Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 2: *Applied Research*					R-1 Program Element (Number/Name) PE 0602022F / *University Affiliated Research Center (UARC) - Tactical Autonomy*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.000	8.018	0.000	8.018	8.208	8.400	8.558	8.739	Continuing	Continuing
622408: *HBCU University Affiliated Research Center (UARC)*	-	0.000	0.000	8.018	0.000	8.018	8.208	8.400	8.558	8.739	Continuing	Continuing

Note

This program, BA 2, PE 0602022F, project 622408, University Affiliated Research Center (UARC) For Tactical Autonomy, is a new start.

A. Mission Description and Budget Item Justification

The Tactical Autonomy University Affiliated Research Center (UARC) supports a consortium performing innovative research to advance the state of the art as well as cultivate awareness of and expertise in the field of tactical autonomy. Research topics of interest include, but are not limited to, the following: Trust in Mission Autonomy, Collaboration between Platforms, and Human Machine Teaming.

Funds in this program element are planned to investigate, design, develop, digitize, and/or analyze specified technology advancements in air, space, ground, sea, and/or cyber domains. This research will address factors that have complicated the deployment and adoption of autonomous technologies such as trust in mission autonomy, collaboration between platforms, and human-machine teaming. Research will also seek to integrate autonomous technologies with advanced battle management systems. The UARC will also work to expand the defense industrial base by identifying and incorporating applicable technologies from small businesses.

This research initiative will support the Department of Defense Science, Technology, Engineering, and Mathematics (STEM) strategic plan by establishing long-term core research expertise in tactical autonomy that will leverage scientific and engineering capabilities among the consortium of contributing HBCUs. Tactical autonomy will be a critical technology in prolonged great power conflict because the development of autonomous systems is a realistic approach to counter an advisory approaching parity in conventional strength in theatre, and tactical autonomy will enable warfighting capability in an environment where command and control may be disrupted by cyber or electronic warfare effects. This research will contribute to operational warfighting capabilities by increasing the capabilities of uncrewed platforms that will have greater availability, easier mobility and logistical sustainability, and shorter production cycle times. Research will produce creative solutions to optimize the capabilities of reliable data-driven autonomous platforms capable of operating in environments well suited to uncrewed systems, such as persistent defensive or force protection-related missions, or in high-risk environments such as heavy anti-access or Nuclear, Chemical, Biological (NBC) affected settings. One of the foremost advantages of the United States in great power competition is its advanced university-based scientific research institutions. This research initiative will strengthen HBCU scientific and engineering capabilities, advance the early career development of STEM students, leverage the research contributions of university faculty, and expand the pipeline of STEM graduates with national security experience for the government and the private-sector defense industrial base.

This program is in Budget Activity 2, Applied Research, because it includes studies, investigations, and non-system specific technology efforts directed toward general military needs with a view toward developing and evaluating the feasibility and practicality of proposed solutions and determining their parameters.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 0602022F / *University Affiliated Research Center (UARC) - Tactical Autonomy*

This program is in Budget Activity 2, Applied Research because this budget activity includes studies, investigations, and non-system specific technology efforts directed toward general military needs with a view toward developing and evaluating the feasibility and practicality of proposed solutions and determining their parameters.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	8.018	0.000	8.018
Total Adjustments	0.000	0.000	8.018	0.000	8.018
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	8.018	0.000	8.018

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: University Affiliated Research Center (UARC) For Tactical Autonomy	-	-	8.018	0.000	8.018
Description: Development of technologies and tools to enable autonomous systems to act with delegated and bounded authority of humans in support of tactical, short-term actions, associated with longer-term strategic visions. Examples of capability objectives are: Enhancing multi-domain situational awareness, faster data processing and analysis, enhancing force protection, supporting cyber defense, augmenting logistics operations, and automating maneuverability and mobility functions. ***FY 2024 Base Plans:*** Development of technologies and tools to enable autonomous systems to act with delegated and bounded authority of humans in support of tactical, short-term actions, associated with longer-term strategic visions. ***FY 2024 OCO Plans:*** Not applicable. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** This funding is a new program element request in FY 2024. The base contract was awarded to Howard University in FY 2023 as the lead vendor for the HBCU tactical autonomy university consortium.					
Accomplishments/Planned Programs Subtotals	-	-	8.018	0.000	8.018

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 0602022F / *University Affiliated Research Center (UARC) - Tactical Autonomy*

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The HBCU Tactical Autonomy UARC will be co-funded by the Office of the Under Secretary of Defense (Research and Engineering) and the Office of the Under Secretary of Defense (Acquisition and Sustainment).

E. Acquisition Strategy

Not applicable