

FEASIBILITY STUDY

REAL-TIME CAPACITY BUILDING: FEASIBILITY OF EMBEDDING RESEARCH DEVELOPMENT CONSULTANTS IN A FEDERAL FUNDING COMPETITION

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INTRODUCTION

There is a clear need to increase participation of all institution types in the research landscape.ⁱ The 150 Institutions of Higher Education (IHEs) with the highest total research expenditures have experienced consistent growth since 2010, resulting in a 56% increase in total research expenditures. However, during the same period, the other more than 500 IHEs, including many Emerging Research Institutions (ERIs) have experienced a 7% decrease in total research expenditures.ⁱⁱ Acknowledging this disparity, the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act included legislation to build research capacity within emerging research institutions (ERIs) to support faculty salaries, graduate and undergraduate training, and maintenance and repair of equipment and instrumentation, and to compete for and manage NSF awards.ⁱⁱⁱ The focus on ERIs is echoed in the Office of Management and Budget and Office of Science and Technology Policy's joint memorandum identifying funding priorities for federal agencies fiscal year 2025.^{iv} Further, the memo urges federal agencies to develop innovative funding processes that minimize administrative burden and engage new R&D performers to remain a leader in the global economy and address complex challenges.

In response to this need, the National Science Foundation's (NSF) Directorate for Technology, Innovation and Partnerships (TIP) established the Enabling Partnerships to Increase Innovation Capacity (EPIIC) program in 2022 with the goal of "broadening participation in innovation ecosystems that advance emerging technologies...by supporting capacity-building efforts at institutions of higher education (IHEs) interested in growing external partnerships."^v Recognizing the value of research development - a function that seeks to grow research or increase the research reputation of an institution, and research impacts, changes or a benefits to the economy, society, culture, public policy or services, health, the environment or quality of life, professionals in the proposal development process - TIP personnel partnered with the National Organization for Research Development (NORDP) Consultants Program led by Emory University, the NSF-funded Center for Advancing Research Impact in Society based at the University of Missouri (ARIS, OIA-1810732), Spelman College, and KnowInnovation (KI) to develop and implement an innovative funding model. This pilot explored the feasibility of embedding research development consultants into a live federal funding competition, including: 1) determining whether this innovative funding model was possible, 2) capturing feedback for the purpose of program evaluation to improve the model in the future, and 3) documenting the success rate of the proposals supported

by and awarded via this innovative model. All applicants that submitted proposals to the NSF EPIIC program were engaged in this innovative funding model.

ABOUT THE NORDP CONSULTANTS PROGRAM AND ARIS

The NORDP Consultants Program¹ is dedicated to increasing the diversity of our national research ecosystem by providing research development services to minority-serving institutions (MSIs) and emerging research institutions (ERIs) at no cost to the institution. It is the only established national program in the U.S. dedicated to increasing research capacity through the direct provision of research development services. The NORDP Consultants Program utilizes vetted research development professionals that may not otherwise be accessible to partner institutions. The Center for Advancing Research Impact in Society (ARIS)² is committed to serving traditionally underserved populations while supporting inclusive public engagement to ensure a diverse science workforce. ARIS provides professional development opportunities for individuals and institutions to grow their research impact and to design, implement and evaluate NSF broader impacts plans.

OVERVIEW OF NSF EPIIC PURPOSE, ELIGIBILITY, AND KEY ACTIVITIES

The NSF EPIIC program is administered by TIP with the purpose to broaden participation in innovation ecosystems that advance emerging technologies by supporting capacity-building efforts at institutions of higher education (IHEs) interested in growing external partnerships. EPIIC seeks to provide MSIs and ERIs that are not classified as R1 or R2 with the infrastructure support necessary to become equitable partners with teams competing under the current and subsequent NSF Engines program funding opportunities. EPIIC funding (up to \$400,000 per institution) can be used for capacity-building efforts needed to establish meaningful partnerships with external organizations to facilitate participation in the regional innovation ecosystem, such as: growing corporate, community, and/or local government relations; building external partnerships for nimble workforce development programs responsive to regional needs; growing external partnerships to advance technology commercialization, especially those relevant to the regional innovation ecosystem; and/or expanding the institution's research enterprise (e.g. research development, research administration, research leadership, etc.) through external partnerships.

NSF EPIIC Process and Timeline



Figure 1: Summary of NSF EPIIC process

NSF EPIIC applicants submitted four-page preliminary proposals focused on broadening "participation in innovation ecosystems that advance emerging technologies (e.g., advanced manufacturing, advanced wireless, artificial intelligence, biotechnology, quantum information science, semiconductors and microelectronics)." The proposals were submitted through the research.gov system with biosketches and current and pending support for key personnel in response to the NSF EPIIC solicitation. Each institution was limited to a single submission and identified three representatives to participate in proposal and partnership development workshops.

