NOTICE OF FUNDING OPPORTUNITY (NOFO) ANNOUNCEMENT

Overview Information

Federal Agency Name: National Institute of Standards and Technology (NIST), United States Department of Commerce (DOC)

Program Name: Manufacturing USA

Funding Opportunity Announcement Title: FY2024 Manufacturing USA Institute – AI for Resilient Manufacturing

Funding Opportunity Announcement Type: Initial

Funding Opportunity Announcement Number: 2024-NIST-AI-MFGUSA-01

Assistance Listing Number(s): 11.619: Arrangements for Interdisciplinary Research Infrastructure

Funding Opportunity Purpose: This NIST Fiscal Year (FY) 2024 Manufacturing USA Institute other transaction notice of funding opportunity (NOFO) announcement is seeking proposals from eligible applicants to establish and operate a Manufacturing USA® institute focused on the use of Artificial Intelligence (AI) to increase the resilience of U.S. manufacturers. A proposed institute in this topic area will be considered for funding pursuant to this NOFO as long as it does not substantially duplicate the principal technical focus area(s) of existing federally funded institutes within Manufacturing USA network, or the technical focus area(s) identified within any in-progress Manufacturing USA institute funding opportunity announced by a Federal Agency.

Proposers should note that **applications for product development and commercialization are not considered responsive to this NOFO and are excluded from consideration for funding**. Proposers should also note that **proposals focused on the use of AI for semiconductor manufacturing applications are not considered responsive to this NOFO and are excluded from consideration for funding.** In this connection, NIST announced on February 1, 2024, plans to establish a Manufacturing USA institute focused on the use of Digital Twins for semiconductor manufacturing[1] funded through the Creating Helpful Incentives to Produce Semiconductors (CHIPS) for America Act of 2022.[2] Proposers interested in any future funding opportunities to support semiconductor manufacturing are advised to monitor www.CHIPS.gov for information.

Webinar Information Sessions: NIST will host an informational webinar to provide general information regarding this NOFO, offer general guidance on preparing applications, and answer questions. Additional information may be found in Section 8.2 of this document.

Proposers' Day and Teaming Meeting(s): In addition to the informational webinar described above, NIST plans to host at least one in-person proposers' day to facilitate awareness of the

[1] https://www.federalregister.gov/documents/2024/02/01/2024-02025/chips-manufacturing-usa-institute
[2] Public Law Number 1170167, Division A, codified at 15 U.S.C. § 4651.

funding opportunity and provide a forum for organizations to identify prospective partners. The date(s) and location(s) for any meeting(s) will be posted no later than July 31, 2024 on the public website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition). See Section 8.2 of this document for additional information.

THIS WILL BE A TWO-STAGE COMPETITION: The application process under this NOFO consists of a concept paper stage and a full application proposal stage. Only the most highly rated concept papers will receive an invitation to submit a full application proposal. See Section 4 of this document for additional information.

First Stage - **Concept Paper Due Date and Time:** Concept papers must be received at Grants.gov no later than 11:59 p.m. Eastern Daylight Savings Time, September 30, 2024. See Section 4.3.2 of this document for additional information.

Second Stage - Full Application Proposal Invitation: Applicants with the most highly rated concept papers should expect to receive an invitation by November 10, 2024 to submit a full application proposal. Full applications will only be accepted from those applicants invited after the concept paper evaluation. Full application proposals (by invitation only) must be received at Grants.gov no later than 11:59 p.m. Eastern Standard Time, January 23, 2025. See Section 4.3.3 of this document for additional information.

Applicants should be aware, and factor in their application submission planning, that the Grants.gov system closes periodically for routine maintenance. Applicants should visit Grants.gov for information on any scheduled closures as applications cannot be submitted when Grants.gov is closed.

Application Submission Address: Applications must be submitted using Grants.gov. See **Table 1** below for key dates. Paper, facsimile, or email applications will not be accepted.

Table 1 NOFO Key Dates	
Informational Webinar	July 25, 2024, 2 pm
Proposers' Day (Venue TBA)	August 20, 2024
Concept Paper Due	September 30, 2024
Proposal Invitation	November 10, 2024
Full Proposal Due	January 23, 2025 (approximate – deadline will be specified in the invitation to submit Full Proposals)
Selection Announcement	On or about March 1, 2025
Anticipated Award	On or about April 15, 2025

Eligibility: Eligibility for the program listed in this NOFO is open to: accredited institutions of higher education; non-profit organizations and for-profit organizations that are organized and operated

in the United States (including U.S. territories) with majority domestic ownership or control; and State, Tribal, local, and Territorial Governments.

For purposes of this NOFO, individuals and unincorporated sole proprietors are not eligible to apply under this NOFO. Foreign public entities and foreign organizations are not eligible to apply. Federal agencies and Federally Funded Research and Development Centers are not eligible to apply under this NOFO. Existing Manufacturing USA institutes are not eligible to apply to this NOFO.

Additional information regarding eligibility, including those for proposed subrecipients and other potential partners is found in Section 3 of this document.

Type of Award Instrument: NIST intends to use Other Transaction Authority (OTA) to enter into another transaction agreement with the recipient that is not a procurement contract, grant, lease, loan, or cooperative agreement, or a cooperative research and development agreement (CRADA). See Section 2.1 of this document for additional information regarding the type of award agreement. While NIST intends to use OTA as the funding instrument for the award, NIST reserves the right to use another funding instrument such as a cooperative agreement to issue the award.

Estimated Program Funding: NIST anticipates funding up to $70 million ($70 M) over a five-year period, subject to the availability of federal funds, for the recipient to establish and operate a Manufacturing USA® institute focused on the use of AI to increase the resilience of U.S. manufacturers. See Section 2.4 of this document for additional information pertaining to the funding for this program.

Cost-share Requirements: Non-federal cost-share is required. This program requires cost-share (financial support) from non-federal sources in an amount at least equal to the amount of federal funding over the lifetime of the award (*i.e.*, 50% or more of the total funding for the Institute must come from non-federal sources). See Section 3.3 of this document for additional information.

Anticipated Number of Awards: NIST intends to make a single competitive award pursuant to the NOFO but reserves the right to make no award from this solicitation, subject to the merit of applications received and availability of funding.

Public Website, and Frequently Asked Questions (FAQs) and Webinar: NIST has a public website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition) that provides a "Frequently Asked Questions" page and other information pertaining to this NOFO, including date and time for an anticipated webinar and planned in-person teaming event(s).

NOFO Point of Contact (POC): Applicants must submit all questions concerning this NOFO in writing to Ms. Cheryl Leonard at ManufacturingUSA@nist.gov with "AI for Resilient Manufacturing" in the subject line. For additional information see Section 8.2 of this document. ALL INQUIRIES REGARDING THIS NOFO MUST BE SUBMITTED TO THE ABOVE EMAIL ADDRESS.

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1 PROGRAM DESCRIPTION

Statutory Authority: The statutory authority for the new FY2024 Manufacturing USA Institute 15 U.S.C. 278s, as amended. NIST intends to use Other Transaction Authority (OTA) under 15 U.S.C. 272(b)(4) to enter into an Other Transaction (OT) Agreement that is not a procurement contract, grant, lease, loan, or cooperative agreement, or a cooperative research and development agreement (CRADA).

1.1 MANUFACTURING USA BACKGROUND INFORMATION

Substantive improvements in the health, robustness, and innovative capacity of the U.S. manufacturing sector have an unrivaled ability to boost the nation's global economic competitiveness. For the United States to remain a step ahead of the competition, a thriving cutting-edge manufacturing sector is needed. Manufacturing USA was launched to accelerate advanced manufacturing innovation to meet this need.

Statutory Purposes of Manufacturing USA. The purposes of Manufacturing USA as directed in 15 U.S.C. 278s(b)(2)[3] are to:

a) improve the competitiveness of United States manufacturing and to increase the production of goods manufactured predominantly within the United States;
b) stimulate United States leadership in advanced manufacturing research, innovation, and technology;
c) facilitate the transition of innovative technologies into scalable, cost-effective, and high-performing manufacturing capabilities;
d) facilitate access by manufacturing enterprises to capital-intensive infrastructure, including high-performance electronics and computing, and the supply chains that enable these technologies;
e) accelerate the development of an advanced manufacturing workforce;
f) facilitate peer exchange of and the documentation of best practices in addressing advanced manufacturing challenges;
g) leverage non-federal sources of support to promote a stable and sustainable business model without the need for long-term federal funding;
h) create and preserve jobs; and
i) contribute to the development of regional innovation initiatives across the United States.

Manufacturing USA today. Manufacturing USA brings together industry, academia, and federal partners within a growing network of advanced manufacturing institutes to increase U.S. manufacturing competitiveness and promote a robust and sustainable national manufacturing research and development (R&D) infrastructure. Manufacturing USA institutes fill the gap between

[3] 15 USC 278s: Manufacturing USA, Establishment of Manufacturing USA Program https://uscode.house.gov/view.xhtml?req=(title:15%20section:278s%20edition:prelim)

basic research and commercialization, accelerate non-federal investment in advanced manufacturing production capacity in the U.S., and enable the commercial application of new technologies.

Manufacturing USA institutes are private-public partnerships that catalyze stakeholders to work together to accelerate innovation by co-investing in industrially relevant, cross-cutting advanced manufacturing products and processes. The institutes work on industry priorities and big challenges solvable only by collaboration. Applied R&D within the institutes is focused on moving technology from laboratory demonstration through manufacturing scale-up prior to commercial deployment, or through Manufacturing Readiness Levels (MRL)[4] 4 to 7.

Manufacturing USA institutes serve as regional and national hubs of advanced manufacturing excellence by:

1) Connecting the ecosystem to develop roadmaps, conduct collaborative applied research for maturing innovation to industrial readiness, and catalyze alignment between technology developers and U.S. manufacturers of all sizes - while protecting the proprietary interests of individual participants;
2) Preparing current and future workforces with skills needed to deploy innovative manufacturing methods and technologies; and
3) Providing a shared infrastructure and facilities as highly collaborative environments where institute members can demonstrate and test new manufacturing processes, and address qualifications and certifications needed to support technology transfer for commercialization.

Each institute interacts and engages with other national, regional, and local resources and facilities and with the broader Manufacturing USA network.

As of March 2024, seventeen institutes participate in Manufacturing USA, each established by a sponsoring Federal agency. The Department of Commerce has established one institute (NIIMBL), the Department of Defense has established nine institutes (AFFOA, AIM Photonics, America Makes, ARM, BioFabUSA, BioMADE, LIFT, MxD, and NextFlex), and the Department of Energy has established seven institutes (CESMII, CyManII, EPIXC, IACMI, PowerAmerica, RAPID, and REMADE). The Department of Commerce announced in February 2024 the intention to establish a new Manufacturing USA institute focused on the use of digital twins for semiconductor manufacturing funded through the CHIPS for America Act[5] that will further expand the Manufacturing USA network. The Advanced Manufacturing National Program Office housed within the Department of Commerce at NIST is tasked with coordinating the activities of the Manufacturing USA network.

[4] https://www.manufacturingusa.com/studies/how-manufacturing-usa-institutes-innovate-reduce-ip-risks-pre-competitive-collaboration
[5] https://www.federalregister.gov/documents/2024/02/01/2024-02025/chips-manufacturing-usa-institute

Manufacturing USA exists to secure U.S. global leadership in advanced manufacturing. The nine federal agencies[6] participating in Manufacturing USA bring a whole-of-government approach to innovation, one that springboards U.S.-based inventions to the forefront of advanced manufacturing technologies, created and utilized by a skilled American workforce. Information about Manufacturing USA and institutes participating in the network, along with links to published reports documenting program design and performance, can be found on the Manufacturing USA website.[7]

1.2 PROJECT DESCRIPTION

Purpose. This NOFO is a call for applications to establish and operate a Manufacturing USA institute focused on the use of artificial intelligence (AI) to strengthen the resilience of U.S. manufacturers (referred to throughout this NOFO as the AI MFG USA institute). Through this competition, NIST expects to select an applicant or applicant team most capable of establishing and leading a public-private partnership that will integrate expertise in AI, manufacturing processes, and supply chain networks to conduct applied R&D projects that address industry-wide needs for innovation leading to greater resilience of manufacturing systems. The AI MFG USA institute is also expected to cultivate the development of a world-leading workforce needed to deploy institute-developed AI technologies into industrial use. The award will provide financial resources to establish the AI MFG USA institute, conduct startup activities and operate a national effort to accelerate manufacturing innovation and increase U.S. global competitiveness.

AI for Resilient Manufacturing Institute. Resilience may be defined as the ability of a given system to prepare for and adapt to unexpected events; to quickly adjust to sudden disruptive changes that negatively affect performance; to continue functioning during a disruption (sometimes referred to as "robustness"); and to recover quickly to its pre-disruption state or a more desirable state.[8] Adoption of AI has the potential to strengthen resilience of U.S. manufacturing through improvements in productivity and efficiency, job quality, worker safety and quality control systems, while reducing downtime for predictive maintenance, waste and defects. AI adoption has the potential for efficient utilization of other digital technologies in optimizing product design and process flow, and energy management. Furthermore, adoption of AI technologies can drive greater resilience for manufacturing supply chain networks and increase visibility of domestic suppliers.

The institute funded pursuant to this NOFO will conduct applied R&D projects and establish employer-led sectoral partnerships to develop accessible, effective, scalable training resources and credentialling pathways for the skilled workforce needed to move innovation into industrial practice. The work of the institute will also support the growth of an AI service provision infrastructure that will provide focused AI solutions to manufacturers by leveraging manufacturing

[6] The federal agencies engaged in Manufacturing USA are the three sponsoring agencies, U.S. Departments of Commerce, Energy, and Defense, plus the Departments of Agriculture, Education, Health and Human Services, and Labor, National Aeronautics and Space Administration, and the National Science Foundation.
[7] https://www.manufacturingusa.com
[8] Adapted from https://www.brookings.edu/articles/how-to-build-more-secure-resilient-next-gen-u-s-supply-chains/

data at national scale. Through these initiatives, the work of the institute will boost resilience to the benefit of individual companies, workers, and the overall U.S. manufacturing base.

While the following list is illustrative in nature and not exhaustive, AI tools applied to use cases such as the following can boost resiliency within individual firms and the overall manufacturing sector:

- **Rapid qualification.** Qualification of new production technologies, facilities, or processes by potential customers can take years. AI-based analytics and predictive models can be used to quickly identify critical tests to perform, gauge dependencies and success probabilities of other tests, and assess likely operating conditions and boundary conditions. These methods help reduce the number of tests to perform and thereby shorten the path to qualification.
- **Predictive maintenance of structures and equipment.** In a high-volume manufacturing facility, equipment outage is a serious problem. AI-based advanced analytics and sensors can be used to analyze in real-time the stresses on critical equipment and structures, compare to past events, and predict the likelihood of an outage within a certain time period. This way, equipment can be serviced before failure, or operational parameters can be tuned to reduce stresses on equipment.
- **Yield, energy, throughput, and quality (YETQ) optimization.** Improving the operational productivity of the manufacturing process, such as reducing resource inputs (such as materials and energy), increasing throughput, or reducing defects in the process can be critical, particularly in industries with high resource intensity. AI can be used to learn current and target YETQ metrics and dynamically adjust process parameters for optimal outcomes.
- **Working capital optimization.** In fast-moving industries and those with long and complex supply chains where inventory costs can be high, having the "wrong" amount of inventory can be catastrophic to bottom lines. AI can be used to learn and predict the amount of inventory at each stage of the production process to optimize total working capital relative to demand trends and supply chain capacity.
- **Supply chain risk prediction.** Another critical aspect of supply chain resilience is a manufacturer's ability to predict or be prepared for potential supply chain disruptions. AI-based analytics can identify potential disruptions based on natural disasters or other shocks by analyzing and correlating data from multiple sources. AI can also help size the potential disruptive effect on operations to help manufacturers prepare for events and guide the development of more resilient supply chain networks with decreased reliance on foreign suppliers.

Anticipated Impacts. Manufacturing USA Institutes funded by NIST will help fragmented U.S. industries organize and develop a cohesive ecosystem to better position U.S. manufacturers relative to global competition. The AI MFG USA institute award will strengthen resilience of U.S. manufacturers by accelerating applications of trusted AI technologies into industrial use. The institute will catalyze an effective advanced manufacturing applied research partnership and infrastructure that will develop, de-risk, and deploy AI tools to address industry-wide challenges too big for single entities to address in isolation. Within the institute, partners including industry of

all sizes, academia, labor organizations, and government will work together to leverage resources, collaborate, and co-invest to nurture both manufacturing innovation and the workforce needed to deploy these technologies. The impact of focusing the institute on the use of AI technologies to increase resilience will ultimately lead to a domestic manufacturing base that is more agile, robust, and globally competitive.

This AI MFG USA Institute Competition. NIST expects to establish one institute through this competition with follow-on years of the award (discussed in following paragraph) subject to availability of funding. NIST reserves the right to change the number of awards or to not make an award from this competition, subject to the merit of applications received and the availability of federal funding.

Any institute award to be funded through this opportunity will cover both the startup phase and ongoing operations phases. Awards will be for an initial award period of performance of five-years. Subject to the availability of funding and completion of a rigorous merit review, NIST may choose to offer a renewal of the award to successful institutes following the initial five-year period of performance. The renewal[9] may not exceed the five-year performance period of the original award.

The awardee must be prepared to develop solutions for cost-effective AI advanced manufacturing capabilities that offset the risk to the U.S. industrial base in adopting these new technologies using a collaborative approach between industry, academia, and government. The proposed AI MFG USA institute award recipient must manage the institute within three primary areas of operation: 1) advancement of technology development; 2) development of an educated and skilled workforce to support advanced manufacturing; and 3) development of shared infrastructure and facilities.

Applicants for this NOFO may choose a specific industrial sector of focus, or cluster of adjacent sectors, for the proposed AI MFG USA institute. Alternatively, applicants may choose to focus on cross-cutting tools that may be tailored for more than one industrial sector. Regardless of the applicant's choice, a compelling U.S. industrial need and significant industry buy-in must be evident in the scope of the proposed institute. Furthermore, applicants are expected to define clear time-bounded deliverables for the scope of work planned within the AI institute proposed. Applicants must bring together partners with the technical and workforce development expertise needed to accomplish the work proposed, as well as to provide the required 50% or more non-federal cost-share to match the federal award (see Section 3.3).

Applicants must also define the scope of the new institute to avoid substantive duplication with the scope and operations of the existing network of Manufacturing USA institutes,[10] as well as the planned Commerce-sponsored Digital Twins institute for semiconductor manufacturing.[11]

[9] 15 U.S.C. § 278s(e)(2)(B)(i), https://uscode.house.gov/view.xhtml?req=(title:15%20section:278s%20edition:prelim)
[10] https://manufacturingusa.com
[11] https://www.federalregister.gov/documents/2024/02/01/2024-02025/chips-manufacturing-usa-institute

The awardee selected from the upcoming competition is expected to lead the AI MFG USA institute partners in technical initiatives that promote ecosystem-wide benefits such as, but not limited to, the following:

- establishing a trusted manufacturing-centric AI data commons;
- developing standards for AI risk assessment tools;
- creating validated and interoperable AI manufacturing and/or supply chain network models;
- building shared testbeds to support the integration between software and hardware needed for deployment by U.S manufacturers; and/or
- supporting market transition of institute-developed technologies, ultimately supporting technology maturation into scale-up and industry use.

The awardee is also expected to lead the AI MFG USA institute in the establishment of employer-led sectoral partnerships[12] that facilitate the skilled and enhanced workforce needed to deploy institute-developed AI technologies. Educational programs within the AI institute to be established are expected to increase access to industrially relevant curriculum and training resources, certification and credentialling pathways, and ensure equitable access to AI manufacturing careers.

