

Project Call for America Makes Research Projects

DoD Point of Need Manufacturing Challenge



America Makes

Driven by



NCDMM
NATIONAL CENTER FOR DEFENSE
MANUFACTURING AND MACHINING

Prepared by

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1 EXECUTIVE SUMMARY

Funding Opportunity Title: DoD Point of Need Manufacturing Challenge

Announcement Type: Directed Project Call. Proposals for projects outside of these Special topic areas will not be considered at this time. The funding source for the Point of Need Manufacturing Challenge is the United States Department of Defense, which will be funding efforts with a projected profile of \$1,500,000.

Dates:

Step 1 – Project concept paper and quad chart submissions must be submitted by e-mail to projectcall@americamakes.us “DOD Point of Need Manufacturing Challenge - CONCEPT – STA#” and must be received no later than 5 p.m. Eastern Time Monday, February 6, 2023. Submissions received after the deadline will not be considered.

Step 2 – Team presentation packages (by invitation only) must be submitted by e-mail to projectcall@americamakes.us marked with “DOD Point of Need Manufacturing Challenge – PRESENTATION - STA#” and must be received no later than 5 p.m. Eastern Time Wednesday, March 1, 2023. Submissions received after the deadline will not be considered.

Submission Address: All project concepts and presentation packages are to be submitted electronically to projectcall@americamakes.us. All concepts or presentation packages will be acknowledged with an email confirmation from NCDMM within 24 hours of receipt. Should an acknowledgement email not be received within 24 hours, it is the sole responsibility of the submitter to contact the NCDMM technical contact and ensure receipt. NCDMM is not responsible for email system malfunctions or undeliverable email.

Funding Opportunity Description: NCDMM is soliciting competitive proposals supporting the America Makes mission of promoting and accelerating the development and deployment of innovative, cost effective, energy-efficient additive manufacturing (AM) technologies to meet defense and/or commercial needs. The Department of Defense Manufacturing USA Institute Point of Need Manufacturing Challenge is focused on protecting and Pursuing US interests at home and abroad. The United States relies on a robust and innovative domestic manufacturing sector. The federal government has established Manufacturing Innovation Institutes (MIIs) to be national, public-private partnerships including leaders in industry, academia, and nonprofits. The MIIs were established to develop, demonstrate, and accelerate the early adoption of advanced manufacturing by funding research, development, technology, engineering, education, and workforce development projects and by creating an ecosystem that advances advanced manufacturing.

OSD ManTech is working with America Makes to assemble and review white papers addressing dual-use applications that are responsive to specific needs of the Department of Defense (DoD) - and the domestic manufacturing industry. This project call is focused on a single Special Topic Area (STA), which is summarized in Section 2 below. This STA has been derived from the DoD advanced manufacturing community and contains multiple challenges. Project teams can select one or more challenges to address.

Project teams must include America Makes (NCDMM) as a team performer in their projects. At a minimum, America Makes (NCDMM) should perform project

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management. Project teams are also encouraged to leverage successfully completed MII technology development programs as well as MII Consortium Developed Intellectual Property (CDIP) in their submissions. **All proposers are required to contact America Makes (NCDMM) at projectcall@americamakes.us to discuss their concept as soon as they intend to submit for this project call, i.e. prior to concept submission (Step 1).**

OSD ManTech has identified examples of point-of-need manufacturing applications of interest from our DoD partners. Project teams are being asked to bring innovative manufacturing solutions that can be deployed close to the warfighter. Technologies must be designed to operate within both of two challenging operational environments. Technologies will be demonstrated at a location chosen by DoD within the continental United States that represents one of the following two operational environments:

- The reach of U.S. forces is global. For the sake of the challenge, the demonstration location could be either a cold weather (i.e. arctic-type) location or a hot-humid location. DoD will determine a location within the continental United States (CONUS) to host the manufacturing challenge event and this location will be either cold weather or hot-humid. The proposer's solutions must be able to operate in both conditions even though they will be demonstrated in only one chosen by DoD.

Total Amount to be Awarded: The United States Department of Defense and NCDMM will conduct a competitive proposal process and is targeting to make available **\$1,500,000**. Three awards are anticipated. Proposed project presentation budgets must not exceed **\$500,000** of federal funding and must include America Makes as an execution partner. DoD and NCDMM reserve the right to select a single award, multiple awards, or no awards in the STA outlined in Section 2.

Proposer Eligibility: OSD ManTech recommends proposer team arrangements that enable the organizations involved to complement each other's unique capabilities, while offering the best combination of performance, cost and delivery.

- The lead proposer and any proposal team member receiving federal award funding must be an America Makes member. Non-America Makes members may contribute to contract execution via cost share. Any non-America Makes members contributing to proposed effort execution are not permitted to participate in project team discussions until completing a fully executed America Makes Membership Agreement. Deadline for applicant members to establish a fully executed Membership Agreement is Friday, February 3, 2023. Information on how to join America Makes is available at www.americamakes.us/membership (Note: The foreign membership approval process requires a minimum of three weeks to complete.)
- Each team must contain at least one industry organization who is capable of delivering a system to a DoD acquisition organization and who can: a) provide the use case(s) that will guide the overall development and integration, b) conduct the final system demonstration(s) in the operational environment, and c) provide the business rationale and economic justification for pursuing the development.

- Team lead organizations will be evaluated on past program performance, overall programmatic experience and capabilities, and their overall capability for ultimately commercializing any technology developed.
- Team arrangements must be identified, and relationships shall be fully disclosed.
- The lead Proposer is fully responsible for all project and subcontract performance.
- If a project will manage export-controlled information or restricted material, Foreign Nationals will not be permitted to perform work under this project at lead proposer or any subrecipient facilities, remotely, or otherwise. As used in this provision, the term “Foreign National” means any natural person who is not a lawful permanent resident as defined by 8 U.S.C. 1101(a)(20) or who is not a protected individual as defined by 8 U.S.C. 1324b(a)(3). It also means any foreign corporation, business association, partnership, trust, society or any other entity or group that is not incorporated or organized to do business in the United States.
- See Section 3.5 for additional requirements

Cost Share Requirement: Cost share is not required. However, cost share will be reviewed favorably.

Period of Performance: The maximum allowable period of performance is 6 months. A complete first draft of the final report shall be submitted to NCDMM no later than the conclusion of month five of the proposed effort. It is expected that proposed efforts will include 5 months of execution of technical tasking followed by 1 month of final report development for a total maximum allowable period of performance of 6 months. All projects must be completed and closed prior to Dec. 15, 2023. All development tasks under the award must be completed, all deliverables must be submitted and approved, technical reports and all close-out documentation required under the America Makes sub-agreement with the project performer(s) must be submitted by this date.

2 PROPOSED RESEARCH PROGRAM

The Special Topic Area relevant for this project call is listed below. Submissions may focus on one or more of the challenges within this special topic.

Program Description and Technical Requirements:

2.1 Project Special Topics Area (STA)

A successful solution conveys a technical approach or methodology that demonstrates an advanced manufacturing system that could address one or more of the challenges below. Each challenge is based on a Class of Supply. Projects shall demonstrate the technology that could address the scenario and be deployed and perform in the required operational environment:

Scenario: U.S. forces are engaged in an operation at an austere forward operating base (FOB) in a remote location and no access to normal logistics support. Manufacturing at the FOB will provide capabilities and sustain personnel and equipment to successfully complete their operation.

Operational environment: The reach of U.S. forces is global. For the sake of the challenge, the demonstration location could be either a cold weather (i.e. arctic-type) location or a hot-humid location. DoD will determine a location within the continental United States (CONUS) to host the manufacturing challenge event and this location will be either cold weather or hot-humid. The proposer's solutions must be able to operate in **both** conditions even though they will be demonstrated in only one chosen by DoD.

(1) Build the FOB Challenge:

- a. Class IV – Civil engineering teams need to build structures and infrastructure for personnel and operations at the FOB. Ideally, locally available materials would be used to build structures and infrastructure.

(2) Unmanned Ground Vehicles (UGV) Challenge:

- a. Class VII – Demonstrate the ability to manufacture and assemble a limited-capability UGV with control/navigation, power, motor, and at least one sensor.

(3) Warfighter Medical, Health, and Nutrition Challenge:

- a. Class VIIIa – In combat situations, the 60 minutes after a traumatic injury is called the Golden Hour. Demonstrate local manufacturing of care items to support traumatic injury care.
- b. Class VIIIa – If a FOB has no access to normal logistics support, standard medical care must continue. Demonstrate local manufacturing of items to support standard medical care.
- c. Class I – Provide the means for local production of nutrition for warfighters
- d. Class II – Wearables for physiological monitoring of warfighters
- e. Class II – Field manufactured clothing for extreme environments: hot humid or cold weather

(4) Power Challenge

- a. Class III - Locally produce Petroleum, Oil, Lubricants (POL) to power and sustain equipment
- b. Locally produce means for clean energy to power equipment

(5) Cyber Challenges

- a. Need for securely sharing files with allies or partners operating at or near FOB
- b. Digital backbone for FOB PoN manufacturing

(6) Staying in the Fight Challenge

- a. Class IX – Demonstrate the ability to manufacture in the field a set of repair items from a list provided by the DoD
- b. Class II – Demonstrate the ability to manufacture in the field equipment such as small arms, individual equipment, tentage, aerial delivery equipment, organizational tool sets and kits, hand tools, unclassified maps, administrative and housekeeping supplies and equipment.
- c. Class V – Demonstrate the ability to manufacture munitions in the field

(7) Other

- a. Proposers could identify a challenge that would correspond to the scenario of austere forward operating base (FOB) in a remote location and no access to normal logistics support in a cold weather or hot-humid environment.

Class of supply definitions

Classes marked with an asterisk (*) are represented in the challenge

- *Class I – Rations – Subsistence (food and drinking water), gratuitous (free) health and comfort items.
- *Class II – Clothing and Equipment – individual equipment, tentage, some aerial delivery equipment, organizational tool sets and kits, hand tools, unclassified maps, administrative and housekeeping supplies and equipment.
- *Class III – POL – Petroleum, Oil and Lubricants (POL) (package and bulk): Petroleum, fuels, lubricants, hydraulic and insulating oils, preservatives, liquids and gases, bulk chemical products, coolants, deicer and antifreeze compounds, components, and additives of petroleum and chemical products, and coal.
- *Class IV – Construction materials, including installed equipment and all fortification and barrier materials.
- *Class V – Ammunition of all types, bombs, explosives, mines, fuses, detonators, pyrotechnics, missiles, rockets, propellants, and associated items.
- Class VI – Personal demand items (such as health and hygiene products, soaps and toothpaste, writing material, snack food, beverages, cigarettes, batteries, alcohol, and cameras—nonmilitary sales items).
- *Class VII – Major end items such as launchers, tanks, mobile machine shops, some parachute systems, and vehicles.
- *Class VIII – Medical material (equipment and consumables) including repair parts particular to medical equipment. (Class VIIIa – Medical consumable supplies not including blood & blood products; Class VIIIb – Blood & blood components (whole blood, platelets, plasma, packed red cells, etc.).)
- *Class IX – Repair parts and components to include kits, assemblies, and subassemblies (repairable or non-repairable) required for maintenance support of all equipment.
- Class X – Material to support nonmilitary programs such as agriculture and economic development (not included in Classes I through IX).
- Miscellaneous – Water, salvage, and captured material.

Proposals outside of these topic(s) will not be considered at this time.

Proposals, which address the topic(s) outlined in section 2 while closely considering the funding and period of performance limitations, are encouraged.

2.2 Project Metrics

All submissions will specify a set of key performance parameters (KPPs) for the project technology. The KPPs selected should be described as to their relevance to the proposed project, and the related project call topic areas. The related metrics that will be measured to evaluate achievement of each KPP should also be specified as well as a baseline for comparison, threshold for minimum achievement during the project, and objective for stretch goals during the project.

OSD requires that metrics be defined for each technology project that will be used to evaluate the progress in achieving the goals of the proposed project and the identified KPPs. A metrics and evaluation framework is provided that can guide what types of metrics should be specified for various aspects of a project, consisting of cardinal metrics (categories of measures: performance, productivity, efficiency, acquisition cost, sustaining cost, investment prudence) and project levels (elements of the project technology being measured by a metric: component, task, process, or system). Competitive submissions will consider and formulate all the cardinal metrics listed below for their projects:

1. Performance: Measures of the characteristics of the entire advanced manufacturing system, its components, or the execution of a manufacturing task. Units for performance metrics will vary based on the advanced manufacturing system, component, or task they are applied to. Performance metrics include those both qualitative and quantitative. Types of performance metrics include accuracy, capabilities, completeness, ergonomics, generalizability, quality, reconfigurability, success/error rate, and usability. Performance metrics should align with the key attributes of Point of Need manufacturing systems listed below.
2. Productivity: The rate at which a manufacturing process is occurring, expressed in units (e.g., items, articles, batches) per time interval (e.g., minute, hour, day). Types of productivity metrics include defect rate, first time yield, and throughput rate.
3. Efficiency: The amount of time required to perform a manufacturing task or the percentage of time spent in set-up, calibration, transition, production, etc., compared to total cycle time of a manufacturing process. Units for these metrics should be time intervals (e.g., minutes, hours, days). Types of efficiency metrics include performance time, set-up time, and touch time.
4. Acquisition: Cost for initial acquisition of the proposed system. Types of acquisition cost metrics include capital cost and implementation cost.
5. Sustaining Cost: Costs, labor, and/or time measures associated with continued operation of the manufacturing process using the proposed system. Types of sustaining cost metrics include involved labor, operational cost, process cost,

safety, SRR cost, and training time.

All metrics should be expressed in explicit measures using relevant units (e.g., microinches, seconds, dollars) and in terms of percentage improvement to a baseline. One or more metrics may be specified in each cardinal metric category, although it is not required that metrics for every cardinal metric category or project level be measured. If a cardinal metric is not relevant for a particular project, state so and explain in the project submission. If advancement in one or more cardinal metrics is more germane to demonstrating success of the project, this should be articulated in the proposal; e.g., consistency of sanding quality (Performance) will have higher impact on the industry than performing the task faster (Efficiency). This may present tradeoffs in the project KPPs/metrics, which should also be described; e.g., a more consistent sanding quality (Performance) is achieved by a system that is more expensive than the baseline (Acquisition Cost), but the savings in SRR costs are worthwhile (Sustaining Cost).

