

Notice of Intent No. DE-FOA-0003328

Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0003329

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Advanced Materials and Manufacturing Technologies Office (AMMTO), a Funding Opportunity Announcement (FOA) entitled “Smart Manufacturing Technologies for Material and Process Innovation.”

This FOA will support the research, development and demonstration (RD&D) of smart manufacturing technologies that can contribute to a resilient, responsive, leading-edge and efficient manufacturing sector that delivers the technologies needed for the nation’s clean energy transition. Smart manufacturing can help the manufacturing community reduce manufacturing costs and accelerate time-to-market by illuminating the connection between in-process manufacturing data and ultimate performance characteristics of final products.

It is anticipated that this FOA may include the following Areas of Interest:

Area of Interest 1: Smart Manufacturing for a Circular Economy

Smart manufacturing technologies have the potential to increase the effectiveness of Re-X (recycling, repairing, remanufacturing, etc.) supply chains, creating a more circular economy. Of interest for this topic are projects that will use smart manufacturing solutions to address three main circular economy opportunities. First, smart identification, sorting, and grading of materials can help to streamline the identification of feedstock streams that are of consistent and acceptable quality for recycling. Second, smart manufacturing techniques can be used to inform various aspects of repair and remanufacturing, ranging from initial design to component monitoring to disassembly guidance. Finally, smart techniques can be used to improve availability and transparency of data across supply chains to enhance market visibility of secondary materials and support accurate life cycle assessments (LCAs).

Area of Interest 2: Smart Manufacturing for Tooling and Equipment

This topic is designed to develop and demonstrate broadly applicable smart manufacturing technologies focusing digitalization and digital twins for tooling and equipment that can advance manufacturing processes and strengthen supply chains for production of sustainable transportation and clean energy technologies. Successful projects would make tooling and equipment faster and more economical to produce, and/or enable new functionalities. For this area of interest, teams should include members across the supply chain, as well as technology adopters.

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Area of Interest 3: Smart Manufacturing for High Performance Materials

Smart manufacturing approaches can help to accelerate materials advances and corresponding process innovation, ensuring stable, domestic high-performance material supply chains. Of particular interest are manufacturing processes and fabrication techniques for platform materials for the clean energy transition, such as high-conductivity materials and materials for harsh service conditions. Approaches could include machine learning, physics-informed models, analytical models, or combinations thereof. Methods for tuning manufacturing process parameters to achieve optimal component designs tailored according to application requirements will be encouraged.

Area of Interest 4: Smart Technologies for Sustainable and Competitive US Mining

The aim of this topic is to increase the sustainability and competitiveness of domestic mining operations for critical minerals and materials through smart technologies, including automation and advanced sensors, controls, and diagnostics. The smart technologies would be used for early detection of environmental hazards--such as emissions, water quality, and air quality--as well as to ensure safety, reliability, efficiency, sustainability, and profitability of mining operations. The data collected and analyzed by implementing smart manufacturing technologies also has the potential to create more open data sharing to identify by-products of mining operations that could be used for another productive purpose, rather discarding them as waste.

EERE envisions awarding multiple financial assistance awards in the form of cooperative agreements. The estimated period of performance for each award will be approximately 1-3 years.

This Notice is issued so that interested parties are aware of the EERE's intention to issue this FOA in the near term. All of the information contained in this Notice is subject to change. EERE will not respond to questions concerning this Notice. Once the FOA has been released, EERE will provide an avenue for potential Applicants to submit questions.

EERE plans to issue the FOA on or about June via the EERE eXCHANGE website <https://eere-eXCHANGE.energy.gov/>. If Applicants wish to receive official notifications and information from EERE regarding this FOA, they should register in EERE eXCHANGE. When the FOA is released, applications will be accepted only through EERE eXCHANGE.

In anticipation of the FOA being released, Applicants are advised to complete the following steps, which are **required** for application submission:

- Register and create an account in EERE eXCHANGE at <https://eere-eXCHANGE.energy.gov/>. This account will allow the user to apply to any open EERE FOAs that are currently in EERE

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eXCHANGE.

To access EERE eXCHANGE, potential applicants will be required to have a [Login.gov](https://login.gov) account. As part of the eXCHANGE registration process, new users are directed to create an account in [Login.gov](https://login.gov). Please note that the email address associated with Login.gov must match the email address associated with the eXCHANGE account. For more information, refer to the Exchange Multi-Factor Authentication (MFA) Quick Guide in the [Manuals section](#) of eXCHANGE.

It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission. Questions related to the registration process and use of the EERE Exchange website should be submitted to: EERE-eXCHANGESupport@hq.doe.gov

- Register with the System for Award Management (SAM) at <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually. Upon registration, SAM will automatically assign a Unique Entity ID (UEI).

NOTE: Due to the high demand of UEI requests and SAM registrations, entity legal business name and address validations are taking longer than expected to process. Entities should start the UEI and SAM registration process as soon as possible. If entities have technical difficulties with the UEI validation or SAM registration process they should utilize the HELP feature on SAM.gov. SAM.gov will work entity service tickets in the order in which they are received and asks that entities not create multiple service tickets for the same request or technical issue. Additional entity validation resources can be found here: [GSAFSD Tier 0 Knowledge Base - Validating your Entity](#).

- Register in FedConnect at <https://www.fedconnect.net/>. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf
- Register in Grants.gov to receive automatic updates when Amendments to a FOA are posted. However, please note that applications will not be accepted through Grants.gov. <http://www.grants.gov/>. All applications must be submitted through EERE eXCHANGE.

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