It is expected that the awardee will apply the NIST's Artificial Intelligence Risk Management Framework (AI RMF 1.0)[13] as foundational guidance for the activities of the institute. It is also expected that the activities within the institute will be aligned with the principles in the Office of Science and Technology's Blueprint for an AI Bill of Rights[14] and the Department of Labor's Principles for Artificial Intelligence and Worker Well-being.[15]

Promoting non-federal investment in advanced manufacturing R&D. A key concept of Manufacturing USA is that institutes are expected to leverage non-federal sources of support to promote a stable and sustainable business model without the need for long-term federal funding. Non-federal cost-share of an amount at least equal to the federal funding provided through this award is required over the lifetime of award *(i.e.,* 50% or more of the total funding for the institute must come from non-federal sources). The AI Institute to be established is expected to develop realistic strategies to sustain the institute to mitigate the need for long-term federal base funding.

The 2019 amendments to Manufacturing USA's authorizing statute provided an option for follow-on funding to Department of Commerce-sponsored institutes at the end of the initial funding period, subject to a rigorous merit review to assess whether the institute had made progress

[12] https://www.eda.gov/funding/programs/american-rescue-plan/good-jobs-challenge/faq
[13] https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=936225
[14] https://www.whitehouse.gov/ostp/ai-bill-of-rights/
[15] https://www.dol.gov/general/AI-Principles

towards standards for performance established for renewal.[16] However, catalyzing non-federal investment in the applied research and development needs remains a critical component of an institute's performance.

Institute Start-up. Award recipients will have a Startup Phase of up to one year from the start date of the OT agreement within which to complete all actions needed to begin ongoing institute operations. Activities that may occur within the AI MFG USA institute award during the Startup Phase include:

1) Finalizing a range of agreements, including membership, data management, and intellectual property;
2) Finalizing the internal systems and controls needed to oversee and manage the technical, business, financial, informational, operational, conflict of interest, and enterprise risks functions of the institute;
3) Finalizing the institute's physical facility arrangements and taking occupancy to prepare for full institute operations;
4) Finalizing hiring of the identified leadership team and key personnel for operating the institute and its organization;
5) Gathering the committed known and anticipated cost-share from non-federal sources for the institute;
6) Finalizing risk assessment, risk mitigation, and research security policies and procedures for the technical, economic, and operational aspects of the proposed institute;
7) Finalizing plans for determining highest priorities for technical and workforce development investments; and
8) Developing impact and performance metrics framework.
9) Any other necessary start-up activities that are proposed by the recipient and approved in writing by NIST.

Ongoing Operations. The AI MFG USA institute's required activities during the Ongoing Operations Phase are set forth in 15 U.S.C. § 278s(d)(2)(A) and include:

1) Performing industry-led, pre-competitive applied AI research, development, and demonstration projects;
2) Partnering across education and workforce development providers to address industry's regional and national AI workforce priorities;
3) Developing initiatives to promote market transition for institute-developed technologies, including incorporating new technologies into manufacturing supply chain networks, as appropriate;
4) Promoting active participation in the institute by small and medium-sized manufacturing enterprises,[17] including women, minority, and veteran owned manufacturing enterprises, and

[16] 15 U.S.C. § 278s(e)(2)(B)(i), https://uscode.house.gov/view.xhtml?req=(title:15%20section:278s%20edition:prelim)
[17] https://www.nist.gov/mep

"covered entities" set forth in 42 U.S.C. 18971,[18] *Expanding opportunities through the Manufacturing USA Program* in addition to large manufacturing enterprises; and

5) Establishing a balanced institute funded portfolio of projects and strategic investments using existing or institute-developed technology roadmaps that will provide an effective national response to the challenges and opportunities in advanced manufacturing.

1.3 GENERAL ROLES FOR RECIPIENT AND NIST UNDER THIS AWARD

The below is a non-exhaustive summary of the general roles and responsibilities of the recipient and of NIST relative to funding provided pursuant to this NOFO. As discussed below in Section 2.1 of this document, NIST intends to use Other Transaction Authority (OTA) to enter into another transaction agreement for this program and the specific roles and responsibilities of the recipient and of NIST will be set forth in the OTA agreement to be entered into by the recipient and by NIST.

1.3.1 SUBSTANTIAL INVOLVEMENT

NIST intends that there will ongoing and substantial programmatic involvement with the recipient throughout the period of performance. Under this program, the purpose of NIST involvement is to support and stimulate the recipients' activities by involvement in and otherwise working jointly with the award recipients in a partnership role; NIST will not assume direction, prime responsibility, or a dominant role in the activities. Consistent with this concept, the dominant role and prime responsibility resides with the awardees for the program, although specific tasks and activities may be shared among the awardees and the NIST as defined below.

1.3.2 RESPONSIBILITIES OF AWARDEE

The award recipient is expected to provide core program infrastructure to support the work of the AI MFG USA institute, including primary responsibility for coordination, day-to-day management and oversight of program activities, financial transactions, reporting obligations and convening and governing the consortium to accomplish the technical and programmatic goals. The recipient is expected to partner with other entities according to member agreements established through subawards or enter contracts on behalf of the consortium to fill unmet needs and to increase participation in the institute by entities representing diverse constituencies across the innovation ecosystem. The recipient is expected to lead the consortium in road-mapping, strategic planning, and other activities as necessary to promote awareness, engagement and regional and national impacts aligned with program purposes.

The AI MFG USA institute formed through an award issued pursuant to the NOFO is expected to operate independently to carry out the functions needed, yet it is also expected to be a collaborative partner within the network of Manufacturing USA institutes to serve aligned objectives and the larger purposes of the program. The leadership team of

[18] As defined in 42 U.S.C. 18971(b), covered entities include: Historically Black College or Universities (HBCUs), Tribal Colleges or Universities, Minority Serving Institutions, a minority business enterprise (as such term is defined in section 15 C.F.R. 1400.2), or a rural-serving institution of higher education (as such term is defined 20 U.S.C. 1161q).

the institute is expected to participate to the extent possible in activities that inform policies and implementation of national strategies for advanced manufacturing innovation, including but not limited to, workshops, roundtables and summits convened by other federal agencies, the White House, or non-profit entities such as the National Academies of Science, Engineering and Medicine. The Director of the new institute established, or their designee, is expected to participate in the Manufacturing USA Leaders Council convened by NIST and the Institute Directors' Council convened by the elected chairperson of that council. Institute leadership is also expected to participate fully in the NIST-convened annual Manufacturing USA network meeting to share best practices, new and emerging trends, and convene discussions around additional topics of importance.

The award recipient is expected to coordinate with the NIST Office of Advanced Manufacturing (OAM) in design and development for any collaborative project with federal agencies, including NIST laboratory programs prior to initiating such projects.

1.3.3 INVOLVEMENT OF NIST AS SPONSORING AGENCY

NIST involvement in the activities of the AI MFG USA institute will be through two primary interests: as sponsoring agency with programmatic and financial oversight for the award management and as an agency with scientific capabilities and mission interest in the activities of the institute. NIST expects that participation by NIST staff during the period of performance for this award will be above and beyond normal program stewardship associated with traditional financial assistance awards.

As the sponsoring agency, NIST will provide guidance and oversight for the design and development of the technical and education and workforce development portfolios of the AI MFG USA institute, including, as appropriate, in the definition of specific aims and approaches and metrics for tracking progress and impact. As appropriate, NIST subject matter experts will participate in planning, conducting, analyzing, and publishing results, interpretations, and conclusions of collaborative research studies conducted within the AI MFG USA institute. NIST will also facilitate engagement with federal agencies as appropriate to promote the shared interests of the institute and the U.S. government.

NIST will provide the recipient with guidance on requesting required approvals for membership of foreign-owned organizations, foreign work, issuance of waivers for required cost-share where statutorily permitted, and other issues of sensitivity as warranted as such issues may arise.

Within the agreement established pursuant to the NOFO, NIST will have access to research material and data sharing, and other outcomes of the AI MFG USA institute in accordance with the member agreements executed by other members of the consortium.

1.3.4 JOINT ACTIVITIES BETWEEN AWARDEE AND NIST

When the technical activities of the institute are aligned with NIST measurement science priorities, NIST may work collaboratively to contribute to project teams within the institute,

organize and co-sponsor workshops or other conferences, contribute to joint publications, or conduct other activities aligned with mission of both entities, and/or with that of the NIST-sponsored U.S. AI Safety Institute consortium (AISIC).[19] It is anticipated that decisions for collaborative research projects and information sharing opportunities will be reached by consensus between the award recipient and NIST subject matter experts on a case-by-case basis. NIST will work collaboratively with the recipient to communicate program impacts and respond to other requests for data from federal entities.

2 FEDERAL AWARD INFORMATION

2.1 FUNDING INSTRUMENT

NIST intends to use Other Transaction Authority (OTA) under 15 U.S.C. 272(b)(4), to enter into an Other Transaction (OT) Agreement that is not a procurement contract, grant, lease, loan, or cooperative agreement, or a cooperative research and development agreement (CRADA). Each OT Agreement is negotiated with the awardee and details the agreed-upon terms and conditions for that award. The complete terms and conditions of each OT Agreement issued under this NOFO are subject to negotiation and will be set forth in the agreement entered into between the NIST and the awardee. While NIST intends to use OTA as the funding instrument for the award, NIST reserves the right to use another funding instrument such as a cooperative agreement to issue the award.

The federal award information provided below is for informational purposes only and is intended to provide prospective applicants with an understanding of key terms and conditions that may differ from traditional NIST award mechanisms.

2.2 FUNDING AVAILABILITY

In Fiscal Year 2024, NIST anticipates funding one award for up to $70 million per award with an initial period of performance of five (5) years. See Table 2 below.

Table 2 Anticipated Federal Funding by Performance Year ($ in millions)

Performance Year	1	2	3	4	5	Total
Anticipated Federal Govt Funding Available	$14	$14	$14	$14	$14	$70
Non-Federal Government Cost-share (Minimum)						$70 M
Total Program (Minimum)						$140 M

[19] https://www.nist.gov/artificial-intelligence/artificial-intelligence-safety-institute

2.3 MULTI-YEAR FUNDING POLICY

When a proposal for a multi-year award is approved, funding will generally be provided for the first year of the program and incrementally thereafter. If a project is selected for funding, NIST has no obligation to provide any additional funding in connection with that award. Continuation of an award to increase funding or extend the period of performance is at the sole discretion of NIST. Continued funding of an award will be contingent upon satisfactory performance and the availability of funds. Workplans for project activities and the associated milestones will be negotiated with the NIST staff annually at a minimum.

2.4 POSSIBILITY OF AWARD RENEWAL

Awards issued pursuant to this NOFO are expected to be for five (5) years. In 2019, Manufacturing USA gained the authorization to non-competitively renew funding for Department of Commerce-sponsored institutes subject to a rigorous merit review. This merit review must assess whether the institute has made progress during the initial award towards standards for performance NIST has established for renewal.[20] Any potential renewal award is subject to the outcome of the rigorous merit review as well as availability of funding and the assessment of NIST and the Department of Commerce as to whether there remains a compelling national need for the institute. A renewal may not exceed the five-year performance period of the original award. *See* 15 U.S.C. § 278s(e)(2)(B)(i).

2.5 INDIRECT FACILITIES AND ADMINISTRATIVE COSTS

NIST will reimburse applicants for proposed indirect facilities and administrative (F&A) costs in accordance with this subsection. Applicants with a current negotiated indirect cost rate may use up to their Federally approved indirect rate to budget indirect costs. Alternatively, applicants that do not have a current negotiated (including provisional) indirect cost rate may elect to charge a de minimis rate of 10 percent of modified total direct costs (MTDC). Applicants proposing indirect F&A costs must follow the application requirements set forth in Section 4.3.3.1.9 of this NOFO.

Post award, the AI MFG USA institute created through this NOFO is expected to develop sustainability strategies to mitigate the need for ongoing base federal funding. Accordingly, the awardee may choose to include as cost share the costs associated with preparing applications for mission aligned funding from federal agencies other than NIST, as well as from other funding organizations, rather than considering those costs as within the indirect F&A cost base supported by the awardee (see Section 3.3). Application costs treated as cost share may not be charged against federal funds or as indirect costs under the project.

2.6 RESEARCH SECURITY, DOMESTIC PRODUCTION, & INTELLECTUAL PROPERTY

Applicants for the AI MFG USA institute have considerable flexibility to propose institute concepts that strengthen manufacturing resilience through use of AI. Accordingly, NIST expects applicants to describe how the institute will address research security requirements, promote domestic production of institute developed technologies, manage IP and AI risks within the institute in a

[20] Manufacturing USA Institute Evaluation: Renewal Process and Performance Standards (https://doi.org/10.6028/NIST.AMS.600-8) July 2021

manner that is appropriate for the application space and industry sector(s) chosen. NIST will work with the awardee during the start-up phase and throughout the period of performance to develop and refine specific plans as needed.

2.6.1 RESEARCH SECURITY

2.6.1.1 Authorities

It is NIST policy to create a culture of personal and organizational responsibility where the practice and management of research and its products are free from undue influence and interference not essential to the practice of science, such as personal or social allegiances, beliefs, or interests. NIST adheres to the principle that U.S. research leadership benefits from mutually beneficial international collaborations, including welcoming international scientists, and that U.S. national and economic security depends on effective risk management practices for all research organizations to protect against foreign interference and exploitation.

Founded on the NIST core values of perseverance, integrity, inclusivity, and excellence, the NIST Research Security and Safeguarding International Science Team promotes mutually beneficial international engagement using a risk-based methodology to safeguard NIST research programs and intellectual property.

2.6.1.2 Research Security Definitions

Unless otherwise noted, the definitions for terms used in this section are found in the Appendix to Guidance for Implementing National Security Memorandum 33 (NSPM-33) on National Security Strategy for United States Government-Supported Research and Development issued by the National Science and Technology Council in January 2022 (NSTC NSPM-33 Guidance).

2.6.1.3 Authorities

In recent years, both Congress and the Executive Branch have focused on protecting the security of R&D conducted or funded by Federal agencies. On January 14, 2021, National Security Presidential Memorandum-33 (NSPM-33) was issued to "strengthen protections of United States Government-supported R&D against foreign government interference and exploitation." NSPM-33 requires U.S. agencies that fund R&D to require the disclosure of information related to potential conflicts of interest and commitment from participants in the Federal R&D enterprise.

Under Section 223 of Division A, Title II of the William M. (Mac) Thornberry National Defense Authorization Act (NDAA) for Fiscal Year 2021 (FY21), (Pub. L. No 116–283, codified at 42 U.S.C. § 6605), "covered individuals" (see Section 2.6.1.5) must disclose the amount, type and source of all current and pending research support, which includes both monetary and non-monetary support, and certify that the disclosure is current, accurate, and complete as part of the application for an R&D award. In addition, covered

individuals must agree to update disclosures, as required, before and during the term of the award.

Subtitle D of Title VI of the Research and Development, Competition, and Innovation Act, enacted along with the CHIPS and Science Act of 2022, codified at 42 U.S.C. § 19231 – 19237, also contained research security requirements. On February 14, 2024, the Office of Science and Technology Policy (OSTP) defined the term "foreign talent recruitment program" in issuing Guidelines for Federal Research Agencies Regarding Foreign Talent Recruitment Programs required under 42 U.S.C. § 19231(b).

2.6.1.4 Research Security Program

The awardee under this NOFO will be required to work with NIST to establish a Research Security Program during Institute Start-Up Phase. As one of the Forms and Documents Required in the Second Stage Full Proposal, Applicants must submit a plan to establish a Research Security Program (see Section 4.3.3.1.14). The plan should identify a member of applicant's leadership team to serve as the point of contact responsible for coordinating with NIST on research security issues. The plan should further describe the Institute's proposed internal processes or procedures to address cybersecurity, foreign talent recruitment programs (as referenced in Section 2.6.1.3), conflicts of commitment, conflicts of interest, research security training, and research integrity. In developing the plan, applicants should utilize the 2023 NIST Publication, Safeguarding International Science: Research Security Framework (NIST IR 8484), which provides 1) guidance on establishing a successful research security program; 2) background information related to research security generally; and 3) methodologies and requirements for an integrated, mission-focused, risk-balanced approach for safeguarding international science and technology. Upon review of the Research Security Program Plan, NIST may provide the applicant with feedback and an opportunity to refine the plan.

2.6.1.5 Covered Individuals

For the purposes here, the term "covered individual" is defined as "an individual who (1) contributes in a substantive, meaningful way to the scientific development or execution of a research and development project proposed to be carried out with a research and development award from a Federal research agency; and (2) is designated as a covered individual by the Federal research agency concerned," as under 42 U.S.C. § 6605(d)(1).

Applicants must identify which individuals are covered individuals by listing them as "Senior/Key Personnel" in in Section 4.3.3.1.8.a., and provide a resume or CV for each such individual (see Section 4.3.3.1.7). Applicants must also complete the Current and Pending Support Forms required under Section 4.3.3.1.13.

Covered individuals should include the Institute Director, any identified principal investigators, co-investigators, and associate investigators and any individual listed under Section 4.3.3.1.7 by the applicant as "key personnel" or as a "Senior/Key Person" or for

whom a resume or CV is provided. Personnel who participate only through isolated tasks that are incidental to the research (for example, setting up equipment or performing administrative functions) and those individuals who support research by executing discrete tasks as directed are not covered individuals. Consistent with guidance for implementing NSPM-33, disclosures from broader classes of individuals (e.g., certain graduate students and undergraduate students) will generally be unnecessary, except when the activities of such an individual in a specific proposal rise to the level of meeting the definition of a "covered individual" under 42 U.S.C. § 6605(d)(1).

For awards for Member-led or Institute-led projects, the Institute must further identify to NIST additional covered individuals specific to the project.

2.6.1.6 Research Security Review and Risk Determination

The NIST Research Security and Safeguarding International Science Team will conduct a research security review and a risk determination of applications likely to be selected for award. During the review of the application, NIST will use NIST IR 8484 as the basis for reviewing and assessing research security risks. In conducting this review, NIST will review available information (e.g., the Current and Pending Support Form and Resume or CV) to assess whether the applicant or any covered individuals, including foreign nationals who are not lawful permanent residents or protected persons as defined in 8 U.S.C. § 1324b(a)(3), are subject to any undue foreign influence or interference through conflicts of interest or conflicts of commitment. Undue foreign influence or interference may include, but is not limited to, associations or affiliations with foreign strategic competitors or governments of countries that have a history of intellectual property theft, research misconduct, or targeting U.S. technology for unauthorized transfer. Affiliations include any past or present organization (foreign and domestic) with whom the applicant has a formal relationship or obligation (e.g., universities, scholarships, professional societies, foreign talent recruitment programs).[21]

NIST will examine associations or affiliations during the ten-year period immediately preceding the application submission.

At the conclusion of the research security review for the application, NIST will issue a risk determination of a low, medium, or high risk of potential foreign interference or exploitation.

NIST will base its risk determination of the proposal and covered individuals on a totality of information, which may include but is not limited to:

(1) The ownership structure, subsidiaries, and obligations of the applicant, the Institute team (including subrecipients, contractors, and/or unfunded collaborators);
(2) Conflicts of interest and conflicts of commitment of covered individuals;

[21] See OSTP *Guidelines for Federal Research Agencies Regarding Foreign Talent Recruitment* Programs.

(3) Participation of covered individuals in a foreign talent recruitment programs; and

(4) Any military-civil applications of the funded research, as applicable.

