CESMII Roadmap Projects

Request for Proposals

(RFP-2, Wave 1)

Notice of Intent: June 27th, 2019
Request for Proposals Issue Date: July 16th, 2019
1st Informational Webinar: July 26th, 2019
2nd Informational Webinar: July 31st, 2019
Submission Deadline for white papers: August 26th, 2019
Expected Date for CESMII whitepapers Selection Notifications: September 6th, 2019
Submission Deadline for full proposals: October 28th, 2019
Expected Date for Projects Selection Notifications: November 29th, 2019
Expected Project Start Date: April 1st, 2020

• Applicants (project teams) must work together to develop a white paper in response to this RFP. See Section 11 (APPLICATION AND SUBMISSION INFORMATION) of this RFP for more information.
• White papers are submitted directly by the proposed project lead organization to CESMII by email to roadmapprojects.info@cesmii.org.
• The RFP, templates and other related information can be found at https://www.cesmii.org/request-for-proposal/.
• Questions regarding this opportunity can be submitted at roadmapprojects.info@cesmii.org. An attempt will be made to answer all questions. Questions and answers will be posted publicly on the https://www.cesmii.org/questions-and-answers/.
• Informational webinars will be held on July 26, 2019 at 12pm PST (3pm, EST) and July 31, 2019 at 9:00am PST (Noon, EST). Additional information will be posted on the CESMII website: https://www.cesmii.org/request-for-proposal-webinar/.
• Do not include any proprietary information in the proposals.

Modifications
All modifications to the RFP are highlighted in yellow in the body of this solicitation.
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1 REQUEST FOR PROPOSAL

1.1 DESCRIPTION/BACKGROUND
The objective of the Clean Energy Smart Manufacturing Innovation Institute (“Institute” or “CESMII”) is to support U.S. prosperity and security, significantly advance manufacturing within the U.S., and contribute to the creation of the Manufacturing USA network. The vision for this Institute and other Institutes within the network is to help revitalize American manufacturing and support domestic manufacturing competitiveness.

The Clean Energy Smart Manufacturing Innovation Institute (CESMII) was awarded to the University of California at Los Angeles (UCLA) under the U.S. Department of Energy (DOE) Cooperative Agreement DE-EE0007613. CESMII is a national network that brings together over $140 million in public-private investment and more than 100 partners from leading manufacturers and universities across 30+ states. The Institute will accelerate Smart Manufacturing (SM) adoption through the integration of advanced sensors, data analytics, platforms and controls to radically improve productivity, precision, performance and energy consumption.

As SM becomes the norm in U.S. manufacturing, U.S. companies will create innovations in new, integrated, systematic processes with a highly skilled SM workforce and vibrant supply chain that will lead a global transformation of the manufacturing industry. To initiate this transformation, CESMII is utilizing an integrated technical approach of advanced sensors, controls, platforms and modeling across a diverse portfolio of technology projects. CESMII will use Roadmap projects (to drive technology and manufacturing practice) and additional application projects and services (to drive expansion) to achieve critical mass for widespread SM adoption and industry driven transformation.

CESMII’s mission will be supported by an open, collaborative, vendor agnostic infrastructure in the form of The SM Platform and Marketplace. The SM Platform provides the enabling infrastructure and Marketplace for Information Technology (IT) and Operational Technology (OT) integration for optimizing manufacturing process and production efficiency. The SM Platform is an industry-specified and managed assembly of web accessible infrastructure and cloud services that function as a shared operating system (OS) for multiple application system composability, infrastructure service, deployment integration and interoperability with marketplace access to composable configuration and data services. The Marketplace provides resources as services, associated support services and data about software applications, or toolkits. The platform infrastructure will serve as the reference architecture and model for accessing software products, networked hardware systems, data and information resources, modeling and systems engineering, services, tools and training. CESMII will accelerate development of the functionality, scale, and production capability of the SM Platform. CESMII will expand the Marketplace to stimulate both manufacturing users and solution providers to invest in SM technology. The open access Marketplace approach will enable vendors of all sizes—small to large—to offer innovative, flexible, affordable solutions to the manufacturing industry. Open access refers to a publicly available source for SM Toolkits and applications that are accessible and affordable to all stakeholders.
CESMII and its members have worked together to develop a Roadmap to identify themes and topics that are of specific importance in the development of SM solutions necessary to achieve CESMII’s goals. The final Roadmap can be found at https://www.cesmii.org/cesmii-roadmap/.