NSF selected 50 institutions to advance to the workshop stage using the following review criterion: *To what extent will the institution expand its innovation capacity through partnerships?*

All 50 institutions invited to participate could potentially be funded given that \$20M in funding from NSF for the EPIIC program was available and the budget per institution could not exceed \$400,000. Meaning, all applicants invited to move

¹ NORDP Consultants Program <https://www.nordp.org/nordp-consultants-program>

² Center for Advancing Research Impact in Society <https://researchinsociety.org/>

forward could potentially be funded if their full proposals were scored highly and recommended for funding via the NSF merit review process. Invitation to submit a full proposal was dependent on fully participating in the virtual and in-person workshops. During the workshops, the institutions coalesced into 13 consortia (listed in the results section) featuring similar challenges, assets, and/or solutions as a learning collaborative.

Timeline

- Program announced: 1/16/23
- Preliminary proposals due: 2/15/23
- Applicants notified of selection: 3/16/23
- Virtual workshop: 3/21/23
- Virtual workshop: 3/27/23
- Virtual workshop: 3/29/23
- Virtual workshop: 3/31/23
- Virtual workshop: 4/03/23
- In-person workshop held in Atlanta, GA, 4/11/23 - 4/13/23
- Full proposal due: 5/25/23

Virtual Workshops

The virtual workshops served two purposes: 1) to provide information and 2) to allow applicants and organizers to get to know each other. Each virtual session included a presentation from a peer mentor, an individual with experience building partnerships for or with an institution of higher education that is not an R1 or R2 who could share their firsthand perspective, and/or one of the organizers followed by multiple breakout discussions. During the virtual sessions, consortia started to tentatively form as applicants began to identify commonalities.

Presentations and topics included:

- Creating sustainable partnerships
- Trust
- Building industry collaborations
- Partnering with other institutions of higher education
- Research development

In-Person Workshop (2.5 days)

One hundred-twenty (120) representatives from 50 institutions attended the in-person workshop. The first day of the workshop was focused on finalizing the team arrangements. Each applicant organization gave a very brief presentation about their institution's assets, challenges, needs, and goals to the full audience. The consortia (listed in the Results section), learning collaboratives each comprised of institutions with similar challenges, assets, and/or solutions, were finalized by mid-morning on the second day of the workshop. Each consortium was assigned to a NORDP Consultant. Three NORDP Consultants took on double assignments, working with two consortia each, and six NORDP

Consultants worked with one consortium each. On average, each NORDP Consultant spent 14 (range 3-20 hours) hours working with each assigned consortium during the workshop. The remainder of the second day was focused on idea generation among consortia members to mature institutional plans and shared consortium activities. The final half-day of the in-person workshop included proposal development, presentations from each consortium about their institutional plans and shared consortium activities and feedback from organizers to strengthen these concepts in preparation for the full proposal, as well as planning post-meeting support.

During the in-person meeting, consortia had access to the Budget Doctor and the EPIIC Toolkit via the NORDP Consultants. The Budget Doctor, a seasoned research administrator skilled in budget development and research development, was available to develop rapid feasibility budgets to help institutions determine whether their scope of work was an appropriate size for the budget available. Due to the demand, the Budget Doctor also met with institutions after the in-person meeting. The Budget Doctor met with 16 institutions (32% of participating institutions).

The EPIIC Toolkit, a resource for applicants, included explanations, examples, and sample language that consortia could utilize in the proposal drafting process with their NORDP Consultant. Specifically, the Toolkit included:

- Submission checklist (see Appendix)
- Project description writer's outline
- Overview and rationale example
- Individual institutional plan templates
- Capacity building examples
- Guided evaluation menu
- Broader impact's example
- Collaborative plans examples
- Data management plan template
- Collaborative proposal instructions for submission

After the In-Person Workshop

All 50 institutions (within the 13 consortia) were formally invited to submit full proposals to the NSF EPIIC program. One institution withdrew from the competition before submission.

Proposal Development Support

When working with their assigned consortia, most of which included 3-6 institutions (average 4 institutions), each NORDP Consultant had significant autonomy to determine the best strategies for facilitating their group and the proposal development process. As reported by NORDP Consultants, although most groups met weekly in the post-workshop period, there were few other similarities in their approach, highlighting the

consultants' adaptability. For example, in terms of proposal production, some consortia used a single primary writer, others assigned sections to multiple writers, some utilized a formal internal review process, some asked a fellow NORDP Consultant to serve as an external reviewer, and others shared resources from their institutions. On average, each NORDP Consultants spent 13 hours (range: 4-20 hours) working with each assigned consortium in the post-workshop period.