If the research security review results in a medium- or high-risk determination, NIST may provide the applicant an opportunity to mitigate the assessed risk, or it may work with the applicant to discuss mitigation strategies (see Section 2.6.1.8).

NIST or the Institute must also conduct a research security review and a risk determination, as described above, of applications likely to be selected for an Institute-led or Member-led project award.

2.6.1.7 Non-Discrimination

Consistent with Section 10637 of the CHIPS and Science Act of 2022 and Executive Orders 13985 and 14031, NIST activities that implement NSPM-33 and 42 U.S.C. § 6605 are carried out in a manner that does not inadvertently target, stigmatize, or discriminate against individuals on the basis of race, color, ethnicity, religion, sex (including pregnancy, sexual orientation, or gender identity), national origin, age (40 or older), disability, and genetic information (including family medical history), consistent with Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.), Section 504 of the Rehabilitation Act of 1973, Title IX of the Education Amendments Act of 1972, and other applicable laws.

2.6.1.8 Potential for Mitigation

If the NIST Research Security and Safeguarding International Science Team issues a risk determination that an application is high risk, NIST may, at its sole discretion, provide the applicant an opportunity to mitigate the assessed risk prior to NIST's making a final funding determination. NIST reserves the right to request specific mitigation actions including but not limited to requiring additional training for project participants or segmentation of certain tasks of the proposed work and any follow-up information needed to assess risk or mitigation strategies. NIST may determine not to make an award for an application despite any proposed mitigation terms.

2.6.1.9 Requirement for Recipients to Update Research Security-Related Information

Pursuant to 42 U.S.C. § 6605(a)(1)(C), applicants have an ongoing duty to update the NIST Agreements Officer of any changes made to the list of covered individuals or to the foreign affiliations and research financial and in-kind support of such individuals or of the applicant and subrecipients. Prior to NIST making an award under this NOFO, applicants must update the NIST Agreements Officer of any such changes immediately; during the project period of performance, the award recipient must update the NIST Agreements Officer within five (5) business days of such changes being made or of becoming aware of such changes.

Applicants and subrecipients are expected to reasonably exercise due diligence to ensure that covered individuals involved in the subject award are not subject to foreign interference or exploitation.

2.6.2 DOMESTIC PRODUCTION

Pursuant to 42 U.S.C. § 18972, the Department of Commerce must establish policies to promote the domestic production of technologies developed by the Manufacturing USA network. Applicants for this NOFO are expected to describe plans for how the institute will promote domestic production of technologies developed within the AI MFG USA institute in a manner that is appropriate to the proposed focus area for the institute. The sufficiency and merit of the applicant's overall approach will be evaluated according to criteria outlined in Section 5.1.2.2.1.

NIST will work with the awardee during Institute Start-Up Phase and throughout the period of performance to refine plans, as needed, to ensure project-level domestic production controls are appropriate to the technology being developed.

2.6.3 INTELLECTUAL PROPERTY MANAGEMENT

Applicants to this NOFO will be expected to develop guiding principles, strategy, and framework for how the AI MFG USA institute will safeguard and share IP rights among members and incentivize domestic production as part of Institute's Operations and Management plan. The sufficiency and merit of the applicant's overall approach will be evaluated according to criteria outlined in Sections 5.1.1.2.1., 5.1.2.2.1., and 5.1.2.2.2.

Post-award, NIST will work with the awardee to develop the formal Intellectual Property Management Plan. This plan should address measures to develop and provide incentives to promote transfer of intellectual property and goods, services, or technologies developed by Manufacturing USA Network activities to domestic manufacturers. The institute will be required to provide regular updates to the plan to report any new or changed intellectual property or intellectual property governance structures. NIST may require the institute to develop special award terms and conditions in individual project awards as warranted.

2.6.4 AI RISK MANAGEMENT

In alignment with the NIST AI Risk Management Framework,[22] applicants to this NOFO will be expected to develop guiding principles, strategy, and framework for how the AI MFG USA institute will manage risks to individuals, organizations, and society associated with artificial intelligence and incorporate trustworthiness considerations into the design, development, use, and evaluation of AI products, services, and systems developed within the institute. The sufficiency and merit of the applicant's overall approach will be evaluated according to criteria outlined in Sections 5.1.1.2.1., 5.1.2.2.1., and 5.1.2.2.2.

[22] https://www.nist.gov/itl/ai-risk-management-framework

Post-award, NIST will work with the awardee to develop the formal AI Risk Management Plan. The institute will be required to provide regular updates to the plan to report any new or changed risk management structures. NIST may require the institute to develop special award terms and conditions in individual project awards as warranted.

3 ELIGIBILITY INFORMATION

3.1 ELIGIBLE APPLICANTS

Eligibility for the program listed in this NOFO is open to all: accredited institutions of higher education; non-profit organizations and for-profit organizations that are organized and operated in the United States (including U.S. territories) with majority domestic ownership or control; and State, Tribal, local, and Territorial Governments.

For purposes of this NOFO, individuals and unincorporated sole proprietors are not eligible to apply. Foreign public entities and foreign organizations are not eligible to apply. Federal agencies and Federally Funded Research and Development Centers (FFRDCs) are not eligible to apply for this NOFO. Existing Manufacturing USA institutes are not eligible to apply to this NOFO.

An eligible applicant may work individually or include proposed subrecipients, contractors, and/or unfunded collaborators in its application, effectively forming a team or consortium. In a team or consortium, eligible subrecipients at the application phase must meet the applicant eligibility requirements stated above. Organizations that are ineligible to apply because they are majority foreign-owned or foreign-controlled may be included in a team or consortium as an unfunded collaborator, provided that they are organized and operated in the United States.

Federal Government agencies and personnel may not participate in the preparation of any application in response to this funding opportunity. After an award is issued, the MFG USA AI institute will be expected to interact with federal government agencies, as appropriate, consistent with those agencies' respective missions / purposes. The AI MFG USA institute is encouraged to utilize federal entities to support the institute's goals. Once an institute award has been issued, federal government agencies, other than NIST, may be allowed as subrecipients or contractors, with the prior written approval of the NIST Agreement Officer and to the extent otherwise allowed by law, based on the unique and specific needs of the institute.

At the time of application, a FFRDC may not be included as a funded subrecipient or contractor in response to this funding opportunity. After an award is issued, institutes will be expected to interact with FFRDCs, as appropriate, through mechanisms consistent with those organizations' respective missions, objectives, and operational structures. Institutes are encouraged to utilize federal entities to support the program goals. Once an institute award has been issued, FFRDCs may be allowed as subrecipients or contractors, with the prior written approval of the NIST Agreements Officer and to the extent otherwise allowed by law, based on the unique and specific needs of the institute, subject to the provisions of FAR 35.017-1.

3.2 ELIGIBLE WORK LOCATION

While work affiliated with the establishment and operation of the MFG USA institute is to be conducted within the United States, on a case-by-case basis, and subject to a prior written determination by NIST, work outside of the United States may be allowed based on the unique and specific needs of the institute after an award by NIST is issued. NIST's determination of whether specific work outside of the United States is allowed will be based on information provided by the recipient and by other federal agencies, as appropriate.

NIST will only approve work outside of the United States if it is in the best interest of the United States and of the AI MFG USA institute, including the domestic economy generally, U.S. industry, and U.S. manufacturing competitiveness. The AI MFG USA institute will be required to demonstrate that, among other items, adequate intellectual property and data protection protocols exist between the proposed entity performing the work and its foreign parent organization(s) and/or other foreign stakeholders. A suggested template for providing information about proposed work outside of the United States will be posted on the website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition) and available to recipients after awards are issued.

3.3 REQUIRED COST SHARE

Non-federal cost share is required for awards issued pursuant to this NOFO. Specifically, this program requires non-federal cost share in an amount equal to at least the total amount of federal funding over the lifetime of the award (i.e., 50% or more of the total funding for the AI MFG USA institute must come from non-federal sources). Non-federal cost share is that portion of the project costs not borne by the Federal Government.

Including the required cost share, the total program funding available is at least $140 M. The applicant's cost share may include cash, services, contributions or donations of equipment or other property for use in the project, and third-party in-kind contributions that would be allowable pursuant to 2 CFR 200.306. The applicant may propose different types of cost share for evaluation other than those that would allowable under 2 CFR 200.306, provided that the proposed cost share is allocable and necessary for the success of the project and approved in writing by the NIST Agreements Officer.

A proposed and well-supported non-federal cost-share ratio of more than 1:1 (federal to non-federal funds) that increases the capability of the institute will be considered favorably. *See Sections 5.1.1.3.2 and 5.1.2.5.2 of this NOFO for additional information*. However, the applicant should not include cost share to match or exceed the required minimum equal non-federal cost share if that cost share will not reasonably and realistically contribute to the success of the project during the period of award. NIST reserves the right to disallow any proposed cost share that NIST determines is unallowable pursuant to this NOFO or otherwise does not contribute to the success of the project.

The source and detailed rationale of the cost share, including cash, full- and part-time personnel, and in-kind donations, must be documented in the Budget Narrative and Justification (See Section

4.3.3.1.8) submitted with the application and will be considered as part of the review under the evaluation criterion found in Sections 5.1.1.3.2 and 5.1.2.5.2 of this NOFO. The Recipient must provide a schedule that meets the minimum equal match ($70 M) of non-federal cost share by the end of the award. The non-Federal share, whether in cash or third-party in-kind contributions, is to be paid out at the same general rate as the Federal share. Exceptions to this requirement may be granted by the Agreements Officer based on sufficient documentation demonstrating previously determined plans for, or later commitment of, cash or third-party in-kind contributions.

In creating a budget, the applicant must follow established federal cost principles for the entity receiving funding (such as those in 2 CFR Part 200, Subpart E for state/local governments and non-profit, including institutions of higher education or 48 CFR 31.2 Contracts with Commercial Organizations) for determining allowable costs under this program, including **both** the federal share of the funding and the non-federal cost share to be provided by the recipient. The applicant may propose different types of cost share for evaluation other than those described at 2 CFR 200.306, provided that the proposed cost share is allocable and necessary for the success of the project and approved in writing by the NIST Agreements Officer. The value of cost share to be provided by any subawardees/subrecipients may be determined using Generally Acceptable Accounting Principles (GAAP). Non-federal cost share incorporated into the budget of an approved other transaction authority award is legally binding on the recipient and is subject to federal oversight and audit in the same general manner as federal award funds, which will be specified in the other transaction authority agreement to be entered into by NIST and the recipient.

The source and detailed rationale of the cost share, including cash, full- and part-time personnel, and in-kind donations must be documented in the budget tables and Budget Narratives submitted with the application and will be considered as part of the review under the evaluation criteria. For instructions on incorporating cost share into the Budget Narrative and Justification, see Section 4.3.3.1.8.

3.4 ELIGIBLE USES OF FEDERAL AND COST-SHARE FUNDS

Recipients may only use federal funds and any cost share incorporated into the terms and conditions of an OT agreement to pay for eligible costs. For purposes of this program, eligible costs are generally determined in accordance with the cost principles similar to those identified in 2 C.F.R. Part 200, including Subpart E of such regulations for State, local; and non-profit organizations, and in 48 C.F.R. Part 31 for commercial organizations. Applicants may propose different types of project costs for NIST approval, other than those described in the applicable cost principles, provided that the proposed costs are allocable to and necessary for the success of the project and approved in writing by the NIST Agreements Officer. Federal and non-federal funds committed to an OT agreement may only be used to cover eligible costs incurred during the agreement's period of performance and for eligible closeout costs incurred during the agreement's closeout process.

As the AI MFG USA institute awarded through this NOFO is expected to develop sustainability strategies to mitigate the need for ongoing base federal funding, the awardee may include as cost

share the costs associated with preparing applications for mission-aligned funding from federal agencies other than NIST, as well as applications for funding submitted to other funding organizations. Inclusion of these costs as cost share must be approved in writing by the NIST Agreements Officer.

4 APPLICATION AND SUBMISSION INFORMATION

4.1 OVERVIEW

The application process consists of a concept paper stage and a full-application proposal stage (see Figure 1). NIST's intention in including a concept paper as the first stage of competition is to minimize the effort and cost to applicants who propose institute concepts with little chance of being selected for funding. NIST's decision to invite a full proposal will be based upon the merit of any timely and compliant concept paper submitted by an eligible applicant. An applicant who does not submit a timely and compliant concept paper is not eligible to submit a full proposal and will not be considered for funding pursuant to this NOFO.

Only the most highly rated concept papers will receive an invitation from NIST to submit a full proposal. An applicant who does not receive an invitation from NIST to submit a full proposal is not eligible to submit a full proposal and will not receive feedback or a debriefing on their concept paper**.** An applicant who is invited to submit a full proposal will receive feedback on their concept paper to strengthen full proposal submissions.

The evaluation process for full proposals may also include, at NIST's discretion, site visits and/or face-to-face meetings conducted in the Washington, DC, area and/or virtual meetings.

Any concept paper or full proposal submission must be in accordance with this NOFO to be considered for evaluation. The deadline for receipt of a concept paper is no later than September 30, 2024. The full proposal due date and time will be specified in the invitation letter from NIST, but is currently anticipated to be due on or about January 23, 2025.

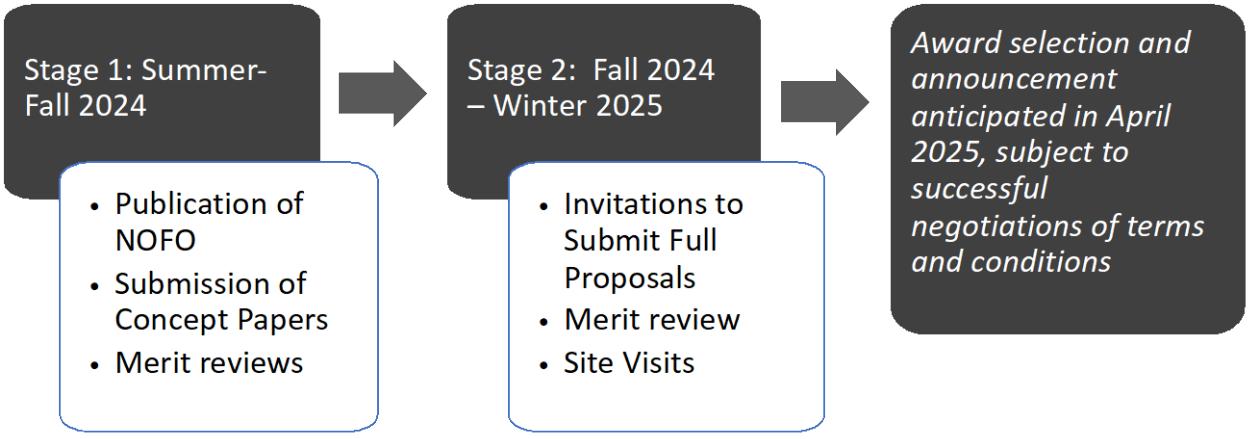

Figure 1. General Timelines for the two-stage competition. Applicants should refer to submission deadlines in Table I of this document.

To limit burden on applicants and the Federal Government, only a single concept paper may be submitted from a lead applicant entity. However, entities may be partners on multiple proposals submitted. The full proposal must be valid for at least 180 days from submission. Applicants should be alert for any amendment to this NOFO that may adjust submission dates, times or other submission requirements. All submissions must be unclassified. The Federal Government will not reimburse any cost associated with participation in this NOFO process. The cost of preparing concept papers and proposals in response to this NOFO is not an allowable charge (direct or indirect) to any resulting award (or any other federal award).

4.2 APPLICATION PACKAGE

The application package is available at Grants.gov under Funding Opportunity Number 2024-NIST-AI-MFGUSA-01.

4.3 CONTENT AND FORMAT OF APPLICATION SUBMISSION

4.3.1 GENERAL GUIDANCE FOR PROPOSAL SUBMISSION

Applications must be submitted using Grants.gov. Proposals submitted must be either Microsoft Word documents or Adobe PDF files. The file name convention for concept papers and full proposals should follow the example given: concept_paper_*orgname*.docx (or .pdf) or full_proposal_*orgname.docx* (or .pdf) where *orgname* is replaced to provide a unique identifier for the submission.

Applicants should consult and follow guidance on Grants.gov and the information in Section 4.3.2 for concept paper submission, and 4.3.3.2 for full proposal submission for requirements for uploading specific required forms. A concept paper or proposal received after the due date and time will NOT be evaluated or considered for an award.

Document formatting requirements are specified to ensure the readability of the document by reviewers. The concept paper and full proposal should not contain any hyperlink references that are used to circumvent any page restrictions. All information critical for the proposal must be contained within page limits specified. See tables below for the page limits for concept papers (See Table 3) and full proposals (See Table 4).

4.3.1.1 Page Count Guidance

This NOFO identifies strict limitations on page counts for the concept paper and for the full proposal. To assist applicants in complying with the page limitations, while providing adequate detail on each topic, applicants should consult the evaluation criteria for relative weights.

NIST will conduct an administrative review to check the concept paper and full proposal for conformance with the stated requirements in this NOFO. NIST will redact any pages received in excess of the stated page limits prior to merit review and evaluation. The applicant should refer to Table 3 and Table 4 to determine which documents and forms are included and excluded in page count limits.

Compliance with page count limits is assessed based on single line spacing. However, although single line spacing is permitted, NIST encourages applicants to use a more readable line-spacing throughout the proposal.

4.3.2 FIRST STAGE CONCEPT PAPER INSTRUCTIONS

4.3.2.1 Required Forms and Documents.

The submission of a concept paper must contain the following items to be considered responsive to this NOFO:

4.3.2.1.1 SF-424 (R&R), Application for Federal Assistance.

The SF-424 (R&R) must be signed by an authorized representative of the applicant organization.

For SF-424 (R&R), Items 5, 14, and 19, use the Zip Code + 4 format (##### - ####) when addresses are called for.

SF-424 (R&R), Item 18. If the SF-LLL, Disclosure of Lobbying Activities form (item (6) below) is applicable, attach it to field 18.

The list of certifications and assurances referenced in Item 17 of the SF-424 (R&R) is contained in the Federal Financial Assistance Certifications and Representations (Certs and Reps) as part of the SAM.gov entity registration.

Instructions for filling in the SF-424 (R&R) can be found on Grants.gov, as well as at the NIST Grants Management Division SF-424 Research & Related (R&R) Application Package Guidance.

All the information in Sections **4.3.2.1.2 – 4.3.2.1.4** outlined below must be attached as a single document to Item 20. Pre-application on the SF-424 (R&R).

4.3.2.1.2 Budget Information - Rough Order of Magnitude

A preliminary Rough Order of Magnitude (ROM) budget that reflects the anticipated expenses for an institute initial award period of up to five (5) years, considering all potential cost increases, including cost of living adjustments. A suggested ROM template that is available on the NIST website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition) or an alternative format of the applicant's choice provided it provides the same information as is identified within the suggested template.

4.3.2.1.3 Concept Paper Executive Summary

A concise summary/abstract of the proposed effort. The summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the director/principal investigator(s), the application title, the objectives of the proposed institute, a description of the proposed institute, methods to be employed, the potential

impact of the proposed institute (i.e., benefits, outcomes), and major participants (for collaborative institute activities). This document must not include any proprietary or sensitive business information as NIST may make it available to the public after selection of concept papers has been completed. *See 1*5 C.F.R. § 4.9(b) concerning the designation of business information by the applicant. A table can be helpful in providing this information. The executive summary must not exceed two (2) pages.

4.3.2.1.4 Concept Paper Narrative

The concept paper or abbreviated narrative is a word-processed document of no more than twenty (20) pages, which is responsive to the program description and the evaluation criteria. The 20-page maximum permits single spacing for the purpose of assessing compliance with page limits. However, NIST encourages applicants to use a more readable line spacing as space permits.