The overall objectives of the Institute are to:
1. Lead a national effort to develop, research, test, and widely validate SM technologies and practices in a continuously evolving manner;
2. Develop a roadmap for SM technologies, practices, services, and training and update the roadmap periodically as needed;
3. Support SM Research & Development, to provide capabilities for and collaboration in open, pre-competitive work among multiple parties;
4. Establish a technical education and workforce development program that leverages regional networks;
5. Stimulate growth of a SM domestic supply chain;
6. Demonstrate participation of underrepresented groups in CESMII; and
7. Be financially self-sustaining after the five-year period of federal funding

The above objectives and goals are driven by the overall performance metrics for CESMII, which are:
1. Energy Productivity: Energy productivity gains in U.S. manufacturing will be doubled in 10 years.
2. Energy Efficiency: 15% improvement in energy efficiency in first-of-a-kind industrial testbeds will be achieved within 5 years.
3. Industry Deployment Costs: Cost of deploying SM technologies including hardware and software in existing manufacturing processes will be reduced 50% relative to state-of-the-art in 5 years.
4. Adoption Costs: Installed and operating cost for adoption of SM technologies including hardware and software will be recovered through energy savings and productivity improvements in 10 years.
5. Workforce: SM workforce capacity in U.S. will be increased two-fold by 2020 and five-fold by 2030.
6. Supply Chain: SM supply chain will increase value and participation 40% by 2030.

About this RFP:

This Request for Proposals (RFP) is the second round of requests (RFP2) for CESMII. It seeks to fund projects that support the objectives and goals stated above.

RFP2 represents a total investment of approximately $18,750,000 with 50% in CESMII funding and 50% awardee cost-share. RFP2 will be issued in three distinct waves, shown in the table below:

<table>
<thead>
<tr>
<th>RFP2-Wave 1</th>
<th>RFP2-Wave 2</th>
<th>RFP2-Wave 3</th>
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</table>

2
Approximately $6.25M will be allocated toward enabling R&D focus areas as part of this first wave. Additional amount is expected to be allocated toward development of Smart Manufacturing Platform capabilities, Smart Manufacturing innovation projects as well as Education and Workforce Development in additional waves over the course of the next 3 months.

This document outlines the process that CESMII will use to solicit, review, and award projects for RFP2-Wave1. The most recent version of the RFP is available at https://www.cesmii.org/request-for-proposal/.

2 TECHNICAL AREAS OF INTEREST

The areas of interest for this RFP will be focused around addressing key cross industry technical challenges, and cross industry energy intensive manufacturing processes. This RFP also intends to ensure involvement of small, medium as well as large manufacturers. The key themes for this RFP include the following:

1. Common challenges faced by manufacturers in improving productivity, precision and performance of their manufacturing processes. These challenges differ for small vs medium vs large manufacturers, from brownfield locations to greenfield locations.
2. Technical gaps that need to be resolved in sensing, control, modeling, analytics and platform technologies in order to overcome the above challenges, as well as emerging technologies that will impact information flow between them.
3. Smart Manufacturing solutions for common cross industry energy intensive processes such as thermal processing.

In reference to the themes stated above, CESMII is inviting proposals in two broad categories listed below:

2.1 ENABLING R&D

The goal of Enabling R&D projects is to address specific gaps in building block technologies (including sensing, process control, modeling and analytics) that help address common technical challenges in the adoption of Smart Manufacturing.