Eligible projects must also show through analysis and demonstration that they advance one or more of the key attributes of expeditionary (i.e., point of need) manufacturing:

1. Mobile
 - a. Designed to be moved with forces to include airlift, convoy driving, and offroad vehicle conditions. The system can be transported using Material Handling Equipment (MHE). Advanced manufacturing equipment can be transported and housed in shipping containers, expandable shipping containers, vehicle mounted shelters, expandable vehicle mounted shelters, and ruggedized containers (for example: Pelican Cases).
2. Rugged:
 - a. The system can function in the operational environment at the point of need. Proposers should consider how to enclose their demonstration systems if necessary, but proposers must recognize that high levels of cleanliness or very low levels of humidity might not be possible.
3. Secure:
 - a. Physical and cyber security steps are taken to prevent unauthorized operation, intrusion, corruption of data, or interruption of process. Authority to Operate (ATO) on DOD networks is not required for this demonstration. However, consideration towards cyber security design should be given to reduce the hurdles during the ATO process if DOD acquires the technology.
4. Reliable:
 - a. Proposers should consider that military end user will want the system will function when needed to operate. A specific mean time between failure or mean time between repair will not be specified here, but reliability will be a consideration during the demonstration.
5. Ease of use:
 - a. The system has intuitive user interfaces. Training or skill is minimized to the best extent possible. The skill level of operation is such that a junior

enlisted member with the appropriate training can operate the equipment.

6. Fast:

- a. The system produces parts at a relevant speed to the warfighter's need. The speed of the demonstration system is better than existing field processes and better than the supply system.

7. Materials:

- a. The materials being fabricated should be relevant to the DoD. The materials should have a performance level that meets DoD needs. Feedstock must be survivable and minimally reactive to ease handling and mitigate combat effect.

All proposed projects and their components should start no lower than **Technology Readiness Level (TRL) 4** and/or **Manufacturing Readiness Level (MRL) 4** and should intend to mature to, or make a significant advancement to, TRL 7 and/or MRL 7. All submissions must specify the start and end TRL/MRL for the project's key components over the course of project execution, not just the project as a whole.

Deliverables:

For each selected project, the selected team shall provide deliverables such as reports, data, presentations, training course materials, course content, experimental procedures, experimental hardware specifications, analytical methods, list(s) of relevant software, photos, video, meeting minutes, allowables, KPP's, software packages, samples, drawings, digital models, specifications and other project specific deliverables to appropriate DoD and industry transition partners and to America Makes for dissemination to members via the Digital Storefront.

Successful submissions will clearly identify project deliverables and the benefit to other members of America Makes.

3 PROPOSAL AND SUBMISSION INFORMATION

3.1 RFP Process

This project call involves a two-step process with each step having a submission, review and selection stage. The goal of this two-step process is to solicit a broad range of project concepts in Step 1, while making efficient use of the proposer's bid and concept resources and OSD ManTech's concept evaluation resources by inviting only teams with the most promising concept papers to submit a Step 2: Project Presentation. Section 4 includes detailed description of the Step 1 process and provide a higher-level overview of the Step 2 process. The full details for Project Presentation submission will be supplied with the invitations to submit.

3.2 Concept Process

Submissions must be received by 5:00 pm Eastern Time on February 6, 2023. Multiple submissions from a lead proposer addressing different challenges within the Special Topic Area are permitted. Submissions received after the deadline will not be considered. Proposing project teams should contact America Makes at projectcall@americamakes.us to discuss concept(s) prior to step 1 submission. Proposers will have approximately 26 days to submit their white paper and quad chart to NCDMM.

3.3 Presentation Phase

Project Presentation Package. In the second step in the process, an invited proposer will submit a Presentation in PowerPoint format (.ppt or .pptx) that describes the proposed project in detail. The final instructions for these presentations will be included with the invitations to submit Proposed Project Presentations. Only invited Project Presentations will be considered for award. All project presentation packages are due to America Makes (NCDMM) by 5:00pm Eastern Time on Wednesday, March 1, 2023. Presentation files and all supporting documentation are due to OSD ManTech on March 3, 2023 by 5:00pm Eastern Time.

3.4 Project Proposal Submission

Award of Subaward Agreement(s) resulting from this Project Call will be based upon the most responsive proposer(s) whose offer(s) will best meet the cost, functionality and the additional factors specified in this Project Call.

For any topic area described in Section 2 of this Project Call, OSD ManTech and America Makes (NCDMM) reserve the right to:

- reject any or all offers and discontinue this RFP process without obligation or liability to any potential proposer;
- accept other than the lowest priced submission;
- select for award negotiations based on initial offers received, without discussions or requests for best and final offers, and
- select all, some, one or none of the submissions, in full or in part, for award negotiations in any of the topic areas.

Proposals selected and successfully negotiated in response to this Project Call will be incorporated into corresponding Subaward Agreement(s) between America Makes (NCDMM) and the selected proposer(s).

3.5 Project Proposer Eligibility

To address the needs of this Project Call, OSD ManTech encourages proposers to work cooperatively in presenting integrated solutions. OSD ManTech recommends proposer team arrangements that enable the organizations involved to complement each other's unique capabilities, while offering the best combination of performance, cost and delivery. OSD ManTech and NCDMM will recognize the integrity and validity of proposer team arrangements provided that:

- **All team members receiving federal award funding are current members of America Makes** and in good standing by Friday, February 3, 2023. Information on how to join America Makes is available at www.americamakes.us/membership.
- Cost share accrued in this project may also be applied towards membership, as with other project calls. However, cost-share proposed on a future project cannot be counted towards a new America Makes membership.
- Non-America Makes members may contribute to contract execution via cost share. Any non-America Makes members contributing to proposed effort execution are not permitted to participate in project team discussions until completing a fully executed America Makes Membership Agreement.
- Each team must contain at least one industry organization who is capable of delivering a system to a DoD acquisition organization and who can: a) provide the use case(s) that will guide the overall development and integration, b) conduct the final system demonstration(s) in the operational environment, and c) provide the business rationale and economic justification for pursuing the development.
- Team lead organizations will be evaluated on past program performance, overall programmatic experience and capabilities, and their overall capability for ultimately commercializing any technology developed.
- The lead Proposer is fully responsible for all project and subcontract performance.
- The lead Proposer shall be registered in U.S. System for Award Management (SAM) and have a cage code and duns number before submitting a proposal.
- Proposal team acknowledges that information from this project will be shared with America Makes members in accordance with the membership agreement.
- Proposal team arrangements are identified, and relationships are fully disclosed.
- If a project will manage export-controlled information or restricted material, Foreign Nationals will not be permitted to perform work under this project at lead proposer or any subrecipient facilities, remotely, or otherwise. As used in this provision, the term "Foreign National" means any natural person who is not a lawful permanent resident as defined by 8 U.S.C. 1101(a)(20) or who is not a

protected individual as defined by 8 U.S.C. 1324b(a)(3). It also means any foreign corporation, business association, partnership, trust, society or any other entity or group that is not incorporated or organized to do business in the United States.

4 PROJECT PROPOSAL

4.1 Required Forms and Documents

4.1.1 STEP 1: Concept Packet (Concept Paper and Quad Chart)

STEP 1: Concept Process

- 1) **Pre-submission Document Review.** All documents and guidelines necessary for submission and subaward negotiation will be made available through the Manufacturing Innovation Institute website on or about the Final Project Call release date. Lead proposers are strongly encouraged to review these documents and guidelines thoroughly and early in this project call process and contact their MII with any questions or clarifications. **To administer this Project Call as efficiently as possible, it is the Institute's intent that any due dates associated with document submission and subaward negotiation and execution be strictly enforced.**
- 2) **Submission of Documents.** The lead proposer submits a **Concept Paper** and **Quad Chart** electronically that succinctly describes the proposed project using the prescribed structure described in Section 4.2.
- 3) **Initial Compliance Screening.** All submissions will receive an administrative review for adherence to the eligibility, structure and format requirements in Sections 3.2, 4.2 and 4.4. Ineligible and/or incomplete submissions are subject to elimination from further review.
- 4) **Evaluation and Peer Review.** Submissions determined eligible and complete will proceed for a full evaluation by evaluators who are subject matter experts and either DoD employees or DoD support contractors. Evaluation criteria in Section 4.3 serves as the basis for scoring of Concept Papers.
- 5) **Selection to Submit a Presentation.** Selections will be based on most eligible submission, and how the concept contributes to the balance (technologies and solutions addressed, risk, cost, impact, etc.) in the overall technology investment portfolios. Proposers selected will be invited to submit a project presentation through a notification from OSD ManTech. If selected to submit a presentation, lead proposers are strongly encouraged to review draft sub-award agreements.

STEP 1: Concept Paper and Quad Chart Structure

- 1) All material will be submitted via the respective OSD-ManTech Manufacturing Innovation Institute's project call process. The lead proposer (or prime) should

follow the instructions provided by the MII or contact the MII for instructions.

2) Concept Paper (5-page maximum, excluding Title Page)

The concept paper must use MS Word and contain the following sections:

- a) Title Page (1-page)
 - i) Concept Paper title.
 - ii) Proposed Challenge topics within Special Topic Area 1 (STA1)
 - iii) Lead Organization submitting Concept.
 - iv) Technical point of contact must include salutation, last name, first name, street address, city, state, zip code (+4), telephone, fax (if available), & electronic mail.
 - v) Administrative point of contact must include salutation, last name, first name, street address, city, state, zip code (+4), telephone, fax (if available), & electronic mail.
 - vi) Team composition and corresponding subrecipient organizations (at least one investigator per organization).
 - vii) Proposed program duration (in months).
 - viii) Total proposed funds requested from DoD, total cost share (if included), and total project cost including cost share.
- b) Problem Statement
 - i) Describes the problem or need being addressed.
 - ii) Dual-use (i.e., defense/commercial) implication explained.
- c) Technical Approach and Methodology
 - i) Describes the technology being developed relative to the proposed application or use case.
 - ii) Indicate re-use of any MII CDIP and/or follow-on of a past MII Project
 - iii) Includes details of the technical approach or methods being used to address the problem statement.
 - iv) Scientific and technical merit of the project (such as citing proof of concept studies, relevant patents, and publications).
 - v) Improvements made possible by the proposed solution.
 - vi) Type of data that will be needed, collected, and used as part of proposed solution.
 - vii) How success will be measured; key performance parameters (KPPs) and

metrics to be used; the advancement of the TRL/MRL; Targets to Improve?

viii) Includes demonstration commensurate with proposed TRL.

d) Benefits (Impact, Technology Transition)

i) Describe the benefits this project will have on DoD point of need manufacturing

ii) Describes the benefits this project will potentially have on your business and industry (i.e., defense & commercial).

iii) How will the technology be transitioned and used in an operational environment?

3) Concept Quad Chart (template provided): The concept paper must be accompanied with a concept Quad Chart. The quad chart must use the MS Power Point template provided and contain the following sections:

(1) Description: What is the concept technology being proposed and what problem does it address? Who is your internal and/or external customer and what are the requirement(s)?

(2) Delivering: What objectives and/or requirements are you addressing with the proposed concept? (e.g., Hardware, Manufacturing Process, Models, New Materials). What is your concept of operations?

(3) Technical Approach: What is the technology being demonstrated and how does it advance over current state of the art (SOTA)? What efforts will be performed to prepare for the demonstration and then conduct the demonstration (i.e. development, integration, evaluation, etc.)?

(4) Benefits: Technical development and manufacturing improvements / targets based on the requirements, is there a dual-use application(s), what is the potential return on investment (ROI) and any co-investment, and what will be delivered (e.g., 50% improvement in through-put)? Is there a technology transition plan?

4.1.2 STEP 2: Overview of Presentation Phase (invitation only)

A. Submission of Proposed Project Presentation.

In the second step in the process, an invited proposer will submit a Presentation in PowerPoint format (.ppt or .pptx) that describes the proposed project in detail. The final instructions for these presentations will be included with the invitations to submit Proposed Project Presentations. Only invited Project Presentations will be considered for award. Presentation files and all supporting documentation will be due to America Makes by March 1, 2023 by 5:00pm Eastern Time. The presentation files and all supporting documentation are shared with America Makes via projectcall@americamakes.us.

The project presentation cannot exceed 19 slides. The presentation must include the sections below.

- Problem Statement and Relevance
 - At a minimum, this section should identify which challenge you are addressing and how you are addressing it. This section should also provide firm data to support your problem statement. Additional information to strengthen problem statement and relevance can be included.
- Technical Approach and Methodology
 - At a minimum, this section should address TRL Levels (start and end). Tasks and who are performing them should be outlined here. It should describe any development or integration needed to prepare for the demonstration. It should give a description of demonstration including goals, objectives, and logistics. This section should include deliverables. Additional information to strengthen technical approach and methodology can be included.
- Project Success Evaluation, KPP's and Metrics
 - Quantifiable KPP's and metrics are required in this section. Additional information to strengthen project success evaluation, KPPs, and metrics can be included.
- Technology Transition Plan and Impact on DoD Point of Need Manufacturing
- Program Management Plan and Team Qualifications
- Project Risks and Mitigation
- Budget/Cost Share Overview

B. Submission of Supporting Documents.

If invited to prepare a presentation, the following proposed project supporting documents must be submitted to America Makes no later than March 1, 2023 at 5:00pm EST via projectcall@americamakes.us.

1) Statement of Work (25 page limit)

The Statement of Work must be submitted as a MS Word document or as a PDF file. The Statement of Work must contain the following sections:

- Introduction/Background
- Project Team Composition
- Objectives and Scope
- Tasks
- Key Performance Parameters (aka Metrics)
- Milestone Descriptions
- Plan of Action and Milestones (POA&M) Gantt Chart

2) Budget and Justification (no page limit)

The Budget and Justification must use the MS Excel template provided

3) Letter of Commitment

A Letter of Commitment from the Lead Organization is required. An organization's Letter of Commitment must state that the organization commits to provide the level of effort and cost share (if cost share is included) as stated in the corresponding parts of the Concept (and specified in the Letter) and that the organization will abide by the terms and conditions of the partner MII's Membership Agreement and Policies and the terms and conditions of the assistance agreement between OSD-ManTech and its respective MII. Each letter must contain: Proposer Legal name, Proposer Address, Total Funds Requested, Cost-Share Commitments, Proposed Period of Performance, Proposer Principal Investigator, and Contact's name, email, and phone number. The Letter of Commitment must be submitted as a MS Word document or as a PDF file.

