Supplemental Project Notice

AI.EPRI SUPPLEMENTAL

AI for the Modern Energy Company

Develop, deploy, and scale AI technologies

PROJECT HIGHLIGHTS

This project builds on recent advances in AI technologies, combined with EPRI's AI and sector subject matter expertise to help energy companies deploy and scale AI technologies effectively.

- Develop strategic 'core' capabilities for AI, such as data governance, IT/OT architecture, cyber security measures, and specific use cases and deployments
- Leverage EPRI's AI and energy community to benefit from lessons learned in real time
- Collect and curate data sets, use cases, and bechmarks to support development and deployment of AI solutions

Background, Objectives, and New Learnings

Artificial intelligence (AI) technologies are rapidly evolving around the world, yet implementation in the energy sector has been limited. Overcoming security, reliability, trust, and compliance considerations surrounding adoption is key to unlocking the paradigm-shifting power of AI for energy companies.

Generative AI has jumped to the forefront of technology due to its unique capabilities. Companies can benefit from the use of natural language interaction and the ability to generate text, images, audio, and video, but with these benefits come risks associated with training data, data/model accuracy, and scalability across business applications. The capability of generative AI to use a combination of data types (multimodal) can be a game changer for advanced analysis techniques across all business units. However, rapid advances in generative AI applications make it difficult for energy companies to properly evaluate and deploy AI for specific use cases.

This project seeks to:

- Identify and break down the technical and non-technical barriers of AI adoption in energy companies.
- Identify and build the enablers for successful AI adoption as part of a company's digital transformation strategy.
- Build the core strategic and tactical capabilities for AI implementation.
- Better understand the impact of the evolving regulatory environment by placing safety, transparency and security at the forefront of AI development and developing guidelines and best practices.
- Curate and prioritize energy-specific use cases; data sets and data standards; development, testing, and deployment practices; validation and verification standards, baselines and benchmarks; and experience sharing.
- Engage with other global experts in the AI field and link the development of AI to EPRI research programs for advanced, leading-edge solutions.
- Build a community of practice between participating companies' SMEs, AI researchers, and vendors around safe and responsible deployment.
- Work with energy companies to develop generative AI applications to demonstrate its abilities for various business units.

Benefits

This project could accelerate adoption and scaling of AI for specific applications, delivering such benefits as:

- Enhancing worker productivity
- Improving reliability of energy assets via monitoring and diagnostics to identify early-stage degradation
- Optimizing generation and T&D asset management
- Improving anomaly detection
- Helping companies understand how and when to deploy AI models safely, ethically, and responsibly

This project could provide additional benefits by helping companies assess how and when to use AI, understand risks, and determine when to consider other options.

Potential public benefits of this project include elevated worker productivity, enhanced grid and power plant reliability and safety, and improved affordability through reduced operational costs and downtime.

Project Approach and Summary

The project will be organized into the following areas.

1. **AI.EPRI Core**

   AI.EPRI Core will develop the strategic enablers for AI adoption and scaling at energy companies to streamline and accelerate overall adoption by evaluating and reducing the barriers to adoption.

   The core will engage with industry to establish frameworks for adoption and safe scaling of AI, as well as regulatory, technical, cyber, safety, trust, transparency, human interaction, and other deployment considerations.

2. **AI.X Technical Focus Areas**

   The technical focus areas will build on the AI.EPRI Core, with emphasis on: use case identification and prioritization, data curation, baselines and benchmarks, technology toolkits, communities of practice, demonstrations, knowledge sharing, etc. The initial technical focus areas will be **AI.Grid, AI.Generation, AI.Climate**, with the potential for more to be added as the project scales.

   Note: This project is not intended to develop new foundational AI models.

Deliverables

The deliverables for this project are expected to include:

- Reports, white papers, frameworks, etc., including AI development and implementation guidance
- AI Interest Group meetings with regular webcasts
- An AI use-case database and datasets per sector
- Host the AI in Electric Power Summit

Price of Project

The annual participation price is based on annual total generation, peak transmission, or distribution metrics. A three-year commitment is required.

Tier	Metrics	Funding
Large	Generation > 10,000 MW Transmission > 10,000 MW or Distribution > 44,000 GWh	$150,000
Medium	4,000 MW < Generation < 10,000 MW 5,000 MW< Transmission <10,000 MW or 15,000 GWh < Distribution < 44,000 GWh	$100,000
Small	Generation < 4,000 MW Transmission <5,000 MW or Distribution <15,000 GWh	$50,000
Alternate	No Assets	$25,000

This project is eligible for self-directed funds (SDF). If a funder's generation, transmission, and distribution metrics span multiple tiers, their price is the higher of the three tiers.

Project Status and Schedule

This project aims to launch in 2025 and is expected to continue for at least three years.

Who Should Join

Energy companies interested in deploying AI technologies to improve overall performance, safety, and efficiency

Contact Information

For more information, contact your Strategic Account Executive or the EPRI Customer Assistance Center at 800.313.3774 (askepri@epri.com).

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