2.1.1 Cross-cutting Technologies

a) **Innovative solutions for common challenges in energy intense industries and processes.** Energy intensive processes span industries such as petroleum, chemicals, glass, metals, food & beverage and pulp & paper. Many of them have common technical challenges (in sensing, control or modeling), or common process such as thermal processing. CESMII is inviting project proposals that outline the challenges, what technical gaps exists in overcoming these challenges, and how these gaps can be closed through development and demonstration of Smart Manufacturing technologies.

b) **Innovative applications of emerging technologies for manufacturing applications.** 5G technology promises to significantly impact the bandwidth and data transfer rates for
communications, AI holds untapped potential for impact on automated decision making and control while cybersecurity remains a formidable challenge for manufacturing systems. CESMII is seeking proposals that can assess, test and validate these emerging technologies for manufacturing applications, including the impact on existing shop floor communication networks as well as human-machine interactions.

2.1.2 Advanced Sensing

a) Advanced real-time, non-intrusive sensing for harsh environments and in-line product characteristics. Many manufacturing processes are unable to leverage the full potential of Smart Manufacturing due to lack of adequate real-time sensing in harsh environments such as high temperature, high pressure or corrosive media. Gaps also exist in real-time (relative to the speed of manufacture) measurements that provide feedback on the process (for example composition, dimensions, surface, properties). CESMII seeks proposals that address these challenges, particularly with application to multiple industries.

b) Modular sensor wrapping solutions for legacy equipment. A majority of manufacturers, small and large, struggle to obtain real-time sensory information from legacy equipment and connect it to the state of the art enterprise level SM systems. CESMII is seeking proposals for modular (plug and play), reusable (across different processes) ‘sensor wrapping’ solutions (hardware and/or software) for a broad class of sensors and equipment to overcome this barrier to SM adoption.

2.1.3 Process Control

a) Algorithms and techniques for multi-objective process control (productivity, precision and performance). Many manufacturing processes, particularly discrete, require control systems to meet multiple objectives related to precision, productivity and performance. A recipe for higher throughput may conflict with a recipe that optimizes energy usage. A process control scheme for optimizing product quality may conflict with that for dimensional precision. CESMII is seeking advanced reusable techniques for such multi-objective process control algorithms and techniques that can be applied to different types of unit processes or linked process flows.

b) Control and optimization of multi-step linked process flow paths. Characteristics and properties of the final product in discrete manufacturing depend on the processing conditions at each of the discrete steps along the manufacturing flow path. CESMII is seeking proposals for control and optimization of operating conditions along the flow path in order to reduce energy consumption and/or improve yield and quality.

2.1.4 Modeling and Analytics

a) Modeling and optimization of cross industry thermal processes. Thermal processes such as heat treatment and drying are inherently energy intensive processes. CESMII is seeking proposals on model-based optimization of such processes to improve performance and energy consumption. Examples include efficient ramp up and ramp down of batch furnace operations to minimize energy consumption and optimal placement of parts for uniform heat treatment.

b) Hybrid modeling (physics based + data driven) approaches for real-time process control and optimization. With the rapid rise in availability of computing power, the ability to combine the use of high fidelity physics-based models and data driven models for manufacturing applications has become promising. CESMII invites
proposals for the development and application of these hybrid approaches for real-time process control and optimization for unit processes as well as linked flow paths.

2.1.5 Smart Manufacturing Platform

(a) End to end requirements for a Smart Manufacturing Platform. CESMII’s SM Platform is expected to reach a vast diversity of potential users, and an equally vast diversity of potential contributors. It will represent a unique combination of OT and IT technologies that will need to meet a broad spectrum of requirements for its users. CESMII is inviting proposals to help identify and develop these requirements specifications for the SM Platform. The proposal should address end to end capabilities that are sought by manufacturers of all types and sizes, and should consider key aspects such as interoperability, reusability, flexibility and scalability.

Proposals in individual technical areas must connect and contribute to the broader cross cutting themes stated in section 2 and 2.1.1 earlier.

