

March 2023

***EPRI's ICT Program – Enabling Digital Transformation by
advancing Pervasive Telecommunications, Data-Centricity and
Interoperability***

In this month's newsletter we have several highlights:

- The EPRI Knoxville Lab Tour
- Priorities on Migrating OT Systems in the Cloud
- The first Winner of the new ICT "Applied Technology Awards"
- 2023 Technology Transfer Award Nominations are now open
- Celebrating the 7 Utilities awarded the 2022 ICT Technology Transfer Award Winners - Business Capability Model Development
- Highlights from Each Project Set
 - 161A - April "3rd Thursday" of the Month Webcast - Telecommunications Standards - 802 & 3GPP - 5G that provide opportunities for utilities
 - 16D - Innovative Resources to Integrate DER
 - 161E - Data Lakes & Analytics Platforms - Topic of next Enterprise Architecture Task Force Meeting
 - 161F - Next Generation Metering
 - 161G - ComEd hosting next Telecom Task Force Meeting in Chicago June 27-28
 - 161H - Five things to know about Geospatial Informatics

- Upcoming Meetings, Available Materials and Resources

Sincerely,



Matt Walefield
Director, ICCS & ICT Program Manager

ICT Advisory Meeting Highlights of the EPRI Knoxville Lab Tour



After several years of trying to have our meetings in Knoxville with a lab tour, we finally did it. This was a highlight of the winter advisory meetings this month and I believe this was the largest tour we ever held here. We typically have 50-70 active projects in the Knoxville Lab, and this truly differentiates the unique value we can provide to our members and the industry. We were able to highlight 8 out of about 20 lab areas including:

- Cyber Security
- ICT for Distributed Energy Resources
- Telecommunications
- Distribution Operations
- DER/Smart Inverters
- High Altitude Electromagnetic Pulse (EMP)
- Lighting and Indoor Agriculture
- Thermal Dynamics – Advanced Commercial and Industrial HVAC

Members are welcome and encouraged to visit and tour our Knoxville, TN lab as well as our Charlotte, NC and Lenox, MA labs at any time.

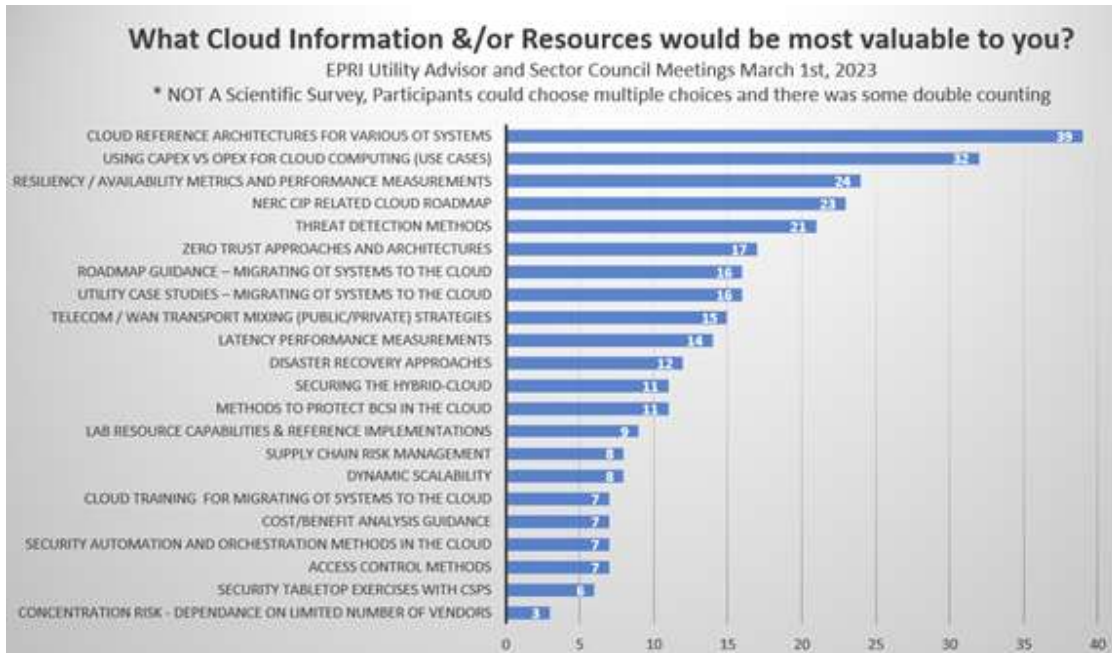
EPRI Members Prioritize Needs to Migrate OT Systems to the Cloud

