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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2023 Office of the Secretary Of Defense **Date:** April 2022

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 1: Basic Research</i>	<b>R-1 Program Element (Number/Name)</b> PE 0601228D8Z I <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	77.017	99.902	33.288	0.000	33.288	34.300	34.986	35.721	36.437	Continuing	Continuing
448: <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>	-	77.017	99.902	33.288	0.000	33.288	34.300	34.986	35.721	36.437	Continuing	Continuing

**Note**

New Start (Y/N): No

**A. Mission Description and Budget Item Justification**

This program element (PE) provides support for Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MI) in fields of science and engineering that are important to national defense. The Department of Defense (DoD) HBCU/MI program encourages participation of small minority schools as well as large minority research institutions. The program is authorized by 10 U.S.C. § 2362 and is funded by annual appropriations. This competitive program provides support through grants, cooperative agreements, or contracts for research, education assistance, and instrumentation purchases.

Work in this PE provides a foundation to enhance participation of HBCUs/MIs in DoD research. Programs are structured to: build infrastructure; strengthen research and educational opportunities at HBCUs/MIs and increase the number of minority graduates in the science, technology, engineering, and mathematics (STEM) disciplines; and build a more diverse pool of scientists and engineers to meet future workforce needs.

Work in this PE is performed by the Services' Research Offices and DoD Laboratories (includes the Army Research Laboratory and the Air Force Research Laboratory) for Centers of Excellence (COE). Centers currently funded through cooperative agreements include Autonomy, Cyber Security, Research Data Analysis, STEM Scholars, and Minority Women in STEM.

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<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>
0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 1: Basic Research</i>	PE 0601228D8Z I <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Previous President's Budget	81.280	31.136	0.000	-	0.000
Current President's Budget	77.017	99.902	33.288	-	33.288
Total Adjustments	-4.263	68.766	33.288	-	33.288
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	68.864			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.967	-			
• Other Reprogramming	-0.016	-	-	-	-
• FFRDC	-	-0.098	-	-	-
• Adjustments to Budget Year	-	-	31.702	-	31.702
• Economic Assumption	-	-	1.586	-	1.586
• Administrative Correction	-1.280	-	-	-	-

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 448: *Historically Black Colleges and Universities and Minority-Serving Institutions*

Congressional Add: *HBCU/MI Program Increase*

Congressional Add: *Minority STEM Recruitment and Research*

Congressional Add Subtotals for Project: 448

Congressional Add Totals for all Projects

	<b>FY 2021</b>	<b>FY 2022</b>
	49.325	68.864
	1.000	-
Congressional Add Subtotals for Project: 448	50.325	68.864
Congressional Add Totals for all Projects	50.325	68.864

**Change Summary Explanation**

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

FY 2022 Appropriation reflects a Program Increase of \$68.864 million.

FY 2021 administrative correction reflected to account for reporting error documented in PE 0601228D8Z BA 02 line number 9.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Office of the Secretary Of Defense										<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 0400 / 1				<b>R-1 Program Element (Number/Name)</b> PE 0601228D8Z / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>				<b>Project (Number/Name)</b> 448 / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>				
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
448: <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>	-	77.017	99.902	33.288	0.000	33.288	34.300	34.986	35.721	36.437	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MI) program provides support in fields of science and engineering that are important to national defense. The Department of Defense (DoD) HBCU/MI Program encourages participation of small minority schools and large minority research institutions. This competitive program provides support through grants or contracts for research, education assistance, instrumentation purchases, and technical assistance as described below.