CESMII intends to fund Roadmap Projects in this RFP with the greatest chance of helping achieve the goals and mission of CESMII. CESMII may award an entire proposal or any part of a proposal at a funding level that will be negotiated with the applicant. CESMII may issue awards in one, multiple, or none of the above Technical Areas of Interest.

3 AWARD INFORMATION

3.1 AWARD OVERVIEW

3.1.1 Estimated Funding

CESMII expects to make approximately $3,125,000 of federal funding available for new awards under this RFP-2 Wave 1. Projects will also be required to provide cost share per Section 10 below. Additional federal funding will be allocated under a separate RFP during BP3. This represents a portion of the full investment of $18,750,000 allocated for this RFP which will be issued in at least 3 Waves over the course of 1-3 months.

<table>
<thead>
<tr>
<th>Technical Areas of Interest</th>
<th>Number of Awards Anticipated</th>
<th>Total Federal Funding Available For this RFP Wave</th>
<th>Member cost-share</th>
<th>Period of Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabling R&amp;D</td>
<td>7</td>
<td>$3,125,000</td>
<td>$3,125,000</td>
<td>12-18 Months</td>
</tr>
<tr>
<td>Total:</td>
<td>7</td>
<td>$3,125,000</td>
<td>$3,125,000</td>
<td>12-18 Months</td>
</tr>
</tbody>
</table>

3.1.2 Period of Performance

For this RFP, CESMII anticipates making awards with periods of performance up to 18 months (but not less than 6 months). All projects will be stage-gated. Go/No-Go decisions will be made at each stage (at least one Go/No Go decision point for every CESMII budget period). We expect that the first phase of the project is expected to be from April 1, 2020 to December 2020, and a Go/No Go decision point is required at this point. The second phase (if there is one) will begin in January 2021. Project budgets and work scope need to be developed around this anticipated schedule. A more accurate schedule will be provided when the awards are approved. Project continuation will be contingent upon satisfactory performance and Go/No-Go decision review. Each quarter, as well as at each Go/No-Go decision point, CESMII will evaluate project...
performance, project schedule adherence, meeting milestone objectives, compliance with reporting requirements, and overall contribution to the program goals and objectives.

3.1.3 CESMII / UCLA Funding Agreements
UCLA will negotiate a sub recipient agreements with lead organizations of each of the project teams. These agreements will include mandatory flow-down terms and conditions from the DOE-UCLA cooperative agreement.

4 ELIGIBILITY INFORMATION
Project teams consisting of CESMII members as well as non-members are eligible to submit proposals in response to this RFP. All proposals are submitted directly to CESMII Headquarters for evaluation. Proposal team leads and team members (current or potential members who will be sub-recipients under UCLA) must meet the criteria set forth below to be considered for eligibility and evaluation.

4.1 ELIGIBLE APPLICANTS
4.1.1 Project Team Members
All project team members submitting proposals to CESMII must be members in good standing by the time the project is awarded by CESMII. A member is in good standing if they have executed a membership agreement and are current with their annual dues. A potential member may submit a proposal, but must be a member in good standing by the time the project is awarded. Information regarding CESMII Membership can be found at the CESMII website, [https://www.cesmii.org/membership-information/](https://www.cesmii.org/membership-information/).

4.1.2 Participation by Foreign Entities
Approved CESMII members who are foreign entities may apply for project funding. If any project work will be done in a foreign country, CESMII will work with the project team to complete a Foreign Work Waiver (FWW) that will be submitted to DOE for review and approval. See section 5 below for more information.

5 PERFORMANCE OF WORK IN THE UNITED STATES
All work must be performed in the United States unless a waiver has been approved. This requirement does not apply to the purchase of supplies and equipment; however, every effort should be made to purchase supplies and equipment within the United States.

5.1 FAILURE TO COMPLY
If the Project Team fails to comply with the Performance of Work in the United States requirement, CESMII will deny reimbursement for the work conducted outside the United States and such costs will not be recognized as allowable cost share regardless of whether the work is performed by the sub-recipients, contractors or other project partners.

