REMADE Institute

Request for Proposals (RFP) Overview

Information Session

May 3rd, 2021 3:00PM ET
Please hold your questions until the Q&A. We will review them at the end of each session.

Questions will be added to the Project FAQs on the REMADE Website following this information session.

If you have additional questions after the completion of this session, submit via email with the subject line: “REMADE-21-01 Q&A” to REMADE_RFP@remadeinstitute.org
REMADE Mission:
Reduce embodied energy and carbon emissions through early-stage applied research & development

REMADE STRATEGIC GOALS

Enable greater utilization of secondary feedstocks, requiring less energy to produce
Reduce primary materials consumption while achieving better than cost and energy parity for key secondary materials
Develop transformational technologies to expand recycling, recovery, remanufacturing and reuse in US manufacturing
Educate, train, and develop the incumbent and future workforce to support deployment of REMADE technologies

MATERIAL CLASSES

Metals
Polymers
E-Waste
Fibers

REMADE TECHNICAL PERFORMANCE METRICS

↓ 30%
Primary Feedstock (FS) Consumed

↑ 30%
Secondary Feedstock (FS) Consumed

↑ 25%
Embodied Energy Efficiency

↓ 20%
GHG Emissions

Cross-Industry Reuse

Cost and Energy Parity

© 2021 Sustainable Manufacturing Innovation Alliance Corp. Funding provided by the U.S. Department of Energy’s Office of Energy Efficiency and Renewable Energy (EEERE) under Advanced Manufacturing Office Award Number DE-EE0007897.
A national consortium of member organizations comprised of industry, academia, national laboratories, trade associations, and non-profit entities collaborating on early stage applied research activities and the development & dissemination of key industrial technology initiatives.

TECHNOLOGY FOCUS AREAS ORGANIZED AROUND 5 NODES DESIGNED TO ADDRESS CROSS-CUTTING CHALLENGES

**Systems Analysis & Integration**
Data collection, standardization, metrics, and tools for understanding material flow

**Design for Re-X**
Design tools to improve material utilization and reuse at End-of-Life (EOL)

**Manufacturing Materials Optimization**
Technologies to reduce in-process losses, reuse scrap materials, and utilize secondary feedstock in manufacturing

**Remanufacturing & EOL Reuse**
Efficient and cost-effective technologies for cleaning component restoration, condition assessment, and reverse logistics

**Recycling & Recovery**
Rapid gathering, identification, sorting, separation, contaminant removal, reprocessing and recycling
Proposals Being Sought
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<td>Specific technical/knowledge gaps to educate, train &amp; develop Re-X workforce</td>
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<td><strong>Funding Level</strong></td>
<td>Up to $2 million per project. Minimum 1:1 cost share required</td>
<td>Up to $5 million per project. Minimum 1:1 cost share required.</td>
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<td><strong>Anticipated Funding</strong></td>
<td>$6.5 Million</td>
<td>$10 million for Recycling Projects and $5 million for Remanufacturing Projects</td>
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<td><strong>Alignment</strong></td>
<td>Aligned to one of the five REMADE Nodes</td>
<td>Address several REMADE nodes and do not need to align with any single node</td>
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<td><strong>Period of Performance</strong></td>
<td>Up to 24 months</td>
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<td>Begins with the required Letter of Intent</td>
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<td>Final approval by GB &amp; DOE following merit review panels</td>
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**REMADE funding is the REMADE portion of the total funding. Proposers need to provide equivalent cost-share for any project proposed.**
RFP 21-01 Topics

Transformational Research, Development & Demonstration Projects

Transformational RD&D Projects in Recycling

• Topic A1: Transformational Plastics, Metals, Fibers, and E-waste Recycling –
  Technology solutions to increase the recovery and recycling of plastics, metals, fibers, and e-waste

Transformational RD&D Projects in Remanufacturing

• Topic A2: Transformational Remanufacturing –
  Technology solutions to increase the recovery and remanufacturing of durable goods and components that contain polymers, metals, fibers, and e-waste and come from key remanufacturing sectors including aerospace, heavy-duty off-road equipment, motor vehicle equipment, medical equipment, and consumer products

Traditional Research & Development Projects

• Topic B1: Systems Analysis & Integration –
  Material Flow, Lifecycle Analysis, Systems Analysis, and Techno-economic Analysis Models, Tools and Data

• Topic B2: Design for Re-X –
  Tools that Enable Companies to Evaluate the Benefits and Financial Implications of Design Decisions on End-of-life Re-X

• Topic B3: Manufacturing Materials Optimization –
  Manufacturing Processes and Qualification Methods that Enable Greater Use of Cost-Competitive Secondary Feedstocks, Including Cross-Industry Feedstocks

• Topic B4: Remanufacturing & End-of-life Reuse –
  Cost-effective and Energy Efficient Technologies for Disassembly, Cleaning, Restoration, and Condition Assessment to Increase Remanufacturing and Reuse at End-of-life

• Topic B5: Recycling & Recovery –
  Technologies to Rapidly and Efficiently Collect, Characterize, Sort, Separate, and Decontaminate Recovered Waste Streams and Produce Cost-competitive Secondary Feedstocks, Including Cross-Industry Feedstocks
**RFP 21-01 Topics**

**Education & Workforce Development (EWD) Projects**

- **Topic C1**: Advanced Materials Separation Technologies – (Awareness, Practitioner, Expert)
- **Topic C2**: Chemical Recycling of Plastics – (Practitioner, Expert)
- **Topic C3**: Simulation Techniques to Optimize Material Use in Manufacturing and Recycling – (Awareness, Practitioner, Expert)
- **Topic C4**: Condition Assessment for Remanufacturing – (Practitioner, Expert)
- **Topic C5**: Reverse Logistics for Remanufacturing – (Awareness, Practitioner, Expert)
- **Topic C6**: Cleaning for Remanufacturing – (Practitioner, Expert)
- **Topic C7**: Design for Remanufacturing, Recycling, and/or Re-Use – (Practitioner, Expert)
- **Topic C8**: Systems Thinking in Material Management: Benefits and Tools – (Awareness, Practitioner, Expert)
Non-Responsive Topics
Non-Responsive Topics (Section 1.3.4 in RFP)

REMADE is not soliciting proposals for projects for the Topic Areas listed below. Proposals submitted for these Topic Areas will be deemed non-responsive to this RFP and will not be reviewed:

