CEATI Industry Trends Report

Emerging Trends in Power Utility Asset Management

Executive Summary

The landscape of asset management within electric utilities is rapidly advancing. In response, asset management teams continue to evolve to adopt and adhere to changing standards, shift team structures to support utility priorities, and optimize data collection and usage to drive better informed asset decisions.

Through CEATI's extensive, global network of power utility members, several key asset management trends have emerged across 2024 and 2025. This paper synthesizes insights from recent CEATI research and benchmarking activities, with the intent to assist utilities in identifying strategic opportunities and enhancing asset management practices to meet current and emerging industry demands.

Strategic Integration & Alignment

Align asset management objectives with corporate goals and engage stakeholders.

Lifecycle Management & Decision-Making

Enhance asset health models and utilize data and technology to optimize decision-making.

Asset Information & Digital Transformation

Implement data governance, standardization, and integration of systems.

Organization, People & Change Management

Establish governance, foster communication, and enable development.

Risk & Resilience Planning

Quantify risks and develop resilience frameworks to mitigate against critical risks.

Strategic Integration and Alignment

A clear trend among leading utilities is the strategic alignment of asset management objectives with overarching corporate goals, including financial stewardship, sustainability, and customer service excellence. Utilities increasingly adopt structured frameworks like ISO 55000 and IAM's 10-box model to maintain consistency and clarity in their asset management systems. CEATI's benchmarking across utility members reveals best practices such as regular strategic asset management plan (SAMP) reviews, multi-stakeholder engagement (finance, audit, operations), and clear communication strategies to foster alignment across the organization.

Identified Best Practices in Strategy and Planning

- **Strategic Integration:** Align asset management plans with corporate strategies and sustainability initiatives.
- **Cross-functional Engagement:** Involve various organizational teams (finance, risk, audit) in asset management planning and implementation.
- **Standards Adoption:** Use frameworks like ISO 55000 to structure and guide asset management systems.
- **Risk and Long-term Planning:** Implement risk assessments and develop long-term plans for asset management.
- **Continuous Learning:** Foster a culture of continuous improvement and learning within asset management, utilizing such sources as industry peers.
- **Stakeholder Communication:** Enhance awareness and communication of asset management objectives across the organization.

According to recent CEATI research and reporting, asset management serves as a crucial bridge linking operational activities to strategic outcomes, creating demonstrable value for senior leadership and external stakeholders by optimizing asset-related investments.

Lifecycle Management and Decision-Making

Utilities are shifting towards structured, risk-informed lifecycle management, heavily leveraging data-driven models to enhance asset health and optimize lifecycle costs. Condition-based maintenance (CBM) strategies are now widely adopted, driven by sophisticated health monitoring technologies and predictive analytics. Moreover, sustainability concerns and circular economy principles are increasingly shaping lifecycle management strategies, prompting greater attention towards asset reuse, refurbishment, and waste minimization.

Identified Best Practices in Lifecycle Management

- **Development of comprehensive asset health models:** Develop asset health models aimed at improving asset lifecycle delivery.
- **Improved Data and Technology for Decision-Making:** Focus on data collection for good decision-making, and acquire the data technology to streamline the processes for decision-making.
- **Balancing New Builds vs. Refurbishment:** Use factors and tools, such as asset obsolescence, capacity needs, environmental requirements, operational needs, condition assessment, and cost-benefit analyses to make decisions about whether to refurbish or build new.

CEATI member discussions emphasize robust asset health models and comprehensive risk frameworks as best practices. Utilities are effectively balancing investments between new assets and refurbishment through systematic cost-benefit analysis and consideration of operational, environmental, and capacity needs. Digital tools are crucial in these processes, facilitating precise, real-time data collection that significantly enhances lifecycle decision-making.

Asset Information and Digital Transformation

Data governance, quality, and integration are identified as foundational to successful asset management. Utilities recognize the necessity of establishing robust data governance frameworks, assigning dedicated data stewards, and implementing standardized data collection methodologies.

The use of enterprise data platforms that integrate Geographic Information Systems (GIS), Supervisory Control and Data Acquisition (SCADA), and Asset Performance Management (APM) systems into a unified source of truth is becoming widespread. Furthermore, mobile and automated field data collection applications are streamlining operations, although interoperability and real-time governance remain significant challenges.

Identified Best Practices in Asset Information Management

- **Governance and Structure:** Assign data stewards and data owners to oversee quality and consistency. Implement change request forums to track modifications to asset data and data collection processes.
- **Data-Driven Decision-Making:** Use asset health models to drive investment planning. Develop replacement urgency indices to help prioritize projects.
- **Standardization and Integration:** Establish asset data catalogs to maintain consistent definitions and attributes. Map operational SCADA data to asset management systems for broader asset insights.
- **Visualization and Dashboards:** Develop standardized dashboards to summarize and communicate asset health, risk scores, work orders, and capital trends. By integrating CMMS and planning systems, dashboards enable more transparent reporting and data-driven discussions with internal stakeholders and regulators.
- **Continuous Improvement:** Conduct regular data audits to improve quality over time. Enhance data dashboard tools to support decision-makers across the organization.

