

Join DOE's Project to Advance Interoperability

Under its Grid Modernization Initiative, the U.S. Department of Energy, in collaboration with energy industry stakeholders has developed a multi-year plan to modernize the electric grid. One of the foundational topics that could accelerate modernization efforts is interoperability. To address this topic, four national laboratories (Pacific Northwest National Laboratory, National Renewable Energy Laboratory, Lawrence Berkeley National Laboratory, and Argonne National Laboratory) have begun a three-year project to advance the adoption of interoperable products and services in the energy sector. Key preliminary objectives are to align stakeholders on a strategic vision and to develop measures and tools to support interoperability.

Vision

Energy infrastructure should be flexible enough to accommodate change in response to new, expected, or unexpected internal or external system drivers. This flexibility must be cost effective and include interoperability between a wide variety of devices and systems, both in and outside of the energy sector. The mission of this project is to establish a vision of interoperability for grid modernization with implementation illustrations.

Advancing interoperability requires stakeholder alignment; it is a shared challenge.

Project Scope & Timeline

The project is planned to span a period of three years with the following emphasis in each year:

- **Year 1:** Development of a strategic vision for interoperability, endorsed by stakeholders, and tools to measure interoperability maturity
- **Year 2:** Prioritization of interoperability gaps and a stakeholder-endorsed roadmap
- **Year 3:** Identification of ways to advance interoperability in product offerings and make interoperability an aspect of all technology deployments

The project will hold web meetings six times per year with partner organizations and plans to hold two additional face to face stakeholder technical meetings per year with broader audiences (see Call to Action, below).

Join our Team Effort

This effort will collaborate closely with industry to articulate general interoperability requirements along with methodologies and tools for simplifying the integration and cyber-secure interaction among the various devices and systems that constitute the electric power grid. This includes related end-use systems such as buildings, electric vehicles, and distributed energy resources.

Advancing interoperability requires stakeholder alignment; *it is a shared challenge*. The more we all participate, the more we all benefit. To achieve alignment, the broader industry needs to be a part of the process. Your experience can provide critical review of ideas and plans, and can help shape the work to reflect the concerns of your organization as well as expand your network of groups with synergistic

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interests. The collaborative team of national laboratories, government agencies, and participating partner organizations include

- U.S. Army Corps of Engineers,
- General Services Administration,
- National Institute of Standards and Technology,
- Consumer Technology Association,
- LONMARK International,
- Electric Power Research Institute,
- Institute of Electrical and Electronics Engineers,
- GridWise Architecture Council,
- Software Engineering Institute, CMU
- Smart Grid Interoperability Panel,
- Society of Automotive Engineers,
- National Electrical Manufacturers Association,
- Internet Engineering Task Force,
- EnergyStar,
- Industrial Internet Consortium,
- Grid 3.0 (an informal alliance of energy and utility thought leaders).
- American Society of Heating, Refrigerating, and Air-Conditioning Engineers

Call to Action

With this in mind we are looking for participation from all areas of the “grid” from generation, transmission, distribution, markets, regulated and unregulated entities, buildings, facilities, campuses, appliance manufacturers and more. If your organization works with any of our industry partners we welcome your participation. If you are not currently involved with one of these organizations but interact with the grid and have a vested interest in making your own life easier by improving interoperability either within your own domain or across the grid we would like to hear from you and so would our partners.

We are looking for people from organizations with specific challenges and goals that can be conceptualized and applied universally so that everyone ultimately benefits. Involvement would include collaboration with the team and participating in the face to face stakeholder technical meetings

Improving interoperability will help push more intelligence to grid-edge devices, where ecosystems will share a common understanding of the information being transferred through the interfaces, create a practical approach to integrating new systems out of existing systems, and offer and support robust testing tools to ensure systems conform to standards that support interoperability at technical, informational, and organizational levels.

We encourage you to contact us to learn how you can participate in this effort.

*For more information or to inquire about participation please contact
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