- Projects that address materials classes other than metals, polymers, fibers, or e-waste.
- Projects that address legal, regulatory, or institutional barriers (i.e. access to curbside recycling or single versus dual stream recycling)
- Projects that address consumer education or consumer behavior to increase or change materials collection and recycling.
- Projects focused solely on demonstrating the application of commercial or near-commercial technology (i.e., requiring no additional technology development).
- Projects that propose funding the acquisition, installation, start-up, or operation of commercial or near-commercial technology for the benefit of a specific company.
- Processes/technology solutions for the recovery and recycling of “critical and near-critical materials” such as dysprosium, terbium, europium, neodymium, yttrium, lithium, and tellurium.
- Processes/technology solutions for the recovery and recycling of batteries and battery materials. NOTE: Proposals addressing battery remanufacture, repurpose, reuse, and repair, and/or technology for condition assessment and refurbishment of batteries, are in-scope.
- Processes to produce solid fuels (e.g., pellets) from polymers and/or fibers.
- Incineration, with or without energy recovery.
- Recovery of precious metals from e-waste or other metal waste streams.
- Projects related to tire recycling or remanufacturing.*
- Use of polymers as asphalt modifiers.
- Building materials and construction and demolition waste (CDW).
- Recovery and recycling of additive manufacturing feedstocks.
- Projects related to composites recycling.

*Although REMADE is not seeking tire recycling proposals focused on rubber recycling, proposals seeking to recycle the steel found in tires will be accepted.

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Transformational Project Topics

REMADE Institute – Magdi Azer
Objectives for Transformational RD&D Projects

- Support the mission of REMADE, enable the Institute to achieve its stated goals, and significantly impact REMADE’s ability to achieve the Technical Performance Metrics (TPMs).

- Address aspects of several REMADE Nodes and do not need to align with any single REMADE Node.

- Transformational RD&D projects consider multiple segments of the materials supply chain, including all material lifecycle stages (design, manufacturing, remanufacturing, and recycling) and markets (primary and secondary feedstock and scrap) that influence the availability of and demand for secondary feedstocks (for remanufacturing).

- Transformational RD&D projects must demonstrate how the technology solution will be integrated into the manufacturing or remanufacturing supply chain.

- Transformational RD&D projects must have a clear path to transition the technology solution to the marketplace.

- Transformational RD&D projects must be led by industry.

Transformational RD&D projects must demonstrate the technology solution will produce secondary feedstocks that manufacturers (for recycling projects) or remanufacturers (for remanufacturing projects) can use.
Systems Analysis & Integration
RFP Topic

Node Lead – Barbara Reck
REMADe seeks proposals to develop and validate:

- **Robust feedstock logistics models that improve understanding and collection of waste streams, increase materials recycling and recovery, and guide production of cost-competitive secondary feedstocks:** There is a need to understand collection via industry-relevant feedstock logistics models, including materials pre-processing, subsequent processing, and eventual sale of secondary feedstocks on a local-to-continental-scale. Other topics of interest include development of innovative logistical support solutions focused on intermodal transportation for shipment to domestic markets and modeling that identifies cost-effective solutions for shipping less-than-truckload (LTL) quantities of bales as needed for small MRF operation.

- **Analyses of the impact of novel automation options on the economics of small MRFs and recycling volumes nationwide:** To increase residential recycling collections in the U.S., improved access to processing options are needed in rural and isolated parts of the country. This might include (a) small scale MRFs (in the 1-15 tons/hr. throughput range) equipped with advanced separation technologies (e.g., optical, robotics) and artificial intelligence (AI), or (b) MRF options that allow cost-effective less than truckload (LTL) shipment to markets. To guide the design of these facilities, there is a need for a techno-economic analysis (TEA) that conducts cost/benefit modeling to compare rural recycling using small automated MRFs versus the status quo (continued utilization of larger MRFs that process waste transferred from rural communities). As part of the TEA, proposers should evaluate the capital costs to establish these facilities and the ongoing costs (resident education/feedback, collection, processing, and marketing) required to operate these facilities. The majority of MRFs being installed today are built for a throughput of 20 tons/hr and above. The classification of small scale MRFs as having throughputs of 1-15 tons/hr. is meant to denote MRFs that are smaller than MRFs currently being installed.

- **Approaches to increase recycling by improving circularity of specific alloy families.** Current methods for collecting, shredding, and sorting metals during recycling combine the thousands of alloys used in products to a few dozen categories. For alloys where properties and performance require stringent control of the chemical composition, this approach introduces impurities or “tramp” elements that effectively limit recycling, lead to continued down cycling, or require use of additional primary feedstock to dilute the tramp elements to an acceptable level. To increase recycling and preserve value, approaches to improve circularity of specific alloy families are sought.

- **Potential primary and secondary feedstock and embodied energy and emissions savings in the U.S. healthcare sector by switching from single use to reusable metalware and plastics:** To counter the growing trend within the U.S. healthcare system toward designing stainless steel instruments (e.g., scissors, needle holders) and plastic packaging for single use only, REMADe seeks proposals that explore circularity opportunities for metalware and plastics used in healthcare settings. The analysis shall quantify at the national level the amount of single-use metal and plastic that could be replaced by reusable products (through material flow analysis) and the corresponding potential savings in embodied energy (requiring detailed information on the metal grades used for single and multiple use applications). To demonstrate economic feasibility, a first-order life-cycle cost analysis shall complement the study. In parallel with this effort, proposers are also expected to identify specific approaches to increase collection and recovery of this material.
Design for Re-X
RFP Topic

Deputy Node Lead – Bert Bras
REMADE seeks proposals to develop and validate:

- **Innovative product designs that demonstrate significant Re-X improvements**: Designs for products that incorporate cross-industry feedstocks or combine the design expertise of multiple companies that would impact the REMADE Technical Performance Metrics are of interest.

- **Design for Re-X methods/tools that assess the extent to which design choices enable or impede Re-X**: Design choices that could be evaluated include but are not limited to materials, component or product geometry, manufacturing processes, assembly methods, and system-level configuration. Proposals responding to this sub-topic should quantify the energy, materials, and emissions impacts as part of their evaluation.

- **Trade-off analysis methods/tools for evaluating the strategic implications of Design for Re-X decisions**: Design for Re-X decisions require organizations to evaluate competing objectives, such as initial production costs versus end-of-life revenue streams; energy and material consumption (both primary and secondary) versus savings; and vertical integration versus outsourcing strategies.

- **Design for Re-X tools/modules that integrate with commercial CAD/CAM systems**: Of interest are stand-alone tools/modules that operate independently of the commercial CAD/CAM systems (e.g., by evaluating data generated by CAD/CAM systems), as well as tools/modules that directly integrate with and communicate with CAD/CAM systems.
Manufacturing Materials Optimization RFP Topic

Node Lead – Pradeep Rohatgi
Deputy Node Lead – Alan Luo
REMADe seeks proposal to develop and validate:

- **Manufacturing processes that use secondary feedstocks, including cross-industry feedstocks**: Topics of interest include development of new or alternative manufacturing processes, or modification or optimization of existing processes, to improve process yields and reduce scrap generation when using secondary or cross-industry feedstocks.