C. Project Presentation.

Project teams will present their proposed projects in March to an audience of subject matter experts (SME) comprised of relevant DoD employees and DoD support contractors. Each team will have approximately 20 minutes for project presentation followed by 25 minutes of question and answer from the audience. Time limits will be strictly enforced. Project presentations will not be open to the general public or to other project teams. All presentations will be held in person. The date for presentations is March 8-9, 2023.

D. Project Presentation Evaluation.

Following the in-person presentations, proposed projects will be evaluated, at a high level, according to the criteria presented in Section 4.3.

E. Selection for Negotiation for Award.

Proposed project teams will be notified on or about March 30, 2023 regarding project selections. Contract actions between the proposer and the MII will also begin on this

date. Final instructions for completing the MII subaward agreement package and the exact challenge award end date will be provided at that time.

F. Additional Documentation

America Makes will share cost justification guidelines as well as other documentation on March 3, 2023, to allow the presenters to start preparing supporting documentation to facilitate an expedient contracting process if selected. This will include Exhibit I - V, as well as cost justification guidelines. Completion of these documents is not required for the March 1, 2023 deadline.

4.2 Submission Dates

The concept packet is due by **Monday, February 6, 2023, by 5 p.m. eastern time**. Any packets received after the time and date specified for receipt shall be considered late and non-responsive. Any late submissions will not be evaluated for award. NCDMM is not responsible for email system malfunctions or undeliverable email. Concept packet submissions must be submitted by e-mail marked with "DOD Point of Need Manufacturing Challenge – CONCEPT - STA#".

Multiple submissions from a lead proposer addressing different challenges within the Special Topic Area are permitted.

The presentation package, including all supporting documentation, is due by **Wednesday, March 1, 2023, by 5 p.m. eastern time**. Any packages received after the time and date specified for receipt shall be considered late and non-responsive. Any late submissions will not be evaluated for award. NCDMM is not responsible for email system malfunctions or undeliverable email. Presentation package submissions must be submitted by e-mail marked with "DOD Point of Need Manufacturing Challenge – PRESENTATION - STA#".

Send submissions to:

Jason Thomas
Portfolio Manager, America Makes
National Center for Defense Manufacturing and Machining
projectcall@americamakes.us

Expected RFP Timeline:

FINAL Project Call Released	January 12, 2023
Supporting documents Released; Website Open	January 12, 2023
Deadline to establish fully executed Membership Agreement.....	February 3, 2023
Submission Deadline Concept Papers	February 6, 2023, 5pm ET
Invitations for Presentation Submission released	February 17, 2023
Submission Deadline for Presentation Packages	March 1, 2023, 5pm ET
Final Selections Released; Subaward Negotiations Begin	March 30, 2023
Target Project Start Date	No later than May 15, 2023
Project Completion.....	Prior to December 15, 2023

4.3 Project Proposal Review Information

STEP 1: Concept Paper and Quad Chart Evaluation Criteria

- A. The Concept Submission will be evaluated for completeness and adherence to the descriptions below.

- B. Relevance to Special Topic Area(s)

Proposed project is explicitly linked to the Special Topic Area and at least one of the STA challenges in this Project Call and demonstrates a significant advancement of an advanced manufacturing capability towards use in a point-of-need operational environment. Concept team conveys that they have a sound understanding of the problem statement and the benefactor’s requirements.

- C. Quality of Technical Approach and Methodology

The concept team clearly articulates a technology approach or strategy for addressing the problem statement. Technical approach is thorough, sound, and feasible. Concept team is composed of the organizations and individuals with the required skills and facilities to accomplish the tasking within the compressed timeline. Technical approach demonstrates adequate resources and access to complete the project without delay and takes into account any occupancy or travel restrictions that the team may need to work under. NOTE: All proposed projects are required to hold, at a minimum, a full system demonstration at an operationally relevant location determined by DoD within the continental United States.

- D. Quality of Key Performance Parameters and Metrics

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Concept clearly defines plans to evaluate the identified KPPs and generate metrics for performance (based on the point of need attributes in 2.3), efficiency, productivity, acquisition cost, sustaining cost, and investment prudence. Defines the manufacturing process being improved with the project technology and what tasks/processes each individual project focuses on. Conveys understanding of TRL/MRL assessment of the technology presently and at the completion of the project.

E. Impact and Technology Transition Plan

Proposed project clearly describes the significance, magnitude, and timeliness of the project impact. Project demonstrates both near-term and long-term impact. This includes not only the demonstration within the project scope of work, but also any follow-on plans to scale and implement the developed technology to a wide audience, maximizing the reach of the investment.

4.4 Review and Selection Process

1. Initial Screening of All Proposals for Compliance with Proposal Requirements. All proposals will receive an administrative review for adherence to the RFP requirements. Ineligible and/or incomplete proposals are subject to elimination from further review.
2. Proposal Evaluation and Peer Review. Proposals determined eligible and/or complete will proceed for a full evaluation by evaluators who are independent of all teams submitting proposals. Proposals will be selected based on score, and how they contribute to the balance (technologies addressed, risk, cost, etc.) in addressing the PoN challenges.

4.5 Reporting Requirements

In addition to reporting requirements that are part of the sub-recipient agreement between NCDMM and the proposer, the following are required:

1. Reports, presentations, or teleconferences upon request by NCDMM or OSD.
2. Complete first draft of final report shall be submitted to NCDMM no later than conclusion of month five of proposed effort.
3. Finalized, written report (minimum one round of revisions with NCDMM required before final submission).

5 ADMINISTRATIVE INFORMATION

All questions concerning this RFP must be presented by email to projectcall@americamakes.us. Questions regarding the RFP received in any other manner will not receive a response. Frequently asked questions and responses will be posted to the America Makes website at americamakes.us for clarification if received during the Question and Answers period. All responses to the questions received during the Q&A period will be posted simultaneously on the Q&A section of the Project Call website.

5.1 Contact Information

- Questions concerning technical specifications must be directed to:

Name	Jason Thomas, Portfolio Manager
Address	America Makes 236 West Boardman Street Youngstown, OH 44503
Phone	330-409-9160
Email	projectcall@americamakes.us

- Questions concerning contractual terms and conditions, or proposal format must be directed to:

Name	Gene Berkebile, Vice President, and Chief Financial Officer
Address	National Center for Defense Manufacturing and Machining 486 Cornell Road Blairsville, PA 15717
Phone	724-539-5743
Email	gene.berkebile@ncdmm.org

5.2 Responsibility for Compliance with Legal Requirements

The Proposer's products, services, and facilities shall be in full compliance with all applicable Federal, state, and local laws, regulations, codes, standards, and ordinances regardless of whether they are referred to by NCDMM.

5.3 Proposer Rights

Upon delivery, all materials submitted in response to this RFP may be appended to any formal documentation, establishing a contractual relationship between NCDMM and the Proposer.

NCDMM and potential Proposer will sign a non-disclosure agreement (NDA) to protect corporate intellectual property if contained in the proposal. Information contained in

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proposals shall be unclassified. If a project proposal contains export control and/or proprietary information, this must be identified on the cover page of the proposal and identified within the proposal.

5.4 Proposer Incurred Costs

The Proposer shall be responsible for all costs incurred in preparing or responding to this RFP. Materials and documents submitted in response to the RFP will not be returned.

5.5 Proposer Errors or Omissions

NCDMM is not responsible for any Proposer errors or omissions concerning the RFP process.

5.6 Modification or Withdrawal of a Proposal

The Proposer agrees in submitting a proposal that the proposal may not be modified, withdrawn, or cancelled by the Proposer, unless agreed upon with NCDMM, for 90 calendar days following the submittal date. Proposer's proposal will be valid for a period of 90 calendar days following the submittal date.

5.7 Reservation of Rights

This RFP does not commit NCDMM to award a contract, to pay any costs incurred in the preparation of a proposal to this request, or to procure or contract for services or supplies. NCDMM may require the Proposer to participate in negotiations and to submit such monetary, technical, or other revisions of its proposals that may result from preliminary review and negotiations.

5.8 Anticipated Number of Projects

The number of applied research project awards and Federal funding amount allocated to this RFP will be determined based on the quality and quantity of proposals received.

5.9 Notice on the NCDMM Sub-Recipient Agreement

The purpose of this notice is to advise Lead Proposers that per the America Makes Sub-Recipient Agreement, Article 7 Intellectual Property and Article 9 Publications are non-negotiable and by submitting a proposal for this RFP you and your team agree to the language as outlined below and found in the sub-recipient agreement. Please note that Article 7 and Article 9 in the sub-recipient agreement mirrors Section 4 and Section 6 of the America Makes membership agreement. The Lead Proposer on winning proposals should be expected to sign the sub-recipient agreement within 60 days, if the Lead Proposer fails to sign the sub-recipient agreement within 120 days the NCDMM/America Makes reserves the right to cancel the award. The Lead Proposer should review the sub-recipient agreement internally and with the project team prior to proposal submission in order to assure the contract can be negotiated within the required timeline. Any requested changes to the sub-recipient agreement (exclusive of Article 7 and Article 9) should be sent with your proposal using track changes. By submitting a proposal without any requested changes to the sub-recipient agreement you hereby agree to the language as is and will sign immediately upon any eventual award.

ARTICLE 7. INTELLECTUAL PROPERTY

7.1 Background Intellectual Property. Each Sub-Recipient/Sub-Recipient/Member shall retain all rights to its Background Intellectual Property; and the decision to make available any such Background Intellectual Property for use in a Sub-Recipient/Member's sub award project shall be at the sole discretion of each Sub-Recipient/Member and in accordance with DOD regulations with respect to identification of all such Background Intellectual Property. No license or rights are granted to a Sub-Recipient/Member's Background Intellectual Property under this Agreement.

7.1.1 In the event that one Sub-Recipient/Member may require use of another Sub-Recipient/Member's Background Intellectual Property that has been disclosed by a Sub-Recipient/Member as part of the Consortium Research in order to successfully commercialize any CDIP then the Sub-Recipient/Members agree to discuss potential licensing terms and conditions in a separate legally binding agreement between the Sub-Recipient/Members, separate from this Agreement. Sub-Recipient/Member(s) are not required to license any such originating Sub-Recipient/Member(s) Background Intellectual Property.

7.2 Consortium Developed IP shall be owned by the respective inventing or creating organizations, subject to any government rights and/or any pre-existing rights of any third party and subject to the following conditions:

7.2.1 If a Party solely or jointly creates CDIP, the Party must disclose the creation of such CDIP to its technology transfer office, licensing office or other similar department ("Party's TechTransfer Office"). A non-confidential summary of the CDIP disclosed to the Party's TechTransfer Office shall be sent to NCDMM as soon as practicable so that NCDMM can maintain a list of CDIP. Sub-Recipient/Members owning CDIP shall grant upon request to NCDMM and Sub-Recipient/Members-In-Good-Standing at the time of creation a limited, non-exclusive, royalty-free license to use the CDIP for the Sub-Recipient/Member's internal procedures, research or development purposes (but not to make, use, or sell products or external processes for commercial purposes, with the exception of licenses granted pursuant to Section 7.2.3). Such licenses shall be granted to interested Sub-Recipient/Members upon request in a separate legally binding mutually agreeable license agreement between the Sub-Recipient/Members. Payment of patent expenses may be required of Parties granted non-exclusive, royalty-free commercial licenses by universities and other non-profit institutions. Such licenses for Sub-Recipient/Members shall be without the right to grant sublicenses to third parties, except for any Sub-Recipient/Member-designated agents, contractors and non-employee students ("Permitted Third Parties") performing work for the benefit of such Sub-Recipient/Member. Under these circumstances the Sub-Recipient/Member is responsible for having any and all appropriate written agreements with such Permitted Third Parties to enable Sub-Recipient/Member's compliance with this Agreement and is responsible for such parties' use of the CDIP in the same manner Sub-Recipient/Member is responsible for its own use of such CDIP (e.g., violation of the license parameters set forth in this section by a Sub-Recipient/Member's Permitted

Third Parties shall be considered a breach of this Agreement by Sub-Recipient/Member).

7.2.2 Sub-Recipient/Members are strongly encouraged to seek legal protection in the form of patents as soon as is reasonably possible following disclosure of all CDIP to NCDMM. Protection of a Sub-Recipient/Member's solely developed CDIP shall be done at Sub-Recipient/Member's own expense and through use of their respective Party's TechTransfer Office. Each Sub-Recipient/Member agrees to notify in writing NCDMM in a timely manner of all such actions in which legal protection is or has been sought so that NCDMM can enter such information in its invention disclosure database. With respect to jointly developed CDIP the relevant Sub-Recipient/Members agree to negotiate a separate legally binding agreement encompassing those terms and conditions to be used to govern the manner in which jointly developed CDIP will be owned, administered, protected, and licensed. NCDMM will be notified in writing in a timely manner of the existence of these agreements between Sub-Recipient/Members and NCDMM shall maintain pertinent information in its invention disclosure database. In the event that a single Sub-Recipient/Member for solely developed CDIP, or all Sub-Recipient/Members with an ownership right for jointly developed CDIP choose not to seek legal protection and thereby elect not to file a patent application on any CDIP, then Sub-Recipient/Member(s) agree to notify NCDMM in writing of its intent and must report any pending publication or presentation to NCDMM at the time of this notification. NCDMM may negotiate to obtain such protection at its own expense where Sub-Recipient/Member(s) choose not to seek legal protection. Ownership of CDIP shall remain with the originating Sub-Recipient/Member(s).

7.2.3 It is anticipated that one of the outcomes of an active IP licensing and commercialization plan is the generation of royalty income by a respective Sub-Recipient/Member. It is acknowledged that Sub-Recipient/Members of academic, government, and industry sectors will manage the disposition and reporting requirements of all royalties received in accordance with their institution's existing policies, through their Party's TechTransfer Office. To the extent it may legally do so, Sub-Recipient/Members owning CDIP shall grant NCDMM and Lead Sub-Recipient/Members-In-Good-Standing a limited, non-exclusive, royalty-free license to use the CDIP for commercial purposes and Full Sub-Recipient/Members-In-Good-Standing shall be granted such licenses at a fair market value royalty rate. Such licenses shall be granted to interested Sub-Recipient/Members upon request in a separate legally binding mutually agreeable agreement between the Sub-Recipient/Members. Such licenses for Sub-Recipient/Members shall be without the right to grant sublicenses to third parties, except for any Sub-Recipient/Member-designated agents, contractors and non-employee students performing work for the benefit of such Sub-Recipient/Member, provided, however, the Sub-Recipient/Member is responsible for having any and all appropriate written agreements with such parties to enable Sub-Recipient/Member's compliance with this Agreement and is responsible for such parties' use of the CDIP in the same manner Sub-Recipient/Member is responsible for its own use of such CDIP (e.g., violation of the license parameters set forth in this section by a Sub-Recipient/Member's contractor shall be considered a

breach of this Agreement by Sub-Recipient/Member). In addition, sublicensing shall be permitted to the licensee's direct customers.