FEEDBACK FROM APPLICANTS

After the 49 institutions completed the submission of their full proposal to the NSF EPIIC solicitation, the participants who attended the in-person workshop and submitted a proposal (n=120) were asked to provide feedback about the resources provided by the NORDP Consultants Program via an online survey via Qualtrics administered by Dr. Eck for the purpose of program evaluation and improving the process in the future. Likert scales and open responses were used to capture respondent feedback. Sixty-six participants responded yielding a response rate of 55%.

During the in-person workshop, 97% of respondents indicated that a NORDP Consultant helped them refine their project concept or identify potential collaborators. On average, 97% of respondents rated NORDP Consultants as Very Good or Excellent on the characteristics of the NORDP Consultants, specifically responsiveness, reliability, listening skills, proposal development knowledge and effective communication (see figure 2).

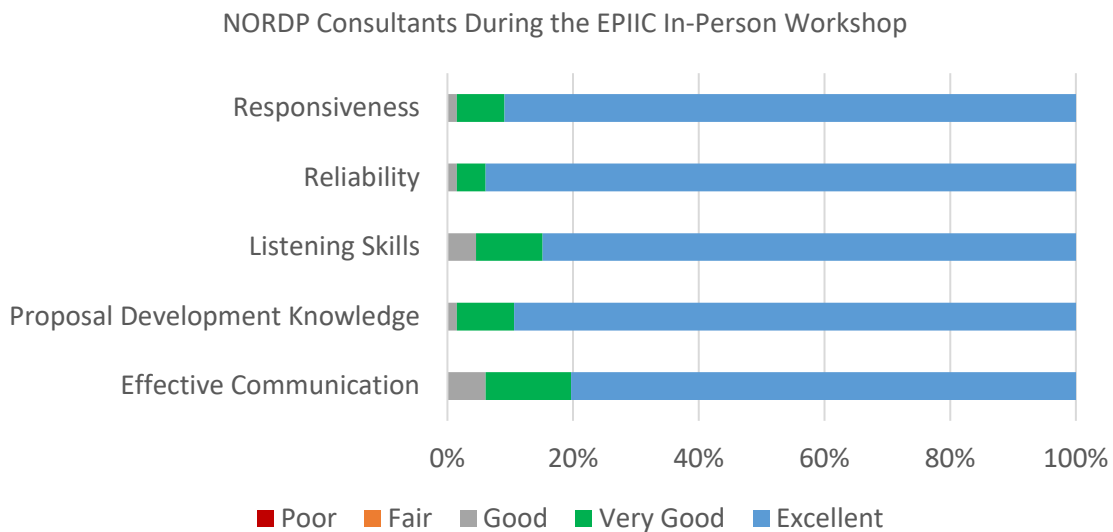


Figure 2: Rating NORDP Consultants across several characteristics during the in-person workshop

During the post-workshop period, 95% of respondents indicated that a NORDP Consultant helped them refine their project concept or identify potential collaborators. On average, 97% of respondents rated NORDP Consultants as Very Good or Excellent on the characteristics of the NORDP Consultants, specifically responsiveness, reliability, listening skills, proposal development knowledge and effective communication (see figure 3).

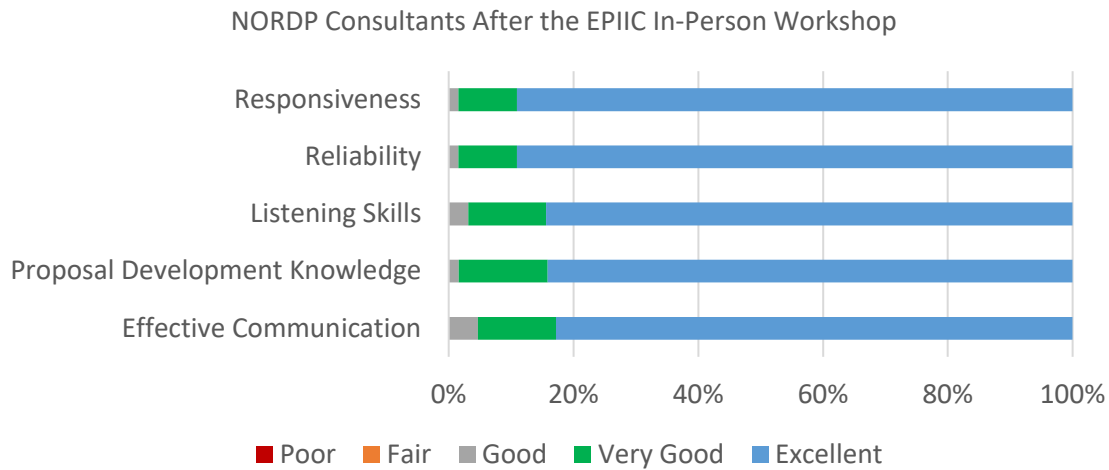


Figure 3: Rating NORDP Consultants across several characteristics in the post-workshop period