- **Manufacturing processes that use a blend of primary and secondary feedstocks**: Topics of interest include development of manufacturing processes, or modification or optimization of existing processes, to allow greater quantities of secondary feedstock to be combined with primary feedstocks without sacrificing desired materials properties or product performance.

- **Advanced simulation tools to guide development of manufacturing processes that use secondary feedstocks**: Topics of interest include tools that simulate manufacturing processes, such as casting or extrusion computational thermodynamics tools to optimize manufacturing processes, Integrated Computational Materials Engineering (ICME) to understand the interdependent process-structure-property-performance relationships, and materials informatics tools that leverage machine learning and/or artificial intelligence to guide material selection and manufacturing when using secondary feedstocks.

- **Real-time sensing and control strategies for adjusting manufacturing processes that use secondary or cross-industry feedstocks**: Although development of new sensors and controls would be in scope for this sub-topic, applicants must demonstrate that they can be used to adjust manufacturing processes based on chemical/material variations inherent in secondary or cross-industry feedstocks.

Proposals that use existing (off-the-shelf) blends of primary and secondary feedstock or do not propose to increase the amount of secondary feedstock versus primary feedstock being used are not of interest for this topic. **Proposals involving the use of materials that have been recovered, sorted, cleaned, separated, decontaminated, and reprocessed to validate the technologies being developed are encouraged.**
Remanufacturing & EOL Reuse RFP Topics

Node Lead – Michael Thurston
Deputy Node Lead – Kristi Sisak
REMADE seeks proposals to develop and validate:

- **Condition assessment technologies to assess used products and components**: Topics of interest include technologies to non-destructively inspect a) cores (used products) to determine residual value prior to disassembly and cleaning, and b) mechanical components, electronic components, and/or electro-mechanical systems to determine suitability for reuse or repair.

- **Remanufacturing process technologies that improve operational efficiency and lower remanufacturing costs and energy consumption**: Topics of interest include a) robotic disassembly technologies to increase throughput, b) more cost-effective/robust cleaning technologies that minimize the number of times a part needs to be recleaned and allow lower value parts to be cost effectively cleaned, and c) more efficient inspection technologies (including automation) to minimize the sunk time or cost of inspection.

- **Low-cost component repair technologies to increase component reuse yield and the volume of products that can be remanufactured**: Topics of interest include cost-effective repair processes for mechanical or electronic components and modules, including new or alternative repair processes targeted at components where either no repair process currently exists, or current repair process costs limit the number and types of components that can be repaired. Proposals focused on modifying existing repair processes to a) increase component reuse yield, b) increase the number of times a component can be repaired, or c) extend the repair to new regions of the component, are also encouraged.

- **Direct material reuse without recycling**: This topic addresses logistical and technical barriers to direct product, component, or material reuse. Reuse may be in the same application in a closed loop system or could represent cross-industry reuse in a different application. Proposals that use operational (i.e., sensor) data to predict how long the product or component can continue to operate before it needs to be remanufactured are in-scope. Proposals focused on battery remanufacturing or repurposing/reconfiguring battery cells for other applications are also in-scope.
Recycling & Recovery
RFP Topics

Node Lead – Kerry Sandford
Deputy Node Lead – Vicki Thompson

REMAKE seeks proposals to develop and validate technologies that:

- **Increase the recycling rate of metals, polymers, fibers, and e-waste and the availability of high-quality, cost-competitive secondary feedstocks, including cross-industry feedstocks**: Topics of interest include both mechanical and chemical recycling technologies. Proposals that target materials with low recycling rates are of particular interest – examples include plastics with resin identification codes #3-#7, flexible films and multi-layer packaging, paper and paperboard products that use water-soluble inks, carpets, and carpet residue. Technology development to increase the amount of PET thermoform packaging that can be processed with PET bottles to produce bottle grade rPET is also of interest.

- **Improve the yield, throughput, and accuracy when sorting recycled materials**: Topics of interest include greater use of automation to sort waste streams, and adaptive sorting technologies that incorporate advances in AI and neural networks or sort based on the contaminants that are present. Specific applications of interest include (a) sorting non-used beverage container (UBC) aluminum from UBC in the MRF; (b) cost-effective automated methods to sort post-consumer and post-industrial textiles into numerous market grades (resale, rag, fiber reclaim, and chemical recovery); (c) novel sorting solutions for aluminum alloys, high-strength low-alloy (HSLA) steels, or other alloys with high embodied energy (including superalloys) to minimize mixing of different alloy grades and avoid continued downcycling (Joint Topic with Recycling & Recovery); and (d) identification of innovative mechanical and optical sorting configurations in scalable designs that could enable cost- competitive rural, single-stream recycling (targeting system throughput of 1-15 tons/hr).

- **Enable physical, chemical, or biochemical separation of REMADE-relevant materials**: Topics of interest include (a) separation of the polymeric and metallic fractions found in e-waste; (b) deconstruction/depolymerization of flexible films and multi-layer packaging; (c) improved methods to remove glass from fiber and plastic packaging; and (d) methods to recover small packaging plus caps and lids (metal and plastic) from the glass for recycling, thereby producing a cleaner, more marketable glass stream. Proposals involving hybrid techniques that utilize a combination of separation approaches (i.e., physical, and chemical) are also of interest.

- **Enable cost-effective decontamination of recycled materials**: Topics of interest include (a) technologies to detect and characterize the presence of different contaminants relevant to metals, plastics, fibers, and e-waste, (b) technologies that adaptively adjust decontamination procedures based on the contaminants that are present, and (c) technologies for removing contaminants present in recovered waste streams.

Please note that the following topics will not be considered responsive to this AOI of this RFP: recycling of batteries, recovery of rare earth metals, and recycling of materials that already have an established market (e.g., newsprint, old corrugated cardboard, #1 and 2 plastics, metals, etc.). Projects where manufacturers validate that the materials that have been recovered, sorted, cleaned, separated, decontaminated, and reprocessed can replace primary materials without loss or properties or performance are encouraged.
Education & Workforce Development RFP Topics

EWD Director – John Kreckel
**Topic C1: Advanced Materials Separation Technologies**

**Short Course Description:**

These short courses provide a comprehensive overview of advanced materials separation technologies for the recovery of polymers and/or metals from complex waste streams. Core topics to be covered include: (1) the fundamentals of separation science, 2) current practices and technology for materials recovery from complex waste streams, 3) the state-of-the art of advanced materials separation technologies, and 4) development of separation systems to enable effective material separation.