As part of our newly established “Cloud Initiative” – *Advancing Strategies to Migrate OT systems to the Cloud*, we were honored to have representatives from NERC and several Cloud Service Providers and Vendors at our Advisory and Sector Council Meetings including:

- Larry Collier, **NERC**
- Ernst Scholtz, **Hitachi Energy**; Hellmer Rahms, **Google Cloud**
- Bilal Khursheed, **Microsoft Azure**
- Arun Sehgal and Ranjan Banerji, **Amazon AWS**

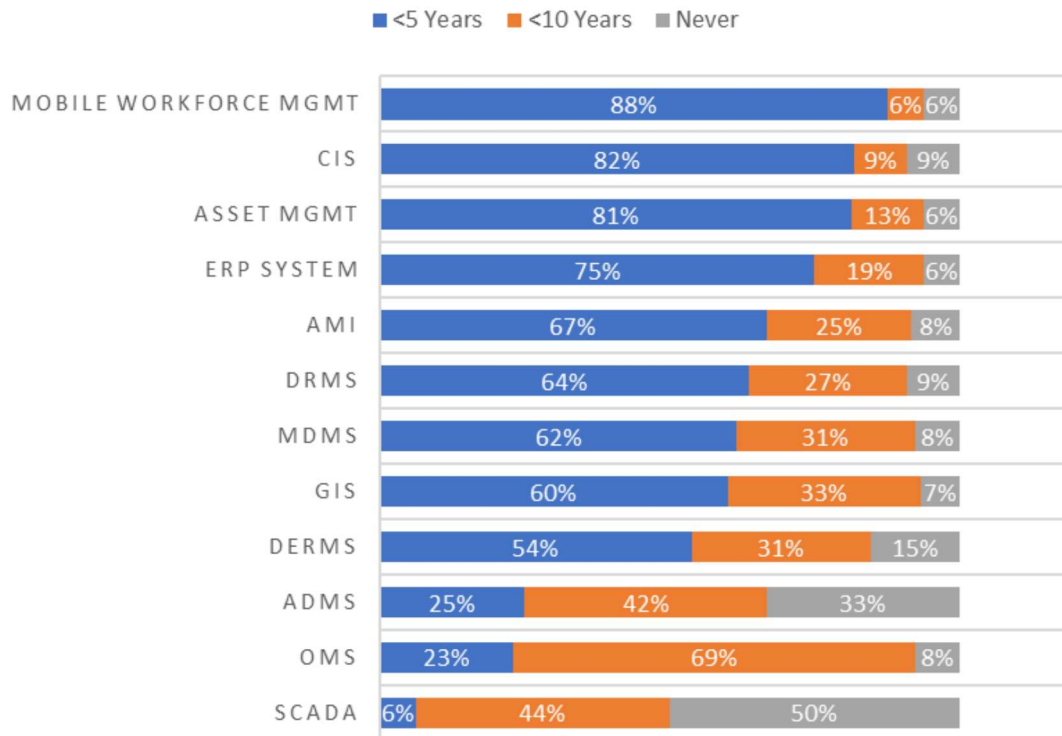
- Brad Williams & Jose Alanis, **Oracle**
- Bob Karschnia & Giri Iyer, **Sentient Energy**
- Young Ngo & Jose Castillo, **Survalent**
- Lance Hovland & Dan Olson, **OSI (Aspentech)**

Here are some of the charts based on the working sessions we had to prioritize our research:



PLANNED CLOUD IMPLEMENTATIONS IN THE NEXT 5-10 YEARS

(EPRI ICCS COUNCIL MEETING, MARCH 2023)



The new ICT and Cyber Security “Applied Technology Awards” – Celebrating Utilities Applying ICT and Cyber Security R&D

To recognize and celebrate members Applying ICT and Cyber Security resources, we established the new “Applied Technology Awards.” These are awarded to ANY utility that submits a Technology Transfer Award Nomination applying ICT (161) or Cyber Security (183) research. Our first award recognized Glenn Pritchard from PECO for Applying Advanced Meter Functionality in the Next Generation Smart Meter and Vision Criteria project. Congratulations! We look forward to many more members getting the award and wearing the EPRI Shirt as the gift.