On average, 93% of the respondents rated the EPIIC Toolkit components as Very Good or Excellent on each of its components. The submission checklist was rated the highest with 100% rating it Very Good or Excellent (see figure 4). This straight-forward document is included in the appendix of this publication.

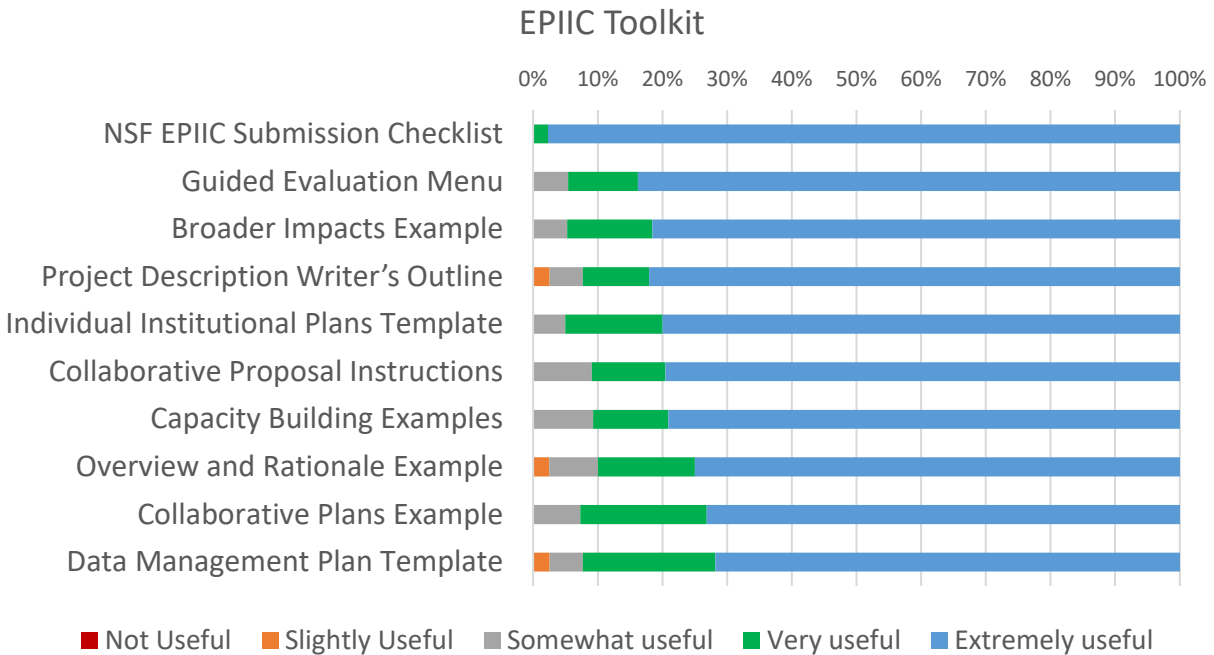


Figure 4: Rating usefulness of elements of the EPIIC Toolkit

Twenty-eight respondents worked with the Budget Doctor. On average, 88% rated the Budget Doctor as Very Good or Excellent on responsiveness, reliability, listening skills, proposal development knowledge and effective communication (see figure 5).