The three short courses that are developed should build upon one another. Advanced courses can be taken independently by those already familiar with the basic concepts.

Proposals must address all the following learning objectives:

- **Learning Objective 1:** Understand the fundamentals of separation science including, but not limited to selection of separation technologies; definition of terms such as effectiveness, selectivity, and yield; the trade-off between speed, effectiveness, and selectivity; and the importance of preprocessing separations (i.e., bulk separation) for feedstock control.

- **Learning Objective 2:** Understand the state-of-the-art of current practice and technology for materials separation and recovery from mixed waste streams, including limitations (i.e., feedstock control, adaptability to feedstock variation, effectiveness, selectivity, speed) of conventional technology and the integration of alternative separation technologies (i.e., bulk separation, density separation and electrostatic separation) to enable highly selective separations from mixed waste streams.

- **Learning Objective 3:** Understand the state-of-the-art of advanced materials separation technologies including both separation and identification of materials, different ways they can be classified, and the relative advantages and disadvantages of each advanced separation technologies.

- **Learning Objective 4:** Understand the basics of developing a separation system including integration of alternative separation technologies to enable effective materials separation from complex waste streams.
Topic C2: Chemical Recycling of Plastics

Short Course Description:

These short courses provide a comprehensive and in-depth review of chemical recycling of plastics. Core topics to be covered include an overview of different classes of chemical recycling technologies, the products they produce, and the role chemical recycling technologies play in the broader recycling, chemical, and petrochemical industries.

The chemical recycling technologies course content will introduce various chemical recycling technologies, summarize the state-of-the-art for the technologies that have been developed and discuss ways they can be classified, including but not limited to 1) purification technologies, 2) depolymerization technologies, 3) low-temperature thermo-chemical conversion technologies, and 4) high-temperature thermo-chemical conversion technologies. As part of this discussion, the pros and cons of each technology and its applicability to different polymeric feedstocks and the products they produce will also be addressed.

The two short courses that are developed should build upon one another. Advanced courses can be taken independently by those already familiar with the basic concepts.

Proposals must address all the following learning objectives:

- **Learning Objective 1**: Understand the state-of-the-art of various types of chemical recycling technologies, the applicability of alternative processes to specific polymeric feedstocks, the product outputs for each type of chemical recycling process, and the pros and cons of each technology.
- **Learning Objective 2**: Understand the product output for each type of chemical recycling process, including primary product, co-products, by-products, and process rejects.
- **Learning Objective 3**: Understand post-processing requirements needed to recover and separate products from a product state and to purify, modify and/or upgrade products to meet product market requirements.
- **Learning Objective 4**: Understand the primary mechanisms for integrating (i.e., small-scale decentralized and/or large-scale centralized processing integration with existing petrochemical refining and processing) the chemical recycling technologies into the supply chain for the products and co-products generated by the process.
- **Learning Objective 5**: Understand the critical factors that affect the technical performance and costs of alternative chemical recycling process technologies.
Short Course Description:

These short courses provide comprehensive and in-depth training covering existing and emerging simulation techniques that can be employed to optimize material use, improve manufacturing efficiency (increase yields and reduce waste), and increase material recovery in recycling. Core topics to be covered include different modeling and simulation methods and tools, integrated computational material engineering (ICME), and emerging simulation techniques that integrate ICME with artificial intelligence (AI).

The three short courses that are developed should build upon one another. Advanced courses can be taken independently by those already familiar with the basic concepts.

Proposals must address all the following learning objectives:

- **Learning Objective 1:** Understand how simulation techniques can be used to optimize material use, improve manufacturing efficiency, and reduce waste.
- **Learning Objective 2:** Understand the basic principles of CALPHAD modeling, microstructure modeling, process simulation, and performance modeling.
- **Learning Objective 3:** Perform simple CALPHAD simulations of multi-component systems using free downloaded software provided by ThermoCalc and Pandat.
- **Learning Objective 4:** Understand the use of an ICME approach to solve manufacturing and material optimization problems.
- **Learning Objective 5:** Understand emerging simulation techniques that integrate ICME with AI and machine learning.
Topic C4: Condition Assessment for Remanufacturing

Short Course Description:
These short courses provide an in-depth understanding of how to assess the reuse potential of a mechanical or electrical product component. Core topics to be covered in these courses include failure mechanisms and failure analysis, testing and inspection methods, and evaluation techniques that can be used to assess components for reuse or repair.

Given the breadth of the subject matter that could be covered, proposal teams may submit proposals that focus on mechanical product components, electrical product components, or electromechanical product components. It is not required to cover all these categories, but more than one may be covered.

These two short courses (Practitioner and Expert level) should build upon one another. Advanced courses can be taken independently by those already familiar with the basic concepts.

Proposals must address all the following learning objectives:

• **Learning Objective 1:** Understand failure mechanisms for mechanical, electrical, or electromechanical devices, the associated properties of materials, and design and analysis methods used to maximize product reliability and durability. This should include a review of the physics of various failure mechanisms (such as fatigue, ductile and brittle failure, creep, stress corrosion cracking, or insulation breakdown in electrical components). This should also include an overview of crack propagation theory and the underlying material science and supporting theory on reliability and statistics, particularly as applied to understanding of different failure distributions and how they manifest in product failure rates.

• **Learning Objective 2:** Achieve a basic understanding of analytical methods used for root cause failure analysis of mechanical, electrical, and electromechanical components.

• **Learning Objective 3:** Understand considerations for development of effective testing and inspection strategies. An important part of the condition assessment process is understanding where inspection may be needed and what types of failures are anticipated. This topic will build on Learning Objectives 1 and 2 to outline strategies for determining where to inspect and what to look for. For electrical and electromechanical components testing, discussion should include methods of functional testing as well as approaches for diagnostics and failure finding.

• **Learning Objective 4:** Develop a broad understanding of non-destructive testing methods for mechanical or electrical components. A variety of non-destructive inspection methods will be understood in depth, including basic theory, physical equipment, inspection processes, and types of defects for which they are most suitable. Methods for mechanical components should include failure modes related to thermal or chemical/environmental degradation, and mechanical overload or fatigue. Methods for electrical components should include failure modes related to fatigue, and thermal or chemical/environmental degradation of, for example, printed circuit boards, wire harnesses, motor windings, solenoids.

• **Learning Objective 5:** Understand broadly how to evaluate a used component for repair or reuse as applied to a specific serialized part, or more broadly to a part design.