The narrative should describe the relevance of the proposed institute to the program as described in Section 1 of this NOFO and address the following:

i. A description of the proposed AI MFG USA institute sufficient to permit evaluation of the concept paper in accordance with the Evaluation Criteria (see Section 5.1.1); and
ii. A description of how the proposed MFG USA AI institute would be non-duplicative of and complementary to the work within the existing network of Manufacturing USA institutes, as well as the NIST-sponsored U.S. Artificial Intelligence Safety Institute (USAISI) Consortium.[23]

Item 4.3.2.1.1 above is part of the standard application package in Grants.gov and can be completed through the download application process. **Items in Sections 4.3.2.1.2 through 4.3.2.1.4 must be completed and attached by clicking on the "Add Attachments" button found in Item 20 of the SF-424 (R&R). This will create a zip file that allows for transmittal of the documents electronically via Grants.gov.**

Applicants should carefully follow specific Grants.gov instructions at http://www.grants.gov to ensure the attachments will be accepted by the Grants.gov system. **A receipt from Grants.gov does not provide details concerning whether all attachments (or how many attachments) transferred successfully.** Applicants will receive a series of e-mail messages over a period of up to two business days before learning whether a federal agency's electronic system has received its application.

[23] https://www.nist.gov/artificial-intelligence/artificial-intelligence-safety-institute

Table 3 Concept Paper Format and Guidelines

E-mail, Hard Copies, or Facsimile (fax) Submissions.	Will not be accepted.
Figures, Graphs, Images, and Pictures	Should be of a size that is easily readable or viewable and may be landscape orientation.
Font	Easy to read font (10-point minimum). Smaller type may be used in figures and tables but must be clearly legible.
Line Spacing	Page limits are based on a single-spaced document. However, applicants are encouraged to use a line spacing that maximizes readability where space permits.
Margins	2.54 cm (1 inch) top, bottom, left, and right.
Page layout	Portrait orientation only except for figures, graphs, images, and pictures.
Page Limit.	A maximum of twenty (20) single-spaced pages for concept paper narrative.
Page limit includes	Concept paper including any Figures, Graphs, Images, and Pictures.
Page limit excludes	Executive Summary (2 page limit); SF-424 (R&R) Application for Federal Assistance; Budget Information - Rough Order of Magnitude
Page numbering	Number all pages sequentially.
Paper size	21.6 cm by 27.9 cm (8 ½ inches by 11 inches)
Application language	English.
Typed document	All applications, including forms, must be typed.

4.3.2.2 Concept Paper Replacement Pages

Applicants may not submit replacement pages and/or missing documents after a concept paper has been submitted. Any revisions desired by the applicant require submission of a new concept paper that must be received by NIST by the submission deadline. This restriction does not apply to any additional documentation that may be requested by NIST as part of the concept paper review process.

4.3.3 SECOND STAGE FULL PROPOSAL INSTRUCTIONS

4.3.3.1 Required Forms and Documents

Only applicants invited in writing by NIST are permitted to submit a full proposal pursuant to this NOFO. Full proposals submitted by applicants who did not submit concept papers in the first stage of the competition, or those submitted by applicants who were not invited by NIST following merit review of submitted concept papers, will be returned to the applicants without review.

The full proposal must contain the following:

4.3.3.1.1 SF-424 (R&R), Application for Federal Assistance

The SF-424 (R&R) must be signed by an authorized representative of the applicant organization.

For SF-424 (R&R), Items 5, 14, and 19, use the Zip Code + 4 format (##### - ####) when addresses are called for.

The list of certifications and assurances referenced in Item 17 of the SF-424 (R&R) is contained in the Federal Financial Assistance Certifications and Representations (Certs and Reps) as part of the SAM.gov entity registration.

SF-424 (R&R), Item 18. If the SF-LLL, Disclosure of Lobbying Activities form (item (5) below) is applicable, attach it to field 18.

Instructions for filling in the SF-424 (R&R) can be found on Grants.gov, as well as at the NIST Grants Office SF-424 Research & Related(R&R) Application Package Guidance.

4.3.3.1.2 Research & Related Budget (Total Fed + Non-Fed)

NIST may elect to negotiate any or all elements of the proposed budget. The budget should reflect anticipated expenses for the full term of the project (5 years), considering all potential cost increases, including cost of living adjustments.

The budget should be detailed in these categories:

A. Senior/Key Person;
B. Other Personnel;
C. Equipment Description;
D. Travel;
E. Participant/Trainee Support Costs;
F. Other Direct Costs;
G. Direct Costs (automatically generated);
H. Indirect Costs;
I. Total Direct and Indirect Costs (automatically generated);
J. Total Costs and Fee (automatically generated);
K. Budget Narrative and Justification document (Item 4.3.3.1.8 below) should be attached to field L.

A separate detailed R&R Budget must be completed for each annual budget period during the proposed award. To add additional budget periods (e.g., year 2), click “Add Period” embedded at the end of the form. Information regarding the Research & Related Budget (Total Fed + Non-Fed) is available in the R&R Family Section of

Grants.gov, as well as at the NIST Grants Management Division SF-424 Research & Related (R&R) Application Package Guidance.

4.3.3.1.3 CD-511, Certification Regarding Lobbying

Enter "2024-NIST-AI-MFGUSA-01" in the Award Number field. Enter the title of the application, or an abbreviation of that title, in the Project Name field.

4.3.3.1.4 Research and Related Other Project Information

Answer the highlighted questions and use this form to attach the Project Narrative (item 4.3.3.1.6 below), the Indirect Cost Rate Agreement (item 4.3.3.1.9), the Letters of Commitment, if applicable, (item 4.3.3.1.11 below), the Data Management Plan (item 4.3.3.1.12 below), and the Current and Pending Support Form (item 4.3.3.1.13 below). Instructions for completing the Research and Related Other Project Information form can be found in the Grants.gov R&R Forms Repository by scrolling down to Research And Related Other Project Information and clicking the Instructions link, as well as in the NIST Grants Management Division SF-424 Research & Related (R&R) Application Package Guidance. by scrolling down to Research And Related Other Project Information and clicking the Instructions link, as well as in the NIST Grants Management Division SF-424 Research & Related (R&R) Application Package Guidance.

4.3.3.1.5 SF-LLL, Disclosure of Lobbying Activities

(If applicable).

4.3.3.1.6 Project Narrative

The Project Narrative is a word-processed document of no more than ninety (90) pages, which is responsive to the program description and the evaluation criteria.

Compliance with page count limits is assessed based on single line spacing. However, although single line spacing is permitted, NIST encourages applicants to use a more readable line-spacing throughout the proposal.

The Projective Narrative for the full application must contain the following information and required elements:

a. **Executive Summary.** (This item does not contribute to the number of pages.) A concise summary/abstract of the proposed effort. The summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the director/principal investigator(s), the application title, the objectives of the proposed AI MFG USA institute, a description of the proposed institute, methods to be employed, the potential impact of the proposed institute (i.e., benefits, outcomes), and major participants (for collaborative institute activities). This document must not include any proprietary or sensitive business information as NIST may make it available to the public after awards are issued. *See 1*5 C.F.R. § 4.9(b) concerning the

designation of business information by the applicant. A table can be helpful in providing this information. The executive summary must not exceed two (2) pages.

b. **Table of Contents.** (This item does not contribute to the number of pages.)

c. **Application Narrative**. A description of the proposed AI MFG USA institute responsive to the program description in Section 1 of this NOFO and sufficient to permit evaluation of the application in accordance with the evaluation criteria for this program (see Section 5.1.2).

d. **Annual Institute Plan.** An example Annual Institute Plan (AIP) must be provided by the applicant using either the suggested AIP template that is available on the NIST website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition) or an alternative format of the applicant's choice provided it provides the same information as is identified within the suggested template. The example AIP will help the applicant think through the process of how the capabilities of the AI MFG USA institute and its members will be organized and used to generate and conduct institute's technical projects. The example AIP will also help NIST determine the applicant's ability to generate institute technical projects with the necessary quality *e.g.*, depth, innovation, resources, potential for national benefits, etc. – expected by an institute within the time frame envisioned for an award.

   At a minimum, the example AIP must contain the following elements:

   1. Summary of the annual technical work to be performed and what is to be accomplished.
   2. An organized representation of the AI MFG USA institute's full scope of technical work, organized as follows:
      i. Project Calls[24] that consists of Technical Initiatives;
      ii. Technical Thrusts listed as a sub-Section for each Project Call consisting of Project Initiatives; and
      iii. Technical Projects listed as sub-Sections for each Technical Thrust.

      The example AIP should contain a summary of two (2) example Project Calls with at least two (2) example Technical Projects aligned within each Project Call (for a total of at least four example Technical Projects). At least two of the example Technical Projects should be for institute research and development (R&D) projects. At least one technical project should address an education and/or workforce development need.

[24] Project Calls are the mechanisms by which an institute will solicit Technical Project proposals funded using Institute resources and address the technical work areas identified by the Institute.

3. Rough Order of Magnitude (ROM) Research & Related Budget for each AI MFG USA institute Technical Project. A suggested ROM budget template is available on the NIST website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition).
4. Integrated Technical Project-level schedule, milestones, and deliverables.

e. **Gantt Chart/Timeline** (This item does not contribute to the total number of pages.)

f. **Table of Abbreviations and Acronyms**. (This item does not contribute to the total number of pages.) An alphabetical list of all abbreviations, acronyms, and their meanings.

g. **Bibliographic List of References**. (This item does not contribute to the total number of pages.) A complete bibliographic listing of all references used within the application.

h. **Evaluation Criterion Matrix.** (This item does not contribute to the total number of pages.) Applicants shall provide an evaluation criterion matrix in table format that explains how and where each merit review criterion is addressed in the application. The table's format is at the discretion of the applicant.

i. **Table of Funded Participants and Unfunded Collaborators.** (This item does not contribute to the total number of pages.) This table should identify all organizations known at the time of the application submission that will participate in and collaborate with the awarded AI MFG USA institute. The table should consist of an alphabetically ordered list, by organization, of all Funded Participants,[25] all Unfunded Collaborators,[26] and indicate which participants or collaborator organizations will be institute members.[27] The table should include the organization's name, address, Congressional District, the nationality of the majority of ownership, Dun and Bradstreet number, administrative role,[28] organizational type,[29] scope of work (funded participants only) and proposed total funding amount to the participant (funded participants only). A

[25] A Funded Participant is an organization or person who receives funds (money) from an Institute as part of their participation. This includes all subrecipients and contractors. Depending on the organizational structure of an Institute, an Institute member may also be a subrecipient and/or contractor.
[26] An Unfunded Collaborator is any organization or person who will not receive funds (money) from an Institute as a part of their collaborative relationship with the Institute. Depending on the organizational structure of an institute, it is possible that an institute member may also be an unfunded collaborator.
[27] The business model for Manufacturing USA institutes relies on a group of persons and/or organizations coming together for a common purpose. This model generally results in a membership structure and its associated agreement that formalizes the relationship between a stakeholder organization and the institute entity itself. Stakeholder organizations that establish this type of relationship with an institute are generally referred to as members.
[28] Administrative roles for funded participants are either as subrecipient or contractor. Participants who will not receive funding as part of the primary award establishing the AI MFG USA institute should be listed as unfunded collaborators.
[29] The organization type is selected from the list that is used to complete SF-424, Item 9.

suggested template for this table is available on the NIST website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition)

j. **Table of Cost-share Components and Contributors.** (This item does not contribute to the total number of pages.) A table that details all contributing sources of cost share, both cash and in-kind, is required. The description must include the rationale for selection of the cost-share contribution and the merits and risks associated with each known and anticipated cost-share contribution. A suggested template for this table is available on the NIST website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition).

k. **Estimated Funding by Work Breakdown Structure (WBS)**. (This item does not contribute to the total number of pages.) The WBS is a tool to organize and describe the work to be performed as part of both the Institute Startup Phase and the subsequent Ongoing Institute Operations Phase. Each WBS divides the work into manageable segments to facilitate program management, schedule management, cost estimating and budgeting, and reporting for the institute's operations. The WBS is composed of tasks, sub-tasks and task descriptions. Estimated funding[30] should be listed by uniquely numbered tasks (i.e., a high-level aggregation of the task's subtasks that have cost that can be easily updated as a group on an annual basis). The tasks named in the WBS should correspond to those listed in the Gantt Chart/Timeline (see bullet **e** above). A suggested template for the WBS table is available on the NIST website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition)

4.3.3.1.7 Resume(s) or Curriculum Vitae (CV)s

(These items do not contribute to the total number of pages.) Resumes or CVs are required for all key personnel, including the AI MFG USA institute principal investigator. Resumes are limited to two (2) pages per individual. For purposes of research security reviews, any individual whose resume is included will be deemed a covered individual. Resumes are limited to two (2) pages per individual. The resumes should highlight experience relevant to the proposed work and should provide sufficient detail for NIST to make determinations regarding covered individuals under 42 U.S.C. § 6605.

4.3.3.1.8 Budget Narrative and Justification

(This item does not contribute to the total number of pages.) There is no set format for the Budget Narrative and Justification; however, the written justification should include the necessity and the basis for the cost, as described below. When cost share is included in the budget, the written justification must also identify the federal and non-federal portion of each cost, to include indirect costs, as applicable. (See cost-share section 3.3

[30] Funding should reflect the total award costs and per year costs (for the Startup Phase of up to one year, and for any Ongoing Institute Operations Phase activities that may occur during the remainder of the first year following completion of the Startup Phase), composed of both the Federal funds that will be requested and the cost-share or matching that is planned.

of this NOFO for match requirements.) Proposed funding levels must be consistent with the project scope, and only allowable costs should be included in the budget. An applicant's budget request must use the governing cost principles and other requirements and policies applicable to the type of awardee as a guide. OT agreements will generally use cost principles similar to those set forth at 2 CFR 200, Subpart E – Cost Principles and 48 CFR 31.2 Contracts with Commercial Organizations as a guide for negotiating the award. Applicants may propose different types of project costs for NIST approval, other than those described in the applicable cost principles, provided that the proposed costs are allocable to and necessary for the success of the project and approved in writing by the NIST Agreements Officer. Federal and non-federal funds committed to an OT agreement may only be used to cover eligible costs incurred during the agreement's period of performance and for eligible closeout costs incurred during the agreement's closeout process. A guide to completing the Budget Narrative is available on the NIST website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition) for your use.

This section will be evaluated in accordance with the Budget Narrative evaluation criteria. Applicants must provide a detailed budget table[31] and budget narrative[32] for the Startup Phase and the first year (1st) of the Ongoing Institute Operations once the startup is complete, fully explaining and justifying all proposed expenditures in accordance with applicable federal cost principles. Applicants must also provide a budget table for the remaining years of the award; however, a budget narrative for these subsequent years is not required as part of the application [see Section 5.1.2.5]. The budget submitted by the applicant will be reviewed by NIST to determine if all costs are reasonable, allocable, and allowable under established cost principles for the entity receiving funding similar to those set forth in 2 CFR Part 200, Subpart E (state/local governments and non-profit, including institutions of higher education) or 48 CFR 31.2 Contracts with Commercial Organizations.

Information needed for each category is as follows (categories not listed are automatically generated by the form or are not relevant to this competition):

a. **Senior/Key Person** – At a minimum, the budget justification should include the following: name, job title, commitment of effort on the proposed project in terms of average number of hours per week or percentage of time, salary rate, total direct charges on the proposed project, description of the role of the individual on the proposed project and the work to be performed.

[31] A budget table shows accounting information broken out by budget form object class categories in rows and summarized by performance year(s) and federal award total in the columns.
[32] The budget should reflect the total costs, composed of both the federal funds that will be requested and the cost-share or matching that is planned.

Fringe benefits should be identified separately from salaries and wages and based on rates determined by organizational policy. The items included in the fringe benefit rate (e.g., health insurance, parking, etc.) should not be charged under another cost category.

b. Other Personnel - Data is requested at the project role level, and not at the individual level for Other Personnel. The budget justification should include the following: job title, commitment of effort on the proposed project in terms of average number of hours per week or percentage of time, salary rate, total direct charges on the proposed project, description of the role of the position on the proposed project and the work to be performed.

Fringe benefits should be identified separately from salaries and wages and based on rates determined by organizational policy. The items included in the fringe benefit rate (e.g., health insurance, parking, etc.) should not be charged under another cost category.

c. Equipment Description – Equipment is defined as an item of property that has an acquisition cost of $5,000 or more (unless the organization has established lower levels) and an expected service life of more than one year. The budget justification should list each piece of equipment, the cost, and a description of how it will be used and why it is necessary to the successful completion of the proposed project. Please note that any general use equipment (computers, etc.) charged directly to the award should be allocated to the award according to expected usage on the project. Any items that do not meet the threshold for equipment can be included under the Materials and Supplies line item in Section F, Other Direct Costs.

d. Travel – For all travel costs required by the recipient to complete the project, including attendance at any relevant conferences and/or meetings, the budget justification for travel should include the following: destination; names or number of people traveling; dates and/or duration; mode of transportation, lodging and subsistence rates; and description of how the travel is directly related to the proposed project. For travel that is yet to be determined, please provide best estimates based on prior experience. If a destination is not known, an approximate amount may be used with the assumptions given for the location of the meeting. Applicants should build into travel budgets anticipated travel and related costs for planned institute meetings such as an award kick-off conference in year one (1) and an annual Manufacturing USA Network meeting, two semiannual Institute Directors Council meetings, and two semiannual Manufacturing USA Council meetings in each of the five (5) performance years.

e. Participant/Trainee Support Costs – Participant support costs are stipends, subsistence allowances, travel, and registration fees paid to or on behalf of participants or trainees, who are not employees of your organization, for conferences or training projects. The budget justification should indicate the names or number of participants or trainees, a

description and calculation of costs per person, a description and date of the event, and a description of why the cost is necessary for the successful completion of the proposed project.

f. Other Direct Costs – For costs that do not easily fit into the other cost categories, please list the cost, and the breakdown of the total costs by quantity or unit of cost. Include the necessity of the cost for the completion of the proposed project. Only allowable costs can be charged to the award. Each subaward or contractual cost should be treated as a separate item in the Other Direct Costs category. Describe the services to be provided and the necessity of the subaward or contract to the successful performance of the proposed project. Contracts are for obtaining goods and services. Subawardees perform part of the project scope of work. For each subaward, applicants must provide budget detail justifying the cost of the work performed on the project.

g. Indirect Costs – Commonly referred to as Facilities & Administrative (F&A) Costs, Indirect Costs are defined as costs incurred by the applicant organization that cannot otherwise be directly assigned or attributed to a specific project. For more details, see Section 4.3.3.1.9 of this NOFO.

4.3.3.1.9 Indirect Cost Rate Agreement

If indirect costs are included in the proposed budget, provide a copy of the approved negotiated agreement if this rate was negotiated with a cognizant federal audit agency. If the rate was not established by a cognizant federal audit agency provide a statement to this effect. If the successful applicant includes indirect costs in the budget and has not established an indirect cost rate with a cognizant federal audit agency, the applicant will be required to obtain such a rate upon award.

Alternatively, applicants that do not have a current negotiated (including provisional) indirect cost rate may elect to charge a de minimis rate of 10 percent of modified total direct costs (MTDC). *See* 2 C.F.R. § 200.414(f). Applicants proposing a 10 percent de minimis rate should note this election as part of the budget portion of the application.

4.3.3.1.10 Subaward Budget Form

The Research & Related Subaward Budget Attachment Form is required if sub-recipients and contractors are included in the application budget.