5.2 WAIVER FOR WORK OUTSIDE THE U.S.
All work must be performed in the United States, however, CESMII may approve the performance of a portion of the work outside the United States under limited circumstances. A waiver must be submitted to CESMII and approved by DOE prior to conducting any work outside the U.S. To request a waiver, the Project Team must submit a written waiver request to CESMII, which includes the following information:
1. The rationale for performing the work outside the U.S.;
2. A description of the work proposed to be performed outside the U.S.;
3. A description of the anticipated benefits to be realized by the proposed work and the anticipated contributions to the US economy;
4. A description of the likelihood of Intellectual Property (IP) being created from the work and the treatment of any such IP;
5. The total estimated cost (CESMII funding and Project Team cost share) proposed for the work to be performed; and
6. The countries in which the work is proposed to be performed.

For the rationale, the Project Team must demonstrate to the satisfaction of CESMII and DOE that the performance of work outside the United States would further the purposes of the CESMII Prime Cooperative Agreement and is in the economic interests of the United States.

6 U.S. MANUFACTURING COMMITMENTS
CESMII’s U.S. Manufacturing Plan represents commitment to support U.S. manufacturing as a result of its performance under the (DOE) Cooperative Agreement DE-EE0007613. When a project is selected for an award, the U.S. Manufacturing Plan will become part of the terms and conditions of the sub-agreement. The CESMII Manufacturing Plan can be found at https://www.cesmii.org/request-for-proposal/.

7 NEPA REQUIREMENTS
All projects awarded under this RFP are subject to the National Environmental Policy Act (NEPA) prior to commencement of work. NEPA requires all Federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. A completed EQ-1 NEPA form will be required after selection of projects. CESMII will submit all Project NEPA information and documentation to DOE for review. Prior to authorizing the use of Federal funds, DOE may require information in addition to the above in order to issue a NEPA determination for the project. Additional information in regard to the NEPA requirements can be found at https://www.eere-pmc.energy.gov/NEPA.aspx.

8 INTELLECTUAL PROPERTY PLAN
The CESMII Intellectual Property Management Plan governs the treatment of Intellectual Property and the rights between CESMII and its Members. The DOE Cooperative Agreement controls the Intellectual Property rights between DOE, CESMII, and its Sub recipients/Sub-awardees. For details and additional information, the CESMII Intellectual Property Plan can be found at https://www.cesmii.org/request-for-proposal/ and the DOE Intellectual Property Clauses pertaining to the Cooperative Agreement can be found at https://www.cesmii.org/model-sub-agreement.

9 MODEL SUBAGREEMENT
CESMII will negotiate sub-agreements for all selected projects. Model sub-agreements, which include mandatory flow-down clauses as required by the Cooperative Agreement DE-EE0007613, Reporting Requirements, Intellectual Property Clauses, and National Policy Assurances can be found at https://www.cesmii.org/model-sub-agreement.
10 COST SHARING
The cost share must be at least 50% of the total allowable costs for the project (i.e., the sum of
the CESMII share and the recipient share of allowable costs equals the total allowable cost of the
project) and must come from non-Federal sources unless otherwise allowed by law. (See 2 CFR
200.306 and 2 CFR 910.130 for the applicable cost sharing requirements.) Although the cost
share requirement applies to the project, including work performed by members of the project
team, the project lead organization is legally responsible to provide the entire cost share.

10.1 COST SHARE ALLOCATION
Each Project Team is free to determine how best to allocate the cost share requirement among
the team members. The amount contributed by individual Project Team members may vary, as
long as the cost share requirement for the project as a whole is met.

10.2 ALLOWABLE COST SHARE
The Team members may provide cost share in the form of cash or in-kind contributions. See 2
CFR 200.306 and 2 CFR 910.130 for information on what is allowable cost share.

