UNLEASHING HBCU INNOVATION:

Why Federal Leadership Must Act Now

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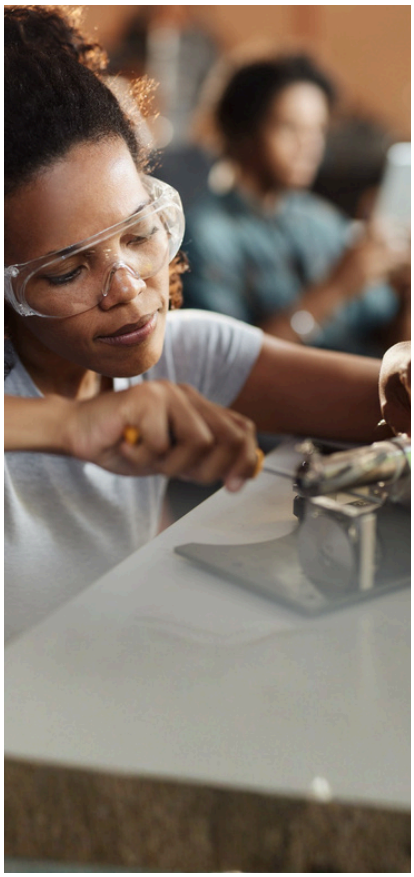

Unlocking America's innovation through its Historically Black Colleges and Universities.

Since the Carter Administration, which introduced the first executive order specific to Historically Black Colleges and Universities (HBCUs), each Administration has either introduced, amended, or revoked standing orders that characterize the ways HBCUs are vital to the nation. Some administrations have gone so far as to codify into law the significance of HBCUs to national research goals and particular parts of the research enterprise (10 U.S.C. §4144).

While the United States has specifically targeted research and development at Historically Black Colleges and Universities (HBCUs), these initiatives require stronger systematic federal approaches to addressing strengthen the research capacity of institutions that have long served American communities. Despite decades of executive orders and targeted programs, HBCUs receive only 0.91% of federal R&D funding. Systematic, sustained federal investment is essential to fully realize HBCU innovation potential.

Need for National Coordinated Approach to Increasing Funding

Past. The federal government's relationship with HBCU research began with the Second Morrill Act of 1890, signed by President Benjamin Harrison on August 30, 1890. These 1890 land-grant universities were established to receive federal funds supporting teaching, research, and extension activities intended to serve American and predominately rural communities.

The landmark legislation required states to establish separate land-grant institutions for Black students or demonstrate that admission to existing land-grant universities was not restricted by race. The act granted federal money rather than land and resulted in the designation of 19 HBCUs as land-grant universities, now known as 1890 institutions. The 1890 HBCU land-grants have historically suffered unequal funding from their state-governing bodies despite federal requirements.

Present. It was not until the December 2020 White House Initiative on Historically Black Colleges and Universities report "Federal HBCU Competitiveness Strategy: Fiscal Year 2021–22 Agency HBCU Competitiveness Plans" was there a federally drafted plan for coordinating an approach to increase funding outcomes for HBCUs. It reported,

> "Our exploration uncovered numerous, fragmented HBCU programs and initiatives across the federal government. While some of these efforts have yielded good outcomes, there was no common vision or strategy to link together federal HBCU activities. These disparate, uncoordinated efforts have invariably led to a less than optimal impact." (p.2).

Even after indicating, "no common vision of strategy" or there being "uncoordinated efforts," the report goes on to frame HBCUs as not being competitive enough to increase their federal research and development funding. This was a deficit minded perspective.

The May 2024 report "Advancing Research Capacity at High Research Activity Historically Black Colleges and Universities," released by the Interagency Working group of the National Science and Technology Council "identifies challenges and barriers to federal research and development awards for high research activity status (R2) HBCUs, and (2) identifies recommendations for federal research agencies to sustainably boost the research capacity of high research activity status HBCUs through awards-making authorities" (p.ii). But the report and recommendations centralize its efforts on just 11 HBCUs, the R2s, despite 46 HBCUs being identified as having research orientation and high research activity form the recent Research Classifications from Carnegie Classifications of Institutions of Higher Education from America Council on Education. There by excluding 76% of the HBCUs engaged in federal Research and Development activities.

Future. Despite the 2021 Federal Competitiveness Strategy Plan coordinated efforts, significant disparities persist. In fiscal year 2023, HBCUs received just 0.91% of federal research and development funding despite representing 3.2% of all four-year degree-granting institutions. HBCUs combined received combined received $828.9 million in federal science and engineering (S&E) funding of which 86% was awarded to 25 HBCUs. Recent re-allocation announcement of funding to HBCUs through Title III has the potential to increase funding to HBCUs for student success efforts like those integral to student research and development engagement. A 2022 study indicates the direct relationship between student success measures and research expenditures, thus increasing the federally available amount of R&D funding to HBCUs will directly impact the domestic talent production for American businesses [1]. The talent necessary for sustained and future innovation in a fast changing world.