7.3 Licenses granted under this Section 7 shall be subject to these additional terms:

Any licenses granted to a Sub-Recipient/Member through a separate document as specified in this Section 7 shall become a royalty bearing license at fair market value for such a Sub-Recipient/Member who is designated a Withdrawn Sub-Recipient/Member.

It is understood that the United States Government (through any of its agencies or otherwise) may provide use of its facilities or equipment and / or may provide funds for Consortium Research. As a result this Agreement, any and all rights and obligations of the Sub-Recipient/Members to any CDIP resulting from use of any United States Government's facilities, equipment or funds are subject to any and all applicable rights of the United States Government.

Notwithstanding anything to the contrary in this Agreement, certain laws, regulations and/or policies may prevent and/or limit certain Sub-Recipient/Members' ability to offer royalty-bearing licenses to CDIP that has previously been licensed by such Sub-Recipient/Members on a royalty-free basis. Therefore, the ability to charge royalties to Full Sub-Recipient/Members, Supporting Sub-Recipient/Members, and/or third parties is subject to the granting Sub-Recipient/Member's ability to do so in light of then-existing contractual obligations, legal and regulatory requirements, and policies of the granting Sub-Recipient/Member.

ARTICLE 9. PUBLICATIONS

9.1 The Parties agree and expect that results of Consortium Research associated with this agreement shall be published or otherwise made publicly available and that Parties engaged in Consortium Research shall be permitted to present at symposia, national or regional professional meetings and to publish in journals, theses or dissertations, or by other means of their own choosing, the results of their research, provided that nothing will be done which could bar the availability of patent protection with respect to CDIP of a Sub-Recipient/Member or America Makes (NAMII) invention or which would disclose Proprietary Information of any Sub-Recipient/Member or of America Makes (NAMII) or disclose information in violation of the applicable U.S. laws and regulations (e.g., the International Traffic in Arms Regulations ("ITAR") and the Export Administration Regulations ("EAR") that govern the export of specific technical data and technologies, including software, prototypes and other intellectual property, to foreign countries and foreign nationals ("Export Control Laws").

9.1.1 A Party will not make a public disclosure without a review of the full text of the proposed publication, presentation or other form of public disclosure by the Sub-Recipient/Member(s) involved, the America Makes (NAMII) Director and Government

NCDMM/America Makes reserves all rights in connection with this document and in the subject matter represented therein. The recipient hereby acknowledges these rights and shall not, without permission in writing, disclose or divulge this document in whole or in part to third parties or use it for any purpose other than that for which it was delivered to recipient.

PM as described below. The Sub-Recipient/Member(s) involved, the America Makes (NAMII) Director and Government PM shall be provided a copy of the proposed public disclosure at least sixty-five (65) days in advance of the submission of such proposed public disclosure and shall have two (2) weeks after receipt of said proposed disclosure to respond in writing to the submitting Party to identify Proprietary Information and/or to identify any potentially patentable CDIP and/or to identify any CDIP in which the submitting Party does not have an ownership interest. A submitting Party agrees to remove any identified Proprietary Information, potentially patentable CDIP and/or CDIP in which the submitting Party does not have an ownership prior to public disclosure (or, for potentially patentable CDIP in which the submitting Party does have an ownership interest, delay public disclosure for a period of sixty (60) days from the date of the response).

9.1.2 Notwithstanding anything to the contrary above, student theses and dissertations shall be subject to a separate review and comment process wherein the student shall submit such student thesis or dissertation in draft form at least sixty (60) days in advance of the date of their final defense in order to afford an opportunity to identify Proprietary Information and/or identify any potentially patentable CDIP and/or any CDIP in which the Party's student does not have an ownership interest.

9.1.3 America Makes (NAMII) and/or America Makes (NAMII) Sub-Recipient/Members may negotiate and implement a more restrictive public disclosure agreement than defined in paragraphs 9.1.1 and 9.1.2 for a specific America Makes (NAMII) project based on the need for extended non-disclosure of CDIP by the project participants.

9.1.4 An acknowledgment of funding and a disclaimer shall appear in the publication of any material, whether copyrighted or not, resulting from an America Makes (NAMII) project incorporating U.S. Government funds granted in support of the America Makes (NAMII) Consortium. The acknowledgement shall read:

“This material is based on research sponsored by Air Force Research Laboratory under agreement number FA8650-20-2-5700. The U.S. Government is authorized to reproduce and distribute reprints for Governmental purposes notwithstanding any copyright notation thereon.”

6 EXHIBITS

The exhibits are required as part of the proposal submittal and do not count towards the page limit.

6.1 Exhibit I. Identification of Background Intellectual Property

Project Title	
Organization	
Principal Investigator	

List all known background intellectual property to be used in the conduct of this project or for which access may be required to implement project results:

Inventor / Owner	Title	Patent or Disclosure I.D.

If controlled by a project participant, I understand that a “good faith” commitment to enter into negotiations for a license of this background intellectual property to America Makes or the project partners may be required.

OR

I am unaware of any background intellectual property to be used in the conduct of this project or that may be required for implementation of project results.

Intellectual Property Rights Policy & Confidentiality Statement

As the Principal Investigator at _____ (Member) participating in this project, I agree to accept and abide by the Intellectual Property Rights Requirements of the America Makes Membership Agreement, as approved by the Governance Board, dated _____. I understand that I may be the recipient from time to time of information of a confidential and proprietary nature belonging to another America Makes participating organization. I have read and explicitly agree to abide by the provisions Section 5 of the America Makes Membership Agreement with respect to proprietary information.

I further agree to assist the project participants in their obligation of implementing America Makes’ intellectual property requirements for funded projects. I will do this by encouraging the timely submission of invention disclosures by project participants to their appropriate Intellectual Property Office, clearly identifying such disclosures as relating to this project, and by providing any supporting documentation and information that may be requested from time to time for the purpose of filing patent applications under America Makes and/or the Inventing Organization(s).

Principal Investigator

Signature	
Printed Name	DATE:

6.2 Exhibit II. Multiple Submissions Summary

America Makes recognizes that projects may be submitted to multiple sources of funding.

America Makes must be informed if other funding is secured and will work with the Principle Investigator (PI) to modify this project scope, as appropriate.

List all planned or submitted requests for additional funding of work in this project area from sources other than America Makes.

Date Submitted or Planned Submittal Date	Organization	Decision Date

Principal Investigator

Signature	
Printed Name	
Date	

6.3 Exhibit III. Letters of Commitment

6.4 Exhibit IV. Acknowledgement of Consortium Developed Intellectual Property and Disclosure of Planned Publications

As the Principal Investigator at _____ (Member), I agree that results from this project will be considered consortium-developed intellectual property (CDIP) and will be shared amongst the membership according to the consortium-developed intellectual property (CDIP) structure in the Membership Agreement, with exceptions made for any ITAR/Export Control information.

As the Principal Investigator at _____ (Member) participating in a funded Project, I project the following publications of the results from this project. In addition, I agree that all publications will be approved through the AFRL Technical POC 45 days prior to public dissemination.

Summary of Planned Publications from Project Team

Principal Investigator

Signature	
Printed Name	DATE:

6.5 Exhibit V. Identification of Consortium Developed Intellectual Property (CDIP)

List all Consortium Developed Intellectual Property that will be delivered at the end of this project:

List of project CDIP and associated tangible artifacts, completion dates, background IP, and AM Technology Roadmap requirements (examples including, but not limited to best practices, cost-benefit analyses, COTS Capability, benchmark datasets, demonstration study, equipment specs, process parameters, raw data, component/design models, hardware, material & process specs, performance evaluations, procedures/guidelines/tutorials, process windows, quality assurance methods, reference test coupons, software/algorithms, and validated models). Add pages to the Exhibit V table as needed.

Organization Name / Responsible Party	Consortium Developed Intellectual Property	Detail Specific Tangible Artifacts to be Delivered to Membership	Expected Delivery Date to Membership	Associated Background Intellectual Property	Associated AM Technology Roadmap Requirement	ITAR Restricted (yes/no)

Principal Investigator

Signature	
Printed Name	

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Date	
-------------	--

6.6 Exhibit VI. Proposal Cost Summary - Guidelines for America Makes Cost Proposal Budget Justification

America Makes Subrecipient Agreements will be Cost Reimbursable type agreements.

The cost proposal will include total project cost by task, by month, by government fiscal year. The offeror will also provide a detailed cost breakdown of the total project costs. Offerors are required to include costs that are in accordance with 2 CFR 200. The total cost of each major cost element and the make-up of those costs should be presented in the offeror's proposal. A statement related to the latest DCAA audit and whether the offeror's accounting system has been approved by the DCAA should be included in the cost proposal. Please provide a DCAA approval letter for currently negotiated DCAA rates and factors being used in the proposal.

Cost proposal is to be in Excel file format.

Detailed breakdown of costs by cost category by month and task include:

Direct Labor - Individual labor categories or personnel with associated labor hours and unburdened direct labor rates with support on how the rates were developed.

Indirect Costs - Fringe benefits, Overhead, G&A, Cost of Money, etc. (must show base amount and rate) If approved rates available, please provide documentation.

Travel - Number of trips, number of travelers, destinations, duration of each trip, airfare, car rental and miscellaneous travel costs. Travel is to be priced based on the GSA Per Diem Rates <https://www.gsa.gov/travel/plan-book/per-diem-rates>. A specific and direct relationship to the technical requirement must be documented.

Materials - An itemized listing of all items proposed with the associated direct cost is required. Items that exceed \$10,000 are required to have supporting documentation supplied. The supporting documentation may be in the form of a vendor quote, prior purchase order or prior invoice (preferably no more than six months old), catalogue price, or an engineering basis of estimate.

Subcontracts - An itemized listing of all items proposed with the associated direct cost is required. Items that exceed \$10,000 are required to have supporting documentation supplied. The supporting documentation may be in the form of a vendor quote, prior purchase order or prior invoice (preferably no more than six months old), catalogue price, or an engineering basis of estimate. Should the value of an individual subcontract exceed \$2M, please supply the associated cost analysis that evaluates the reasonableness and realism of the proposed subcontractor's costs.

Equipment - An itemized listing of all items proposed with the associated direct cost is required. Items that exceed \$10,000 are required to have supporting documentation supplied. The supporting documentation may be in the form of a vendor quote, prior purchase order or prior invoice (preferably no more than six months old), catalogue price, or an engineering basis of estimate.

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Other Direct Costs – Costs that do not fall in any of the above categories but are direct costs. An itemized listing of all items proposed with the associated direct cost is required. Items that exceed \$10,000 are required to have supporting documentation supplied. The supporting documentation may be in the form of a vendor quote, prior purchase order or prior invoice (preferably no more than six months old), catalogue price, or an engineering basis of estimate.

Cost Share - Cost Share is required to be at the same level of detail as the proposed costs.

For all proposed costs, sufficient information should be provided in supporting documents to evaluate the reasonableness and realism of these proposed costs.

Additional company overview information required:

- Official registered name (Corporate, D.B.A., Partnership, etc.),
- Address
- Unique Entity ID (UEI) number and CAGE code.
- Telephone number and Fax number (if available)
- Technical Point of Contact, title, address (if different from above address), direct telephone and fax numbers.
- Contractual Point of Contact (authorized to contractually bind the organization for any proposal regarding this RFP), title address (if different from above address), direct telephone and fax numbers.

If the subrecipient prefers not to disclose any portion of the requested proposed supporting documentation directly to the prime (NCDMM/America Makes), the subrecipient may submit directly to the US Government. A written notification of this election must be supplied with the subrecipient’s proposal submission. After the prime has submitted the entire proposal to the US Government, the requisite Points of Contacts will be provided to the subrecipient and the subrecipient will be responsible for submitting all the supporting documentation not already submitted to the prime directly to the government. The subrecipient will be responsible to respond to any questions that arise from information submitted by the subrecipient or by the prime with regard to the subrecipient’s proposal.

Project Title	
Organization	

America Makes RFP: DoD Point of Need Manufacturing Challenge

Address	
Principal Investigator	

Overall Requested Funding

America Makes	\$	Duration	(in months)
Cost Share	\$		
Project Total	\$		

Lead Organization

Name		Phone	
Address		Fax	
Cost Share (\$)		Email	

Partner (Please identify additional partners using the same format)

Name		Phone	
Address		Fax	
Cost Share (\$)		Email	

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Also, please include an Excel spreadsheet (not pdf) of the proposed costs in a form similar to the example shown below:

	GRAND TOTAL	Task 1	Task 2	Task 3
REQUESTED AMERICA MAKES FEDERAL FUNDING				
LABOR	\$1,429,567	53,769	100,293	514,799
TRAVEL	\$146,880			
SUBCONTRACT	\$5,798,703	135,139	142,556	1,318,076
MATERIALS	\$240,850	0	0	104,850
EQUIPMENT	\$100,000	0	0	100,000
CONSULTANT	\$200,000	0	0	90,000
ODC's	\$84,000	0	0	0
TOTAL REQUESTED AMERICA MAKES FEDERAL FUNDING	\$8,000,000	\$188,908	\$242,849	\$2,127,725
COST SHARE				
LABOR	\$101,100	0	0	35,065
TRAVEL	\$0			
SUBCONTRACT	\$2,609,412	218,900	6,141	726,903
MATERIALS	\$50,000	0	0	20,000
EQUIPMENT	\$0	0	0	0
CONSULTANT	\$0	0	0	0
ODC's	\$110,000	0	0	40,000
TOTAL PROPOSED COST SHARE	\$2,870,512	\$218,900	\$6,141	\$821,968
TOTAL PROJECT EFFORT	\$10,870,512	\$407,808	\$248,990	\$2,949,693

Enough detail of the proposed costs must also be provided so an appropriate cost analysis can be completed. If proposing indirect costs, include your approved rate letter from your cognizant Government agency with your proposal.

