REQUEST FOR PROPOSALS

SPECIAL CALL FOR BUILDING THE DEFENSE INNOVATION-BASE'S ADVANCED MANUFACTURING WORKFORCE PROGRAM

Final Proposal with Final Budget, Due: April 21, 2023

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SECTION 1: INTRODUCTION AND DURATION

INTRODUCTION

A need to build and expand the nation's innovation-based manufacturing workforce capability and capacity has been clearly established through national STEM workforce analyses, including the 2018 Deloitte Skills Gap and Future Workforce in Manufacturing Study, which was updated in 2021 in the report titled "Creating Pathways for Tomorrow's Workforce Today". This analysis estimates that the nation will see 2.1 million manufacturing positions go unfilled by 2023 at a cost of $1 trillion by 2030 unless the U.S. steps up to this pivotal supply-side challenge.

This situation is partially due to the fact that only 20% of graduating high school seniors are ready for the rigors of STEM occupations, leaving manufacturers and other advanced technology companies forgoing investment in advanced manufacturing tools and/or offshoring manufacturing jobs. The United States is expected to lose $1 trillion in economic output due to the skills gap in 2030 alone.

Focusing solely on education at the high school, vocational, and college/university levels to rebuild this critical workforce is not enough to sufficiently address the 2.4 million unfilled STEM positions, especially given that the number of students graduating high school is projected to shrink beginning in 2025. The Nation needs to tap into new sources of potential STEM talent via a strategic focus on under-represented communities at the post-high school level.

An additional level of complexity to addressing this skills gap is the speed at which technology evolves, quickly rendering technical skills obsolete. STEM workers focused on advanced technologies and manufacturing practices must be able to upskill quickly to keep pace with technological change. This Special Call will support various projects that will assist in building a technical workforce that can adapt to the exponential growth in technology and support industry in embracing advanced manufacturing technologies.

PROJECT DURATION

There are **three distinct objectives** associated with this Special Call. The duration of each objective is unique. The specific period of performance for each objective can be found below. Proposers should use a notional start date of May 1, 2023, for budgeting purposes.

SECTION 2: SPECIAL CALL OBJECTIVES

If there is interest in responding to multiple objectives, **proposers should plan to submit separate proposals for each objective**.

Objective 1: Creation of an Advanced Manufacturing Workforce Collaboration Network (Phase I)

Facilitate collaboration network for the purpose of bringing together multiple stakeholders from the Federal government, state and local governments, representatives from regional industry, workforce development boards, education providers, MIIs and other essential stakeholders to build systemic solutions to manufacturing and supply chain challenges in the workforce. The project will have two outcomes: (1) a regionally focused group addressing specific manufacturing/supply chain workforce needs; and (2) the creation of a model that can be implemented in other areas of the United States. To execute on these tasks, performer(s) will create an operational plan that includes:

a. Provide an Advanced Manufacturing Workforce Collaboration Network Project Plan

- Develop project plan that details activities, schedule, dependencies, cost, risks/mitigation plans, and reporting structure. Project plan should include identification of the Phase I region, as well as one back-up region.

b. Development of a Network Stakeholders Map
   - Conduct analysis of stakeholders within Phase I region through the generation of a Network Stakeholders Map, which will serve to identify and capture the needs and expectations of major stakeholder interests inside and outside of the project environment.

c. Development of Communications Plan
   - Based on findings from Network Stakeholders Map, develop a multiple level/channel Communications Plan that will provide appropriate information within the context of the different major stakeholders. Plan will provide approaches to align major stakeholders, provide actions to mobilize stakeholders, and provide guidance to address known and potential stakeholder resistance in a proactive manner for the purpose of reducing or eliminating resistance.

d. Development of Collaboration Network Governance Framework
   - Document the process necessary to build a region-specific Collaboration Network. Framework should cover establishing common vision, creating action-enabling objectives, norms, roles and responsibilities, and the timeframe for Collaboration Network Engagement approach.

e. Conducting Advanced Manufacturing Workforce Collaboration Network Engagement Events Plan
   - As a follow-on to task 1D, develop a Collaboration Network Engagement approach using a variety of meeting formats such as face-to-face, virtual, asynchronous team meetings, etc. through a minimum of two events: an introductory virtual meeting followed by a multi-day in-person meeting.

f. Development of an Internal DoD-wide Manufacturing Workforce Working Group Plan
   - Investigate, understand, and document DoD-wide stakeholders' roles, activities, and interest in supporting the Collaboration Network.

g. Providing Phase I Project Summary and Recommendations
   - Within 30 days of completion, generate a summary of activities, lessons learned specific to each activity, list of all stakeholders with contact information and appropriate details on the stakeholder's role, connections, and interest, recommendations on next steps, and potential target regions.

Deliverables include: project plan; stakeholders map; communications plan; governance framework; events plan; working group plan; project summary and recommendations; and supporting documentation as appropriate.