Instructions for completing subaward budget forms are available by visiting the R & R Family section of the Grants.gov Forms Repository and scrolling down to the R & R Subaward Budget Attachment(s) Form and selecting “Instructions.”

4.3.3.1.11 Letters of Commitment and Interest

These items do not contribute to the total number of pages.

a. **Letters of Commitment**. Letters that commit specific resources or funding to the proposed institute in the event that the application is funded are required from all of the following that apply:

- If an applicant's proposal includes subawards or contracts to known third parties, as described in 3.1. of this NOFO, a Letter of Commitment from an authorized organization representative of each known proposed subrecipient and contractor must be included. Each letter must indicate the submitting organization's willingness to participate as a contractor or subrecipient, as applicable, describe what work they will perform within the work described within the Project Narrative and specify the associated cost of the proposed subaward or contract to the applicant.
- If key personnel are identified by name in the proposal, a Letter of Commitment from each named person must be included. The letter from each such individual must describe at a minimum, their current position and current relationship with the lead entity organization and acknowledge the role they will serve within the institute when awarded.
- Applicant and Third-Party Non-Federal Cost-share: Letters of Commitment describing sources of cost-share included in the proposal must be provided according to the guidance below for the lead applicant entity and other parties.
  - Lead Applicant Entity Non-Federal Cost-share (Cash and In-kind): A letter of commitment is required from an authorized representative of the lead applicant entity, stating the total amount of cost-share to be contributed by the lead applicant entity for the proposed AI MFG USA institute. This letter must include a break-out of cash cost-share contributions committed by the lead applicant entity for each year of the award for the duration of the award.
  - Third Party Co-share (Cash and In-kind): The applicant must include in its application a letter of commitment from an authorized representative of each third-party organization providing cash or in-kind contributions that are to be used as cost-share under the proposed institute. Any such letter(s) must clearly state: whether the third-party contribution will consist of cash contributions, in-kind contributions, or a combination thereof; the total amount or value of the contribution, including a break-out of cash versus in-kind contributions (as applicable); the time period over which the third-party contribution will be made; any interim performance requirements for phased contributions; and all contingencies or pre-conditions to which the contribution is subject.

Applicants should note that Letters of Commitment should not be submitted by any party solely to provide confirmation of the knowledge, skills, and abilities of the lead applicant or proposal team.

b. **Letters of Interest**. (These do not contribute to the total number of pages.) Optional letters may be submitted from third party entities to indicate a willingness to support the proposed AI MFG USA institute without a commitment of cost-share. Letters of Interest should outline the nature and importance of the collaboration or involvement being offered. Letters of Interest may also be submitted from third-party entities wishing to vouch for the lead applicant and proposal team's knowledge, skills, and abilities to conduct the proposed work.

4.3.3.1.12 Data Management Plan

Consistent with NIST Policy 5700.00,[33] *Managing Public Access to Results of Federally Funded Research,* and NIST Order 5701.00,[34] *Managing Public Access to Results of Federally Funded Research*", applicants must include a Data Management Plan (DMP).

All applications for activities that will generate scientific data using NIST funding are required to adhere to a DMP or explain why data sharing and/or preservation are not within the scope of the project. For the purposes of the DMP, NIST adopted the definition of "research data" at 2 C.F.R. § 200.315(e)(3).

The DMP must include, at a minimum, a summary of proposed activities that are expected to generate data; a summary of the types of data expected to be generated by the identified activities; a plan for storage and maintenance of the data expected to be generated by the identified activities, including after the end of the award's period of performance; and a plan describing whether and how data generated by the identified activities will be reviewed and made available to the public.

A template for the DMP, an example DMP, and the rubric against which the DMP will be evaluated for sufficiency is available at https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition. In addition, DMP policies for public disclosure of research is also described (https://www.nist.gov/open/policies-directives-and-nists-public-access-plan). An applicant is not required to use the template as long as the DMP contains the required information.

If an application stands a reasonable chance of being funded and the DMP is determined during the review process to be insufficient, the program office may reach out to the applicant to resolve deficiencies in the DMP. If an award is issued prior to the deficiencies being fully rectified, the award will include a term and condition stating that no research activities shall be initiated, or costs incurred under the award until the NIST

[33] https://www.nist.gov/system/files/documents/2018/06/19/final_p_5700.pdf
[34] https://www.nist.gov/system/files/documents/2019/11/08/final_o_5701_ver_2.pdf

Agreements Officer amends the award to indicate the term and condition has been satisfied.

Reasonable costs for data preservation and access may be included in the application.

4.3.3.1.13 Current and Pending Support Form

Any application that includes investigators, researchers, and key personnel must identify all sources of current and potential funding, including this proposal. Any current project support (e.g., federal, state, local, public or private foundations, etc.) must be listed on this form. The proposed project and all other projects or activities requiring a portion of time of the Principal Investigator (PI), co-PI, and key personnel must be included, even if no salary support is received. The total award amount for the entire award period covered, including indirect costs, must be shown as well as the number of person-months per year to be devoted to the project, regardless of the source of support. Similar information must be provided for all proposals already submitted or that are being submitted concurrently to other potential funders.

Applicants must complete the Current and Pending Support Form, using multiple forms as necessary to account for all activity for each "covered individual" as described in Section 2.6.1.5, including but not limited to the Institute Director, the PI, co-PI(s), associate investigators and any individual listed under Section 4.3.3.1.7 as "key personnel" or as a "Senior/Key Person" or for whom a resume or CV is provided. A separate form should be used for each covered individual.

Applicants must download the Current and Pending Support Form from the NIST website at https://www.nist.gov/oaam/grants-management-division/current-and-pending-support and reference the guidance provided as it contains information to assist with accurately completing the form.

4.3.3.1.14 Research Security Plan

(Not to exceed 5 pages. This item does not contribute to the Project Narrative Page limit.)

As described in Section 2. Provide a written plan describing internal processes or procedures to address foreign talent recruitment programs, conflicts of commitment, conflicts of interest, research security training, and research integrity. Provide a point of contact on research security issues within the project leadership team.

4.3.3.2 Attachment of Required Documents

Forms listed in Sections 4.3.3.1.1 through 4.3.3.1.4 above are part of the standard application package in Grants.gov and can be completed through the download application process.

The SF-LLL, Disclosure of Lobbying Activities form (Section 4.3.3.1.5), is an optional application form which is part of the standard application package in Grants.gov. If the SF-

LLL, Disclosure of Lobbying Activities form is applicable to this proposal, attach it to field 18 of the SF-424 (R&R), Application for Federal Assistance.

The Project Narrative (see Section 4.3.3.1.6) should be attached to field 8 (Project Narrative) of the Research and Related Other Project Information form by clicking on "Add Attachment".

The Budget Narrative and Justification (see Section 4.3.3.1.8) should be attached to field L (Budget Justification) of the Research and Related Budget (Total Fed + Total Non-Fed) form by clicking on "Add Attachment".

Resume(s) or CV(s) (see Section 4.3.3.1.7), the Indirect Cost Rate Agreement (see Section 4.3.3.1.9), Letters of Commitment (see Section 4.3.3.1.11) if applicable to the submission, the Data Management Plan (see Section 4.3.3.1.12),, and the Current and Pending Support Form (see Section 4.3.3.1.13), and the Research Security Plan (see Section 4.3.3.1.14) must be completed and attached by clicking on "Add Attachments" found in item 12 (Other Attachments) of the Research and Related Other Project Information form.

The Subaward Budget Form(s) (see Section 4.3.3.1.10), if applicable to the submission, should be attached to the Research & Related Subaward Budget (Total Fed + Non-Fed) Attachment(s) Form in the application package.
Following these directions will create zip files which permit transmittal of the documents electronically via Grants.gov.

Applicants should carefully follow specific Grants.gov instructions to ensure the attachments will be accepted by the Grants.gov system. A receipt from Grants.gov indicates only that an application was transferred to a system. It does not provide details concerning whether all attachments (or how many attachments) transferred successfully. Applicants will receive a series of e-mail messages over a period of up to two business days before learning whether a federal agency's electronic system has received its application.

Applicants are strongly advised to use grants.gov to access "Download Submitted Forms and Applications" option found at https://apply07.grants.gov/help/html/help/index.htm#t=Applicants%2FCheckApplicationStatus%2FDownloadSubmittedFormsAndApplications.htm to check that their application's required attachments were contained in their submission.

After submitting the application, check the status of your application here: CHECK APPLICATION STATUS. If any, or all, of the required attachments are absent from the submission, follow the attachment directions found above, resubmit the application, and check again for the presence of the required attachments.

If the directions found at https://www.grants.gov/help/html/help/index.htm#t=GetStarted%2FGetStarted.htm are not effective, please contact the Grants.gov Help Desk immediately. If calling from within the United States or from a U.S. territory, please call 800-518-4726. If calling from a place outside the United States or a U.S. territory, please call 606-545-5035. E-mails should be addressed to support@grants.gov. Assistance from the Grants.gov Help Desk will be available around the clock every day, with the exception of federal holidays. Help Desk service will resume at 7:00 a.m. Eastern Time the day after federal holidays.

Applicants can track their submission in the Grants.gov system by following the procedures at the Grants.gov site (https://www.grants.gov/applicants/grant-applications/track-my-application) It can take up to two business days for an application to fully move through the Grants.gov system to NIST.

NIST uses the Tracking Numbers assigned by Grants.gov and does not issue Agency Tracking Numbers.

Table 4 Full Application Proposal Format and Guidelines

Paper, Email, and Facsimile (fax) Submissions	Will not be accepted
Figures, Graphs, Images, and Pictures	Should be of a size that is easily readable or viewable and may be displayed in landscape orientation. Any figures, graphs, images, or pictures will count toward the page limits for the Project Narrative.
Font	Easy to read font (10-point minimum). Smaller type may be used in figures and tables but must be clearly legible.
Line Spacing	Page limits are based on a single-spaced document. However, applicants are encouraged to use a line spacing that maximizes readability where space permits.
Margins	2.54 cm (1 inch) top, bottom, left, and right.
Page Limit	The Project Narrative is limited to ninety (90) single-spaced pages,[35] noting the limit of two (2) pages for the Executive Summary.
Page Limit Exclusions	• SF-424 (R&R), Application for Federal Assistance • Research & Related Budget (Total Fed + Non-Fed) • CD-511, Certification Regarding Lobbying • Research and Related Other Project Information • SF-LLL, Disclosure of Lobbying Activities • Executive Summary • Table of Contents

[35] Compliance with page count limits is assessed based on single line spacing. However, although single line spacing is permitted, NIST encourages applicants to use a more readable line-spacing throughout the proposal.

	• Project Performance/Site Location(s) • Gantt Chart/Timeline • Table of Abbreviations and Acronyms • Bibliographic List of References • Table of Funded Participants and Unfunded Collaborators • Evaluation Criterion Matrix • Table of Cost-share Components • Resume(s) or CV(s) (2 pages max) • Budget Narrative and Justification • Indirect Cost Rate Agreement • Subaward Budget Form • Letters of Commitment and/or Interest • Data Management Plan • Current and Pending Support Form • Research Security Plan (5 pages max)
Page Layout	The Project Narrative must be in portrait orientation.
Page size	21.6 cm by 27.9 cm (8 ½ inches by 11 inches)
Page numbering	Number all pages sequentially within each section of the application, in a format that is clear and consistent. NIST suggests formatting such as 'Project Narrative page 1 of 10' for ease of reference.
Application language	All documents must be in English, including but not limited to the initial application, any additional documents submitted in response to a NIST request, all reports, and any correspondence with NIST
Typed document	All applications, including forms, must be typed; handwritten forms will not be accepted

4.3.3.3 Application Replacement Pages

Applicants may not submit replacement pages and/or missing documents once an application has been submitted. Any revisions must be made by submission of a new application that must be received by NIST by the submission deadline.

4.3.4 UNIQUE ENTITY IDENTIFIER AND SYSTEM FOR AWARD MANAGEMENT (SAM)

Pursuant to 2 C.F.R. part 25, applicants and recipients are required to: (i) be registered in SAM before submitting its application; (ii) provide a valid unique entity identifier in its application; and (iii) continue to maintain an active SAM registration with current information at all times during which it has an active federal award or an application or plan under consideration by a federal awarding agency, unless otherwise excepted from these requirements pursuant to 2 C.F.R. § 25.110. NIST will not make a federal award to an applicant until the applicant has complied with all applicable unique entity identifier and SAM requirements and, if an applicant has not fully complied with the requirements by the

time that NIST is ready to make a federal award pursuant to this NOFO, NIST may determine that the applicant is not qualified to receive a federal award and use that determination as a basis for making a federal award to another applicant.

4.3.5 SUBMISSION DATES AND TIMES

Please refer to **Table 1** for all key dates related to this NOFO.

A. Concept Papers
   i. Pre-Applications (Concept Papers) must be received at Grants.gov no later than 11:59 p.m. Eastern Daylight Time, September 30, 2024.
   ii. Review of the concept papers, selection, and notification to applicants is expected to be complete on or about November 10, 2024. Selected Pre-Applicants (Concept Paper teams) will be invited to submit a Full Application.

B. Full Applications (by invitation only) must be received at Grants.gov no later than 11:59 p.m. Eastern Standard Time, January 23, 2025

C. NIST will consider the date and time recorded by Grants.gov as the official submission time. Concept paper and/or applications received after this deadline will not be reviewed or considered. Paper, facsimile or email applications will not be accepted.

D. NIST expects to complete its review, selection of successful applicants, and award processing by April 2025. NIST expects the earliest start date for awards under this NOFO to be May 2025.

NIST strongly recommends that applicants do not wait until the last minute to submit applications. NIST will not make allowance for any late submissions. The responsibility for ensuring a complete application is received by NIST by the deadline rests solely with the applicant. To avoid any potential processing backlogs due to last minute Grants.gov registrations, applicants are strongly encouraged to start their Grants.gov registration process at least four (4) weeks prior to the application due date.

Applicants should be aware, and factor in their application submission planning, that the Grants.gov system closes periodically for routine maintenance. Applicants should visit Grants.gov for information on any scheduled closures.

When developing the submission timeline, please keep in mind that: (1) all applicants are required to have current registrations in the electronic System for Award Management (SAM.gov) and Grants.gov; (2) the free annual registration process in the SAM.gov generally takes between three and five business days but can take more than three weeks; and applicants will receive e-mail notifications over a period of up to two business days as the application moves through intermediate systems before the applicant learns via a validation or rejection notification whether NIST has received the application. (See Grants.gov for full information on application and notification through Grants.gov.) Please

note that an other transaction award cannot be issued if the designated recipient's registration in the System for Award Management (SAM.gov) is not current at the time of the award.

4.3.6 INTERGOVERNMENTAL REVIEW

Applications submitted by State and local governments are subject to Executive Order (E.O.) 12372, "Intergovernmental Review of Federal Programs," pursuant to which each State designates an entity to coordinate, and review proposed federal financial assistance and direct federal development. All other applicants should consult the Intergovernmental Review State Single Point of Contact (SPOC) to determine whether the application is subject to State review pursuant to E.O. 12372. The current SPOC List may be found here: https://www.whitehouse.gov/wp-content/uploads/2023/06/SPOC-list-as-of-2023.pdf.

4.3.7 FUNDING RESTRICTIONS

While construction activities are not an allowable cost under this program, costs related to internal modifications of existing buildings may be allowed, at NIST discretion. Where such costs are proposed, provide a description of whether and how the applicant intends to utilize domestically produced iron, steel, and construction materials as part of their projects, including, for non-Federal entities, how they plan to meet any applicable legal requirements pursuant to the Build America, Buy America Act.[36]

The proposed project may also be subject to various Federal, State, Tribal, and local environmental and permitting requirements, such as under the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), Endangered Species Act, Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, and related Executive Orders. Applicants must assist the Department with compliance with the above requirements and, where applicable, are responsible for obtaining and complying with Federal, State, Tribal, and local permits. NIST will review full applications to determine whether they provide sufficient information to support NEPA and NHPA reviews, and may, at its discretion, request the applicant to provide additional information, such as a draft environmental analysis. NIST may also delay or condition award funding until all required environmental reviews are completed.
In addition, a recipient or a subrecipient may not charge profits, fees, or other increments above cost to an award issued pursuant to this NOFO.

4.3.8 OTHER SUBMISSION REQUIREMENTS

a. **Concept papers and full proposals must be submitted at Grants.gov. Paper, facsimile, or email applications will not be accepted.**

Applicants should carefully follow specific Grants.gov instructions to ensure that all attachments will be accepted by the Grants.gov system. A receipt from Grants.gov indicating an application is received does not provide information about whether

[36] *See* 2 C.F.R. part 184 and https://www.commerce.gov/oam/build-america-buy-america

attachments have been received. For further information or questions regarding applying electronically for the 2024-NIST-AI-MFGUSA-01 announcement, contact the Grants.gov Help Desk at 800-518-4726.

b. Amendments. Any amendments to this NOFO will be announced through Grants.gov. Applicants may sign up on Grants.gov to receive amendments by e-mail.

5 APPLICATION REVIEW INFORMATION

5.1 EVALUATION CRITERIA

5.1.1 CONCEPT PAPERS

Table 5 Concept Paper Evaluation Criteria

Evaluation Criteria	Weight
Potential to Fulfill a Recognized National Need with Substantial Broad-Based Benefits and Demonstrated Industry Leadership (40 pts)	
Proposed Mission and Technical Scope.	*(0-15 pts)*
National Impacts and Broad-based Benefits.	*(0-15 pts)*
Leadership and Involvement from Industry, Academia, Small-and Medium-sized Enterprises and Covered Entities	*(0-10 pts)*
The Proposed Manufacturing USA Institute (30 pts)	
Business Plan	*(0-20 pts)*
Integrated Education and Workforce Development (EWD)	*(0-10 pts)*
Resources, Qualifications, and Experience for the Proposed Institute (30 pts)	
Rough Order of Magnitude (ROM) Budget	*(0-10 pts)*
Cost-share or Matching	*(0-10 pts)*
Qualifications and Experience	*(0-10 pts)*

5.1.1.1 Potential to Fulfill a Recognized National Need with Substantial Broad-Based Benefits and Demonstrated Industry Leadership (40 pts)

The concept paper will be evaluated for merit of the scope and vision of the proposed AI MFG USA institute, including: the technical focus area(s) to be addressed by the institute and the importance and significance of the institute's focus within the context of U.S. advanced manufacturing national needs, existing capabilities, ongoing and existing efforts; the potential for substantive national impacts enabled as a result of the activities being proposed; and the evidence of industry commitment, involvement, and leadership

towards creation of the proposed institute. Specifically, the concept paper will be evaluated in the context of the following sub-criteria:

5.1.1.1.1 Proposed Mission and Technical Scope. (0-15 pts)

The quality, innovativeness, and merit of the mission and technical scope of the proposed AI MFG USA institute, and its potential impact on the resilience of U.S. manufacturers. This includes:

- An appropriate and clear description of the use of AI on a manufacturing process, novel material, enabling technology, supply chain integration methodology, or other relevant aspect of advanced manufacturing that strengthens manufacturing resilience and that has not already been commercialized, marketed, distributed, or sold by another entity;
- The extent to which the proposed AI MFG USA institute focus does not substantially duplicate the technical focus areas of the existing Manufacturing USA network and offers unique and complementary capabilities to the network;
- The extent to which the proposed AI MFG USA institute will complement other federally funded AI initiatives of similar magnitude and how the institute plans to leverage these other initiatives to increase impact of the federal investments;
- The extent to which the proposed approach for the AI MFG USA institute will: increase resilience of U.S. manufacturers by performing research and development to solve pre-competitive industrial problems important to economic or national security interests; retain, expand or strengthen industrial production in the United States; and facilitate the transition of innovative AI tools technologies into scalable, cost-effective, and high-performing manufacturing capabilities (MRL 7 and beyond);
- The extent to which the proposal demonstrates knowledge of the current state of the art in AI, manufacturing processes, supply chain networks and relevant industrial applications for the scope of work proposed, as well as the feasibility of advancing the state of the art by addressing the gaps, constraints, and significant challenges that must be mitigated for the institute to be successful in the chosen area of focus; and
- The clarity and rationality of the goals and objectives, and their alignment with the mission of the institute and likelihood to accelerate AI-enabled innovation for greater manufacturing resilience.