10.3 COST SHARE VERIFICATION
Upon selection for award negotiations, all Project Team Members are required to provide written
assurance of their proposed cost share contributions in their final SOPOs. Each organization
providing cost share in support of the Project must submit a Letter of Commitment that describes
the contribution and signed by an authorized representative of the organization.

11 APPLICATION AND SUBMISSION INFORMATION
11.1 APPLICATION PROCESS
Both current and prospective CESMII members are encouraged to develop projects for review
and submission in response to the RFP. The project lead organizations will then submit proposals
to CESMII. Any project team members who are not CESMII members will be required to
finalize CESMII membership and be in good standing prior to the awarding of the project by
CESMII Head Quarters (HQ).

Roadmap Projects follow a Stage Gate Process comprising of four stages (Refer to Figure 1)
with go/no-go gates (Gate 1 to Gate 4) in which CESMII, and the DOE work together to provide
guidance, review, selection and approval of projects. The basic flow of documentation begins
with potential project ideas and concepts generated by the CESMII members or potential
members in response to this RFP.
In stage 1, the project teams will develop and submit white papers. The Gate is the selection of white papers based on relevance to the proposals selection criteria in section 12.

In stage 2, CESMII invites full proposals from selected white paper teams. The Gate is the final selection and concurrence with the DOE on selected proposals.

In stage 3, CESMII/UCLA technical and contractual teams, and Lead Organizations will negotiate final scope and budgets for the selected proposals. CESMII HQ and lead organizations will prepare final project document packages (SOPOs, Budgets, WBSs, NEPA Tables, Commitment letters, etc.) for submittals to the DOE. CESMII and DOE will enter into a final technical and financial review. The Gate is the submittal and approval of final project documentation.

In Stage 4, CESMII/UCLA and DOE will work closely to modify and approve the current Institute SOPO to include selected projects budgets. Upon SOPO mod approval, UCLA and CESMII will perform a final contractual review and issue sub recipient agreements to the individual project lead organizations. Ultimately and prior to work starting, all new projects will need to be incorporated into the DOE award through a formal modification, followed by UCLA sub-recipient awards with the project performer(s). The Gate is the DOE SOPO modification approval and UCLA sub recipient agreements to lead organizations.

All proposal submissions must conform to the following form and content requirements (described below) and must be submitted via the CESMII Portal unless specifically stated otherwise.
Proposals must conform to the following requirements:

- Proposals must be submitted in Adobe PDF format unless requested otherwise.
- Proposals must be written in English.
- All pages must be formatted to fit on 8.5 x 11-inch paper with margins not less than one inch on every side. Use Times New Roman typeface, a black font color, and a font size of 12 point or larger (except in figures or tables, which may be a 10-point font). A symbol font may be used to insert Greek letters or special characters, but the font size requirement still applies. References must be included as footnotes or endnotes in a font size of 10 or larger. Footnotes and endnotes are counted toward the maximum page requirement.

11.2 APPLICATION FORMS

The application guidelines and instructions are available on the CESMII website. ([https://www.cesmii.org/request-for-proposal/](https://www.cesmii.org/request-for-proposal/))

11.3 PROPOSAL

The Proposal starts with a white paper and must conform to the following content and form requirements. Selection of white papers will be based on relevance to the selection criteria below. After the selection of the white papers, CESMII will invite full proposals only from the selected white paper teams. The full proposals must address the Review Criteria as discussed in 12 of this RFP. Save the Proposal in a single PDF file.

Applicants must provide sufficient citations and references to the primary research literature to justify the claims and approaches made in the Technical Approach. However, CESMII and reviewers are under no obligation to review cited sources.

White Papers and full Proposals must be completed using the provided proposal template available on the CESMII website. ([https://www.cesmii.org/request-for-proposal/](https://www.cesmii.org/request-for-proposal/)) and should contain no more than 15 pages total.