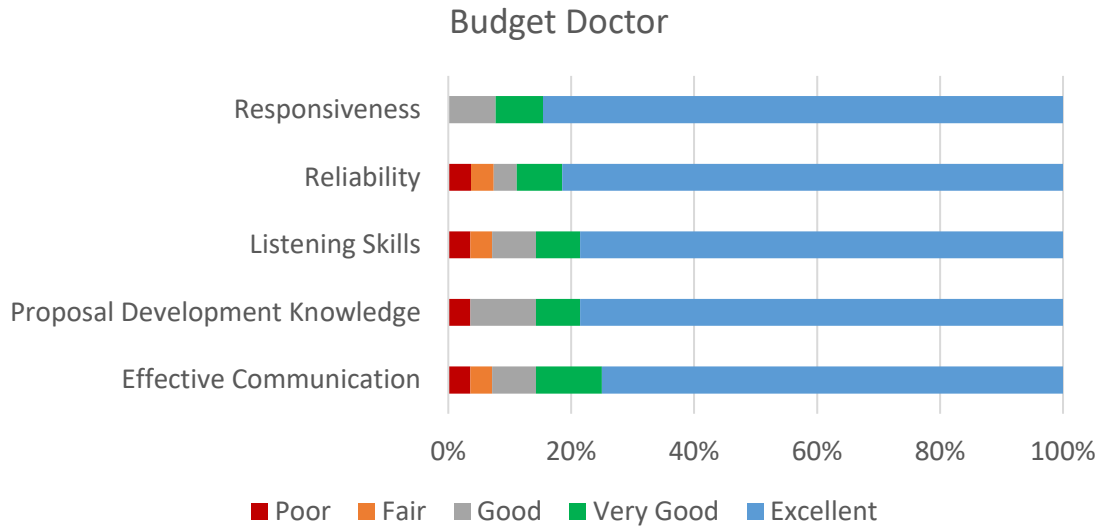


Figure 5: Rating characteristics of the Budget Doctor service

Open-ended Responses

Respondents were asked three open-ended questions. For each question, we grouped responses based on theme. Responses that covered more than one theme were coded as separate comments. In response to “What was the most useful piece of advice or resource that you received from the NORDP Consultants?” respondents highlighted content development and knowledge of NSF and proposal development most frequently (see table 1).

Table 1: Themes of common (at least 6) responses to “What was the most useful piece of advice or resource that you received from the NORDP Consultants?”

Themes	# of comments	Example
Concept development	15	“Willingness to help bring different concepts together to develop a cohesive proposal.” “Tying in our groups as a whole together”
Knowledge of NSF and proposal development	13	“Information deduced/translated from the NSF program officers.” “[Our Consultant] kept reminding us of the specific goals of the EPIIC solicitation.”
Writing & review	9	“proposal structure, evaluation and data management plan advice” “Detailed feedback on the proposal as we developed it”

General	7	<i>"In general, serving as a guide and keeping the group on track"</i> <i>"I can't pick just one everything they provided was extremely valuable."</i>
EPIIC Toolkit	6	<i>"Excellent templates and past successful models for various components of our plan and proposal"</i> <i>"Capacity activities template"</i>

In response to "What would you change if a similar support was offered to applicants seeking funding through another program?" respondents most frequently suggested additional resources be provided (see table 2).

Table 2: Themes of common (at least 6) responses to "What would you change if a similar support was offered to applicants seeking funding through another program?"

Themes	# of comments	Example
Additional resources	11	<i>"Include some research administrators to provide support and assistance with the mechanics of the proposal preparation and submission process."</i> <i>"provide examples of winning proposals"</i>
Clarity and more information	7	<i>"Maybe a one-pager about all of the different resources and people available and ways that each person could best help."</i> <i>"Just more clarity on who is who, when and where they are available to us."</i>

In response to "Anything else you'd like to share?" respondents most frequently wrote positive summaries and consultant compliments (see table 3).

Table 3: Themes of common (at least 6) responses to "Anything else you'd like to share?"

Themes	# of comments	Example
Positive summaries and thank you	12	<i>"I greatly appreciate this program; it's the kind of thing that can make a lasting impact on MSIs playing a bigger role in science/tech. Thank you!"</i> <i>"This was my first time submitting a grant proposal and I could not be happier."</i>
Consultant compliments	10	<i>"[Our Consultant] is outstanding and I could not ask for a better colleague during this process."</i> <i>"[Our Consultant] was extremely helpful in the entire process from concept development to proposal writing."</i>

Below we highlight one more comment submitted in response to this question that captures the intent of the NSF EPIIC program and process:

"I recommend this model to become a standard in future preproposal initiatives. I have never experienced an agency taking a direct approach to assist HBCUs and MSIs to ensure our success. This demonstrates your commitment to our universities and we recognize and appreciate it. I applaud the agency for this engagement and hope to see more of it. It made a huge difference in our submittal, our respect for the agency and the collaboration and future partnerships with other universities will help us all in our efforts to build capacity in research, translation of research into practice and to develop a diverse workforce. Thank you NSF and the NORDP consultants for all of your support and assistance."

OUTCOMES

After the NSF merit review, 13 of the 13 EPIIC consortia proposals were funded. All (100%) of the institutions that submitted a full proposal in response to the NSF EPIIC program were successful. Most (47) awards were made using NSF Collaborative Research proposal mechanism; 2 awards were made as sub-awards. In total, NSF awarded \$19.6M utilizing this innovative funding model.