5.1.1.1.2 National Impacts and Broad-based Benefits. (0-15 pts)

The magnitude, quality, and likelihood of the envisioned national impacts and broad-based benefits that would arise from the proposed AI MFG USA institute. This includes evaluation of:

- The extent to which the AI MFG USA institute will advance the resilience of domestic manufacturing and the likelihood of economic impact, including the creation or preservation of high-quality jobs, for defined industry sectors, or in the overall industrial base;

- The extent to which the AI MFG USA institute will advance economic competitiveness and generate substantial benefits to the Nation that extend beyond the direct return to participants in the institute, including through advancing equitable geographic, institutional, and societal access to the economic benefits facilitated by this program;
- The extent to which the AI MFG USA institute will increase the non-federal investment in advanced manufacturing research in the United States;
- The extent to which the AI MFG USA institute will successfully engage with small and medium-sized manufacturing enterprises and labor organizations as appropriate to improve the capacity of such enterprises to commercialize new processes and technologies and strengthen domestic supply chains;
- The extent to which the AI MFG USA institute will act as a knowledge broker between users, manufacturers, industry associations, labor organizations, professional societies, and economic development entities to develop the capabilities, equipment, personnel, and other assets needed to shape U.S. participation in global supply chains; and
- The extent to which the AI MFG USA institute will promote technology transfer to accelerate the flow of AI-enabled manufacturing innovation from initial targeted sectors into broader applications within the Nation's industrial base.

5.1.1.1.3 Leadership and Involvement from Industry, Academia, Small-and Medium-sized Enterprises and Covered Entities. (0-10 pts)

The quality, magnitude, adequacy, and evidence of leadership and involvement from academia and especially industry, assembled to date, towards creating a sustainable and equitable AI MFG USA institute. This includes the evaluation of:

- The extent to which the proposal demonstrates engagement of industry, and academia in developing the scope and vision for the institute, and provides mechanisms for ongoing advice, participation, leadership, and other contributions (excluding cost-share) to the AI MFG USA institute from non-federal stakeholders within the advanced manufacturing ecosystem, to leverage these resources and to mitigate the need for long-term federal funding;
- The extent to which the involvement and leadership of industry, ~~labor,~~ and academic partners are cultivated and balanced to create a significant positive force in establishing and sustaining the institute, as reflected by the scope, nature, and magnitude of proposed engagements;
- The consideration and involvement of small- and medium-sized enterprises (SMEs) and covered entities[37] within the AI MFG USA institute's design and governance, and

[37] 42 U.S.C. 18971(b), *Expanding opportunities through the Manufacturing USA Program* defines covered entities as a Historically Black College or University, a Tribal College or University, a Minority Serving Institution, a minority business enterprise (as such term is defined in section 1400.2 of title 15, Code of Federal Regulations, or successor regulation), or a rural-serving institution of higher education (as such term is defined in section 1161q of title 20).

effectiveness of proposed mechanisms to address specific needs and extend benefits of participation to these organizations.

5.1.1.2 The Proposed AI MFG USA Institute (30 pts)

The concept paper will be evaluated for the technical and business merits associated with the proposed strategy and design for establishing and operating the proposed AI MFG USA institute. Specifically, the concept paper will be evaluated in the context of the following sub-criteria:

5.1.1.2.1 Business Plan. (0-20 pts)

The soundness and adequacy of the conceptual vision and plan for the proposed AI MFG USA institute's business structure, organization, management, and operations models. This includes:

- The effectiveness of the models presented to establish the AI MFG USA institute as an independent, neutral, and non-biased entity able to coordinate and convene a broad range of stakeholders, including small and medium-sized enterprises (SMEs), and become a uniquely valued component of the Nation's AI-enabled innovation infrastructure;
- The soundness and rationality of the proposed organizational structure and the operation of the AI MFG USA institute, including: the strategies and approach for the institute's management, governance and membership structures and roles for industry, academic, and other partners such as other Manufacturing USA institutes and Federal and non-Federal Government participation as appropriate;
- The strategy and guiding principles for management and protection of Intellectual Property (IP) that will incentivize broad-based U.S. private sector involvement and cultivate economic benefits within the context of the global environment;
- The strategy and guiding principles for the proposed AI Risk Management plan to identify and mitigate potential risks to individuals, organizations and society, associated with the activities undertaken within the institute.
- The sufficiency of the proposed AI MFG USA institute's physical facilities to meet the needs of the institute and contribute to the U.S. innovation infrastructure; and
- The rationality and effectiveness of the guiding principles and approach for the AI MFG USA institute to progress expeditiously through a Startup Phase and begin its ongoing operations.

5.1.1.2.2 Integrated Education and Workforce Development (EWD) (0-10 pts)

The quality, soundness, and appropriateness of the conceptual vision and plan for the proposed institute's integrated education and workforce development. This includes:

- How the AI MFG USA institute will design, develop, and direct educational and workforce activities that meet industrial needs and the needs of workers related to AI-enabled manufacturing resilience;

- The demonstrated awareness of existing national and regional education and workforce development assets, including sectoral partnerships relevant to AI skillsets, and rational approaches to contribute to and leverage these assets in the institute's EWD activities;
- How the AI MFG USA institute will prioritize curriculum and content development for an AI-enabled manufacturing workforce; and
- How the AI MFG USA institute will encourage the education and training of underrepresented communities and engage covered entities[38] for advanced manufacturing career paths, as well as support inclusion of veterans and individuals with disabilities in the EWD opportunities.

5.1.1.3 Resources, Qualifications, and Experience for the Proposed Institute (30 pts)

Concept papers will be evaluated for the strengths of the proposed budget, cost-share, and the proposed team in the context of the following sub-criteria:

5.1.1.3.1 Rough Order of Magnitude (ROM) Budget. (0-10 pts)

The appropriateness and cost-effectiveness of the proposed ROM Budget with respect to carrying out the work and objectives as described in the program narrative. This includes:

- How the proposed ROM cost for the work is appropriate for the work to be performed, per year, over the initial five (5) year award period, which includes: 1) the AI MFG USA institute establishment and Startup Phase, and 2) the Ongoing Institute Operations phase;
- The degree to which the ROM Budget is consistent with the proposed AI MFG USA institute performance and the material described within the applicant's concept paper.

5.1.1.3.2 Cost-share or Matching. (0-10 pts)

The evidence, quality, reasonableness, and sufficiency of the financial commitment from partners assembled to date, for establishing the proposed institute. This includes:

- The extent to which the non-federal financial support provided to the AI MFG USA institute is rational in magnitude and nature, from specific known and anticipated sources, and will exceed the requested federal share for the proposed institute; and
- Evidence of the potential to leverage non-federal sources of financial support to promote a stable and sustainable business model to mitigate the need for long-term federal funding.

[38] 42 U.S.C. 18971, *Expanding opportunities through the Manufacturing USA Program* defines covered entities as a Historically Black College or University, a Tribal College or University, a Minority Serving Institution, a minority business enterprise (as such term is defined in section 1400.2 of title 15, Code of Federal Regulations, or successor regulation), or a rural-serving institution of higher education (as such term is defined in section 1161q of title 20.

5.1.1.3.3 Qualifications and Experience. (0-10 pts)

The quality, degree, and appropriateness of the qualifications of the lead organization(s), organization director, key personnel, and of other key participating organizations and key personnel assembled to date. This includes:

- The extent to which the proposed lead organization(s), organization director, and key personnel have successful track records leading programs or entities similar in nature to the purpose, scope, and/or work activities described for the AI MFG USA institute; and
- The extent to which AI MFG USA institute partner organizations identified have relevant and significant capabilities to contribute to the intended mission and scope of the proposed institute.

5.1.2 FULL APPLICATION

Table 6 Full Application Evaluation Criteria

Evaluation Criteria	Weight
Potential to Fulfill a Recognized National Need with Substantial Broad-Based Benefits and Demonstrated Industry Leadership (20 pts)	
Proposed Mission and Technical Scope.	*(0-10 pts)*
National Impacts and Broad-based Benefits.	*(0-10 pts)*
Institute Operations and Management (35 pts)	
Business Structure, Organization, and Management.	*(0-15 pts)*
Institute Startup	*(0-10 pts)*
Ongoing Institute Operations.	*(0-10 pts)*
Integrated Education and Workforce Development (15 pts)	
Goals and objectives	*(0-5 pts)*
Partners and key stakeholders	*(0-5 pts)*
Industrial Relevance	*(0-5 pts)*
Leadership: Capabilities, Qualifications, and Experience (15 pts)	
Leadership and Involvement from Industry, Academia, Small- and Medium-sized Enterprises and Covered Entities.	*(0-5 pts)*
Award Management.	*(0-5pts)*
Qualifications and Engagement.	*(0-5 pts)*
Resources, Cost-share, and Sustainability (15 pts)	
Budget and Resources.	*(0-5 pts)*
Cost-share or Matching	*(0-5 pts)*
Sustainability	*(0-5 pts)*

5.1.2.1 Potential to Fulfill a Recognized National Need with Substantial Broad-Based Benefits and Demonstrated Industry Leadership (20 pts)

The Full Application will be evaluated for merit of the scope and vision of the proposed AI MFG USA institute, including: the technical focus area for the proposed institute that will be addressed and the importance and significance of the institute's focus within the context of U.S. advanced manufacturing national needs, existing capabilities, ongoing and existing efforts; the potential for substantive national impacts on the resilience of manufacturing as a result of the activities being proposed; and the evidence of industry commitment, involvement, and leadership towards creation of the proposed institute.

Specifically, the Application will be evaluated in the context of the following sub-criteria:

5.1.2.1.1 Proposed Mission and Technical Scope. (0-10 pts)

The quality, innovativeness, and merit of the mission and technical scope of the proposed AI MFG USA institute and its potential for increasing the resilience of U.S. manufacturing. This includes:

- An appropriate and clear description of the use of AI on a manufacturing process, novel material, enabling technology, supply chain integration methodology, or other relevant aspect of advanced manufacturing that strengthens manufacturing resilience and that has not already been commercialized, marketed, distributed, or sold by another entity;
- The extent to which the proposed AI MFG USA institute focus does not substantially duplicate the technical focus areas of the existing Manufacturing USA network and offers unique and complementary capabilities to the network;
- The extent to which the proposed AI MFG USA institute will complement other federally funded AI initiatives of similar magnitude and how the institute plans to leverage these other initiatives to increase impact of the federal investments;
- The extent to which the proposed approach for the AI MFG USA institute will increase resilience of U.S. manufacturers by performing research and development to solve pre-competitive industrial problems important to economic or national security interests, and will retain, expand or strengthen industrial production in the United States; and will facilitate the transition of innovative AI tools technologies into scalable, cost-effective, and high-performing manufacturing capabilities (MRL 7 and beyond);
- The extent to which the proposal demonstrates knowledge of the current state of the art in AI, manufacturing processes, supply chain networks and relevant industrial applications for the scope of work proposed as well as the feasibility of advancing the state of the art by addressing the gaps, constraints, and significant challenges that must be mitigated for the AI MFG USA institute to be successful in the chosen area of focus;

- The clarity and rationality of the goals and objectives, and their alignment with the mission of the AI MFG USA institute and likelihood to accelerate AI-enabled innovation for greater manufacturing resilience;
- The sufficiency of the technical detail offered to assess whether the proposed work is scientifically and technically meritorious and innovative; and
- The rationality and sufficiency of clear and time-bounded outcomes aligned with the scope of work proposed that will be accomplished through the work of the AI MFG USA institute.

5.1.2.1.2 National Impacts and Broad-based Benefits. (0-10 pts)

The magnitude, quality, and likelihood of the envisioned national impacts and broad-based benefits that would arise from the proposed AI MFG USA institute. This includes:

- The extent to which the institute will advance the resilience of domestic manufacturing and the likelihood of economic impact, including the creation or preservation of good jobs[39] for defined industry sectors, or in the overall industrial base;
- The extent to which the AI MFG USA institute will advance economic competitiveness and generate substantial benefits to the Nation that extend beyond the direct return to participants in the institute, including through advancing equitable geographic, institutional, and societal access to the economic benefits facilitated by this funding opportunity;
- The extent to which the AI MFG USA institute will increase the non-federal investment in advanced manufacturing research in the United States;
- The extent to which the AI MFG USA institute will successfully engage with small and medium-sized manufacturing enterprises to improve the capacity of such enterprises to commercialize new processes and technologies and strengthen domestic supply chains; including the effectiveness of plans to engage with entities such as the NIST Manufacturing Extension Partnership program and other relevant regional partners to meet the needs of and ensure AI MFG USA institute benefits extend to SMEs;
- The extent to which the AI MFG USA institute will act as a knowledge broker between users, manufacturers, industry associations, labor organizations as appropriate, professional societies, and economic development entities to develop the capabilities, equipment, personnel, and other assets needed to shape U.S. participation in global supply chains; and
- The extent to which the AI MFG USA institute will promote technology transfer to accelerate the flow of AI-enabled manufacturing innovation from initial targeted sectors into broader applications within the Nation's industrial base.

[39] As defined by the Department of Commerce and Labor's Good Jobs Principles.

5.1.2.2 Institute Operations and Management (35 pts)

Full Applications will be evaluated for the technical and business merits of the associated AI MFG USA institute operations and management models and plans for establishing and operating the proposed institute in a manner that encourages teaming and sustainable partnerships. The proposed models and plans should be well-founded and suited for the organization and AI focus area(s) being proposed and should span the entire life cycle of the award.

Specifically, the application will be evaluated in the context of the following sub-criteria:

5.1.2.2.1 Business Structure, Organization, and Management. (0-15 pts)

The soundness, innovativeness, and adequacy of the proposed AI MFG USA institute's business structure, organization, and management models. Evaluators will assess how the business and management plan and structure will integrate the individual institute elements (for example, shared R&D facilities, R&D activities, stakeholder engagement, road-mapping, education and workforce development, technology transfer, and/or commercialization activities) to provide the greatest value to the nation. Evaluators will assess:

- The effectiveness of the models proposed to establish and operate the AI MFG USA institute as an independent, neutral, and non-biased entity able to coordinate and convene a broad range of stakeholders, including small and medium-sized enterprises (SMEs) and covered entities[40] and become a unique and valued component of the Nation's innovation infrastructure, including:
  - The organization and the operation of the AI MFG USA institute, such as: the strategies and guiding principles for the institute's management, governance and membership structures and roles for industry (or all sizes), academic institutions (including major research universities, smaller colleges, and community colleges), labor organizations, and other partners such as other Manufacturing USA institutes and Federal and non-Federal Government participation as appropriate;
  - The specific participation structures proposed (i.e., tiered membership structure, pay-for-use arrangements, etc.), including the benefits and restrictions associated with each level of participation and intellectual property rights. How the AI MFG USA institute will seek and incentivize participants and/or members broadly across the U.S. private sector throughout the duration of the institute and how it will encourage participation by small and medium sized enterprises (SMEs) and covered entities;[40]
  - The rationality and completeness of the guiding principles, strategy, and framework for the AI MFG USA institute's Intellectual Property (IP) that will

[40] 42 U.S.C. 18971, *Expanding opportunities through the Manufacturing USA Program* defines covered entities as a Historically Black College or University, a Tribal College or University, a Minority Serving Institution, a minority business enterprise (as such term is defined in section 1400.2 of title 15, Code of Federal Regulations, or successor regulation), or a rural-serving institution of higher education (as such term is defined in section 1161q of title 20.

protect IP, incentivize broad-based U.S. private sector economic involvement, promote domestic production of institute developed technologies, and translate to U.S. economic benefit within the global economy, consistent with the principles set forth in Guidance on Intellectual Property;

- The rationality and completeness of the strategy and guiding principles and framework for the proposed AI Risk Management plan to identify and mitigate potential risks to individuals, organizations and society, associated with the activities undertaken within the institute.
- The organizational structure, to include management structure, AI MFG USA Institute Director/Executive, key management staff, as well as technical advisory and strategic governance boards;
- The governance structure, how decisions will be made, disputes will be resolved, and how any governing entities/advisory boards will function and the authority(-ies) they will have; and
- The engagement with NIST and other federal agencies identified by NIST within the AI MFG USA institute's decision-making bodies (e.g., boards, committees, etc.) at both a strategic and technical level and how the institute will shepherd partnerships and technical programs with federal agencies after an institute award is established.[41]

- The sufficiency and accessibility to partners of the proposed AI MFG USA institute's physical facilities to meet the needs of the institute and contribute to the Nation's innovation infrastructure for advanced manufacturing in the proposed technology sector;
- The effectiveness of the strategy for utilizing Project Calls[42] to engage AI MFG USA institute members and others to advance state-of-the-art and for utilizing both institute and non-institute facilities within those calls;
- The sufficiency and effectiveness of the AI MFG USA institute's plan for progress monitoring and project management to include:
  - The AI MFG USA institute's plans for tracking and evaluating performance and conducting within-institute program reviews, including the nature, scope, frequency, and methodology for how they will be conducted;
  - The overall approach and organization for project management of the AI MFG USA institute's technical and EWD activities both within the institute's lead organization and shared-use facilities, and in managing the work of

[41] Note that as per Section 3.1 of this NOFO, federal agencies cannot contribute to proposal teams in the competition phases of the award.
[42] Project Calls are the mechanism by which an Institute will solicit Technical Project proposals funded using Institute resources and address the technical work areas identified by the Institute.

subrecipients, including the communications structures and roles for various team members;

- The approach to project-level risk management and change management; and
- The approach to quality assurance/control over all AI MFG USA institute activities to establish and maintain a high-performing organization.

5.1.2.2.2 Institute Startup. (0-10 pts)

The quality, innovativeness, soundness, adequacy and completeness of the proposed AI MFG USA Institute Startup Phase work plan and the likelihood that it will effectively and efficiently assemble sufficient capabilities, resources, and controls to accomplish the institute's mission and scope of work. This includes:

- If proposed, a clear plan and timeline for establishing any new not-for-profit entity as a new legal entity for the establishment for the management and operation of the AI MFG USA institute;
- The clarity and rationality of the applicant's strategy, guiding principles, objectives for developing the work-plan for the Startup Phase that engages industry leadership and ensures all stakeholders in the industry sector innovation ecosystem are included in planning;
- The sufficiency of detail for the AI MFG USA Institute Startup Phase work plan and feasibility of executing within the time frame presented including:
  - An organized Work Breakdown Structure[43] (for the Startup phase) consistent with the plan for Startup that identifies entities with responsibility for accomplishing the tasks and sub-tasks within the scope of work presented; and
  - Identified milestones and deliverables appropriate for the work plan presented, with appropriate Go/No-Go decision points included.
- The sufficiency of strategies and effectiveness of the approaches for identifying, designing and developing, creating, establishing, or assembling the foundational needs for the AI MFG USA institute, including:
  - Needed AI MFG USA institute plans and agreements, including its technology focus, governance, membership, data management, export control and management, AI risk management, and intellectual property;
  - Internal management and financial systems and controls that will be needed to oversee and administer the technical, business, financial, informational, operational, conflict of interest, and enterprise risks functions of the AI MFG USA institute;

[43] A Work Breakdown Structure (WBS) composed of tasks, sub-tasks and task descriptions that describes the work plan to be accomplished, reflects the scope of the work that needs to be accomplished, identifies the entities that will have responsibility to lead the work's completion, and explains how the applicant will achieve the milestones and deliverables presented.