Need for Federal Funding Agency to Lead a Coordinated Effort

Past. To date there has been no historic evidence of a federal funding agency leading a coordinated effort for R&D expansion for HBCUs. Six major federal departments and funding agencies have implemented targeted HBCU research initiatives with substantial funding commitments. The National Science Foundation created the HBCU Excellence in Research (HBCU-EiR) Program in 2018, featuring three components: planning grants, research grants connecting HBCUs to NSF core programs, and Ideas Lab grants for collaborative capacity building. NSF awarded $10.5 million through the ARC-HBCU opportunity in 2024. The Department of Defense launched Centers of Excellence at HBCUs in 2021 with $15 million for biotechnology and materials science research at North Carolina A&T and Morgan State University. Most notably, Howard University became the first HBCU to lead a University Affiliated Research Center (UARC) in 2023, receiving a five-year, $90 million Air Force contract for the Research Institute for Trust-

-worthy Autonomous Systems, partnering with eight additional HBCUs. NASA's Minority University Research and Education Project (MUREP) awarded $11.7 million to eight HBCUs through the DEAP opportunity in 2023 and $1.2 million to minority-serving institutions through MPLAN in 2024. The Department of Energy launched the HBCU Energy Education Prize in 2024, distributing nearly $8 million across two competitive tracks: Partnerships and Inspire. Ten HBCUs received $100,000 each in Phase 1 of the Partnerships Track to forge energy-focused collaborations with government agencies and industry partners. The Department of Transportation established systematic HBCU engagement across multiple operating administrations. The Federal Transit Centers,

include five HBCUs now leading research centers and 12 total institutions involved in transportation research. The Federal Highway Administration maintains quarterly webinars and operates the Summer Transportation Internship Program for Diverse Groups. Health and Human Services significantly increased HBCU research investment, providing $147.5 million in NIH funding to HBCUs recently. This includes the Maternal Health Research Collaborative for MSIs, allocating approximately $30 million over five years to seven HBCUs specifically for Black maternal health research initiatives. But each of these has been isolated efforts by a singular agency**,** explicit to agency mission, rather than a national agenda for Research & Development needs.

Present. The September 23 2025 memo from the White House Office of Science and Technology Policy regarding the (FY)2027 Administration Research and Development Budget Priorities [2] and Cross-Cutting Actions is grounded in the rationale that "**America' s science and technology (S&T) engine is-and must remain-the greatest in the world.**" As the memo indicates, to do this there must be focused investment in (1) Leadership in Critical and Emerging Technologies to include AI, Quantum, Semiconductors and Microelectronics, future computing and Advanced Manufacturing; (2) Energy Dominance and Exploration of New Frontiers including polar regions and the oceans; (3) Strengthening American Security to include advancing military capabilities, supporting S&T foundational needs for the Missile Defense System (Golden Dome), and investing in homeland preparedness and resilience from natural disasters; (4) Strengthening American Health to include funding prevention and treatment research, biosafety and biosecurity and biomanufacturing; and (5) Continued Space Dominance to include R&D in and around space exploration, "in-space aggregation and assembly, local resource utilization, space weather hazard prediction and mitigation, space nuclear power systems and biotechnologies for space application." The clarity in what should be funded provides agencies with clear direction on what S&T efforts are priorities of the current Administration.

Future. A lead federal agency coordinating HBCU R&D efforts would create synergies impossible under the current fragmented approach. Cross-cutting research initiatives could address multiple Administration priorities simultaneously. For example, AI research at HBCUs could advance both Critical Technologies and Health objectives by developing algorithms to address health disparities. Similarly, advanced manufacturing research could support both technological leadership and homeland security preparedness. Resource optimization would eliminate duplicative infrastructure investments while ensuring comprehensive coverage of research priorities. Rather than each agency building separate HBCU partnerships, coordinated efforts could create integrated research networks addressing multiple mission areas. Talent development acceleration through coordinated workforce development programs would create researchers capable of contributing across multiple priority areas, rather than limiting their expertise to single agency missions.

A lead federal agency could establish interagency working groups aligned with each of the five Administration R&D priorities, ensuring HBCU research initiatives contribute systematically to national objectives rather than operating as isolated efforts. This approach would transform current ad hoc coordination into a strategic

national asset for maintaining America's global S&T leadership position. The time for fragmented, agency-specific HBCU research support has passed. America's continued S&T dominance requires the systematic integration of all research capacity, including the unique capabilities and perspectives that HBCUs bring to addressing our nation's most critical challenges.