• **Learning Objective 6 (optional):** Understand how in-situ structural health monitoring (SHM) can be applied to a product, and the practical differences between SHM and non-destructive inspection.
Short Course Description:

These short courses will provide a broad perspective on reverse logistics and core management (including an overview of best practices), and present models and tools that can be used to analyze and improve outcomes.

Subjects that will be covered include the following topics: 1) product return mechanisms in remanufacturing and the influence that technical factors have on return rates and core value; 2) the conditions that affect core value, the steps that can be taken to preserve core value in the reverse logistics chain, and the economic factors that affect core return rates; and 3) management of core inventory levels and modeling/simulation approaches to estimate the core availability.

The three short courses that are developed should build upon one another. Advanced courses can be taken independently by those already familiar with the basic concepts.

Proposals must address all the following learning objectives:

- **Learning Objective 1:** Develop a broad understanding of different product return mechanisms and models that are used in remanufacturing.
- **Learning Objective 2:** Understand the technical factors, such as product attributes (how the part is designed and manufactured) and production characteristics (the length of a product model’s lifecycle) that affect product return rates and core value.
- **Learning Objective 3:** Understand mechanisms for verifying core quality and how to collect, handle, and package cores to preserve core quality.
- **Learning Objective 4:** Understand the economic factors, such as core charges and core pricing, on core return (or turn-in) rates.
- **Learning Objective 5:** Understand how remanufacturing product demand, order, and return patterns (and production schedules) affect needed core inventory/stocking levels over a product’s life cycle.
- **Learning Objective 6:** Understand models and tools that can be used to estimate predicted core availability.
Topic C6: Cleaning for Remanufacturing

Short Course Description:

These short courses will provide a deep understanding of different sources of contamination and types of contaminants seen in remanufacturing, the ways in which these influence selection of a cleaning method, the current and emerging technologies that are available for cleaning components being remanufactured, selection and monitoring of cleaning processes, and energy consumption during cleaning.

The remanufacturing contamination course content will discuss the various sources of contamination and types of contaminants seen in remanufacturing. It will also discuss how the presence of contaminants impacts downstream processes and influences the selection of a cleaning method. Other factors that influence cleaning, such as part geometry, will also be addressed.

These two short courses (Practitioner and Expert level) should build upon one another. Advanced courses can be taken independently by those already familiar with the basic concepts.

Proposals must address all the following learning objectives:

- **Learning Objective 1:** Understand the sources of contamination and types of contaminants typically seen in remanufacturing, the functions of cleaning and how cleaning impacts downstream processes (such as surface prep for inspection, surface prep for sealing, and cosmetic appearance), and the influence that contaminants and other factors such as part geometry have on selection of the cleaning method.

- **Learning Objective 2:** Understand aqueous cleaning chemistry and constraints, solvent cleaning configurations and methods, and mechanical cleaning processes. Coverage should include an understanding of the types of aqueous cleaners appropriate for different processes, a review of changing regulations associated with solvent cleaning and associated implications for industry, situations where mechanical cleaning should be applied, and the critical parameters for controlling or adjusting the process.

- **Learning Objective 3:** Know the current state-of-the-art technologies and the areas where technology is advancing. This should include topics such as advancements in laser ablation technology, improved cleaning capacity of aqueous solutions, improved systems for utilizing solvents efficiently, and methods for extending cleaning solution life.

- **Learning Objective 4:** Understand how to select the most appropriate cleaning process for different applications, measure and monitor cleanliness, and troubleshoot changes in the consistency of the process.

- **Learning Objective 5:** Understand energy consumption associated with diverse types of cleaning processes. Coverage of this topic should account for considerations such as batch size, cleaning solution life span, and process time when comparing cleaning technology.
Short Course Description:

These short courses provide in-depth understanding of how to structure the product design process to facilitate technically feasible and cost-effective reuse, remanufacturing, and/or recycling (Re-X) at the end of a product’s first life. Core topics to be covered include the differences among Re-X processes; how design decisions facilitate (or encumber) Re-X; construction of design decision matrices that link design decisions with their resulting outcomes (technical, economic, material, energy consumption); and an assessment of which processes or combination of Re-X processes facilitate the best end-of-life (EOL) strategy.

The two short courses (Practitioner and Expert level) should build upon one another. Advanced courses at the Practitioner and Expert level can be taken independently by those already familiar with the basic concepts.

Proposals must address all the following learning objectives:

- **Learning Objective 1:** Understand the similarities and differences among remanufacturing, recycling, and reuse processes.
- **Learning Objective 2:** Understand the full range of design decision strategies that facilitate (or encumber) remanufacturing, recycling, and reuse. These design decision strategies include product and component geometry, material choice, manufacturing process, and assembly technology.
- **Learning Objective 3:** Know the sources to consult to be able to make an initial estimate of the technical, economic, energy, and material use outcomes of design decision strategies.
- **Learning Objective 4:** Construct a design matrix that links design decision strategies and their resulting outcomes (technical, economic, energy, material).
- **Learning Objective 5:** Perform an assessment to determine which process or combination of processes (remanufacturing, recycling, or reuse) will produce the best EOL strategy.
Short Course Description:

These short courses provide the foundation for understanding the potential of systems analysis to address complex problems, and the tools available to conduct such an analysis. Core tools to be covered are Material Flow Analysis (MFA), Life Cycle Assessment (LCA), and Techno-Economic Analysis (TEA); others can be added as deemed appropriate.

The two short courses (Practitioner and Expert level) should build upon one another. Advanced courses at the Practitioner and Expert level can be taken independently by those already familiar with the basic concepts.

Proposals must address all the following learning objectives:

- **Learning Objective 1:** Introduction to the systems approach in industrial ecology, its benefits, and practical examples.
- **Learning Objective 2:** Introduction to Material Flow Analysis, the research questions it addresses, and examples.
- **Learning Objective 3:** Introduction to Criticality Assessments as a tool to understand supply chain vulnerabilities, the role of MFA in conducting such assessments, and examples.
- **Learning Objective 4:** Introduction to Life Cycle Assessment, the research questions it addresses, and examples. Overview of LCA database and software options.
- **Learning Objective 5:** Introduction to tools related to LCA, e.g., Consequential LCA, Life Cycle Cost Assessment (LCCA), Life Cycle Sustainability Assessment (LCSA), Footprint Analysis, Environmental Input-Output LCA, and examples.
- **Learning Objective 6:** Introduction to Techno-Economic Analysis (TEA), the research questions it addresses, and examples.
- **Learning Objective 7:** Introduction to NREL's MFI tool and an example application.
- **Learning Objective 8:** Introduction to comprehensive systems analysis that combines several or all the tools above, with examples.
Request for Proposals Process
Overview of the REMADE RFP Process

The Institute strongly encourages teaming between industry, academia, and national laboratories.