12 EVALUATION & SELECTION CRITERIA

12.1 GENERAL CRITERIA

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Impact</td>
<td>• % improvement in energy reductions</td>
</tr>
<tr>
<td></td>
<td>• % improvement in manufacturing productivity</td>
</tr>
<tr>
<td></td>
<td>• Other financial savings</td>
</tr>
<tr>
<td></td>
<td>• Alignment with CESMII goals</td>
</tr>
<tr>
<td>Technical significance</td>
<td>• Identification of key technical barrier(s) to be overcome</td>
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<tr>
<td></td>
<td>• Reusable technologies and Components for Platform</td>
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<tr>
<td></td>
<td>• Alignment with the CESMII roadmap</td>
</tr>
<tr>
<td>Project Execution</td>
<td>• Clear project objectives and scope statement</td>
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</tbody>
</table>
• High-level project plan to meet milestone dates
• Key resources identified and confirmation of availability.
• Integration requirements defined
• Project deliverables identified to include training documentation, user and configuration guides, engineering and specifications documentation
• Complete cost breakdown including sub recipient budget
• Measure of success
• Project risks

12.2 TECHNICAL EVALUATION CRITERIA

Technical Areas of Interest: Enabling R&D (Section 2.1)
1. **Technical Merit (Weight: 40%)** – The extent to which the project addresses the areas of interest stated in this RFP. The extent to which the project, if successfully carried out, will make a valuable contribution to the field of smart manufacturing, SM Platform, CESMII and its members. The project objectives are clearly stated, challenging, well-conceived, and technically feasible. The degree to which this project will provide valuable new tools, engineering processes, devices, or hardware/software/data to support adjacent Institute activities. Project will materially advance the mission of the Institute.

2. **Technical Approach (Weight: 35%)** - Adequacy and feasibility of the applicant’s approach to achieving the stated objectives of the project. The extent to which the project plan, methods, analysis, and technology are properly developed, well integrated, and appropriate to the objectives of the project. Appropriateness rationale, and completeness of the proposed Project Proposal. Degree to which the applicant has identified high risk challenges and presented reasonable mitigation strategies. There is a high degree of innovation, novelty or originality in the approach. Adequacy and appropriateness of the proposed schedule, staffing plan, and proposed travel.

3. **Technical and Management Capabilities (Weight: 25%)** - Likelihood that the proposed work can be accomplished within the proposed budget and performance period by the technical team, given their experience, expertise, past accomplishments, available resources, institutional commitment, and access to technologies. Clarity, completeness and appropriateness of the project plan and timeline. Clarity, logic, and effectiveness of the project organization, including sub awardees to successfully complete the project. Credentials, capabilities, experience of the key personnel. Adequacy and availability of personnel, facilities, and equipment (both hardware and software) to perform the proposed project within the budget specified.

12.3 PORTFOLIO SELECTION CRITERIA
To create a balanced portfolio CESMII will select projects that are complementary and support the accomplishment of CESMII objectives. This will include but not limited to the following criteria:
1. Meets strategic goals of the Institute
2. Fit with current Budget Period (BP) funding profiles
3. Cross-industry applicability and broad-based impact
4. Utilization and enhancement of the SM Platform core capabilities and SM Marketplace
5. Full compliance with DOE and CESMII requirements
6. Broader base application across other industries for reusability
7. High-level fit to create balance in the Institute’s project portfolio
8. Whether the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty

13 OTHER INFORMATION
13.1 RFP MODIFICATIONS
Amendments to this RFP will be posted on the CESMII Website at https://www.cesmii.org/request-for-proposal/. CESMII recommends that you check the portal often to ensure you receive timely notice of any amendments to the RFP.

13.2 INFORMATIONAL WEBINAR
CESMII will conduct one informational webinar during the RFP process. It will be held after the initial RFP release but before the due date for Proposals.

Specific dates for the webinar can be found on the cover page of the RFP and the CESMII portal upon release of RFP.

14 POST SELECTION REQUIREMENTS
The following documents are required to be submitted after selection during award negotiations:
1. SOPO
2. EQ-1 NEPA Form
3. Cost Share commitment letters
4. EERE335 forms for different team members as necessary
5. WBS
6. Schedule