6.7 Exhibit VII. America Makes Sub-Recipient Agreement

SUB-RECIPIENT AGREEMENT

This SUB-RECIPIENT AGREEMENT (this “Agreement”) is made as of **ENTER SAME DATE AS DATE OF EXECUTION** by and between National Center for Defense Manufacturing and Machining having offices at 699 Scalp Avenue, Johnstown, PA 15904-1619 (“NCDMM”) and **XXXXXXX**, having offices at **ADDRESS, CITY, STATE 9 DIGIT ZIPCODE** (“Sub-Recipient”) with a **DUNS number of XXXXXXXXXX, UEI number of XXXXXXXXXX and a Cage Code of XXXXX.**

WITNESSETH:

WHEREAS, NCDMM is a manufacturing technology center that has entered an agreement with the United States Department of the Air Force, dated as of November 25, 2019 under cooperative agreement number FA8650-20-2-5700 with CFDA number 12.800, to act as an administrator and technical performer in the fulfilment of the “America Makes Partnership (AMP) The National Additive Manufacturing Innovation Institute” (the “Prime Agreement”);

WHEREAS, NCDMM desires to engage Sub-Recipient and America Makes (NAMII) member to assist NCDMM in satisfying certain NCDMM obligations under the Prime Agreement; and

WHEREAS, the activities contemplated by this Agreement are of mutual interest and benefit to NCDMM and Sub-Recipient, and will further the fulfilment of America Makes (NAMII);

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, NCDMM and Sub-Recipient hereby agree as follows:

(A) DEFINITIONS AND SCHEDULES

○ **Definitions.** In addition to the terms defined elsewhere in this Agreement, the following terms shall have the meanings set forth below:

i. “Affiliate” means, with respect to any person or entity, any other person or entity directly or indirectly controlling, controlled by, or under common control with, such first person or entity. For purposes of this definition, the term “control” (including the correlative meanings of the terms “controlled by” and “under common control with”), as used with respect to any person or entity, shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such person or entity, whether through the ownership of voting securities or by agreement or otherwise.

ii. “Applicable Law” means all applicable federal, state and local laws, rules, regulations and guidelines relating to the conduct of the Parties’ businesses and the performance by the Parties of their respective obligations under this Agreement.

iii. “Exploit” means to make, have made, import, use, sell, offer for sale or otherwise dispose of, including any research, development, registration, modification, enhancement, improvement,

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manufacture, storage, formulation, optimization, export, transport, distribution, promotion or marketing related thereto.

1.1.5 “**Facility**” means the facility of Sub-Recipient, or any other facility used for the conduct of the activities that has been approved by NCDMM and complies with Applicable Law

iv. “Invention” means any discovery, improvement, process, formula, invention, know-how, trade secret, procedure, device, or other intellectual property, whether or not patentable.

v. “Materials” means the equipment and materials supplied to Sub-Recipient by or on behalf of, or purchased at the expense of, NCDMM, reasonably necessary for Sub-Recipient to perform activities, solely as set forth in the SOW.

vi. “Party” means either NCDMM or Sub-Recipient; “**Parties**” means both NCDMM and Sub-Recipient.

vii. “Statement of Work” means the plan set out in Schedule A hereto.

viii. “Consortium Research” means research supported by membership dues and / or Incorporates funds provided by the FA8650-20-2-5700 cooperative agreement. Consortium Research does not include:

1.1.10.1 Research carried out under separate contract unless specified therein, or

1.1.10.2 Research fully funded by a Member and/or without using any of the funds specified in 1.1.10 above, or

1.1.10.3 Research carried out independently by a Member using America Makes (NAMII) facilities

ix. “Consortium Developed Intellectual Property” means individually and collectively all Intellectual Property which are conceived or made solely or jointly by Member(s) during the performance of this sub award project under Consortium Research.

x. “Background Intellectual Property” means technical know-how, inventions, technical data, discoveries, materials, samples, software, software programs, whether patentable or not, copyrightable programs, documentation and reports whether in existence at the time of this agreement or coming into existence subsequent to this agreement, which were not developed in the course of performance of any sub award under the America Makes (NAMII) consortium.

xi. “Intellectual Property” means technical know-how, inventions, technical data, discoveries, materials samples, software, software programs, documentation, reports, any and all other copyrightable materials, and/or invention or discovery that is or may be patentable or otherwise protectable under title 35 of the U.S. Code.

○ Schedules. The Schedules attached hereto are incorporated in and are deemed to be an integral part of this Agreement.

(B) ACTIVITIES

○ . Sub-Recipient shall undertake and perform work in accordance with the Statement of Work (SOW) attached hereto as Schedule A, as the same may be amended from time to time in accordance with the terms hereof (Sub-Recipient’s responsibilities as set out in the SOW being hereinafter referred to as the “Activities”). The specific objectives, scope, deliverables and estimated schedule for the Activities are set forth in the SOW. Sub-Recipient agrees that it shall implement changes to the SOW that are reasonably requested in writing by NCDMM, subject, if applicable, to NCDMM’s payment of any reasonable additional fees and/or expenses incurred by Sub-Recipient as determined in accordance with Section 4.4 that arise solely from such

changes to the SOW. Any material change in the SOW shall be evidenced in a written amendment of Schedule A.

○ Cooperation. The Parties shall cooperate with each other in the performance of this Agreement and shall deal honestly and in good faith with each other.

2.3 Reporting/Transfer of Results. Sub-Recipient shall comply with the monthly written progress report requirements set forth in Section 4.5.1 and, if requested by NCDMM, on an ongoing basis, Sub-Recipient shall keep NCDMM informed of progress and interim results on an informal basis, including if requested, periodic meetings to discuss Activities progress and interim results. Further specific guidance regarding programmatic requirements are found in Schedule D. Upon completion of the Activities, termination of this Agreement pursuant to Section 10.2, or expiration of this Agreement (without a further agreement related to the substance hereof entered into as contemplated in Section 10.1), Sub-Recipient will provide NCDMM with a comprehensive written report of the results that have been developed, compiled or learned during the course of the Activities, and will comply with NCDMM's reasonable requests for follow-up information

(C) SUPPLY OF MATERIALS AND INFORMATION

○ Supply or Purchase of Materials. If applicable, subject to the final sentence of this Section 3.1, within a commercially practicable time after written request from Sub-Recipient, NCDMM shall supply Sub-Recipient, if previously negotiated, Materials as set forth in the SOW. Sub-Recipient shall own all right, title and interest in and to any Materials, unless specifically identified to the contrary in writing. If NCDMM supplies Materials to Sub-Recipient, NCDMM shall provide Sub-Recipient with written documentation evidencing the value of such Materials (the "Valuation Price"). If the Parties disagree over the Valuation Price provided by NCDMM, after thirty (30) days of good faith discussions, either Party may request that the matter be submitted to arbitration for a binding decision in accordance with Section 4.7.

○ Information. If requested by Sub-Recipient to provide information in NCDMM's possession that is not otherwise accessible to Sub-Recipient and that is reasonable and necessary for Sub-Recipient's performance under this Agreement ("Information"), subject to the following sentence, NCDMM shall provide such Information (or an explanation of the legitimate reason for any refusal or delay, and if delay, a projected date by which such Information will be provided) within a commercially practicable period of time after receipt of Sub-Recipient's written request. Notwithstanding the foregoing, NCDMM may, in its sole discretion, refuse to provide any Information to Sub-Recipient, including Confidential Information, Inventions or any other Information NCDMM deems, in its sole discretion, to be proprietary or unnecessary for use in the Activities, provided that Sub-Recipient shall not be deemed in breach of this Agreement if the sole reason it cannot perform any Research or Development Activities is NCDMM's refusal to provide Information reasonable and necessary for the conduct of the Activities. NCDMM shall own all right, title and interest in and to any Information, unless specified to the contrary in writing.

○ Use of Materials and Information. Sub-Recipient shall (i) use the Materials and Information only for the purposes described in the SOW or such other purposes as NCDMM may approve in

writing, (ii) restrict access to and use of the Materials and Information to the Principal Investigator and other researchers employed by, or who are agents of, Sub-Recipient or any permitted Sub-Recipients for whom such access and use is required to conduct the Activities and who are bound by obligations of confidentiality at least as strict as those set forth in Section 6.

○ **Supply of Other Materials by Sub-Recipient.** All equipment and materials other than the Materials set forth in the SOW, required for the Activities shall be purchased and paid for by Sub-Recipient, unless otherwise agreed to in writing by NCDMM. Sub-Recipient shall own all right, title and interest in and to such equipment and materials purchased under this Section 3.4, unless specifically identified to the contrary in writing.

○ **Non-Exclusive License.** If, in its sole discretion, NCDMM determines that it is necessary for Sub-Recipient's conduct of the Activities, NCDMM may, by separate written agreement with Sub-Recipient, grant Sub-Recipient a non-exclusive, non-transferable and non-assignable right and license to use an Invention owned by, or licensed (with the right to sublicense) to, NCDMM, which license shall be limited in duration to the Term or such shorter period of time designated by NCDMM, limited in territory to use in a Facility, and limited in scope to use solely as needed to perform the Activities (or a part thereof as designated by NCDMM). For the avoidance of doubt, this Agreement does not grant any such license.

(D) BUDGET AND PAYMENT

○ **Compensation and Payment Terms.** NCDMM is entering into a Cost Reimbursement No Fee Agreement with the Sub-Recipient. In consideration for the satisfactory performance of the Activities by Sub-Recipient in accordance with this Agreement, subject to the provisions of this Section 4, NCDMM shall, within forty-five (45) to sixty (60) days of receipt of an invoice and any supporting documentation in accordance with Section 4.5, pay to Sub-Recipient the amounts for the invoiced incurred expenses. The Parties agree that NCDMM shall pay no Amounts or Expenses until it has been funded under the Prime Contract with respect to the Research and Development Activities. All payments hereunder shall be made in U.S. dollars, by check.

○ **Reimbursement of Expenses.** NCDMM shall reimburse Sub-Recipient for actual expenses incurred by Sub-Recipient for reasonable, necessary and verifiable:

i. Materials that are set forth in the SOW that NCDMM does not provide to Sub-Recipient;

ii. Travel expenses incurred while performing the Activities in accordance with the Joint Travel Regulations as published by the Federal Government (“Travel Expenses”);

iii. Other expenses expressly set forth in Schedule B (Budget) (“Other Approved Expenses”);

iv. Any other expenses specifically approved in advance in writing by NCDMM.

Collectively, the expenses referred to in Sections 4.2.1 through 4.2.4, are referred to herein as the “Expenses.” Notwithstanding the foregoing, Sub-Recipient shall only be reimbursed for Expenses that are allowable costs under 2 Code of Federal Regulations 200, Subpart E. Sub-Recipient acknowledges and agrees that NCDMM shall not pay or reimburse Sub-Recipient for any Expenses incurred by, or purchases made by or on behalf of, Sub-Recipient other than those set forth in this Section 4.2.

○ **Total Obligation.** Unless otherwise agreed in writing by the Parties, the foregoing amounts represent NCDMM's total obligation for any and all Activities and any and all expenses

incurred by or on behalf of Sub-Recipient. The total funds authorized by this agreement shall not exceed \$XXXXXXX.

○ Expense Changes. The Expenses are based on the scope of work and assumptions stated in the SOW. If NCDMM requests a change in the SOW which the Parties agree, in good faith, would result in an increase to Sub-Recipient of its cost of conducting the Activities, the Parties shall, in good faith, evaluate and discuss revised Expenses. Based on this evaluation and discussion, the Parties shall amend the SOW and Budget by written agreement. In the event the Parties cannot agree on a price change after thirty (30) days of good faith discussions, either Party may request that the matter be submitted to arbitration for a binding decision in accordance with Section 4.7.

○ Invoicing and Progress Reports.

v. Sub-Recipient shall invoice NCDMM once each month during the Term. Each invoice shall be accompanied by a written progress report, which shall describe the Activities Sub-Recipient has performed since the date of the last invoice and provide such other information as may be required by this Agreement or reasonably requested by NCDMM. Each monthly invoice shall include expenses and cost share for expenses incurred to NCDMM's reasonable satisfaction due Sub-Recipient since the date of the last invoice. For Expenses to be reimbursed pursuant to Section 4.2, Sub-Recipient shall include in the monthly invoice a summary report of the Expenses incurred since the date of the last invoice.

vi. If NCDMM disputes any portion of an invoice, it shall pay the undisputed portion and shall provide Sub-Recipient with written notice of the disputed portion and its reasons therefor, and NCDMM shall not be obligated to pay interest on such disputed portion. In the event the Parties cannot agree on an invoice after thirty (30) days of good faith discussions, either Party may request that the matter be submitted to arbitration for a binding decision in accordance with Section 4.7.

vii. **Closeout, Adjustment, Continuing Responsibilities and Reimbursement** – Final payment will not be made nor can this agreement be closed out until the sub-recipient delivers to NCDMM all the final closeout paperwork, disclosure of subject inventions, and the final project report. NCDMM may adjust downward the total obligation for the effort if this information is not provided.

○ Records Retention and Audit.

viii. Records Retention. Sub-Recipient shall keep or cause to be kept accurate records or books of account in accordance with applicable generally accepted accounting principles that, in reasonable detail, fairly reflect the invoiced Fees and Expenses. Such books and records shall be maintained by Sub-Recipient for at least three (3) years following the end of the calendar year to which they pertain.

ix. Audit. Upon the written request of the United States Government or NCDMM, Sub-Recipient shall permit a Government auditor, or a certified public accountant or a person possessing similar professional status and associated with an independent accounting firm reasonably acceptable to the Parties, to inspect during regular business hours all or any part of Sub-Recipient's records and books necessary to verify invoices related to Expenses and Cost Share.

○ Arbitration. In the event that a Party requests a Valuation Price determination in accordance with Section 3.1, a price change determination in accordance with Section 4.4, or an invoice determination in accordance with Section 4.5.2 to be submitted to an arbitrator, such determination shall be determined by a single arbitrator in accordance with the Commercial Arbitration Rules of the American Arbitration Association. The decision of the arbitrator shall be final and conclusive, absent manifest error. The Parties shall amend this Agreement if and as appropriate to implement the decision of the arbitrator.

