EPRI

2024

INFORMATION AND TELECOMMUNICATION TECHNOLOGY

AT A GLANCE

ICT



Information and Communication Technology (ICT)

Program 161

This program addresses technical and economic challenges of identifying, evaluating, and implementing enabling Information and Communication Technologies (ICT) for grid modernization and digital transformation efforts.

- Tools and resources to enable adoption of emerging ICT including the development of strategies to prioritize IT/OT Investments.
- Emerging and potentially disruptive technologies insights to inform decision makers of potential impacts and opportunities.
- Technology and standards evaluation, laboratory testing, and field demonstrations, interpreting results into opportunities and challenges to achieve interoperable, scalable, cost-effective solutions and maximizing the sharing.
- Industry case studies, best practices, and guidebook development. Experiences are captured through utility immersions, interviews, and case studies.
- Technology transfer with a variety of approaches to share and apply research results, including technical reports, white papers, software tools, webcasts, workshops, and application of ICT program resources directly for utilities.

Research Value

- Interoperability – Accelerate industry's migration toward interoperable protocols, standards, and architectures and challenges of proprietary solutions.
- Data-Centricity – Leading efforts towards enterprise-wide extensible data models to facilitate data sharing among devices, systems, and stakeholders.
- Telecommunications – Advancing ubiquitous, standardized resilient networks to enable secure data exchanges for the grid of the future.
- Strategy – Measuring and quantifying the benefits of scalable, standardized ICT approaches and architectures with tools, resources, and guidance to develop and apply an actionable roadmap.

Member Benefits

- Cutting Edge Updates on Emerging Information & Communication Technologies and how they may impact utilities – AI, Geospatial information, AR/VR, Edge Computing, IT/OT Convergence, Cloud, 5G/6G, Emerging Standards and Protocols.
- Annual Reference Guidebooks – Providing tools, strategies and references related DER Protocols, Enterprise Architecture, Advanced Metering, Telecommunications, and Geospatial Informatics
- Thought Leadership Insights – Strategies, Roadmap tools, Business Capability Models, Impacts of Disruptive Technology
- Case Studies – Learning from Actual Deployments

Research Highlights



Emerging Technologies & Technology Transfer (161A)

- Delivers strategic insights into emerging information and communication technologies.
- Develops white papers that investigate and analyze emerging ICT issues that could enable innovation, future-proofing, efficiencies, cost savings, and a better customer experience.



DER Data & Connectivity (161D)

- Research about interoperability and interchangeability standards that help you integrate with increasingly diverse sets of DERs.
- Assess the continuously flowing pipeline of new data and connectivity solutions for DERs.
- Best practices and peer perspectives to help utilities support investments in the ICT technologies needed to support DER integration.



Enterprise Architecture (EA) & Integration (161E)

- Increases the maturity, influence, and impact of EA practitioners at utilities.
- Pursues semantics of data and of available standards-based data exchange standards as a key to enable innovative applications.
- Provides Architects and strategic planners with frameworks, tools, and processes to align current and future strategic objectives.



Advanced Metering Systems (161F)

- Assists utilities in designing, selecting, integrating, and deploying AMI systems based on standards, to reduce lifetime costs and improve performance.
- Provides insights into all aspects of AMI systems operation and management life cycles.
- Optimizes the use and value of AMI and the full range of applications that can be supported.



Telecommunications (161G)

- Identify and mitigate interference to 6-GHz systems.
- Identify, analyze, and quantify business cases for fiber and broadband service opportunities.
- Understand standards-based FAN technologies – Private LTE, 5G, and IoT networks, and their configuration and optimization for utility purposes.
- Develop insights for utility telecom network management.
- Engagement in Telecom Standards development.



Geospatial Informatics (161H)

- Optimizing geospatial data performance for electric utilities.
- Provides insights into innovative geospatial applications electric utilities can leverage to optimize the value of their geospatial investments.
- Develops innovative geospatial analysis techniques to support multiple utility business processes.

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3002028985 February 2024

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