progress toward increasing the success of such institutions to compete for broader research funding sources other than set-aside funds*

*Regular assessment of activities that are used to develop, maintain, and grow scientific, technical, engineering, and mathematics capabilities*

The Army must promote and maintain an investment, with developing capabilities, which provides opportunities to scale up best practices, share lessons learned, and addresses program gap areas in the effort to support broader STEM with our covered educational institutions to carry out investments under section 2362, of Title 10, U.S.C. The Army must produce metric based success indicators to support continued funding in the efforts to expand and leverage our HBCU/MSI research bases.

Objective 3.1: Army funding and partnership opportunities will provide detailed requirements, along with well-defined and understood criteria for evaluation, and a method for engagement. These efforts will be effectively evaluated to ensure process is coherent and streamlined to avoid unnecessarily complicated, duplication, and application requirements.

Sample metrics:

- Track improvements to the quality of proposal submissions that meet the activity requirements
- Identify practices that will assist to provide mutually beneficial processes to support an improved solicitation processes
- Ensure each investment will provide a well-identified and communicated plan for execution

Objective 3.2s: Track data indicators and provide a systematic process for analysis of impact from the collective investments towards shared infrastructure priorities and objectives.

Sample metric:

- An annual review process that captures future execution plans along with a status from the previous year's investment and addressing identified challenges with recommendations for improvement

## **Summary**

The Army intends to use this strategy to continue to make measurable progress in supporting our HBCU/MSI partners with the shared goal of preparing a highly competitive and diverse workforce. Each S&T Command will provide an execution strategy that will work to align each of their HBCU/MSI investments, inclusive of a strategy to measure progress, with the priorities outlined above. Leveraging internal and external assets and investments, the Army's intent is to work strategically with our partners, using data driven indicators, to help support the development of highly competitive STEM capabilities among our covered schools that serve a large percentage of students from diverse communities. Collectively, we intend to impact the quality and quantity of diverse participation in Army research and development efforts.

Communication and transparency is key in working together with these covered institutions to enhance STEM capabilities. For Army research and development funded efforts, the Army will provide a comprehensive plan for expectations and annually review progress towards our collective investments. These annual reviews will serve to share best practices, lessons learned, and identify challenges within our HBCU/MSI investments to inform the next year's comprehensive funding program management efforts, both internally and externally, and should lead to conversations among our collective Army partners on how to work together and maximize our collective investments.