(E) REPRESENTATIONS, WARRANTIES AND COVENANTS

- Sub-Recipient represents and warrants to, and covenants with, NCDMM that:
 - i. Sub-Recipient shall perform the Activities in good scientific manner and in compliance with Applicable Law and shall use reasonable efforts to perform the Activities in accordance with the SOW.
 - ii. Neither Sub-Recipient nor any of its principal officers or employees has been debarred or suspended by any governmental entity from conducting any Activities or is subject to any such debarment and Sub-Recipient will not use in any capacity, in connection with its obligations under this Agreement, including via any permitted Sub-Recipient, any person who has been so debarred.
 - iii. Each Facility is and shall be during the Term in material compliance with all requirements of Applicable Law. There are, and during the Term shall be, no pending or uncorrected citations or adverse conditions noted in any governmental inspection of any Facility with respect to any Activities.
 - iv. Sub-Recipient owns or has the legal right to use all patents, know-how and other intellectual property rights required for use in its conduct of the Activities, excluding those rights obtained from NCDMM under separate written agreement of the Parties or owned by or licensed to NCDMM pursuant to this Agreement or otherwise.
 - v. The Principal Investigator is, and at all times during the conduct of the Activities shall be, qualified by training and experience with appropriate expertise to conduct and supervise the Activities.
 - vi. Sub-Recipient (for itself and each Facility) and the Principal Investigator have, and at all times during the conduct of the Activities shall have, all appropriate licenses, approvals, authorizations, registrations, permits, and certifications necessary to safely, adequately and lawfully perform the Activities. Sub-Recipient shall provide copies of all such licenses, approvals, authorizations, registrations, permits or certifications upon NCDMM's request.
Sub-Recipient shall advise NCDMM immediately if any of the foregoing in this Section 5.1 ceases to be true and correct.
 - Each Party represents and warrants to, and covenants with, the other Party that:
 - vii. It has the requisite power and authority to execute, deliver and perform its obligations under this Agreement and all governmental and third-party approvals necessary for it to enter into and perform its obligations under this Agreement have been obtained, are in full force and effect and are final and non-appealable.
 - viii. This Agreement is its legal, valid, and binding obligation, enforceable in accordance with its terms and conditions.
 - ix. The execution and delivery of this Agreement and the transactions contemplated in it do not violate, conflict with, or constitute a default under the terms or provisions of any agreement or other instrument to which it is a party or by which it is bound, or any order, award, judgment, or decree to which it is a party or by which it is bound.
 - x. It is in compliance with all Applicable Law and it will comply with all Applicable Law during the Term.
- A Party shall immediately notify the other Party if any of the foregoing in this Section 5.2 with respect to such first Party ceases to be true or correct.
- **Disclaimer.** EXCEPT AS EXPRESSLY SET FORTH IN THIS SECTION 5, NCDMM MAKES NO REPRESENTATIONS AND GRANTS NO WARRANTIES, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, BY STATUTE OR

OTHERWISE, UNDER THIS AGREEMENT, AND NCDMM SPECIFICALLY DISCLAIMS ANY OTHER WARRANTIES, WHETHER WRITTEN OR ORAL, OR EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF QUALITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE WITH RESPECT TO ANY MATERIALS (AS DEFINED IN SECTION 1.1.7) OR ANY WARRANTY AS TO THE NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES UNDER THIS AGREEMENT.

(F) CONFIDENTIALITY

- In the normal and routine completion of this project, there may be some occasions where one Party discloses information that is proprietary and confidential to the disclosing Party. All such information which a disclosing Party believes to be proprietary, confidential, trade secret or the like undisclosed information shall be provided in writing or other permanent visual form (such as, for example, a physical prototype, physical sample, photograph, video or sound recording on any type of recording media) and designated as proprietary with an appropriate restrictive legend stamped or marked thereon at the time disclosure. Proprietary Information disclosed orally, must be identified as proprietary at the time of disclosure and summarized in writing as being proprietary within thirty (30) days of such disclosure.
- The receiving Party agrees to exercise the same care and safeguards with respect to Proprietary Information disclosed by the disclosing Party as used to maintain the confidentiality of its own information of like character, but in no event less than a reasonable degree of care.
- The obligations of confidentiality and non-disclosure set forth in this section 6 shall continue for a period of five (5) years from the termination or expiration of this Agreement or until the information ceases to fall under the definition of Proprietary Information.

(G) INTELLECTUAL PROPERTY

○ **Background Intellectual Property.** Each Sub-Recipient/Sub-Recipient/Member shall retain all rights to its Background Intellectual Property; and the decision to make available any such Background Intellectual Property for use in a Sub-Recipient/Member's sub award project shall be at the sole discretion of each Sub-Recipient/Member and in accordance with DOD regulations with respect to identification of all such Background Intellectual Property. No license or rights are granted to a Sub-Recipient/Member's Background Intellectual Property under this Agreement.

i. In the event that one Sub-Recipient/Member may require use of another Sub-Recipient/Member's Background Intellectual Property that has been disclosed by a Sub-Recipient/Member as part of the Consortium Research in order to successfully commercialize any CDIP then the Sub-Recipient/Members agree to discuss potential licensing terms and conditions in a separate legally binding agreement between the Sub-Recipient/Members,

separate from this Agreement. Sub-Recipient/Member(s) are not required to license any such originating Sub-Recipient/Member(s) Background Intellectual Property.

○ **Consortium Developed IP** shall be owned by the respective inventing or creating organizations, subject to any government rights and/or any pre-existing rights of any third party and subject to the following conditions:

ii. If a Party solely or jointly creates CDIP, the Party must disclose the creation of such CDIP to its technology transfer office, licensing office or other similar department (“Party’s TechTransfer Office”). A non-confidential summary of the CDIP disclosed to the Party’s TechTransfer Office shall be sent to NCDMM as soon as practicable so that NCDMM can maintain a list of CDIP. Sub-Recipient/Members owning CDIP shall grant upon request to NCDMM and Sub-Recipient/Members-In-Good-Standing at the time of creation a limited, non-exclusive, royalty-free license to use the CDIP for the Sub-Recipient/Member’s internal procedures, research or development purposes (but not to make, use, or sell products or external processes for commercial purposes, with the exception of licenses granted pursuant to Section 7.2.3). Such licenses shall be granted to interested Sub-Recipient/Members upon request in a separate legally binding mutually agreeable license agreement between the Sub-Recipient/Members. Payment of patent expenses may be required of Parties granted non-exclusive, royalty-free commercial licenses by universities and other non-profit institutions. Such licenses for Sub-Recipient/Members shall be without the right to grant sublicenses to third parties, except for any Sub-Recipient/Member-designated agents, contractors and non-employee students (“Permitted Third Parties”) performing work for the benefit of such Sub-Recipient/Member. Under these circumstances the Sub-Recipient/Member is responsible for having any and all appropriate written agreements with such Permitted Third Parties to enable Sub-Recipient/Member’s compliance with this Agreement and is responsible for such parties’ use of the CDIP in the same manner Sub-Recipient/Member is responsible for its own use of such CDIP (e.g., violation of the license parameters set forth in this section by a Sub-Recipient/Member’s Permitted Third Parties shall be considered a breach of this Agreement by Sub-Recipient/Member).

iii. Sub-Recipient/Members are strongly encouraged to seek legal protection in the form of patents as soon as is reasonably possible following disclosure of all CDIP to NCDMM. Protection of a Sub-Recipient/Member’s solely developed CDIP shall be done at Sub-Recipient/Member’s own expense and through use of their respective Party’s TechTransfer Office. Each Sub-Recipient/Member agrees to notify in writing NCDMM in a timely manner of all such actions in which legal protection is or has been sought so that NCDMM can enter such information in its invention disclosure database. With respect to jointly developed CDIP the relevant Sub-Recipient/Members agree to negotiate a separate legally binding agreement encompassing those terms and conditions to be used to govern the manner in which jointly developed CDIP will be owned, administered, protected, and licensed. NCDMM will be notified in writing in a timely manner of the existence of these agreements between Sub-Recipient/Members and NCDMM shall maintain pertinent information in its invention disclosure database. In the event that a single Sub-Recipient/Member for solely developed CDIP, or all Sub-Recipient/Members with an ownership right for jointly developed CDIP

choose not to seek legal protection and thereby elect not to file a patent application on any CDIP, then Sub-Recipient/Member(s) agree to notify NCDMM in writing of its intent and must report any pending publication or presentation to NCDMM at the time of this notification. NCDMM may negotiate to obtain such protection at its own expense where Sub-Recipient/Member(s) choose not to seek legal protection. Ownership of CDIP shall remain with the originating Sub-Recipient/Member(s).

iv. It is anticipated that one of the outcomes of an active IP licensing and commercialization plan is the generation of royalty income by a respective Sub-Recipient/Member. It is acknowledged that Sub-Recipient/Members of academic, government, and industry sectors will manage the disposition and reporting requirements of all royalties received in accordance with their institution's existing policies, through their Party's TechTransfer Office. To the extent it may legally do so, Sub-Recipient/Members owning CDIP shall grant NCDMM and Lead Sub-Recipient/Members-In-Good-Standing a limited, non-exclusive, royalty-free license to use the CDIP for commercial purposes and Full Sub-Recipient/Members-In-Good-Standing shall be granted such licenses at a fair market value royalty rate. Such licenses shall be granted to interested Sub-Recipient/Members upon request in a separate legally binding mutually agreeable agreement between the Sub-Recipient/Members. Such licenses for Sub-Recipient/Members shall be without the right to grant sublicenses to third parties, except for any Sub-Recipient/Member-designated agents, contractors and non-employee students performing work for the benefit of such Sub-Recipient/Member, provided, however, the Sub-Recipient/Member is responsible for having any and all appropriate written agreements with such parties to enable Sub-Recipient/Member's compliance with this Agreement and is responsible for such parties' use of the CDIP in the same manner Sub-Recipient/Member is responsible for its own use of such CDIP (e.g., violation of the license parameters set forth in this section by a Sub-Recipient/Member's contractor shall be considered a breach of this Agreement by Sub-Recipient/Member). In addition, sublicensing shall be permitted to the licensee's direct customers.

o Licenses granted under this Section 7 shall be subject to these additional terms:

Any licenses granted to a Sub-Recipient/Member through a separate document as specified in this Section 7 shall become a royalty bearing license at fair market value for such a Sub-Recipient/Member who is designated a Withdrawn Sub-Recipient/Member.

It is understood that the United States Government (through any of its agencies or otherwise) may provide use of its facilities or equipment and / or may provide funds for Consortium Research. As a result, this Agreement, any and all rights and obligations of the Sub-Recipient/Members to any CDIP resulting from use of any United States Government's facilities, equipment or funds are subject to any and all applicable rights of the United States Government.

Notwithstanding anything to the contrary in this Agreement, certain laws, regulations and/or policies may prevent and/or limit certain Sub-Recipient/Members' ability to offer royalty-bearing licenses to CDIP that has previously been licensed by such Sub-Recipient/Members on a royalty-free basis. Therefore, the ability to charge royalties to Full Sub-Recipient/Members,

Supporting Sub-Recipient/Members, and/or third parties is subject to the granting Sub-Recipient/Member's ability to do so in light of then-existing contractual obligations, legal and regulatory requirements, and policies of the granting Sub-Recipient/Member.

(H) INDEMNIFICATION AND INSURANCE

○ Indemnification by Sub-Recipient. Sub-Recipient agrees to defend, indemnify and hold harmless NCDMM and its Affiliates and their respective directors, officers, employees and agents from and against any and all costs (including reasonable legal fees), damages, expenses and losses (collectively, "Losses") arising from any third party suit, claim, demand, assessment, action or proceeding (collectively, "Claims"), in any manner caused by, resulting from or arising out of any misrepresentation, negligence or breach of this Agreement on the part of Sub-Recipient, any of Sub-Recipient's Affiliates or any permitted Sub-Recipients, or any of Sub-Recipient's or its Affiliates' or permitted Sub-Recipients' directors, officers, employees or agents, including Losses arising out of the breach or inaccuracy of any of Sub-Recipient's representations, warranties, or covenants under Section 5 of this Agreement, except to the extent any such Loss is attributable to any breach by NCDMM of this Agreement, or any negligence, wilful misconduct or unreasonable inaction by NCDMM, any of NCDMM's Affiliates, or any or NCDMM's or its Affiliates' directors, officers, employees or agents.

○ Indemnification by NCDMM. NCDMM agrees to defend, indemnify and hold harmless Sub-Recipient and its Affiliates and their respective directors, officers, employees and agents from and against any and all Losses arising from any third party Claims, in any manner caused by, resulting from or arising out of any misrepresentation, negligence or breach of this Agreement on the part of NCDMM, or any of NCDMM's directors, officers, employees or agents, including any Losses arising out of any breach or misrepresentation made by NCDMM under Section 6, except to the extent any such Loss is attributable to any breach by Sub-Recipient of this Agreement, or any negligence, wilful misconduct or inaction by Sub-Recipient, any of Sub-Recipient's Affiliates or any permitted Sub-Recipients, or any of Sub-Recipient's or its Affiliates' or any permitted Sub-Recipients' directors, officers, employees or agents.

○ Indemnification Procedures. In the event that either Party (an "Indemnified Party") seeks indemnification from the other Party (the "Indemnifying Party") under the terms of this Article 8 with respect to any claim made by a third party, it shall inform the Indemnifying Party of the claim as soon as reasonably practicable after it receives notice thereof, shall permit the Indemnifying Party, at the Indemnifying Party's cost, to assume direction and control of the defense of the claim, and shall co-operate as requested (at the expense of the Indemnifying Party), in the defense of the claim. After notice to the Indemnified Party of the Indemnifying Party's election to assume the defense of such claim, the Indemnifying Party shall be liable to the Indemnified Party only for such legal or other expenses subsequently incurred by the Indemnified Party in connection with the defense thereof at the request of the Indemnifying Party. The Indemnifying Party shall not settle or otherwise compromise any claim or suit without the prior written consent of the Indemnified Party, which shall not be unreasonably withheld. As to those third party claims with respect to the which the Indemnifying Party does

not elect to assume control of the defense, the Indemnified Party will afford the Indemnifying Party an opportunity to participate in such defense, at the Indemnifying Party's own cost and expense, and will not consent to the entry of any judgment, settle or otherwise dispose of any of the same without the consent of the Indemnifying Party, which shall not be unreasonably withheld.

o Limitation of Liability and Claims. NCDMM shall not be liable to Sub-Recipient hereunder for any indirect, incidental, special, punitive or consequential damages of any kind, including lost profits or loss of goodwill or otherwise; and in no event shall the collective, aggregate liability of NCDMM and its Affiliates and its and their respective directors, officers, employees and agents under this Agreement exceed the amount of compensation actually received by Sub-Recipient from NCDMM pursuant to this Agreement. No action, regardless of form, arising out of or in any way connected with this Agreement or the Activities, may be brought by Sub-Recipient more than one (1) year after the cause of action accrued.