**REMADE will be hosting live teaming opportunities May 6th and May 11th**

All questions regarding this RFP must be submitted via email, with the subject line: “REMADE-21-01 Q&A”, to REMADE_RFP@remadeinstitute.org. Questions and Answers will be posted on the REMADE website.
Letters of Intent and Project Abstracts

Required Information

• Identify RFP topic(s)
• Identify Area of Interest (AOI) type: Transformational RD&D, Traditional R&D, or EWD
• Identify Anticipated Proposal Team Members
• Identify Lead Organization’s contact information

Purposes of this Step

• Ensure alignment of proposal ideas with the goals of the project call
• Provides the REMADE Institute an idea of how many proposals will be submitted
• Enables REMADE to identify proposal reviewers and apply the conflict of interest (COI) policy

Submission Requirements

• Submission of a LOI and Project Abstract is required to be eligible to submit a proposal.
• Submission must be on the lead applicant’s letterhead and follow the template provided
• LOI and Project Summary will be submitted electronically to: REMADE@remadeinstitute.org

Due Thursday, June 3, 2021 by 5:00 PM ET
LOI Compliance & Evaluation Criteria

LOI & Project Abstract Deemed Compliant:

• LOI and Project Abstract comply with content and form requirements on the Template
• Proposal team meets the eligibility requirements in the RFP
• Transformational RD&D: Submitted by Industry Lead *(Trade associations are not eligible to lead Transformational RD&D projects.)*
• Submitted electronically to REMADE@remadeinstitute.org by no later than 5:00 p.m. ET, Thursday, June 3, 2021.

LOI & Project Abstract Evaluation:

Transformational RD&D and Traditional R&D Abstracts are evaluated based on whether the proposed project concept is aligned to the RFP topic it proposes to address.

- **Alignment** – Does the Project Abstract align with the RFP topic(s)?
- **Goals** – Does the Project Abstract address at least one REMADE goal?
- **TPMs** – Does the Project Abstract address one or more of the TPMs?

At the LOI stage, EWD Abstracts are evaluated based on whether the proposed curriculum is aligned to the RFP topic it proposes to address.

- **Alignment** – Does the Project Abstract align with the RFP EWD topic(s)?
- **Learning Objectives** – Does the Project Abstract address all the learning objectives identified for each topic?
Use the following naming conventions in the subject line of the e-mail

- Transformational RD&D: “Transform-REMADE-21-01-<Lead Organization>-Proposal Title”
- Traditional R&D: “Tradition-REMADE-21-01-<Lead Organization>-Proposal Title”
- EWD: “EWD-REMADE-21-01-<Lead Organization>-Proposal Title”

- Proposals should be submitted electronically to: REMADE@remadeinstitute.org
- Each proposal team must submit proposal using the template provided in the RFP Package
- Lead Organization must submit the Budget Justification Excel Template
  - All parties involved with the project must fill out a Budget Justification
- Applicants will receive an email confirmation that their proposal was received.

Proposals are due no later than 5:00 PM ET, Thursday, July 15th, 2021

Late proposals will not be reviewed.
**Project Compliance Criteria**

**Transformational RD&D, Traditional R&D, and EWD Proposals Deemed Compliant:**

- Applicant has submitted a compliant LOI and Project Abstract
- The proposal team meets the eligibility requirements outlined in Section 3.1
- The proposal meets the cost-share requirements outlined in Section 3.2
- The proposal includes cost share commitment letters that collectively commit to providing the requisite cost share for the proposed project.
- The proposal complies with the content and form requirements in the RFP Template
- All required documents submitted electronically to: REMADE@remadeinstitute.org by no later than 5:00 p.m. ET, July 15, 2021.
• Both the Transformational RD&D and Traditional R&D Projects are evaluated on four common criteria and will be scored using a grading system ranging from Excellent (E) to Poor (P).
• Transformational RD&D Projects will be held to a higher impact threshold than Traditional and are subject to additional criteria as reflected in the weighting factors below.

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Transformational RD&amp;D Projects</th>
<th>Traditional R&amp;D Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Merit</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Technical Approach</td>
<td>30%</td>
<td>25%</td>
</tr>
<tr>
<td>REMADE Impact &amp; Commercialization Potential</td>
<td>30%</td>
<td>25%</td>
</tr>
<tr>
<td>Team and Management Capabilities</td>
<td>20%</td>
<td>25%</td>
</tr>
</tbody>
</table>
### Example of Evaluation Criteria for Technical Merit (Traditional)

<table>
<thead>
<tr>
<th>Score</th>
<th>Evaluation Criteria – Technical Merit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excellent (E)</strong></td>
<td>The project is well aligned to the RFP topic and addresses the REMADE material class(es) listed in the RFP. The project identifies the technical and economic barriers that must be overcome and translates these into the underlying knowledge gaps that must be addressed. Compared to existing or competing solutions, the proposed solution incorporates technology innovations that have the potential to significantly reduce the barriers limiting greater recovery, recycling, reuse, or remanufacturing. The project goals, objectives, and deliverables are clearly defined. The anticipated Future State (Project Goal) for each KPI, linked to REMADE Goals/TPMs, that the proposed solution will address has been quantified, and it exceeds the requirements identified by industry. The anticipated material efficiency, embodied energy, emissions, and cost benefits the project is expected to deliver have been quantified, and they will significantly contribute toward achieving the Institute TPMs.</td>
</tr>
<tr>
<td><strong>Good (G)</strong></td>
<td>The project is aligned to the RFP topic. The majority of project workscope lies within the scope of REMADE and addresses the REMADE material class(es) listed in the RFP. Project addresses at least one major technical and economic barrier/knowledge gap. Proposed solution shows some innovation when compared with existing/competing solutions. Project goals, objectives, deliverables are defined and have the potential to deliver derivative value to other projects with similar scope. The anticipated Future State (Project Goal) for each KPI, linked to REMADE Goals/TPMs, that the proposed solution will address has been quantified, but not every KPI may meet the requirements identified by industry. The project will deliver modest impact relative to the material efficiency, embodied energy, emissions, and cost benefits as defined by the TPMs.</td>
</tr>
<tr>
<td><strong>Poor (P)</strong></td>
<td>The project is poorly aligned with the RFP topic. The proposed workscope is inconsistent with the RFP requirements and/or does not address REMADE material class(es). The technical and economic barriers and the associated knowledge gaps listed in the proposal are not consistent with the RFP topic or project goals. The proposed solution is not novel, and/or it replicates existing solutions that are commercially available. The anticipated Future State (Project Goal) for each KPI the proposed solution addresses has not been quantified or is not linked to REMADE Goals/TPMs. The proposers have either failed to quantify the impact of the project relative to the REMADE TPMs, or the project will deliver little to no impact against the REMADE TPMs.</td>
</tr>
</tbody>
</table>
EWD proposals will be evaluated on **three** criteria:

- **Curriculum** – Extent to which the proposed course addresses the learning objectives in the topic and addresses the educational needs of the incumbent workforce, engineers, or skilled technicians.