Figure 6: NSF EPIIC Applicants Through Awards

The awardees are:

1. Collaborative Research: EPIIC: EmpowerEd -- Building the Future Workforce Together
 - *Albany College of Pharmacy and Health Sciences: Collaborative Research: EPIIC: EmpowerEd -- Building the Future Workforce Together (NSF Award 2331557).*
 - *Benjamin Franklin Cummings Institute of Technology: Collaborative Research: EPIIC: EmpowerEd -- Building the Future Workforce Together (NSF Award 2331559).*
 - *Hobart and William Smith Colleges: Collaborative Research: EPIIC: EmpowerEd -- Building the Future Workforce Together (NSF Award 2331555).*
 - *Montgomery College: Collaborative Research: EPIIC: EmpowerEd -- Building the Future Workforce Together (NSF Award 2331558).*
 - *Ohio Wesleyan University: Collaborative Research: EPIIC: EmpowerEd -- Building the Future Workforce Together (NSF Award 2331560).*
 - *University of Maine Farmington: Collaborative Research: EPIIC: EmpowerEd -- Building the Future Workforce Together (NSF Award 2331556).*
2. LIGHT UP: Leveraging Innovation to Grow High Tech and University Partnerships
 - *Alvernia University: Collaborative Research: Research Infrastructure: EPIIC: Collaborative Proposal: LIGHT UP: Leveraging Innovation to Grow High Tech and University Partnerships (NSF Award 2331571).*
 - *Bowie State University: Collaborative Research: Research Infrastructure: EPIIC: Collaborative Proposal: LIGHT UP: Leveraging Innovation to Grow High Tech and University Partnerships (NSF Award 2331573).*
 - *Kean University: Collaborative Research: Research Infrastructure: EPIIC: Collaborative Proposal: LIGHT UP: Leveraging Innovation to Grow High Tech and University Partnerships (NSF Award 2331572).*
 - *Marymount University: Collaborative Research: Research Infrastructure: EPIIC: Collaborative Proposal: LIGHT UP: Leveraging Innovation to Grow High Tech and University Partnerships (NSF Award 2331570).*
 - *Rowan College of Burlington County: Collaborative Research: Research Infrastructure: EPIIC: Collaborative Proposal: LIGHT UP: Leveraging*