Utility perspectives shared during CEATI member sessions have underscored ongoing training in data governance, AI integration, and visualization tools as critical elements for enhancing decision-making capabilities.

Organization, People, and Change Management

Organizational excellence in asset management requires structured governance, continuous training, and robust change management processes. The rate of change is accelerating due to evolving technology and skill needs, while being met with significant workforce challenges including retirements, reorganizations, and increasing resource constraints.

Across the power utility industry, there is an evident shift toward developing detailed competency frameworks and certification programs for asset management professionals. CEATI's research highlights a growing need for soft skills training in areas like change management, negotiation, communication, and cross-functional collaboration to effectively manage and implement an organization's asset strategies.

Identified Best Practices in Organization and People

- **Governance and Structure:** Establish multi-tiered governance to clarify roles and responsibilities. Create centralized asset management functions for holistic planning.
- **Effective Communication:** Conduct regular engagement sessions and visual campaigns to promote understanding and acceptance of asset management principles.
- **Cross-Functional Collaboration:** Foster relationships between operations, finance, and asset management to ensure alignment and support.
- **Continuous Improvement:** Embed review mechanisms to refine asset management practices and frameworks over time.

Moreover, utilities are enhancing internal and external communication to ensure widespread understanding and buy-in of asset management principles, practices, and objectives. Effective stakeholder engagement and resource advocacy are considered essential for the sustained success of asset management programs.

Risk and Resilience Planning

Utilities are embedding comprehensive risk and resilience planning into strategic asset management, motivated by evolving climate conditions and regulatory expectations. For more generation focused teams, there is strong momentum toward risk-based decision-making frameworks that incorporate consistent KPIs and value scoring.

For transmission and distribution focused teams, scenario-based planning for extreme events, such as severe weather or system disruptions, has become standard practice. Advanced modeling and monetization of asset-specific risks enable better-informed investment decisions and enhance overall system resilience.

Identified Best Practices in in Risk and Review

- **Governance and Collaboration:** Establish committees and cross-functional teams for risk oversight and resilience planning.
- **Risk Quantification:** Develop scoring frameworks that include probability, consequence, and velocity.
- **Resilience Frameworks:** Use GIS tools and detailed scenario planning to anticipate and mitigate extreme events.
- **Training and Support:** Emphasize ongoing employee training and change management support for new systems.
- **Continuous Feedback:** Embed post-event reviews and audits into the performance evaluation and improvement practices.

CEATI's benchmarking efforts confirm that integrating resilience planning within asset management frameworks is essential. Risk quantification tools, such as scoring frameworks including probability, consequence, and velocity measures, are becoming mainstream, supported by detailed GIS modeling and predictive analytics.

Conclusion

The future of asset management for electric utilities points to deeper strategic integration, digital enablement, comprehensive lifecycle management, and a robust organizational capability. Executives must prioritize continuous improvement in these areas to enhance operational effectiveness, resilience, and compliance with evolving sustainability and regulatory frameworks. To navigate these critical trends, CEATI members have access to peer-informed insights and best practices, training opportunities, and practical tools and research informed by the specific needs of today's power utilities.

About CEATI Research & Benchmarking

CEATI facilitates the planning and implementation of collaborative research and development projects among our 165+ electric utility members. This approach enables members to solve shared challenges and maximize return on investment.

In addition, CEATI provides members with timely benchmark offerings aligned with key issues faced across the industry. These assessments help utilities gain insight into the maturity of their organizations, understand how they compare to peers, and identify next steps in advancing their programs and processes.

CEATI Member Resources on Best Practices in Asset Management

- Asset Management Essentials Resource Center: Examples of utility SAMPs, AMPs, Asset Hierarchies, and more
- Asset Lifecycle Modelling
- Asset Management in T&D Benchmarking Panel Series: Summary of Discussions
- Best Practices for Asset Performance Management (APM) Software
- CEATI Asset Management University: Asset management trainings, including 2025-26 series on Strategic Asset Management and Data Governance & Integration
- CEATI Data Management and Analysis Working Group
- Development of Risk Models and Analytics in T&D Utilities
- Guideline for Developing an Asset Information Strategy *(in progress)*
- Whole Life Cost Models for Generation Assets

About CEATI

CEATI is a network-based research and advisory firm focused on collaborative innovation for the electric utility industry. We bring together the world's leading technical experts and a cross-functional network of 4,000+ power industry professionals across 165+ member utilities worldwide.

CEATI provides practical research, expert guidance, and forums for knowledge exchange that enable our member utilities to collectively solve their most pressing shared challenges across 21 critical functions in generation, transmission and distribution.

CEATI offerings include programs for Asset Management in Generation and Asset Management in T&D.

Learn about CEATI Membership