- **Methodology** – Extent to which the project develops training pursuant to the competency levels requested in each topic: Awareness, Practitioner, and/or Expert.

- **Project Team** – Extent to which the proposal team possesses the appropriate subject matter expertise to develop the EWD curriculum.

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Education &amp; Workforce Development Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum</td>
<td>35%</td>
</tr>
<tr>
<td>Methodology</td>
<td>35%</td>
</tr>
<tr>
<td>Project Team</td>
<td>30%</td>
</tr>
</tbody>
</table>

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## Example of Evaluation Criteria for Curriculum for EWD

<table>
<thead>
<tr>
<th>Score</th>
<th>Evaluation Criteria – Curriculum</th>
</tr>
</thead>
</table>
| **Excellent (E)** | The proposed project:  
• Clearly identifies which topic the proposal addresses.  
• Responds to all learning objectives  
• Has a credible plan for delivering content within 6 months of award.  
• Provides complete curriculum outline for the content to be developed that is consistent with all learning objectives.  
• Addresses the educational needs of the target audience incumbent workforce engineers or skilled technicians |
| **Good (G)** | The proposed project is generally well aligned to RFP topic, but there are some gaps relative to one or more of the following:  
• Short course content  
• Delivery within 6 months of RFP award  
• Organization of curriculum outline  
• The impact of the content being proposed on the target audience incumbent workforce engineers or skilled technicians |
| **Poor (P)** |  
• The project is poorly aligned with the RFP topic.  
• The proposed work scope is inconsistent with the RFP requirements and/or does not identify which short courses the proposal addresses.  
• The curriculum outline is incomplete.  
• Does not respond to all learning objectives  
• Does not address educational needs of the incumbent workforce engineers or skilled technicians. |
Elements of REMADE Projects
• The SOPO provides a clear and concise statement of goals of the project including expected outcomes, tasks, schedules and milestones. It is the workplan of the project.

• Project SOPOs including milestones are included into the REMADE Institute SOPO and used to monitor Institute progress.

• For this proposal, we are asking for a Preliminary SOPO
  • Tasks, Milestones, Go/No-Go Decision Points
  • Project Management and Reporting
Milestones

- Utilize S.M.A.R.T. Milestones, with metrics of success, **minimum of one milestone/quarter**
- Should ideally **reflect attainment of tangible, measurable results** required to demonstrate technical progress or move the project toward completion of Go-No/Go decision criteria or accomplishment of project objectives.
- Submittal of a report can be part of the milestone documenting the results or progress, but the report in and of itself should **not be the milestone**.

Go/No-Go Decision Points

- At least one annual Go/No-Go decision point for any proposed work that will span more than one year

### Preparation of S.M.A.R.T. Milestones

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Further Clarification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S = Specific</strong></td>
<td>Clear and focused to avoid misinterpretation. Should include measures, assumptions, and definitions and be easily interpreted.</td>
</tr>
<tr>
<td><strong>M = Measurable</strong></td>
<td>Can be quantified and compared to other data. It should allow for meaningful statistical analysis. Avoid “yes/no” measures except in limited cases, such as start-up or systems-in-place situations</td>
</tr>
<tr>
<td><strong>A = Achievable</strong></td>
<td>Attainable, reasonable, and credible under conditions expected.</td>
</tr>
<tr>
<td><strong>R = Relevant</strong></td>
<td>Achievement of the milestone contributes to and is relevant to achieving the objectives of project; is important to moving the project forward/measuring progress against the Go/No-Go decision criteria and successful completion of the project</td>
</tr>
<tr>
<td><strong>T = Timely</strong></td>
<td>Doable within the timeframe given.</td>
</tr>
</tbody>
</table>
Risks and Risk Abatement Plans

Table for Preparing a Risk Abatement Plan

<table>
<thead>
<tr>
<th>Task</th>
<th>Risk</th>
<th>Risk Type (C/S/T)</th>
<th>Prob (P)</th>
<th>Imp (I)</th>
<th>Risk Score</th>
<th>Risk Abatement Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H</td>
<td>L</td>
<td>L</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Guidelines for Estimating Probability/Impact

Probability Score
- H – Already know it is an issue
- M – May be an issue. Plan for how to address it
- L – Not likely to occur

Impact Score
- H – Significant C/S/T risk to project success
- M – Could impact project success
- L – Not likely to impact project success

Examples for Estimating Impact Risk for a Project

<table>
<thead>
<tr>
<th>Risk Type</th>
<th>Impact</th>
<th>Impact Examples (for a 2 year project with $1M budget)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>H</td>
<td>Financial Impact to Project (Labor or Mtls) &gt; $75K</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>$25K &lt; Financial Impact to Project (Labor or Mtls) &lt; $75K</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>Financial Impact to Project (Labor or Mtls) &lt; $25K</td>
</tr>
<tr>
<td>Schedule</td>
<td>H</td>
<td>Project Delay &gt; 3 months</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>1 month &lt; Project Delay &lt; 3 months</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>Project Delay &lt; 1 months</td>
</tr>
<tr>
<td>Technical</td>
<td>H</td>
<td>Prevents current approach from reaching required level of performance. Alternate solution required.</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>May impact ability to reach required performance or requires a modification to the approach to succeed.</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>Current approach has been proven for this (or similar) applications.</td>
</tr>
</tbody>
</table>

Risk Abatement Plan Best Practices

- Every project has risks, including yours
- Not identifying a risk does not mean it doesn’t exist
- Credible projects properly identify risks
- Successful projects develop plans to manage risks
- Risk management is a dynamic process throughout the life of the project – review the plan regularly
- Need to have a plan to address the risk built into the schedule for any risk score of 6 or above
Proposal Budget

Budget Preparation

• Lead Organizations must complete the Budget Justification Workbook provided in the RFP package for the project as a whole (including Project Team Members and Contractors)
• All proposers, and their subrecipients are required to complete the Budget Justification Workbook
• The Budget should break down cost into categories outlined in each tab
• Max base hourly rate should be no more than $120/hour
• All costs must be directly related to the project