- Research. The research grants further knowledge in the basic scientific disciplines through theoretical and experimental activities. Collaborative research allows university professors to work directly with military laboratories or other universities.
- Education. Education assistance funds are used by minority institutions to strengthen their academic programs in science, technology, engineering, and mathematics (STEM), thereby increasing the number of under-represented minorities obtaining undergraduate and graduate degrees in these fields. These grants provide equipment, scholarships, cooperative work/study opportunities, visiting faculty programs, summer internship programs, and a variety of other enhancements designed to support students and to encourage them to pursue careers in STEM.
- Instrumentation purchases. The program allows universities to purchase basic laboratory equipment, such as lasers and spectrometers, for enhancements to the basic research efforts.
- Technical assistance. The funds are used to design programs that enhance the ability of minority institutions to successfully compete for future Defense funding by assisting the HBCU/MI community in areas such as proposal writing and administration of grants and contracts.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<b>Title:</b> Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MI)	26.692	31.038	33.288
<b>Description:</b> The HBCU/MI program provides support for research and collaboration with DoD facilities and personnel. The research grants further knowledge in the basic scientific and engineering disciplines through theoretical and empirical activities. Collaborative research allows university professors to work directly with DoD laboratories or other universities.			
<b>FY 2022 Plans:</b>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>Continue efforts from FY 2021. Conduct annual competition of the HBCU/MI program for basic research, student support, and/or equipment/instrumentation. Continue research and educational collaboration with the DoD laboratories. Continue the summer internship and faculty fellowship programs. Continue Centers of Excellence in support of the USD(R&amp;E) priorities and the National Defense Strategy in the areas needed to expand STEM opportunities for underrepresented minorities. Conduct annual review of the Centers. Conduct outreach activities, to include one webinar and two technical assistance workshops to expose HBCUs/MIs to opportunities in the DoD.</p> <p><b>FY 2023 Plans:</b> Conduct annual competition of the HBCU/MI program for basic research, student support, and/or equipment/instrumentation. Continue research and educational collaboration with the DoD laboratories. Continue the summer internship and faculty fellowship programs. Continue Centers of Excellence in support of the USD(R&amp;E) priorities and the National Defense Strategy in the areas needed to expand STEM opportunities for underrepresented minorities. Conduct annual review of the Centers. Conduct outreach activities, to include one webinar and two technical assistance workshops to expose HBCUs/MIs to opportunities in the DoD. Maintain minority STEM recruitment efforts in partnership with the Science, Mathematics and Research for Transformation (SMART) Scholarship for Service Program as encouraged by Section 250 in the FY 2021 National Defense Authorization Act (NDAA). Continue support of HBCU/MI Pilot Initiative with the SMART Scholarship Program to develop and train the next generation of STEM leaders. Encourage HBCU/MI students to apply for SMART scholarships through targeted outreach including joint webinars focused on fostering a community of diversity and the STEM workforce. Continue to examine recommendations provided by the National Academies of Sciences, Engineering, and Medicine in the report to Congress on defense research at HBCUs and other MIs as required by Section 262 of the FY 2020 NDAA.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Changes reflect minor budget fluctuations.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	26.692	31.038	33.288

	<b>FY 2021</b>	<b>FY 2022</b>
<b>Congressional Add:</b> HBCU/MI Program Increase	49.325	68.864
<b>FY 2021 Accomplishments:</b> Expand annual competition of the HBCU/MI program for equipment/instrumentation grants. Continue Centers of Excellence in support of the Under Secretary of Defense for Research and Engineering (USD(R&E)) priorities in the areas of Artificial Intelligence/Machine Learning (AI/ML), Quantum Science, and Fully-Networked Command, Control, and Communication. Continue STEM Centers of Excellence at the Center for STEM Scholars and the Center for Minority Women in STEM, needed to expand STEM opportunities for underrepresented minorities.		

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	FY 2021	FY 2022
Continue Aerospace Education Research and Innovation Center to support undergraduate research in materials and aerospace sciences relevant to DoD and to expand the future aerospace technical workforce, particularly for underrepresented populations. Conduct annual review of the Centers. Expand the HBCU/MI Program to develop new Centers of Excellence to address USD(R&E) priorities in the areas of Biotechnology and Materials Science. Conduct outreach activities, to include one webinar and one technical assistance workshop to expose HBCUs/MIs to opportunities in DoD.		
Maintain collaboration with the National Academies of Science, Engineering, and Medicine (NASEM) for the Minority-Serving Institutions Town Hall Series to examine strategies to expand STEM education and research activities at HBCU/MIs. Continue partnership with NASEM in support of the FY 2020 NDAA Section 262, National Study on Defense Research at HBCUs and other MIs. Monitor the University Affiliated Research Center HBCU Pilot Program supporting three regional HBCUs with research projects involving 5G, AI/ML, Cyber, and a ChatBot testbed to elevate the research profile and exposure to higher levels of defense research. <b>FY 2022 Plans:</b> Funding will augment quantum research and future aerospace training, as well as expand STEM opportunities for HBCU/MI scholars. In addition, funding will be used to advance the research and development capabilities of HBCU/MIs by increasing the number of grants awarded.		
<b>Congressional Add:</b> Minority STEM Recruitment and Research <b>FY 2021 Accomplishments:</b> Conduct minority STEM recruitment in partnership with the Science, Mathematics, and Research for Transformation (SMART) Scholarship for Service Program as encouraged by Section 250 in the FY 2021 NDAA. Support HBCU/MI Pilot Program with the SMART Scholarship Program to develop and train the next generation of STEM leaders. Encourage HBCU/MI students to apply for SMART scholarships through targeted outreach including joint webinars focused on fostering a community of diversity and the STEM workforce. Collaborate with the Air Force Research Laboratory's Minority Leaders Program to enhance STEM training for underrepresented populations in support of national security needs and the defense mission. Host a brainstorming meeting with stakeholders in the community to identify any new programming needed to round out the portfolio.	1.000	-
<b>Congressional Adds Subtotals</b>	50.325	68.864

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

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**C. Other Program Funding Summary (\$ in Millions)**

**Remarks**

**D. Acquisition Strategy**  
N/A