Need for additional funding to HBCUs in fulfilment of the new EO to spur innovation, creation of technology ecosystems, and public-private philanthropic partnerships

The April 23, 2025 Executive Order "White House Initiative to Promote Excellence and Innovation at Historically Black Colleges and Universities" establishes an federal framework that necessitates substantial additional funding to achieve its ambitious goals of spurring innovation, creating technology ecosystems, and fostering public-private philanthropic partnerships. The clear mandate for funding in Technology Ecosystem Development, Public-Private Philanthropic Partnership Infrastructure, and Alignment with National Innovation Priorities also requires an increase allocation of federal funding to do so, not merely re-allocation of current funding levels which as previously evidenced are .91% of federal R&D obligations.

Technology Ecosystem Development.

The Executive Order explicitly calls for "upgrading institutional infrastructure, including the use of technology" and "providing professional development opportunities for HBCU students to help build America's workforce in technology, healthcare, manufacturing, finance, and other high-growth industries." This technological transformation requires substantial capital investment that current fragmented agency funding cannot adequately support. The order establishes HBCUs as critical components of America's innovation ecosystem, particularly in artificial intelligence, quantum computing, semiconductors, and advanced manufacturing —all priority areas identified in the FY 2027 Administration R&D Budget Priorities. However, achieving this vision requires coordinated funding that addresses the persistent infrastructure deficits at HBCUs while simultaneously building cutting-edge research capabilities.

Public-Private Philanthropic Partnership Infrastructure. A central mandate of the Executive Order is "fostering private-sector initiatives and public-private and philanthropic partnerships to promote centers of academic research and program excellence at HBCUs." This represents a paradigm shift from traditional grant-based funding to sophisticated partnership models requiring federal investment to create the institutional capacity necessary for effective private sector collaboration. The order establishes the President's Board of Advisors on HBCUs within the Department of Education, comprising leaders from "philanthropy, education, business, finance, entrepreneurship, innovation, private foundations and current HBCU presidents." This board structure requires federal funding to facilitate meaningful coordination between diverse stakeholders and to provide HBCUs with the administrative capacity to manage complex partnership arrangements.

Alignment with National Innovation Priorities. Echoed in the language of the September 23, 2025 memo from Office of Science and Technology Policy there is discussion of need for critical and emerging technologies leadership and innovation ecosystem creation. There is also discussion of the infrastructure investment requirements. The Executive Order adamantly positions HBCUs as integral to America's leadership in critical technologies, stating the initiative will work to "improve the competitiveness of HBCUs for other sources of Federal research and development funding." The order's emphasis on "professional development opportunities for HBCU students to help build America's workforce in technology, healthcare, manufacturing, finance, and other high-growth industries" directly addresses the Administration's priority of maintaining America's S&T

leadership. Mandating the creation of "centers of academic research and program excellence at HBCUs" through public-private partnerships recognizes that HBCU innovation excellence while simultaneously calling for "upgrading institutional infrastructure, including the use of technology, to ensure the long-term viability of these institutions." The Executive Order's emphasis on "enhanced institutional planning and development, fiscal stability, and financial management" recognizes that HBCUs need comprehensive capacity building to effectively participate in complex public-private partnerships.

However, for these efforts to succeed the ongoing HBCU R&D competitiveness requires upfront investment in research infrastructure, faculty development, and institutional systems to scale successfully competing for and managing large-scale federal R&D projects. Without substantial federal investment, HBCUs are mitigated to current resources to develop workforce development programs aligned with national priorities. Despite previous administration encouragement, that "States [are] to provide the required State matching funds for 1890 Land-Grant Institutions," there has been no federal

recourse to States that do not comply.

Based on the distribution of current Administrative Executive Priorities 25-30% are related to (1) Commerce, given their focus on addressing tariffs, trade, energy, and economic policies; 40-45% are linked to (2) Research, given their emphasis on technological innovation, AI, science policy, and federal initiatives supporting research infrastructure; and 25-30% pertain to (3) National Security, given their focus on foreign threats, military, homeland security, counterterrorism, and defense-related priorities. HBCUs can and have contributed in each of these areas (Commerce, Research, and National Security).

Call to Action. Federal leadership must coordinate HBCU R&D investments now, America's technological dominance depends on unlocking the full innovation potential of these critical institutions. America's global leadership in critical technologies requires immediate, coordinated federal investment in HBCU research capacity. With 76% of research-active HBCUs excluded from current initiatives and persistent 0.91% funding disparities, we must transform fragmented agency efforts into systematic support that unleashes HBCU innovation potential for national security, economic prosperity, and technological dominance.

References

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[2] Vought, R. & Kratsios, M. (2025, September). FY2027.Fiscal Year (FY) 2027 Administration Research and Development Budget Priorities and Cross-Cutting Actions. White House Office of Science and Technology Policy. https://www.whitehouse.gov/wp-content/uploads/2025/09/M-25-34-NSTM-2-Fiscal-Year-FY-2027-Administration-Research-and-Development-Budget-Priorities-and-Cross-Cutting-Actions.pdf

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