Cost Share

• Minimum 1:1 cost share required (i.e. $1 REMADE funding must be matched by at least $1 of cost share)
• The team as a whole is required to meet the 1:1 cost share requirement (not every team member)
• Industry cost share viewed more favorably in the evaluation criteria
• Cost share may be in-kind or cash, but must be incurred within the project Period of Performance
• Participating organizations providing cost share must be Members of REMADE by the date of the subaward agreement

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Team Members

• Have a specific role or function on team
• Responsible for specific tasks/milestones
• Must be a member of REMADE by the date the subaward becomes effective
  • Example: Produce 500lbs of material for pilot test

Suppliers

• Provide a service or material
• Do not have a role on the team
• Do not have to be a member of REMADE
  • Example: Provide 500lbs of material for $2K
# Proposal Review and Award Process

## Proposal Evaluation Procedures (Merit Review Panels)

1. Reviewers Score Each Proposal Individually
2. Merit Review Panels (MRPs) Develop Funding Recommendations
3. MRPs Meet with CTO to Review Evaluations & Recommendations

## Proposal Selection Recommendations

4. CTO & TLC Review Final List of Project MRPs Recommended
5. TLC Prioritizes Recommendations Based on $$, Impact, Furthers REMADEGs&Os
6. TLC Submits its Recommendations to the Governance Board (GB)

## Project Enters The Negotiation Phase

7. CTO & CEO Present TLC Recommendations to GB for Approval
8. GB Approves or Disapproves Each Project, Subject to Positive DOE Recommendation
9. If GB doesn’t Approve a Project Recommended by the TLC, GB Gives Written Response

10. Project Formally Incorporated into the Cooperative Agreement

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Membership
REMADe Membership

- Organizations participating in Project Call proposals **MUST** be a member of REMADe by the date the subaward is effective
- Visit the [REMADE member page](https://remadeinstitute.org/membership) for more details on different membership options and corresponding benefits/costs and submit an inquiry form right on the page or reach out to Kevin Kelley, Director of Sustainability & Business Development [kkelley@remadeinstitute.org](mailto:kkelley@remadeinstitute.org) or 585.213.1033

**Industry Membership**
Benefits include Direct Participation on REMADE Committees, Exclusive Member Access for events and learning, Multiple Tiers with a range of benefits available for Large & Small-Medium Companies

**Academic Membership**
Benefits include Direct Participation on REMADE Committees, Exclusive Member Access for events and learning, Multiple Tiers with a range of benefits

**National Lab Membership**
Benefits include Direct Participation on REMADE Committees, and exclusive access to member perks including member only events and access to the training resources

**Affiliate Membership**
Benefits include networking, exposure to customers, and exclusive access to member perks including member only events and access to the training resources

Interested in participating in the REMADe Institute RFP but need help connecting to others to work with? We can help bring together industry innovators, academic researchers and national labs.
Relationship between DOE, REMADE, and Sub-award Recipients

Why are institute awards cooperative agreements?
• Due to their size, significant amount of funding, and public visibility.

Which parties are involved in my subaward agreement?
• All project subaward agreements are between REMADE and the Project Lead Organization.
• Project subaward agreements are not with DOE/AMO.
• Project Lead Organization is responsible for contracting with all team members.

What terms & conditions apply to project subaward agreements?
• All terms and conditions of the DOE award to REMADE flow down and are incorporated into each individual project subaward agreement.
• These terms and conditions include e.g. Statement of Project Objectives, milestones and Go-No/Go decision points, project budget and cost share provisions, NEPA clearance, project review meetings, deliverables and written reports, and Operative Documents.
• Funded projects will be incorporated into DOE approved modifications to the REMADE award.

What else can you tell me about the award negotiation process and expectations/requirements?
• A conference call will be set up after selection of projects to go over in more detail the award negotiation process and expectation/requirements.
Key Terms and Conditions

Membership Agreement Operative Documents:

- Non-Disclosure Agreement
- Export Control Plan
- Data Management Plan
- Performance of Work Outside the US
- Foreign Participation Plan
- Conflict of Interest Policy
- Intellectual Property Management Plan
- US Manufacturing Plan
  - Including US Competitiveness Provision

Award terms and conditions also include:

- Special Terms:
  - Incorporated Regulations
  - Term 51 - DOE Order 142.3
- Government IP provisions
  - Bayh-Dole Act
  - Class Patent Waiver

To learn more click the following links:

Intellectual Property Management Plan
https://remadeinstitute.org/ipmp

US Manufacturing Plan
https://remadeinstitute.org/usmp

Have additional questions?
Contact REMADE Legal Counsel
Sarah Beisheim
sbeisheim@remadeinstitute.org
585-213-1041

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Teaming Opportunities

REMADE is offering two Live Teaming Opportunities

May 6\textsuperscript{th}, 2021 from 2:00 – 4:00 PM ET | May 11\textsuperscript{th}, 2021 from 2:00 – 4:00 PM ET

The Teaming Events will enable individuals and organizations to share their expertise and areas of interest with other attendees. REMADE will provide a template for the presentation and each team will have 2 minutes to present. Register today to present!

https://remadeinstitute.org/teaming

- These sessions are open all interested parties and will feature on all focus areas.
- All individuals and organizations are encouraged to register to present at one of the sessions to showcase your team and connect with likeminded individuals and organizations.
- If you wish to just listen in and not present, please feel free to register as an attendee.

Participants who sign up to attend the Live Teaming Sessions or Replays of the sessions will also have access to continue the conversation in the REMADE Slack Community
Key Dates

- Request for Proposals Released: April 26, 2021
- Letter of Intent & Project Abstract Due*: June 3, 2021 (5:00PM ET)
- Proposals Due*: July 15, 2021 (5:00PM ET)
- Proposal Teams Notified of Decision: October 2021

*All Project Members must be members of The REMADE Institute by the date the subaward becomes effective

If you have additional questions after the completion of this session, submit via email with the subject line: “REMADE-21-01 Q&A” to REMADE_RFP@remadeinstitute.org

Sign up for the upcoming Live Teaming Sessions: May 6th and May 11th. https://remadeinstitute.org/teaming

Anticipated
Merit Reviewers are Essential

Have you considered volunteering to be a Merit Reviewer to lend your knowledge, experience and helpful advice to proposal teams?

The REMADE Institute is seeking expert Merit Review Panelists to help evaluate proposals for this project call. If you are interested, please visit https://remadeinstitute.org/merit-reviewers and fill out the inquiry form today!

Interested parties will be contacted individually to discuss the requirements and time commitment associated with serving as a reviewer.

REMADE welcomes qualified reviewers from all sectors and both members and non-members of the Institute are encouraged to volunteer.
Thank you for attending