ARTICLE 9. PUBLICATIONS

9.1 The Parties agree and expect that results of Consortium Research associated with this agreement shall be published or otherwise made publicly available and that Parties engaged in Consortium Research shall be permitted to present at symposia, national or regional professional meetings and to publish in journals, theses or dissertations, or by other means of their own choosing, the results of their research, provided that nothing will be done which could bar the availability of patent protection with respect to CDIP of a Sub-Recipient/Member or America Makes (NAMII) invention or which would disclose Proprietary Information of any Sub-Recipient/Member or of America Makes (NAMII) or disclose information in violation of the applicable U.S. laws and regulations (e.g., the International Traffic in Arms Regulations ("ITAR") and the Export Administration Regulations ("EAR") that govern the export of specific technical data and technologies, including software, prototypes and other intellectual property, to foreign countries and foreign nationals ("Export Control Laws").

9.1.1 A Party will not make a public disclosure without a review of the full text of the proposed publication, presentation or other form of public disclosure by the Sub-Recipient/Member(s) involved, the America Makes (NAMII) Director and Government PM as described below. The Sub-Recipient/Member(s) involved, the America Makes (NAMII) Director and Government PM shall be provided a copy of the proposed public disclosure at least sixty-five (65) days in advance of the submission of such proposed public disclosure and shall have two (2) weeks after receipt of said proposed disclosure to respond in writing to the submitting Party to identify Proprietary Information and/or to identify any potentially patentable CDIP and/or to identify any CDIP in which the submitting Party does not have an ownership interest. A submitting Party agrees to remove any identified Proprietary Information, potentially patentable CDIP and/or CDIP in which the submitting Party does not have an ownership prior to public disclosure (or, for potentially patentable CDIP in which the submitting Party does have an ownership interest, delay public disclosure for a period of sixty (60) days from the date of the response).

9.1.2 Notwithstanding anything to the contrary above, student theses and dissertations shall be subject to a separate review and comment process wherein the student shall submit such student thesis or dissertation in draft form at least sixty (60) days in advance of the date of their final defense in order to

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afford an opportunity to identify Proprietary Information and/or identify any potentially patentable CDIP and/or any CDIP in which the Party's student does not have an ownership interest.

9.1.3 America Makes (NAMII) and/or America Makes (NAMII) Sub-Recipient/Members may negotiate and implement a more restrictive public disclosure agreement than defined in paragraphs 9.1.1 and 9.1.2 for a specific America Makes (NAMII) project based on the need for extended non-disclosure of CDIP by the project participants.

9.1.4 An acknowledgment of funding and a disclaimer shall appear in the publication of any material, whether copyrighted or not, resulting from an America Makes (NAMII) project incorporating U.S. Government funds granted in support of the America Makes (NAMII) Consortium. The acknowledgement shall read:

"This material is based on research sponsored by Air Force Research Laboratory under agreement number FA8650-20-2-5700. The U.S. Government is authorized to reproduce and distribute reprints for Governmental purposes notwithstanding any copyright notation thereon."

The disclaimer shall read:

"The views and conclusions contained herein are those of the authors and should not be interpreted as necessarily representing the official policies or endorsements, either expressed or implied, of Air Force Research Laboratory or the U.S. Government."

ARTICLE 10. TERM AND TERMINATION

○ **Term.** The term of this Agreement shall begin on the date hereof and shall continue for **ENTER # OF MONTHS** (the "Term"). Subject to termination in accordance with Section 10.2, the Parties agree to discuss in good faith prior to the end of the Term amending this Agreement (including this Section 10.1 and Schedules A, B, C, and D (if applicable)) or entering into a separate agreement governing the Parties' relationship with respect to the general substance of this Agreement, subject to mutual agreement, for one or more years following the end of the Term. **All projects must be completed, and all deliverables and reporting submitted on or before XXXXXX. There will be no extensions permitted under this effort.**

○ **Termination.**

i. Either Party shall have the right to terminate this Agreement, by giving written notice to the other Party, upon material breach by the other Party of any material provision of this Agreement, including any covenant, representation or warranty contained in this Agreement or failure to perform any material portion of the Activities in accordance with the SOW, provided that such breach shall have continued for a period of thirty (30) days after the non-breaching Party has delivered written notice of said breach to the breaching Party.

ii. This Agreement may be terminated at any time by written agreement of the Parties.

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iii. NCDMM shall have the right to terminate this Agreement for any or no reason upon thirty (30) days prior written notice to Sub-Recipient.

iv. NCDMM shall have the right to terminate this Agreement immediately upon termination of the Prime Agreement (in whole or part) or upon any amendment or other change to the Prime Agreement that materially affects the need for or value of (each in NCDMM's reasonable sole discretion) all or a portion of the Activities hereunder.

v. Sub-Recipient shall have the right to terminate this Agreement upon thirty (30) days written notice if circumstances beyond its reasonable control preclude continuation of the Activities as described in the SOW.

o Rights and Duties Upon Termination or Expiration. Upon termination or expiration (without a further agreement related to the substance hereof entered into as contemplated in Section 10.1) of this Agreement, (i) Sub-Recipient shall cease all work on the Activities and turn over to NCDMM all documentation prepared by (or on behalf of, as the case may be) Sub-Recipient for NCDMM during the Activities (whether in written or electronic form) and (ii) NCDMM shall, in accordance with Article 4 pay Sub-Recipient. Termination or expiration of this Agreement shall be without prejudice to any rights that shall have accrued to the benefit of a Party prior to such termination or expiration.

o Survival. The respective rights and obligations set forth in the previous Articles and any other provisions required to interpret and enforce the Parties' rights and obligations under this Agreement shall indefinitely survive the expiration or termination of this Agreement to the extent expressly set forth therein or if no survival term is expressly set forth therein to the extent necessary to preserve these rights and obligations.

(I) MISCELLANEOUS

o No Commercialization. Sub-Recipient agrees that it shall not commercialize or, except as expressly permitted under the terms of this Agreement, otherwise Exploit any Materials, Information or Inventions owned by or licensed to NCDMM.

o Equitable Relief. Sub-Recipient acknowledges and agrees that the restrictions set forth in Articles 6 and 7 and Sections 8.1 and 8.2 of this Agreement are reasonable and necessary to protect the legitimate interests of NCDMM and that NCDMM would not have entered into this Agreement in the absence of such restrictions, and that any violation or threatened violation of any provision of Article 6 or 7 or Section 8.1 or 8.2 will result in irreparable injury to NCDMM. Sub-Recipient also acknowledges and agrees that in the event of a violation or threatened violation of any provision of Article 6 and 7 or Section 8.1 or 8.2, NCDMM shall be entitled to preliminary and permanent injunctive relief, without the necessity of proving irreparable injury or actual damages and without the necessity of having to post a bond. The rights provided in the immediately preceding sentence shall be cumulative and in addition to any other rights or remedies that may be available to NCDMM. Nothing in this Section 11.2 is intended, or should be construed, to limit NCDMM's right to preliminary and permanent injunctive relief or any other remedy for a breach of any other provision of this Agreement.

o Publication. Sub-Recipient, including its Affiliates and any permitted Sub-Recipients and its or their respective employees or agents, has no right to publish the NCDMM name or logo, except as expressly consented to in writing by NCDMM.

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○ Waiver. The failure of a Party to enforce any breach or provision of this Agreement shall not constitute a continuing waiver of such breach or provision and, subject to Section 8.4, such Party may at any time thereafter act upon or enforce such breach or provision of this Agreement. Any waiver of breach executed by either Party shall affect only the specific breach and shall not operate as a waiver of any subsequent or preceding breach. To be effective any waiver must be in writing.

○ Assignment and Foreign Participation. Sub-Recipient shall not sell, transfer, assign, pledge or otherwise dispose of, whether voluntarily, involuntarily, by operation of law or otherwise, this Agreement or any of its rights or obligations hereunder without the prior written consent of NCDMM, provided that in the event such consent and approvals, if applicable, are granted, the proposed assignee shall agree in writing, in a form reasonably satisfactory to NCDMM, to perform all of Sub-Recipient’s obligations hereunder. Any attempt to assign, transfer, subcontract or delegate any portion of this Agreement or Sub-Recipient’s rights or obligations hereunder in violation of this Section 11.5 shall be null and void. Subject to the terms hereof, this Agreement shall be binding upon and inure to the benefit of the successors and permitted assigns of the respective Parties hereto.

Any foreign person or other foreign participation conducting work under this effort in or outside of the United States must be approved prior to any of the work being completed. Requests for approval should be submitted to the cognizant NCDMM project manager managing the effort. The request will be submitted to the Government program office for final review and approval. No work can be completed outside of the United States without this approval.

○ Severability. If any provision of this Agreement is held to be illegal, invalid or unenforceable under any present or future law, and if the rights or obligations of any Party under this Agreement will not be materially and adversely affected thereby, (a) such provision shall be fully severable, (b) this Agreement shall be construed and enforced as if such illegal, invalid or unenforceable provision had never comprised a part hereof, (c) the remaining provisions of this Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid or unenforceable provision or by its severance herefrom and (d) in lieu of such illegal, invalid or unenforceable provision, there shall be added automatically as a part of this Agreement, a legal, valid and enforceable provision as similar in terms to such illegal, invalid or unenforceable provision as may be possible and reasonably acceptable to the Parties.

○ Notices. Any notice, request or other communication required to be given pursuant to the provisions of this Agreement shall be in writing and shall be deemed to be given when delivered in person, by facsimile or by courier (return receipt requested) or five (5) days after being deposited in the United States mail, postage prepaid, certified, return receipt requested to the Parties addressed as follows:

If to NCDMM, to:	If to Sub-Recipient, to:
Gary R. Fleegle, President & CEO	NAME
699 Scalp Avenue	ADDRESS
Johnstown, PA 15904-1619	CITY, STATE ZIP
Tel: (724) 539-1361	Tel: XXX-XXX-XXXX

gary.fleegle@ncdmm.org

EMAIL: XXXXXXXXX

Either Party may change its contact person, address or telephone or facsimile number by giving the other Party written notice, delivered in accordance with this Section 10.7.

- Construction. Except where the context otherwise requires, wherever used, the singular shall include the plural, the plural the singular, the use of any gender shall be applicable to all genders and the word “or” is used in the inclusive sense (“and/or”). When this Agreement refers to a number of days, unless otherwise specified as business days, that reference is to calendar days. The captions of this Agreement are for convenience of reference only and in no way define, describe, extend or limit the scope or intent of this Agreement or the intent of any provision contained in this Agreement. The term “including” as used herein shall mean including, without limiting the generality of any description preceding such term. A reference to a Schedule, Article, Section or clause is a reference to a Schedule, Article, Section or clause of this Agreement, and the terms “hereof,” “herein,” and other like terms refer to this Agreement as a whole, including any attachments hereto. The language of this Agreement shall be deemed to be the language mutually chosen by the Parties and no rule of strict construction shall be applied in favor of or against either Party hereto.
- Governing Law. This Agreement and the rights and obligations of the Parties shall be governed by and construed under the laws of the Commonwealth of Pennsylvania, excluding any conflicts or choice of law rule or principle that might otherwise refer construction or interpretation of this Agreement to the substantive law of another jurisdiction. Code of Federal Regulation parts and clauses shall be governed by Federal law, including the Federal common law of agreements.
- Parties Independent. In making and performing this Agreement, the Parties act and shall act at all times as independent entities and nothing contained in this Agreement shall be construed or implied to create an agency, partnership or employer and employee relationship between NCDMM and Sub-Recipient. Except as expressly provided herein, at no time shall either Party make commitments or incur any charges or expenses for or in the name of the other Party.
- Conflicts. Except as otherwise required by Applicable Law, to the extent that any provision of this Agreement conflicts with a provision of a Schedule, the provision of this Agreement shall govern.
- Cumulative Remedies. Unless expressly set forth herein to the contrary, all remedies set forth herein are cumulative and are in addition to any and all remedies provided either Party at law or in equity.
- Entire Agreement; Amendment. This Agreement and the previously signed America Makes (NAMII) Sub-Recipient/Membership agreement contain the entire understanding of the Parties with respect to the subject matter hereof. Any amendment or supplement to this Agreement shall be effective only if in writing signed by each Party.
- Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be an original as against the Party whose signature appears thereon, but all of which taken together shall constitute but one and the same instrument.

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IN WITNESS WHEREOF, each Party has caused this Sub-Recipient Agreement to be signed by its duly authorized officer as of the date first above written.

NCDMM	[Sub-Recipient]
By: _____ (Signature)	By: _____ (Signature)
Name: _____ (Printed Name)	Name: _____ (Printed Name)
Title: _____ Date: _____	Title: _____ Date: _____

SCHEDULE A

INSERT SOW AS NEGOTIATED

SCHEDULE B

BUDGET

INSERT BUDGET AS NEGOTIATED

SCHEDULE C

APPLICABLE FEDERAL REGULATION AND PRIME AGREEMENT FLOW-DOWN

1.00 Administrative Requirements and Order of Precedence (Mar 2015)

(a) This award is governed by the guidance in 2 Code of Federal Regulations (CFR) part 200, “Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards” as modified and supplemented by the Department of Defense’s (DoD) interim implementation found at 2 CFR part 1103, “Interim Grants and Cooperative Agreements Implementation of guidance in 2 CFR part 200” (79 FR 76047, December 19, 2014), all of which are incorporated herein by reference. Provisions of Chapter I, Subchapter C of Title 32, CFR, “DoD Grant and Agreement Regulations,” other than part 33, continue to be in effect and are incorporated herein by reference, with applicability as stated in those provisions.

(b) In the event of a conflict between the terms of this agreement and other government documents the conflict shall be resolved by giving precedence in descending order as follows:

- (1) Federal statutes
- (2) Federal regulations
- (3) 2 CFR part 200, as modified and supplemented by DoD’s Interim implementation found in 2 CFR part 1103
- (4) Award-specific terms and conditions
- (5) Attachments to this award, if any
- (6) In case of disagreement with any requirements of this award, the recipient shall contact the NCDMM in order to resolve the issue. The recipient shall not access any costs to the award or accept payments until the issue is resolved.

