

Call for Contributions

1. Inform the Chair: with the title of your contribution

2. Submission URL:

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=ENERGY+2024+Special>

Please select Track Preference as **EAD**

3. Note: *For 2024, all events will be held in a hybrid mode: on site or virtual choices (live, prerecorded videos, voiced presentation slides, and .pdf slides). We hope for better times allowing us to return to the traditional on site scientific events. However, we are ready to adapt any which way the conditions dictate.*

Special track

EAD: Electric Asset Data

Chair

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ENERGY 2024: The Fourteenth International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies

<https://www.iaaria.org/conferences2024/ENERGY24.html>

March 10 - 14, 2024 - Athens, Greece

Electric utilities face a data-quality challenge. Poor data quality can lead to serious consequences for utility companies, including inaccurate outage-reliability metrics and high operations costs. Asset-data repositories can provide valuable insights into asset conditions, failures, locations, spatial coordinates, and attributes.

However, a majority of utility organizations are unaware of their asset-data quality status. Advanced analytics can help transmission and distribution (T&D) organizations manage their assets more effectively. Using real-time performance data and predictive algorithms, T&D firms can prevent asset failures, focus on critical assets, avoid excess maintenance work or premature asset replacements, and institutionalize in-house experts' valuable knowledge. Analytics also allow leaders to recognize and control operational risks and asset-management practices, and to use their insights to have more constructive conversations with regulators. An analytics-powered approach to managing assets can bring down costs, improve customer satisfaction, and increase the reliability of T&D networks.

Utility organizations need high-quality data to understand network and asset behavior and operating conditions, as well as their impact on customer service. Migrating to GIS provides the opportunities and essential technical capabilities that grid-management activities require. However, incomplete asset data prevents GIS from effectively serving the modern grid. Good-quality data is critical for better decision making and compliance, especially as regulations continue to evolve. The old adage of "garbage in, garbage out" is true, as is its inverse. Incomplete or inaccurate data can lead to poor decision making and compliance issues.

Advanced analytics can help manage T&D assets by providing measures of asset health, measures of asset criticality, and an integrated analytical model for devising an asset-management plan. T&D executives should plan around the major considerations as they begin to use analytics in asset management.

Despite the efforts of various organizations—including the International Council on Large Electrical Systems and the International Organization for Standardization—no standards for asset management exist in the T&D industry. As a result, T&D companies must develop their own asset-management plans. Typically, these companies rely on the expertise of their engineers and maintenance workers to determine when and how assets should be serviced, based largely on their past experiences.

However, advances in technology have now made it possible for T&D companies to manage their assets more efficiently. The availability of affordable and reliable sensors, communications devices, and other hardware enables objects to be remotely tracked and controlled. Additionally, analytical tools that can process, interpret, and respond to data collected from equipment have seen significant improvements. These developments have paved the way for T&D organizations to move away from the traditional model of relying solely on specialists to set maintenance schedules based on experience. Instead, they can adopt a more flexible, streamlined, and analytically rigorous approach using real-time performance data and predictive models to guide their asset-management decisions.

Shifting to an analytics-based asset-management model can improve productivity in different ways. Companies should prioritize according to local regulations, the quality of their assets, and other factors. Utilities seeking to lower costs might use analytics to identify routine procedures they can eliminate, particularly for less-valuable assets, and to keep their assets in service longer. Other utilities might consider it more important to increase the reliability of their services. For these companies, analytics can facilitate planning additional maintenance work for the most reliability-critical assets.

Implementing an analytics-powered approach to asset management is no easy task. A survey of T&D firms found that few already have the maintenance strategy, data architecture, information systems, organization, processes, and the capabilities they would need to carry out such a transformative effort. Most will need to devote substantial time and resources to the effort (several years, in some cases), make investments in both personnel and equipment, and retrain existing management and workers.

Suitable research topics for this special track include, but are not limited to, the following areas:

- Advanced analytics in utility asset management
- Location analytics for smart grid reliability and resiliency
- Utility data management and pipeline to enable analytics
- Internet of Things (IoT) and sensors for electric asset data analytics
- Big data and new technologies for a Digital Utility Asset Management Model

Contribution Types

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on www.iaaria.org]
- Presentations: slide only [slide-deck posted on www.iaaria.org]
- Demos: two pages [posted on www.iaaria.org]

Important Datelines

Inform the Chair or Coordinator: As soon as you decide to contribute

- Submission: Jan 30, 2024
- Notification: Feb 10, 2024
- Registration: Feb 20, 2024
- Camera ready: Feb 20, 2024

Note: The submission deadline is somewhat flexible, providing arrangements are made ahead of time with the chairs.

Paper Format

- See: <http://www.iaaria.org/format.html>
- Before submission, please check and comply with the editorial rules: <http://www.iaaria.org/editorialrules.html>

Publications

- Extended versions of selected papers will be published in IARIA Journals: <http://www.iariajournals.org>
- Print proceedings will be available via Curran Associates, Inc.: <http://www.proceedings.com/9769.html>
- Articles will be archived in the Open Access ThinkMind Digital Library: <http://www.thinkmind.org>

Paper Submission

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=ENERGY+2024+Special>

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Registration

- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at <http://www.iaria.org/registration.html>

Contact

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