- A risk assessment and risk mitigation plan for the technical, economic, and operational aspects of the proposed AI MFG USA institute Intellectual Property management plan, and securing the institute's data, operations, and outputs to safeguard U.S. manufacturing competitiveness and interests;
- A rational assessment of any special physical facilities needed for conducting the AI MFG USA institute's proposed work, including the identification of prospective facility sites as required; and
- The sufficiency of the key personnel in-place and hiring plans needed to staff the institute adequately to support Startup of the AI MFG USA institute.

- The soundness of plans to leverage existing Industry roadmaps or to launch road mapping activities during Startup to identify and prioritize technical and non-technical challenges that should be addressed by the AI MFG USA institute.

5.1.2.2.3 Ongoing Institute Operations. (0-10 pts)

The quality, innovativeness, soundness, adequacy, and completeness of the proposed Ongoing AI MFG USA Institute Operations work plan that has sufficient capabilities, resources, and controls to accomplish the institute's mission, and scope of work. This includes:

- The sufficiency and rationality of a work plan for the Ongoing AI MFG USA Institute Operations (following Startup phase), to accomplish the planned technical objectives (including research and development activities, facilities management, education and workforce development activities, and technology transfer) and business operations of the proposed institute. Individual elements within the work plan to be evaluated include:
  - A clear and convincing description of the technical objectives and how these relate to existing or planned roadmaps, including the sufficiency and rationality of time-bounded outcomes to be achieved by the AI MFG USA institute during the award;
  - The process for making decisions for prioritizing the AI MFG USA institute's work with competing stakeholder needs;
  - The Work Breakdown Structure (WBS)[44] for the AI MFG USA institute's technical and business operations throughout the complete Ongoing Institute Operations

[44] A Work Breakdown Structure (WBS) composed of the major tasks and sub-tasks, responsible leads, milestones, and deliverables. The WBS may be summarized within a Gantt Chart/Timeline. Each task and subtask should have a unique number and title, an indication of the duration of the task or sub-task in months and indicates the relationship of the task or sub-task to Institute deliverables or expected results. The tasks named in the WBS should correspond to those listed in the Gantt Chart/Timeline (see Section 4.3.3.1.6e)

performance period that includes appropriateness of Go/No-Go[45] decision points. Each major institute function[46] should be represented within the WBS;

- The sufficiency and rationality the Annual Institute Plan (AIP)[47] for the planned technical work of the AI MFG USA institute in the first-year (post Startup Phase). This includes plans to advance the manufacturing focus area state-of-the-art through activities such as R&D, development of shared-use facilities, education and workforce development activities, technology transfer, and execution of Project Calls, and operation of Technical Projects; and
- The quality and industrial relevance of two (2) example Project Calls with at least two (2) example Technical Projects aligned within each Project Call (see Section 4.3.3.1.6d). At least one technical project should address an education and/or workforce development need. The project examples should illustrate the applicant's knowledge of industry's technical needs and market priorities. Evaluators will assess the technical approach and justification; alignment with Industry needs; the schedule and milestones; outcomes and deliverables; and program management approach for the Project Call design and proposed projects.

- Rationality of an annual strategic planning and assessment process for the AI MFG USA institute that will inform and establish priorities for the institute's ongoing operations to strengthen its national impacts and broad-based benefits and encourage new ideas and participants within its activities.

5.1.2.3 Integrated Education and Workforce Development (15 pts)

Full Applications will be evaluated for the quality, completeness, rationality and feasibility of the proposed AI MFG USA institute's education and workforce development (EWD) models and plans, and the suitability across the full life cycle of a Manufacturing USA institute. Applicants should consider in developing an EWD plan how the AI MFG USA institute will promote alignment with the Department of Commerce and Department of Labor Good Jobs principles.[48]

5.1.2.3.1 Goals and objectives (0-5 pts)

The clarity and rationality of the goals and objectives for the planned EWD investments and alignment with the industrial needs for AI manufacturing skillsets. To include:

- The extent to which the proposal presents specific, rational and impactful goals and objectives that can produce measurable impacts; and

[45] Go/No-go decision points are points in which successes for ongoing efforts are assessed and decisions for future phases or periods of performance is evaluated, prior to actually beginning the future phase work.
[46] e.g., operations and management, access to shared use facilities, R&D activity, stakeholder engagement, road-mapping efforts, technical education and workforce development, technology transfer, etc.
[47] see Section 4.3.3.1.6d
[48] https://www.dol.gov/general/good-jobs/principles

- The extent to which the proposal demonstrates knowledge of the current state of related EWD initiatives that may be leveraged, as well as the gaps, constraints, and significant challenges that must be addressed for the AI MFG USA institute to be successful in meeting the goals and objectives outlined.

5.1.2.3.2 Partners and key stakeholders (0-5 pts)

The quality and sufficiency of the plans to partner across workforce systems to strengthen and deploy advanced manufacturing workforce skills.

- How the AI MFG USA institute will encourage the education and training of underrepresented communities and engage covered entities[49] for advanced manufacturing career paths, as well as support inclusion of veterans and individuals with disabilities in the EWD opportunities.
- How the AI MFG USA institute will coordinate its education, training, and workforce development programs and collaborate with other key stakeholders, including Federal Government agencies and organizations (for example, the U.S. Departments of Education and Labor, National Science Foundation, U.S. Economic Development Administration), state agencies, state and local workforce development boards, other Manufacturing USA institutes, the NIST Hollings Manufacturing Extension Partnership and relevant labor organizations, industry associations, and consortiums.
- How the AI MFG USA institute will incorporate sectoral partnerships as mechanisms to increase effectiveness and will engage with the sectoral partnerships and other existing efforts such as the Investing in America (IIA) Advanced Manufacturing Workforce Sprint.[50]

5.1.2.3.3 Industrial Relevance (0-5 pts)

The effectiveness of the plan to ensure that education and workforce development initiatives will be industrially relevant and support implementation of AI skillsets tailored to manufacturing sectors, to include:

- How the AI MFG USA institute will design, develop and direct educational and workforce activities that meet industrial needs related to the use of AI for the manufacturing focus area(s) proposed;
- How the AI MFG USA institute will prioritize curriculum and content development related to the chosen technology focus area(s);

[49] 42 U.S.C. 18971(b), *Expanding opportunities through the Manufacturing USA Program* defines covered entities as a Historically Black College or University, a Tribal College or University, a Minority Serving Institution, a minority business enterprise (as such term is defined in section 1400.2 of title 15, Code of Federal Regulations, or successor regulation), or a rural-serving institution of higher education (as such term is defined in section 1161q of title 20.
[50] https://www.whitehouse.gov/briefing-room/statements-releases/2023/05/16/fact-sheet-biden-harris-administration-announces-strategies-to-train-and-connect-american-workers-to-jobs-created-by-the-presidents-investing-in-america-agenda/

- How the AI MFG USA institute will develop and disseminate efficient and effective EWD and professional development training and cultivate employment opportunities, including the quality of the notional EWD project example presented in the AIP; and
- How the AI MFG USA institute will continually assess relevance of the ongoing EWD activities to address industry's priority needs across all training levels and career stages.

5.1.2.4 Leadership: Capabilities, Qualifications, and Experience (15 pts)

Full Applications will be evaluated for capabilities of the lead organization, the AI MFG USA institute partnerships, and the institute leaders to conduct the strategic, technical, and business operations of the organization.

Specifically, the application will be evaluated in the context of the following sub-criteria:

5.1.2.4.1 Leadership and Involvement from Industry, Academia, Small- and Medium-sized Enterprises and Covered Entities. (0-5 pts)

The quality, magnitude, adequacy, and evidence of industry's leadership and representation and involvement of the ecosystem in creating a sustainable AI MFG USA institute. This includes:

- The evidence that industry, academia, and partners across the ecosystem such as the public workforce system, and relevant labor organizations, will actively participate and offer guidance to leverage the full expertise within the convened partnership for the success of the AI MFG USA institute;
- The likely effectiveness of the mechanisms proposed by the AI MFG USA institute to ensure that the involvement and leadership of industry, and academic partners are cultivated and balanced to create a significant positive force in establishing and sustaining the institute, as reflected by the rationality of the approach, scope, nature and magnitude of proposed engagements; and
- The consideration and involvement of small- and medium-sized enterprises (SMEs), and covered entities[51] within the AI MFG USA institute's design and governance, and effectiveness of proposed mechanisms to address specific needs and extend benefits of participation to these organizations.

5.1.2.4.2 Award Management. (0-5 pts)

The completeness, adequacy, and quality of the systems and capabilities for managing the NIST-funded AI MFG USA Award, including the operational and program

[51] 42 U.S.C. 18971(b), *Expanding opportunities through the Manufacturing USA Program* defines covered entities as a Historically Black College or University, a Tribal College or University, a Minority Serving Institution, a minority business enterprise (as such term is defined in section 1400.2 of title 15, Code of Federal Regulations, or successor regulation), or a rural-serving institution of higher education (as such term is defined in section 1161q of title 20.

management methods and systems that will be used to oversee the Award and key administrative functions. To include:

- The sufficiency of the financial and administrative program management capabilities that will execute, track, and report against the obligation and spending allowed by NIST;
- The sufficiency of the applicant's existing accounting system or that will be established to meet applicable cost principles for the entity receiving funding set forth in 2 CFR Part 200, Subpart E (state/local governments and non-profit, including institutions of higher education) or 48 CFR Part 31, Subpart 31.2 (for-profit/commercial organizations);
- The competency of any key subrecipient or contractors that will provide needed AI MFG USA institute support, including the rationality for what each entity will bring to or provide for the institute, and how performance of those entities will be monitored and redirected as appropriate; and
- The sufficiency of the systems and practices within the lead organization for tracking, assessing, and reporting financial and project status, and management of critical interdependencies and/or handoffs across teams and members.

5.1.2.4.3 Qualifications and Engagement. (0-5 pts)

The quality, degree, and appropriateness of the qualifications and commitment of the lead organization(s) and key personnel, assembled to date. This includes:

- The qualifications of the recipient organization that will run the AI MFG USA institute, the leadership and key technical and operations personnel, and of other key participating subrecipient organizations to support the technical and EWD scope of the institute;
- The quality and appropriateness of all proposed teaming and partnerships to provide the necessary interdisciplinary expertise in AI models, manufacturing processes and systems, supply chain management, technology transfer and EWD and to build a sustainable innovation ecosystem;
- The sufficiency of the time commitment of the key team members to support the AI MFG USA institute's performance during both the Startup and the Operational Phases. Specifically, evaluators will assess:
    - Evidence that that the AI MFG USA Institute Director identified will be dedicated in a full-time role to leading the institute;
    - Evidence that the Deputy Director and Chief Technology Officer are committed to at least 75% full-time equivalent (FTE); and
    - Evidence that other key AI MFG USA institute leaders are committed at a level necessary to execute the operations of the institute as presented in the Startup and Operational Phases of the award.

- Documented and relevant previous work experience, track record, and performance of the lead organization(s), senior leadership, and key personnel in successfully leading programs or organizations similar in nature to the purpose, scope, and/or activities of a Manufacturing USA institute, as described in this NOFO; and
- The technical background and capacity of the organization(s), senior leadership, and key personnel, including their history, successes, and current research and development, relevant to the specific AI technical focus area(s) proposed.

5.1.2.5 Resources, Cost share, and Sustainability (15 pts)

Full Applications will be evaluated for the resources, budget, and sustainability plans for carrying out the work and objectives presented in the Project Narrative. (Please note: The budget and the Budget Narrative should reflect the total costs and per year award costs, composed of both the federal funds being requested and the cost-share or matching that is proposed.) Specifically, the application will be evaluated in the context of the following sub-criteria:

5.1.2.5.1 Budget and Resources. (0-5 pts)

The reasonableness, appropriateness, and cost-effectiveness of the proposed budget and resources with respect to carrying out the work and objectives proposed. This includes:

- The proposed cost for the work to be performed, including the proposed cost, per year, over the initial five (5) year award period, for the AI MFG USA institute establishment and Startup Phase (up to one year) and the subsequent Ongoing Institute Operations Phase;
- The degree to which the budget reflects a clear understanding of the requirements of the Funding Opportunity and is consistent with the performance and material described within the proposal;
- The extent to which the overall budget and financial plan is sufficiently robust and diversified to use the initial five-year award period to support the long-term sustainability of the AI MFG USA institute beyond the period of the award; and
- The rational and consistent identification, description, and explanation of equipment and facilities that will support the successful establishment and/or technical operation of the AI MFG USA institute, clearly differentiating between existing physical resources, equipment, or facilities and any such resources that the institute will need to obtain.

5.1.2.5.2 Cost share or Matching (0-5 pts).

The magnitude, appropriateness, nature, source, merits, reasonableness, practicality, uncertainties, and/or risks of the committed mix of cost-share plan from specific, known and anticipated, non-federal sources for the proposed AI MFG USA institute. This includes:

- The extent to which the non-federal financial support provided to the AI MFG USA institute is rational in magnitude and nature, from specific known and anticipated sources, and will minimally meet or preferably exceed the requested federal share for the proposed institute;
- The extent that cost share from the awardee meets basic requirements of allowability, allocability and reasonableness under established cost principles for the entity receiving funding set forth in 2 CFR Part 200, Subpart E (state/local governments and non-profit, including institutions of higher education) or 48 CFR 31.2 Contracts with Commercial Organizations (for-profit/commercial organizations).
- The extent to which the applicant demonstrates:
  - Evidence of commitment of the cost share specified in the proposal from non-federal sources as documented within Letters of Commitment;
  - The sufficiency and availability of the committed cost share from non-federal sources required to complete no less than the AI MFG USA institute's first year of technical activities and match the full federal investment over the 5-year award; and
  - The extent to which the cost share is both accessible and useful in conducting the work of the AI MFG USA institute.
- The rationality of the analysis offered by the applicant of the merits, uncertainties, and/or risks associated with the varying types and sources of the known and anticipated cash and in-kind cost-share contributions to allow the AI MFG USA institute to achieve its programmatic objectives and manage any cost-share risks.

5.1.2.5.3 Sustainability (0-5 pts)

The quality, adequacy, and reasonableness of the applicant's strategy to mitigate the need for long-term federal base funding. This includes:

- The rationality and effectiveness of the strategies proposed by the AI MFG USA institute to become a world-leading and financially self-sustaining innovation hub that will accelerate adoption of innovative AI-enabled manufacturing technologies with significant and enduring impact on U.S. manufacturing resilience;
- The sufficiency of the models, methods, and milestones proposed to increase funding/revenue throughout the award period to maintain AI MFG USA institute operations while decreasing the need for sustained federal funding beyond the period of the award; and
- The extent to which the overall proposed transition plan is sufficiently robust and diversified and is likely to succeed in reducing reliance on federal base funding within the time frame defined in proposed plans.

5.1.3 SELECTION FACTORS

The NIST Director or designee will act as Selecting Official for award selection from the full applications evaluated as described in Section 5.1.4 of this NOFO. In considering applications for award, the Selecting Official may consider the following factors:

1. The availability of funding;
2. The degree to which the proposed AI MFG USA institute complements and does not substantially duplicate the technical scope and programs of an existing Manufacturing USA institute, or the technical focus area(s) that are identified within any in-progress Manufacturing USA institute funding opportunity announced by a federal agency;
3. The degree of alignment of the application to U.S. advanced manufacturing national needs, and/or its complementarity to the research programs and goals of NIST and the Department of Commerce advanced manufacturing programs, as described at https://www.nist.gov/manufacturing;
4. The extent to which the AI MFG USA institute proposed a) contributes to the geographic diversity of the Manufacturing USA Program, b) is located in an area with a low per capita income, c) is located in an area with a high proportion of socially disadvantaged residents, or d) is located in small and rural communities;[52]
5. The institutional diversity of project participants, with respect to inclusion and active project participation of small- and medium-sized manufacturing enterprises; women and veteran owned manufacturing enterprises; State, Tribal, and local governments; and career and technical education schools and community colleges in addition to research universities;
6. The institutional diversity of project participants with respect to the inclusion and active participation of one or more covered entities as defined in 42 U.S.C. 18971(b) to include:
   a. an historically Black college and university;
   b. a Tribal college or university;
   c. a minority serving institution;
   d. a minority business enterprise (as such term is defined in section 1400.2 of title 15, Code of Federal Regulations, or successor regulation);
   e. a rural-serving institution of higher education (as such term is defined in section 861 of the Higher Education Act of 1965 (20 U.S.C. 1161q)).

5.1.4 REVIEW AND SELECTION PROCESS

Proposals, reports, documents, and other information related to applications submitted to NIST will be reviewed and considered by federal employees, or non-federal personnel who have entered into conflict of interest and confidentiality agreements covering such information, when applicable.

5.1.4.1 Review of Concept Papers and Selection of Applicants to Submit Full Applications.

All timely submitted concept papers will undergo an initial screening to determine eligibility, completeness, and responsiveness to this funding opportunity (*see* Section

[52] *See* 15 U.S.C. § 278s(e)(8).

5.1.1). Any concept paper determined to be ineligible, incomplete, and/or non-responsive may be eliminated from further review. However, NIST, in its sole discretion, may continue the review process for a concept paper that is missing non-substantive information which may easily be rectified or cured in the concept paper or in the full proposal stage of the competition.

Concept papers determined to be eligible, complete, and responsive will be evaluated as follows:

5.1.4.1.1 Merit Review for Concept Papers

At least three (3) objective reviewers, who may be federal employees or non-federal personnel, with appropriate professional and technical expertise relating to the topics covered in this NOFO, will evaluate and score each eligible, complete, and responsive application based on the evaluation criteria as detailed in Section 5.1.1. While every application will have at least three (3) reviewers, applications may have more than three (3) reviewers if specialized expertise is needed to evaluate an application. During the review process, the reviewers may discuss the applications with each other, but scores will be determined on an individual basis. Based on the numerical average of the reviewers' scores, a rank order will be prepared and provided to the evaluation panel for further programmatic review and consideration.

5.1.4.1.2 Evaluation Panel for Concept Papers

Following the merit review, an evaluation panel consisting of NIST staff and/or other federal employees with the appropriate technical expertise will conduct a panel review of the ranked applications. The evaluation panel may contact applicants via e-mail to clarify contents of an application.

The evaluation panel will select applicants for invitation to submit full proposals using a simple pass/fail majority vote following full consideration of the merits of each proposal.

5.1.4.2 Review of Full Proposals and Award Selection

Full applications received by the deadline will be reviewed to determine eligibility, completeness, and responsiveness to this NOFO and stated program objectives. Applications determined to be ineligible, incomplete, and/or nonresponsive may be eliminated from further review. However, NIST, in its sole discretion, may continue the review process for any proposal that is missing non-substantive information, the absence of which may easily be rectified during the review process. Applications that are determined to be eligible, complete, and responsive will proceed for full reviews in accordance with the review and selection process below:

5.1.4.2.1 Merit Review for Full Proposals

At least three (3) independent objective reviewers, who may be federal employees or non-federal personnel, with appropriate professional and technical expertise relating to the topics covered in this NOFO, will evaluate and score each eligible, complete, and

responsive application based on the evaluation criteria (see Section 5.1.2). While every application will have at least three (3) reviewers, applications may have more than three (3) reviewers if specialized expertise is needed to evaluate an application. During the review process, the reviewers may discuss the applications with each other, but scores will be determined on an individual basis, not a consensus. Based on the numerical average of the reviewers' scores, a rank order will be prepared and provided to the evaluation panel/program review for further consideration.