1.01 Trafficking in Persons (March 2015)

This award is subject to the requirements of section 106 (g) of the Trafficking Victims Protection Act of 2000 (22 U.S.C. 7104, as implemented by 2 CFR 175)

You as the sub-recipient and your employees may not—

- (j) Engage in severe forms of trafficking in persons during the period of time that the award is in effect; or
 - (ii) Procure a commercial sex act during the period of time that the award is in effect; or
 - (iii) Use forced labor in the performance of the award or subawards under the award.

1.02 Title to Property – Identified in Budget (March 2015)

Title to personal property acquired with agreement funds shall vest in the sub-recipient upon acquisition, except that supplies shall be managed in accordance with 2 CFR 200 Section 314. Title to real property shall vest in the sub-recipient subject to conditions contained in 2 CFR 200 Section 311. The sub-recipient shall dispose of real property in accordance with 2 CFR 200 Section 311.

1.03 Property System (March 2015)

Sub-recipient's property system shall meet the standards as set forth in 2 CFR 200 Section 310-316.

1.04 Cost Principles (March 2015)

Sub-recipient(s) shall comply with the cost principles as contained in 2 CFR 200, Subpart E, Cost Principles. Cost principles for determining allowability of costs applicable to lower tier, cost type contracts or awards under this agreement shall be determined by type of entity receiving the award.

1.05 Standards for Financial Management (March 2015)

Sub-recipient(s) financial management system shall comply with the standards identified in 2 CFR 200 Section 302.

1.06 Audit Requirements/Retention and Access to Records (March 2015)

Sub-recipient shall comply with the audit requirements of 2 CFR 200, Subpart F Audit Requirements and shall comply with the requirements appropriate for the type of entity receiving the award. Sub-recipient's financial records, supporting documents, statistical records, and all other records pertinent to an award shall be retained and access to them permitted in accordance with 2 CFR 200 Section 336.

1.07 Cost Sharing (August 2001)

Sub-recipient's contributions may count as cost sharing only to the extent that they comply with 2 CFR 200(200.306)

1.08 Export Control (March 2015) (TAILORED)

(a) Access to the technology developed under this agreement by foreign firms, institutions or individuals shall be controlled by the Sub-recipient under applicable U.S. export control laws.

(b) The sub-recipient shall receive NCDMM and grants officer approval before assigning or granting access to any work, equipment, or technical data generated or delivered under this agreement to foreign persons or their representatives. The notification shall include the name and country of origin of the foreign person or representative, the specific work, equipment, or data to which the person will have access.

1.09 Inventions (March 2015)

(a) The clause entitled Standard Patent Rights, (37 CFR 401.14(a)) is hereby incorporated by reference and is modified as follows: replace the word "recipient" with "Sub-recipient"; replace the words "agency," "Federal Agency" and "funding Federal Agency" with "NCDMM"; replace the word "contract" with "agreement"; delete paragraphs (g)(2), (g)(3) and paragraph (g)(1) first sentence to read "The recipient will include this clause for experimental, developmental or research work to be performed by a Sub-recipient." Paragraph (1), Communications, point of contact on matters relating to this clause will be the servicing Staff Judge Advocate's office.

(b) Interim or final Invention Reports 1) listing subject invention(s) and stating that all subject inventions have been disclosed, or 2) stating that there are no such inventions, shall be sent to the NCDMM. Please include in the subject line of the e-mail the contract number followed by the words "Invention Reporting." The Sub-recipient shall file Invention (Patent) Reports on the DO Form 882, Report of Inventions and Subcontracts, as of the close of each performance year and at the end of the term for this agreement. Annual reports are due 60 days after the end of each year of performance and

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final reports are due 60 days after the expiration of the final performance period. Negative reports are also required annually.

(c) The DD Form 882 may also be used for the notification any lower tier award for experimental, developmental or research work which contain a "Patent Rights" clause

(d) This provision also constitutes the request for the following information for any subject invention for which the recipient has retained ownership: 1) the filing date, 2) serial number and title, 3) a copy of the patent application and 4) patent number and issue date. Submittal shall be to the NCDMM.

1.10 Data Rights (March 2015)

(a) All rights and title to data, as defined in 48 CFR 27.401, generated under this agreement shall vest in the sub-recipient.

(b) The sub-recipient hereby grants to the U.S. Government a royalty free, world-wide, nonexclusive, irrevocable license to use, modify, reproduce, release, perform, display or disclose any data for Government purposes.

- "Government purpose includes competitive procurement, but not the rights to use, modify, reproduce, release, perform, display, or disclose technical data for commercial purposes or authorize others to do so"

(c) The sub-recipient is responsible for affixing appropriate markings indicating rights on all data delivered under the agreement. The Government will have unlimited rights in all data delivered without markings.

(d) The sub-recipient shall include this article, suitably modified to identify the parties, in all lower tier contracts and awards, regardless of tier, for experimental, developmental, or research work.

1.11 Publishing Project Results (March 2015)

(a) Publications. The Sub-recipient(s) is expected to publish or otherwise make publicly available the results of the work conducted under this subaward. One copy of all publications resulting from the project shall be forwarded to the NCDMM as it becomes available.

(b) An acknowledgment of awarding agency's support shall appear in the publication of any material, whether copyrighted or not. The acknowledgement shall read:

"This material is based on research sponsored by Air Force Research Laboratory under agreement number FA8650-20-2-5700. The U.S. Government is authorized to reproduce and distribute reprints for Governmental purposes notwithstanding any copyright notation thereon."

(c) The Sub-recipient is responsible for assuring that every publication of material based on or developed under this project contains the following disclaimer:

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"The views and conclusions contained herein are those of the authors and should not be interpreted as necessarily representing the official policies or endorsements, either expressed or implied, of Air Force Research Laboratory or the U.S. Government."

1.12 Reporting Subawards and Executive Compensation (March 2015)

(a) Reporting of first-tier subawards.

(1) Applicability. Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates \$25,000 or more in Federal funds that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5) for a subaward to an entity (see definitions in paragraph e. of this award term).

(2) Where and when to report.

(i) You must report each obligating action described in paragraph a.1. of this award term to <http://www.fsr.gov>.

(ii) For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

(3) What to report. You must report the information about each obligating action that the submission instructions posted at <http://www.fsr.gov> specify.

(b) Reporting Total Compensation of Recipient Executives.

(1) Applicability and what to report. You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if-

(i) the total Federal funding authorized to date under this award is \$25,000 or

more; (ii) in the preceding fiscal year, you received-

(A) 80 percent or more of your annual gross revenues from Federal

procurement contracts (and subcontracts) and Federal financial assistance

subject to the Transparency Act, as defined at 2 CFR

170.320 (and subawards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR

170.320 (and subawards); and

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(iii) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C.

78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has

access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

(2) Where and when to report. You must report executive total compensation described in paragraph b.1. of this award term:

(i) As part of your registration profile at <http://www.ccr.gov>.

(ii) By the end of the month following the month in which this award is made, and annually

thereafter. (c) Reporting of Total Compensation of Subrecipient Executives.

(1) Applicability and what to report. Unless you are exempt as provided in paragraph d. of this award term, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if-

(i) in the subrecipient's preceding fiscal year, the subrecipient received

(A) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

(ii) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C.

78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

(2) Where and when to report. You must report subrecipient executive total compensation described in paragraph c.1. of this award term:

(i) To the recipient.

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(ii) By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

(d) Exemptions: If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

(1) Subawards, and

(2) The total compensation of the five most highly compensated executives of any

subrecipient. (e) Definitions. For purposes of this award term:

(1) Entity means all of the following, as defined in 2 CFR part 25:

(i) A Governmental organization, which is a State, local government, or Indian tribe;

(ii) A foreign public entity;

(iii) A domestic or foreign nonprofit

organization; (iv) A domestic or foreign for-

profit organization;

(v) A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal

entity. (2) Executive means officers, managing partners, or any other employees in

management positions. (3) Subaward:

(i) This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.

(ii) A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.

(4) Subrecipient means an entity that:

(i) Receives a subaward from you (the recipient) under this award; and

(ii) Is accountable to you for the use of the Federal funds provided by the subaward.

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(5) Total compensation means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see 17

CFR 229.402(c)(2)):

(i) Salary and bonus.

(ii) Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.

(iii) Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

(iv) Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.

(v) Above-market earnings on deferred compensation which is not tax-qualified.

(vi) Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

1.13 Disclosure or Information (March 2015) (Tailored)

(a) The Sub-recipient shall not release to anyone outside the Sub-recipient's organization any unclassified information, regardless of medium (e.g., film, tape, document, media announcements, etc.), pertaining to U.S. Government Agency-Driven Projects unless-

(1) The NCDMM Agreements Officer has given prior written approval; or

(2) The information is otherwise in the public domain before the date of release.

(b) Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Sub-recipient shall submit its request to the NCDMM Agreements Officer at least 65 days before the proposed date for release through NCDMM.

(c) The Sub-recipient agrees to include a similar requirement in each sub-agreement under this agreement. Sub-recipients shall submit requests for authorization to release through the NCDMM to the Agreements Officer.

1.14 Procurement System (March 2015)

The sub-recipient's procurement system shall comply with the standards contained in 2 CFR 200 Section 317-326.

1.15 Military Recruiting on Campus (March 2015)

As a condition for receipt of funds available to the Department of Defense (DoD) under this award, the Sub-recipient agrees that it is not an institution of higher education (as defined in 32 CFR 216) that has a policy or practice that prohibits or, in effect, prevents ROTC or military recruiting on campus, as described in DFARS 252.209-7005(b). If the Sub-recipient is determined, using the procedures in 32 CFR part 216, to be such an institution of higher education during the period of performance of this agreement, and therefore to be in breach of this clause, the NCDMM will cease all payments of DoD funds under this agreement and all other DoD grants and cooperative agreements to the sub-recipient, and it may suspend or terminate such grants and agreements unilaterally for material failure to comply with the terms and conditions of award.

1.16 Assurances (March 2015)

- (a) By signing or accepting funds under the agreement, the Sub-recipient assures that it will comply with applicable provisions of the following National policies on: (1) Prohibiting discrimination:
- (i) On the basis of race, color, or national origin, in Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d, et seq.), as implemented by DoD regulations at 32 CFR part 195;
 - (ii) On the basis of age, in the Age Discrimination Act of 1975 (42 U.S.C. 6101, et seq.) as implemented by Department of Health and Human Services regulations at 45 CFR part 90;
 - (iii) On the basis of handicap, in Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), as implemented by Department of Justice regulations at 28 CFR part 41 and DoD regulations at 32 CFR part 56;
 - (iv) On the basis of sex or blindness, in Title IX of the Educational Amendments of 1972 (20 U.S.C. 1681, et. seq.).
- (2) The Clean Air Act (42 U.S.C. 7401, et seq.) and Clean Water Act (33 U.S.C. 1251, et seq.), as implemented by Executive Order 11738 (3 CFR, 1971-1975 Comp., p. 799).

The Sub-recipient shall obtain assurances of compliance for all subawards under this effort

1.17 Prohibition on Using Funds under Grants and Cooperative Agreement with Entities that Require Certain Internal Confidentiality Agreements (June 2015)

- (a) The sub-recipient may not require its employees, contractors, or subawardees seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting them from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.
- (b) The sub-recipient must notify its employees, contractors, or subawardees that the prohibitions and restrictions of any internal confidentiality agreements inconsistent with paragraph (a) of this award provision are no longer in effect.
- (c) The prohibition in paragraph (a) of this award provision does not Contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.
- (d) If the NCDMM determines that the sub-recipient is not in compliance with this award provision, it:
- (1) Will prohibit the sub-recipient's use of funds under this award, in accordance with section 743 of Division E of the Consolidated and Further Continuing Resolution Appropriations Act, 2015, (Pub. L. 113-235) or any successor provision of law; and

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(2) May pursue other remedies available for the sub-recipient's material failure to comply with prime award terms and conditions.

Schedule D

Additional Requirements

Kickoff Meeting

The sub-recipient will schedule a kickoff meeting with the NCDMM Project Manager to be held within 30 days of contract award. At the kickoff meeting the sub-recipient will provide the following:

- A detailed Gantt chart for the entire project that includes clearly identified milestones. The milestones must include identification of the key elements of Technology Development, Education and Workforce, Technology Transition, Sustainability, and MRL/TRL status.
- A listing of project deliverables with associated delivery dates
- A Spend Plan by month for the entire project. The attached template is provided as assistance. The Spend Plan must incorporate both America Makes funding and cost share.
- Identification of team Sub-Recipient/Members and their roles and responsibilities

Project Reporting

For the duration of the project, monthly reports, invoices and cost share reports will be due by the 10th of the month for activities of the preceding month. The sub-recipient is responsible for assembling information from subcontractors to support reporting requirements. Both technical and financial reports will be required.

- Technical reports will highlight the reporting period's technical achievements, identify any unexpected technical issues that have been encountered and action plans to resolve such issues, state the current MRL/TRL level and justification for advancing in MRL/TRL, updated Gantt charts, progress on metrics and future planned activities. All technical reports must provide a brief publicly-releasable section and a section for release to America Makes Sub-Recipient/Members. Proprietary information available only to project team Sub-Recipient/Members and appropriate America Makes staff/Government representatives can also be contained in the report and marked accordingly. A template for the reporting format will be provided by NCDMM/America Makes.
- Financial reports and invoices will document expenditures of both America Makes funds and cost share. Pertinent backup documentation, such as cost share reports, will be required to support financial reports. Backup documentation to be supplied by the sub-recipient will include, but not be limited to, individual cost share reports for team Sub-Recipient/Members. Tracking of actual expenditures vs. those provided in the Spend Plan will be required. The ratio of America Makes funding vs. cost share funding is expected to be roughly 1:1 at all times throughout the project. Both the ratio of America Makes funding to cost share funding and actual expenditures to expenditures stated in the Spend Plan will be monitored by the NCDMM Project Manager. If either or both of these financial goals are not met, the sub-recipient will be required to submit a corrective action plan. Failure to correct financial shortcomings may be grounds for contract cancellation.
- America Makes will provide an online portal for reporting. All reports will be uploaded to the America Makes online portal site by the sub-recipient. Note: Microsoft SharePoint will be used initially and log-on credentials will be provided by the America Makes team.

Meeting Participation

- Sub-recipient participation in regularly scheduled conference calls, quarterly review meetings and Project Management Review (PMR) meetings will be required.

America Makes RFP: DoD Point of Need Manufacturing Challenge