- Innovation to Grow High Tech and University Partnerships (NSF Award 2331569).*
- *State University of New York College of Technology at Canton: Collaborative Research: Research Infrastructure: EPIIC: Collaborative Proposal: LIGHT UP: Leveraging Innovation to Grow High Tech and University Partnerships (NSF Award 2331568).*
3. Raising Rural Economic Development & Innovation (RREDI)
- *Angelo State University: Collaborative Research: EPIIC: Raising Rural Economic Development & Innovation (RREDI) (NSF Award 2331473).*
 - *Richard Bland College of William & Mary: Collaborative Research: EPIIC: Raising Rural Economic Development & Innovation (RREDI) (NSF Award 2331475).*
 - *Independence Community College: Collaborative Research: EPIIC: Raising Rural Economic Development & Innovation (RREDI) (NSF Award 2331474).*
 - *Longwood University: Collaborative Research: EPIIC: Raising Rural Economic Development & Innovation (RREDI) (NSF Award 2331472).*
4. Developing an Eco Engine Jumpstart Kit
- *Benedict College: Collaborative Research: EPIIC: Developing an Eco Engine Jumpstart Kit (NSF Award 2331632).*
 - *Kentucky Community & Technical College System: Collaborative Research: EPIIC: Developing an Eco Engine Jumpstart Kit (NSF Award 2331631).*
 - *Rose State College: Collaborative Research: EPIIC: Developing an Eco Engine Jumpstart Kit (NSF Award 2331633).*
5. Developing Emerging Technology Ecosystem Partnerships for Primarily Undergraduate Institutions
- *Champlain College: Collaborative Research: EPIIC: Developing Emerging Technology Ecosystem Partnerships for Primarily Undergraduate Institutions (NSF Award 2331431).*
 - *Christopher Newport University: Collaborative Research: EPIIC: Developing Emerging Technology Ecosystem Partnerships for Primarily Undergraduate Institutions (NSF Award 2331430), includes subaward to Western Oregon University.*
6. Cultivating Innovation and Research Capacity for Life Sustaining Emerging Technologies (CIRCLET)
- *College of Southern Nevada: Collaborative Research: EPIIC: Cultivating Innovation and Research Capacity for Life Sustaining Emerging Technologies (CIRCLET) (NSF Award 2332943).*
 - *Northern Marianas College: Collaborative Research: EPIIC: Cultivating Innovation and Research Capacity for Life Sustaining Emerging Technologies (CIRCLET) (NSF Award 2332944).*
- *University of Hawaii: Collaborative Research: EPIIC: Cultivating Innovation and Research Capacity for Life Sustaining Emerging Technologies (CIRCLET) (NSF Award 2332942).*
7. Expanding Team Capacity for High Impact and New Growth (ETCHING) Cohort
- *Columbus State Community College: Collaborative Research: EPIIC: Expanding Team Capacity for High Impact and New Growth (ETCHING) Cohort (NSF Award 2331216).*
 - *SUNY Onondaga Community College: Collaborative Research: EPIIC: Expanding Team Capacity for High Impact and New Growth (ETCHING) Cohort (NSF Award 2331217).*
8. HBCU Alliance for Strategic Partnerships for Innovation and Research Enhancement (HBCU-ASPIRE)
- *Coppin State University: Collaborative Research: Research Infrastructure: EPIIC: HBCU Alliance for Strategic Partnerships for Innovation and Research Enhancement (HBCU-ASPIRE) (NSF Award 2332022).*
 - *Florida Memorial University: Collaborative Research: Research Infrastructure: EPIIC: HBCU Alliance for Strategic Partnerships for Innovation and Research Enhancement (HBCU-ASPIRE) (NSF Award 2332021).*
 - *Harris-Stowe State University: Collaborative Research: Research Infrastructure: EPIIC: HBCU Alliance for Strategic Partnerships for Innovation and Research Enhancement (HBCU-ASPIRE) (NSF Award 2332024).*
 - *Kentucky State University: Collaborative Research: Research Infrastructure: EPIIC: HBCU Alliance for Strategic Partnerships for Innovation and Research Enhancement (HBCU-ASPIRE) (NSF Award 2332023).*
9. Increasing our Innovation SCOREs: Symbiotic Collaboration of Regional Ecosystems
- *Humboldt State University Foundation: Collaborative Research: EPIIC: Increasing our Innovation SCOREs: Symbiotic Collaboration of Regional Ecosystems (NSF Award 2331550).*
 - *Saint Francis University: Collaborative Research: EPIIC: Increasing our Innovation SCOREs: Symbiotic Collaboration of Regional Ecosystems (NSF Award 2331551).*
 - *Saint Mary's University of Minnesota: Collaborative Research: EPIIC: Increasing our Innovation SCOREs: Symbiotic Collaboration of Regional Ecosystems (NSF Award 2331553).*
 - *Seattle University: Collaborative Research: EPIIC: Increasing our Innovation SCOREs: Symbiotic Collaboration of Regional Ecosystems (NSF Award*

2331549), with a sub-award to Utah Tech University, includes subaward to Utah Tech University.

10. Generating Regional Innovative Partnerships (GRIP)
 - Ivy Tech Community College of Indiana: Collaborative Research: EPIIC: Generating Regional Innovative Partnerships (GRIP) (NSF Award 2331586).
 - Mississippi Gulf Coast Community College: Collaborative Research: EPIIC: Generating Regional Innovative Partnerships (GRIP) (NSF Award 2331583).
 - Washburn University of Topeka: Collaborative Research: EPIIC: Generating Regional Innovative Partnerships (GRIP) (NSF Award 2331584).
 - Wichita State University Campus of Applied Sciences & Technology: Collaborative Research: EPIIC: Generating Regional Innovative Partnerships (GRIP) (NSF Award 2331585).
 - William Rainey Harper College: Collaborative Research: EPIIC: Generating Regional Innovative Partnerships (GRIP) (NSF Award 2331582).
11. Colleges Aligning Resources to Elevate Education and Regional STEM (CAREERS) Workforce
 - Jefferson College: Collaborative Research: EPIIC: Colleges Aligning Resources to Elevate Education and Regional STEM (CAREERS) Workforce (NSF Award 2331703).
 - Ohlone Community College District: Collaborative Research: EPIIC: Colleges Aligning Resources to Elevate Education and Regional STEM (CAREERS) Workforce (NSF Award 2331704).

12. Enabling Meaningful External Research Growth in Emergent Technologies (EMERGE)
 - Kettering University: Collaborative Research: EPIIC: Enabling Meaningful External Research Growth in Emergent Technologies (EMERGE) (NSF Award 2331219).
 - University of Northern Colorado: Collaborative Research: EPIIC: Enabling Meaningful External Research Growth in Emergent Technologies (EMERGE) (NSF Award 2331221).
 - University of the Incarnate Word: Collaborative Research: EPIIC: Enabling Meaningful External Research Growth in Emergent Technologies (EMERGE) (NSF Award 2331218).
 - Western Carolina University: Collaborative Research: EPIIC: Enabling Meaningful External Research Growth in Emergent Technologies (EMERGE) (NSF Award 2331220).
13. Managing Culture Change on Two Fronts: Strengthening Our Capacity to Develop Partnerships
 - The College of New Jersey: Collaborative Research: EPIIC: Managing Culture Change on Two Fronts: Strengthening Our Capacity to Develop Partnerships (NSF Award 2331372).
 - University of Wisconsin-Eau Claire: Collaborative Research: EPIIC: Managing Culture Change on Two Fronts: Strengthening Our Capacity to Develop Partnerships (NSF Award 2331373).