Period of Performance: 12 Months from Start Date

Objective 2: Development of Resources to Advance Learning Technologies & Career Support Tools

Conduct quantitative and qualitative research and develop new solutions, prototypes, and models to advance and evolve the knowledge and methodologies around building an appropriately skilled workforce at the same pace as technology is advancing. High level of interest in the generation of employable models and tools that will support emerging technologies and workers over traditional reports.

a. Create a Workforce Readiness Levels Framework for Critical Technical Areas and Emerging Technologies
   - Research, develop, test, and refine a model based on the Technology Readiness Level (TRL) and Manufacturing Readiness Level (MRL) methodologies that attempts to draw relationships between traditional workforce development and technology maturation to

predict what and when workforce development can begin without spending needless time and energy in areas likely to change later in the maturation process. Once a model or prototype has reached state of use, provider will use it on a technology area(s), such as additive manufacturing or collaborative robotics, to map an optimum workforce development methodology based on TRL and MRLs. As the proof of concept is verified, the provider will use up to three technologies identified by the government to apply the framework.

b. Create an Occupation Modeling Tool for Critical Technical Areas and Emerging Technologies
    - Research, develop, test, and refine a novel type of online tool that uses "big data" as cross-sectional input as a means for compensating for lack of time typically required by longitudinal studies. Using proprietary real time transactional labor market data available from vendors, conduct network analysis to model the universe of career paths that are available from a first job to current job for millions of workers. Using this network representation, evaluate the likelihood of mobility between occupations. The intent is to create an algorithm to model career mobility thereby allowing reverse engineering of likely paths to early- and mid-stage defense technologies such as flexible hybrid electronics, bio-industrial manufacturing, or collaborative robotics.
c. Develop on Online Additive Manufacturing Course for Non-Technical Acquisition Career Fields
    - Investigate, develop, test, and refine an online Additive Manufacturing (AM) course targeted at non-technical acquisition professionals. Professionals in various fields need to understand AM for their roles in creating specifications, estimating cost, overseeing program testing, and conducting ongoing maintenance of additive systems, and so on.

Deliverables include: final products of the Workforce Readiness Framework; final products of an Occupational Study and Model; final online training course; supporting materials as appropriate.

Period of Performance: 12 Months from Start Date

Objective 3: Creation of an Advanced Manufacturing Career Exploration and Mapping Tool

Development and customization of an online career exploration tool using commonly available data to support the Defense MII technologies. Tool will provide current employees, students, and transitioning Servicemembers with access to critical career information to identify career pathways and steps needed to secure well-paying jobs in the advanced manufacturing sector.

Build an Advanced Manufacturing Career Exploration and Mapping Tool

a. Pilot a state-of-the-art prototype career exploration "Google-Maps-like" mapping tool that depicts education and training pathways that lead to advanced manufacturing occupations in an ecosystem served by a DoD funded MIIs. The prototype map will:
    - Provide descriptive information on job competencies and entry-level salaries;
    - Depict multiple degree and non-degree education and training options including courses, badges, certificates, and other credentialing; and
    - Enable users access collateral education and training materials for targeted occupations.

Deliverables include: final online career exploration tool and supporting materials as appropriate.

Period of Performance: 12 Months from Start Date

SECTION 3: PROPOSAL SUBMISSION PROCESS

3.1 Deadline

Proposers should submit a Final Proposal and Cost Proposal (using the NextFlex Cost Proposal template) no later than April 21, 2023.

3.2 Proposal Format Guidelines

To accelerate contracting, it is anticipated that the Proposal will be incorporated as an attachment into the final agreement. It is imperative that proposals define tasks and deliverables that are tangible, measurable, and demonstrable. The specifications of each task and deliverable must be clearly defined. The project should detail tasks, deliverables, and the project schedule, and should include quarterly and final reports, and the Cost Proposal should be created using the provided template. Ensure all instructional design service costs, travel, and other direct costs are included in the Cost Proposal.

Submission: The proposer shall submit one (1) electronic copy of its Detailed Research Plan (DRP) with a complete cost proposal to proposal@nextflex.us.

SECTION 4: ADMINISTRATIVE TOPICS

4.1 Confidential Information

Proposals are not considered confidential and will be provided to the OSD ManTech EWD team for review. If confidential/proprietary information needs to be included, proposer shall contact NextFlex before the Project Abstract due date.

NextFlex will only share proposal content with OSD ManTech and will not share proposal content with other proposing institutes or any other outside organizations or individuals.

Additionally, proposers should refrain from including export-controlled information in their submissions. If a proposer believes that inclusion of export-controlled information is required to fully convey the merits of its proposal, the proposer should contact NextFlex by email to proposal@nextflex.us to discuss this issue no later than April 19, 2023.

4.2 Financial Requirements

Subaward agreements generally will be awarded as cost reimbursement, not-to-exceed subawards subject to Uniform Guidance (2 CFR 200). If the proposer's organization has a U.S. government-approved rate structure, please use it. All subrecipients of the Special Call subawards are expected to have a government approved or industry standard accounting system by which actual project costs are tracked and reported. Must have a Unique Entity Identification (UEI) number.

4.3 Eligibility Requirements

Organizations familiar with OSD ManTech's overall education and workforce development strategy are preferred.

4.4 Funding Amount

Granting of subawards to proposals submitted in response to this Special Call is contingent upon the continued availability of U.S. government funding.

SECTION 5: PROPOSAL EVALUATION AND SELECTION

Once a subawardee has been selected by OSD ManTech, NextFlex will notify the organization of their selection and provide an overview of the contracting process. (Issuance of subawards to proposals submitted in response to this Special Call is contingent upon the continued availability of U.S. government funding.)

SECTION 6: IMPLEMENTATION AND MONITORING

Once project performers have been selected, NextFlex will create an agreement that incorporates the proposer's Final Proposal and Budget. The subrecipient will be responsible for implementing its Scope of Work. NextFlex will provide oversight and monitoring.

SECTION 7: REPORTING

The subrecipient will be required to deliver quarterly financial and technical reports to NextFlex, as well as a final technical and financial report. NextFlex will compile reports and will submit quarterly and final reports to OSD ManTech.

SECTION 8: CONTACT INFORMATION

Communication and questions during the proposal period and submission of proposals should be directed by email to proposal@nextflex.us, addressed to Taylor McLeod.

SECTION 9: SPECIAL CALL DOCUMENT LIST

The following documents are relevant to the submission process:

1. Detailed Research Plan (DRP)
2. Cost Proposal, Attachment A