5.1.4.2.2 Evaluation Panel for Full Proposals.

Following the merit review, an evaluation panel consisting of NIST staff and/or other federal employees with the appropriate technical expertise will conduct a panel review of the ranked applications. The evaluation panel may contact applicants via e-mail to clarify contents of an application. The evaluation panel members may by consensus define a minimum merit review score required to advance a full proposal to the Evaluation Panel.

5.1.4.2.3 Pre-selection Interviews

At NIST's discretion, applicants who have submitted meritorious proposals may be requested to participate in Pre-Selection interviews during the evaluation panel review phase, either at NIST, the applicant's site, a mutually agreed upon location, or via conference call or webinar. The interviews are intended to allow the applicant to provide clarifications on the contents of the full proposal and to provide NIST an opportunity to ask questions. Information provided during the interview will contribute to NIST's evaluation of the applications.

5.1.4.2.4 Adjectival Rankings and Award Selection

The Full-Proposal evaluation panel will provide a final adjectival rating and written evaluation of the applications to the Selecting Official for further deliberation, considering:

- All application materials;
- Results of the merit reviewers' evaluations, including scores and written assessments;
- Any relevant publicly available information; and
- Any clarifying information obtained from the applicants.

The adjectival ratings that will be assigned are:

- Outstanding
- Very Good
- Average
- Unfundable

For decision-making purposes, applications receiving the same adjectival rating will be considered to have an equivalent ranking, although their merit review scores may differ.

Selection. The NIST Director or designee will act as Selecting Official. The Selecting Official will make final award recommendations to the NIST Agreements Officer. The Selecting Official shall generally select and recommend the most meritorious application for an award based upon the adjectival ratings and one or more of the Selection Factors. The Selecting Official retains the discretion to select and recommend an application out of order based on the Selection Factors as presented in Section 5.1.3.

NIST reserves the right to negotiate the budget costs with any applicant selected to receive an award, which may include requesting that the applicant removes certain costs. Additionally, NIST may request that successful applicants modify objectives or work plans and provide supplemental information required by the agency prior to award. NIST also reserves the right to reject an application where information is uncovered that raises a reasonable doubt as to the responsibility of the applicant. NIST may select some, all, or none of the applications, or part(s) of any application. The final approval of selected applications and issuance of awards will be by the NIST Agreements Officer. The award decisions of the NIST Agreements Officer are final.

5.1.4.3 Federal Awarding Agency Review of Risk Posed by Applicants.

After applications are proposed for funding by the Selecting Official, the NIST Grants Management Division (GMD) performs pre-award risk assessments, which may include a review of the financial stability of an applicant, the quality of the applicant's management systems, the history of performance, and/or the applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-federal entities.

In addition, prior to making an award where the total federal share is expected to exceed the simplified acquisition threshold (currently $250,000), NIST GMD will review and consider the publicly available information about that applicant in the Federal Awardee Performance and Integrity Information System (FAPIIS). An applicant may, at its discretion, review and comment on information about itself previously entered into FAPIIS by a federal awarding agency. As part of its review of risk posed by applicants, NIST GMD will consider any comments made by the applicant in FAPIIS in making its determination about the applicant's integrity, business ethics, and record of performance under federal awards. Upon completion of the pre-award risk assessment, the Agreements Officer will make a responsibility determination concerning whether the applicant is qualified to receive the subject award and, if so, whether appropriate specific conditions that correspond to the degree of risk posed by the applicant should be applied to an award.

5.1.5 ANTICIPATED ANNOUNCEMENT AND AWARD DATE

Review of concept papers and invitations to submit a Full Application are expected to be completed on or about by November 10, 2024. Review of Full-Applications, selection of successful applicants, and award processing is expected to be completed by April 2025. The

earliest start date for awards under this NOFO is expected to be May 2025. Please refer to **Table 1** for all key dates related to this NOFO.

5.1.6 ADDITIONAL INFORMATION

5.1.6.1 Safety

Safety is a top priority at NIST. Employees and affiliates of award recipients who conduct project work at NIST will be expected to be safety-conscious, to attend NIST safety training, and to comply with all NIST safety policies and procedures, and with all applicable terms of their guest research agreement.

5.1.6.2 Notification to Unsuccessful Applicants.

Unsuccessful applicants who submitted full proposals at NIST's invitation will be notified by e-mail and will have the opportunity to receive a debriefing after the opportunity is officially closed. Applicants must request a debrief within ten (10) business days of the email notification to receive a debrief from the program office. The program office will then work with the unsuccessful applicant in arranging a date and time of the debrief.

5.1.6.3 Retention of Unsuccessful Applications

Unsuccessful applications will be retained in accordance with the General Record Schedule 1.2/021.

6 FEDERAL AWARD ADMINISTRATION INFORMATION

6.1 FEDERAL AWARD NOTICES

Successful applicants will receive an award package from the NIST Agreements Officer.

6.2 ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

6.2.1 TERMS AND CONDITIONS

The complete terms and conditions of each Other Transaction agreement issued under this NOFO are subject to negotiation and will be contained in the OT Agreement entered between NIST and the recipient. The Terms and Conditions section is provided for informational purposes only to provide prospective applicants with an understanding of key expectations and terms that may differ from traditional NIST award mechanisms (e.g., cooperative agreements/grants or procurement contracts).

NIST Discretion

The OT award mechanism allows significant ongoing involvement from NIST Program and Project Managers and Agreements Officers and Agreements Staff, and provides NIST the flexibility to alter the course of the project in real-time to meet the overarching goals. This may mean an awarded activity could be expanded, modified, partnered, not supported, or discontinued based on program needs, emerging methods or approaches, performance, or availability of funds.

Management Systems and Procedures

Recipient organizations are expected to have systems, policies, and procedures in place by which they manage funds and activities. Recipients may use their existing systems to manage OT award funds and activities as long as they are consistently applied regardless of the source of funds and across their business functions. To ensure that an organization is committed to compliance, recipient organizations are expected to have in use clearly delineated roles and responsibilities for their organization's staff, both programmatic and administrative; written policies and procedures; training; management controls and other internal controls; performance assessment; administrative simplifications; and information sharing.

Financial Management System Standards

Recipients must have in place accounting and internal control systems that provide for appropriate monitoring of other transaction accounts to ensure that obligations and expenditures are congruent with programmatic needs and are reasonable, allocable, and allowable. In addition, the systems must be able to identify unobligated balances, accelerated expenditures, inappropriate cost transfers, and other inappropriate obligation and expenditure of funds, and recipients must notify NIST when problems are identified. A recipient's failure to establish adequate control systems constitutes a material violation of the terms of the award.

Property Management System Standards

Recipients may use their own property management policies and procedures for property purchased, constructed, or fabricated as a direct cost using NIST OT award funds. The terms and conditions of award will address this criterion as appropriate based upon the final negotiated and agreed upon budget. Recipients may acquire a variety of goods or services in connection with an OT award-supported project, ranging from those that are routinely purchased goods or services to those that involve substantive programmatic work. Recipients must acquire goods and services under OT awards in compliance with the organizations established policies and procedures. The Terms and Conditions of award will address this criterion as appropriate based on the final negotiated and agreed upon budget.

Human Subjects Research and Live Vertebrate Standards

Any application that proposes research activities involving human subjects, human tissue, data or recordings involving human subjects including software testing, and/or involving live vertebrate animals or pre-existing cell lines/tissues from vertebrate animals must satisfy the requirements found on https://www.nist.gov/associate-director-laboratory-programs/research-protections-office/human-subjects-protection-program.

6.2.2 AWARD NEGOTIATION AND MODIFICATION PROCESS

Any changes or requirements that may arise during the period of performance of this award regarding governance, scientific or programmatic matters, reporting or legal requirements (within the scope of the award) may be negotiated between award recipients and NIST and resolved through an award modification as necessary.

6.2.3 FUNDING AVAILABILITY AND LIMITATION OF LIABILITY

Funding for the program listed in this NOFO is contingent upon the availability of appropriations. NIST or the Department of Commerce will not be responsible for application preparation costs, including but not limited to if this program fails to receive funding or is cancelled because of agency priorities. Publication of this NOFO does not oblige NIST or the Department of Commerce to award any specific project or to obligate any available funds.

As specified in Section 2.2 of this document, when a proposal for a multi-year award is approved, funding will be provided for the first year of the program and incrementality (typically annually) thereafter. If a project is selected for funding, NIST has no obligation to provide any additional funding in connection with that award. Continued funding of an award will be contingent upon satisfactory performance and the availability of funds.

6.2.4 COLLABORATIONS WITH NIST AND OTHER FEDERAL AGENCIES

The award recipient is encouraged to collaborate with federal entities, including NIST and other federal agencies and laboratories to support the mission of the AI MFG USA to be awarded and the priorities of the U.S. government for AI-enabled innovation and workforce development. See Section 1.3 for anticipated types of engagement between the recipient and NIST employees. However, NIST employees may not participate in the preparation of any application in response to this funding opportunity.

More information on NIST laboratory capabilities and interests for AI technologies, may be found in the fact sheet using the link below:
https://www.nist.gov/system/files/documents/2023/11/02/AI%20Fact%20Sheet%200615%20FINAL.pdf

6.2.5 INVOLVEMENT OF FOREIGN ENTITIES

Once an institute award has been issued, on a case-by-case basis and subject to a determination by NIST, majority foreign-owned or foreign-controlled entities organized and operated in the United States may be allowed as subrecipients or contractors, based on the unique and specific needs of the institute. NIST's determination of whether a specific foreign-owned or foreign-controlled entity will be allowed to participate as a subrecipient, or contractor will be based on information provided by the institute and by other federal agencies.

NIST will approve participation by the foreign entity if it is in the best interest of the institute and the United States, including the domestic economy generally, U.S. industry, and U.S. manufacturing competitiveness. In cases of proposed foreign subrecipients or contractors, the institute must demonstrate that, among other items, adequate intellectual property and data protection protocols exist between the proposed entity and its foreign parent organization(s). A suggested template for providing foreign information pertaining to a proposed post-award foreign subrecipient or contractor will be posted on the NIST

Office of Advance Manufacturing's website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition) and provided to recipients after awards are issued.

6.2.6 USE OF FEDERAL GOVERNMENT-OWNED INTELLECTUAL PROPERTY

If the applicant anticipates using any Federal Government-owned intellectual property, in the custody of NIST or another federal agency, to carry out the work proposed, the applicant should clearly identify such intellectual property in the proposal. This information will be used to ensure that no federal employee involved in the development of the intellectual property will participate in the review process for that competition. In addition, if the applicant intends to use the Federal Government-owned intellectual property, the applicant must comply with all statutes and regulations governing the licensing of Federal Government patents and inventions, described in 35 U.S.C. §§ 200-212, 37 C.F.R. Part 401, 2 C.F.R. §200.315. Questions about these requirements may be directed to the Chief Counsel for NIST, (301) 975-2803, nistcounsel@nist.gov.

Any use of Federal Government-owned intellectual property by a recipient of an award under this announcement is at the sole discretion of the Federal Government and will need to be negotiated on a case-by-case basis by the recipient and the Federal agency having custody of the intellectual property if a project is deemed meritorious. The applicant should indicate within the statement of work whether it already has a license to use such intellectual property or whether it intends to seek a license from the applicable federal agency.

If any inventions made in whole by a NIST employee arise in the course of an award made pursuant to this NOFO, the United States Government may retain its ownership rights in any such invention. Additional terms may be included as part of the OT agreement for inventions made in part by a NIST employee in the course of the award.

Licensing or other disposition of the Federal Government's rights in such inventions will be determined solely by the Federal Government, through NIST as custodian of such inventions, and include the possibility of the Federal Government putting the intellectual property into the public domain.

6.2.7 EXPORT CONTROLS

Some activities within an institute may require access to export-controlled items and therefore be subject to export control laws and regulations. Under no circumstances may foreign entities (organizations, companies, or persons) obtain access to export-controlled items unless proper procedures have been satisfied and such access is authorized pursuant to law or regulation. Institutes will address participation by foreign entities on a case-by-case basis and must develop measures to properly protect export-controlled information, as appropriate. If an applicant is selected for award negotiations, the applicant agrees to comply with United States export laws and regulations, including, but not limited to, the Page 62 International Traffic in Arms Regulations and the Department of Commerce Export Regulations.

6.3 REPORTING

6.3.1 REPORTING REQUIREMENTS

The following reporting requirements apply to awards in this program:

6.3.1.1 Financial Reports

Each award recipient will be required to submit an SF-425, Federal Financial Report on a quarterly basis for the periods ending March 31, June 30, September 30, and December 31 of each year. Reports will be due within 30 calendar days after the end of the reporting period. A final financial report is due within 120 calendar days after the end of the project period.

6.3.1.2 Research Performance Monitoring and Reporting

Award recipients will be required to submit bi-annual research progress reports within 30 calendar days of the close of the reporting period. NIST expects the recipient to include similar content to that requested in the Research Performance Progress Report (2 C.F.R. § 200.329 http://go.usa.gov/xkVgP). However, NIST may approve the use of a different format at the request of the recipient.

The recipient is also expected to report progress against specific NIST-issued performance metrics at the end of each performance year, and to contribute data for the Manufacturing USA annual report on a federal fiscal year basis. NIST will work with the recipient in the start-up phase of the award to implement performance metrics. The recipient is also required by statute to submit an annual report to the Secretary of Commerce as described in 15 USC 278s(j)(1).

A final consolidated report shall be submitted within 120 calendar days after the expiration date of the award. The recipient is required to submit publication citation information, links to publicly available data, and other public outputs as soon as they become available.

In addition to the formal bi-annual progress reports, the award recipient will be expected to meet quarterly with the Federal Program Officer to discuss operational, technical and strategic plans. It is expected that the recipient will additionally establish regular and ongoing cadence of informal communication with the federal program team to ensure timely awareness of issues and achievements.

6.3.1.3 Patent and Property Reports

The award recipient is required to notify NIST of any patents or other intellectual property issuing from work performed within this award.

6.3.1.4 Recipient Integrity and Performance Matters

In accordance with section 872 of Public Law 110-417 (as amended; see 41 U.S.C. 2313), if the total value of a recipient's currently active grants, cooperative agreements, and procurement contracts from all federal awarding agencies exceeds $10,000,000 for any period of time during the period of performance of an award made under this NOFO, then the recipient shall be subject to maintaining the currency of information reported to SAM that is made available in FAPIIS about certain civil, criminal, or administrative proceedings involving the recipient.

6.3.2 AUDIT REQUIREMENTS

Any recipient that expends Federal awards of $750,000 or more in the recipient's fiscal year must conduct a single or program specific audit similar to the requirements set out in the 2 C.F.R. § 200 Subpart F. Additionally, unless otherwise specified in the terms and conditions of the award, entities that are not subject to Subpart F of 2 C.F.R. § 200 (e.g., for-profit commercial entities) that expend $750,000 or more in DOC funds during their fiscal year must submit to the assigned NIST Agreements Officer either: (i) a financial related audit of each DOC award or subaward in accordance with Generally Accepted Government Auditing Standards; or (ii) a project specific audit for each award or subaward with similar content to that requested in 2 C.F.R. § 200.507. Applicants are reminded that NIST, the Department of Commerce Office of Inspector General, the Government Accountability Office, or another authorized Federal agency may conduct an audit of an award at any time.

7 AGENCY CONTACTS

Questions should be directed to the following:

Subject Area	Point of Contact
Programmatic and Technical Questions	Cheryl Leonard E-mail: ManufacturingUSA@nist.gov with "AI for Resilient Manufacturing" in the subject line
Technical Assistance with Grants.gov Submissions	grants.gov Phone: 800-518-4726 E-mail: support@grants.gov
Award Management Inquiries	Lisa Ko E-mail: lisa.ko@nist.gov with "AI for Resilient Manufacturing NOFO Questions" in subject line

8 OTHER INFORMATION

8.1 PERSONAL AND BUSINESS INFORMATION

The applicant acknowledges and understands that information and data contained in applications for other transactions, as well as information and data contained in financial, performance and

other reports submitted by applicants, may be used by the Department of Commerce in conducting reviews and evaluations of its other transactions programs. For this purpose, applicant information and data may be accessed, reviewed, and evaluated by Department of Commerce employees, other federal employees, and also by federal agents and contractors, and/or by non-federal personnel, all of whom enter into appropriate conflict of interest and confidentiality agreements covering the use of such information. As may be provided in the terms and conditions of a specific other transaction award, applicants are expected to support program reviews and evaluations by submitting required financial and performance information and data in an accurate and timely manner, and by cooperating with Department of Commerce and external program evaluators. Applicants are reminded that they must take reasonable measures to safeguard protected personally identifiable information and other confidential or sensitive personal or business information created or obtained in connection with a Department of Commerce other transaction award.

In addition, Department of Commerce regulations implementing the Freedom of Information Act (FOIA), 5 U.S.C. Sec. 552, are found at 15 C.F.R. Part 4, Public Information. These regulations set forth rules for the Department regarding making requested materials, information, and records publicly available under the FOIA. Applications submitted in response to this Federal Funding Opportunity may be subject to requests for release under the Act. If an application contains information or data that the applicant deems to be confidential commercial information that should be exempt from disclosure under FOIA, that information should be identified, bracketed, and marked as Privileged, Confidential, Commercial or Financial Information. In accordance with 15 CFR § 4.9(b), the Department of Commerce will protect from disclosure confidential business information contained in other transaction applications and other documentation provided by applicants to the extent permitted by law.

8.2 PUBLIC WEBSITE

NIST has a website (https://www.nist.gov/oam/ai-resilient-manufacturing-institute-competition) that provides a "Frequently Asked Questions" page and other information (such as webinar, proposers' day and teaming meeting) pertaining to this Funding Opportunity (see Section 7 of this NOFO). Any amendments to this NOFO will be announced through Grants.gov.

Applicants must submit all questions pertaining to this funding opportunity in writing to ManufacturingUSA@nist.gov with "AI for Resilient Manufacturing" in the subject line.

8.3 ACRONYMS AND ABBREVIATIONS

Abbreviation	Definition
AI	Artificial Intelligence
AIP	Annual Institute Plan
Certs and Reps	Certifications and Representations
CFR	Code of Federal Regulations
CHIPS	Creating Helpful Incentives to Produce Semiconductors
CRADA	Cooperative Research and Development Agreement
CV	Curriculum Vitae
DMP	Data Management Plan
DOC	United States Department of Commerce
EWD	Education and Workforce Development
F&A	Facilities and Administrative
FAPIIS	Federal Awardee Performance and Integrity Information System
FAQ	Frequently Asked Questions
FFRDC	Federally Funded Research and Development Center
FOIA	Freedom of Information Act
FTE	Full-time Equivalent
FY	Fiscal Year
GAAP	Generally Acceptable Accounting Principles
GMD	Grants Management Division
IIA	Investing in America
IP	Intellectual Property
MFG USA	Manufacturing USA
MRL	Manufacturing Readiness Levels
MTDC	Modified Total Direct Costs
NIST	National Institute of Standards and Technology
NOFO	Notice of Funding Opportunity
OAM	Office of Advanced Manufacturing
OT	Other Transaction
OTA	Other Transaction Authority
PI	Principal Investigator
R&D	Research and Development
R&R	Research and Related
ROM	Rough Order of Magnitude
SAM	System for Award Management
SF	Standard Form
SME	Small – and Medium – sized Enterprises
USAISI	U.S. AI Safety Institute
WBS	Work Breakdown Structure
YETQ	Yield, Energy, Throughput and Quality