LESSONS LEARNED

Although feedback on the EPIIC process was overwhelmingly positive, applicants desired more resources and more information. The applicants suggested that more support from research administrators, the Budget Doctor, the EPIIC Toolkit, and NORDP Consultants themselves be added. Additionally, not only did several applicants request information about the resources provided, others suggested resources be added in the future that were, in fact, already available, suggesting that an overview of resources provided early in the engagement process would be valuable. In a debrief session, NORDP Consultants emphasized the need for more time between the in-person workshop and submission deadline to conduct a mock external review of the proposal and address feedback.

CONCLUSION

This NSF EPIIC Growing Research Capacity Pilot program in support of the proposal application process successfully demonstrated how research development and research impacts professionals could be embedded into a live federal funding competition to support MSIs and ERIs in acquiring federal funding. The applicants reported extremely high levels of satisfaction with the NORDP Consultants and other resources. This pilot of an innovative funding model was ultimately successful – achieving a 100% proposal success rate. A full Replication Toolkit will be developed during future rounds of the NSF EPIIC program that will enable other funders interested in this innovative funding model to replicate the full process.

ⁱ National Science Board. (2020). Vision 2030.
<https://www.nsf.gov/nsb/publications/2020/nsb202015.pdf>

ⁱⁱ Eck, K. (2023) Feasibility and Early Results of Providing Research Development Consulting Services to HBCUs: Year 1 of the NORDP Consultants Pilot Project. A New Opportunities in Research Development (NORD) Publication.
https://nordp.memberclicks.net/assets/NORD/Eck_Feasibility%20and%20Early%20Results_FINAL.pdf

ⁱⁱⁱ The White House. (2022). Fact Sheet: CHIPS and Science Act Will Lower Costs, Create Jobs, Strengthen Supply Chains, and Counter China.
[https://www.whitehouse.gov/briefingroom/statements-](https://www.whitehouse.gov/briefingroom/statements-releases/2022/08/09/fact-sheet-chips-and-science-act-will-lower-costs-create-jobs-strengthen-supply-chains-and-counter-china/)

[releases/2022/08/09/fact-sheet-chips-and-science-act-will-lower-costs-create-jobs-strengthen-supply-chains-and-counter-china/](https://www.whitehouse.gov/briefingroom/statements-releases/2022/08/09/fact-sheet-chips-and-science-act-will-lower-costs-create-jobs-strengthen-supply-chains-and-counter-china/)

^{iv} The White House. (2023). Multi-Agency Research and Development Priorities for the FY 2025 Budget. <https://www.whitehouse.gov/wp-content/uploads/2023/08/FY2025-OMB-OSTP-RDBudget-Priorities-Memo.pdf>

^v National Science Foundation. NSF 23-528 Enabling Partnerships to Increase Innovation Capacity (EPIIC). <https://www.nsf.gov/pubs/2023/nsf23528/nsf23528.htm>. Accessed September 6, 2023

APPENDIX

NSF EPIIC APPLICATION SUBMISSION CHECKLIST

NSF EPIIC APPLICATION SUBMISSION CHECKLIST	
	Cover Sheet (submitted by each institution)
	Project Summary (submitted by Lead only)
	Project Description (final submitted by Lead only)
	References Cited (submitted by Lead only)
	Data Management Plan (submitted by Lead only)
	Biographical Sketches (submitted by each institution for THEIR key personnel)
	Postdoctoral Mentoring Plan (only required if postdocs budgeted) (submitted by Lead)
	Current and Pending Support (submitted by each institution for THEIR senior personnel)
	Collaborators and Other Affiliations (submitted by each institution for THEIR senior personnel)
	Facilities, Equipment & Other Resources (submitted by each institution)
	Budget (submitted by each institution)
	Budget Justification (submitted by each institution)
	Copy of Letter of Invitation to Submit a Full Proposal (submitted by each institution)

EPIIC	
	Final & complete
	Working; a version has been shared and/or final edits in progress
	Working but not reviewed or shared version yet
	No version started; pending assignment
	Optional & TBD