2023 Technology Transfer Award Nominations and Celebrating the 2022 Awards for Ameren, ConEdison, Exelon, National Grid, NYPA, PNM Resources and SRP

The [EPRI 2023 Technology Transfer Award Nomination window](#) is now open until July 31st. If you have applied ICT – make sure you make a nomination. That will automatically mean you will be awarded the ICT Applied Technology Award (and an awesome EPRI Shirt!).

And for one of the 2022 Awards for an ICT project (drum roll please...) we are honored to recognize **Ameren, ConEdison, Exelon, National Grid, New York Power Authority, PNM Resources** and **SRP** for the ***Business Capability Model Development for IT-OT Investment Alignment project***. This group of utilities collaborated with EPRI to create a business capability model resource for the industry that has been tested in the real world to align IT-OT Investments based on business strategies. Each nominee applied and refined the business capability model on their own strategic initiatives including customer experience, asset management and the utility of the future. This collaboratively developed model will be used to support EPRI's research and enterprise level initiatives across the industry (US and EU as well as Australia). The [high-level model is available to the public](#) to drive interest from all parts of the industry
Congratulations to the Winners!

- Deepak Suresh, Ameren
- Oleg Tasic, Con Edison
- Jim Walters, Exelon
- Richard Rosenstiel, Exelon
- Jennifer Cooper, National Grid
- John Palmer, New York Power Authority
- Mark Lane, PNM Resources
- Shanon Jones, Salt River Project

Present at the meeting and pictured below: Rich Rosenstiel (Exelon), Sean Crimmins (EPRI) and Jim Walters (Exelon)



ICT Emerging Technologies and Technology Transfer (161A)

Project Set Manager: Matt Wakefield

mwakefield@epri.com

161 3rd Thursday of the Month Webcast Series:

April 20th webcast on Telecommunications - New standards starting in IEEE 802 & 3 GPP - 5G with utility impact

List of 2023 "3rd Thursday" Webcasts:

- [January 19 - DER & DR \(161D\)](#)
- [February 16 - Enterprise Architecture & Integration \(161E\)](#)
- [March 16 - Advanced Metering Systems \(161F\)](#)
- April 20 - Telecommunications (161G)
- May 18 - Geospatial Informatics (161H)
- June 15 - ICT Mid-Year Update
- July 20 - DER & DR (161D)
- August 17 - Enterprise Architecture & Integration (161E)
- September 21 - Advanced Metering Systems (161F)
- October 19 - Telecommunications (161G)

- November 16 - Geospatial Informatics (161H)
- ****December 14**** (Note: **2nd Thursday of the Month**) - ICT End of Year Review

Matt Wakefield

Need an invitation to a webcast? Contact Tristen DeAngelo-Hicks (tdeangelo-hicks@epri.com) or Matt Wakefield (mwakefield@epri.com).



DER Data and Connectivity (161D)
Project Set Manager - Ben Ealey
bealey@epri.com

IEEE STANDARDS ASSOCIATION

IEEE

**IEEE Standard for Interconnection
and Interoperability of Distributed
Energy Resources with Associated
Electric Power Systems Interfaces**

IEEE Standards Coordinating Committee 21

Sponsored by the
IEEE Standards Coordinating Committee 21 on Fuel Cells, Photovoltaics, Dispersed
Generation, and Energy Storage

IEEE
3 Park Avenue
New York, NY 10016-5997
USA

IEEE Std 1547™-2018
(Revision of IEEE Std 1547-2003)



IEEE 1547 Revision Underway!

The revision to IEEE 1547 has started once again.

In January 2023 IEEE launched the process to revise the IEEE 1547-2018 standard to capture lessons learned from the past ~4 years of experience with it. This will be a terrific opportunity to refine and make the standard even more robust.

Coincidentally, some of the first IEEE 1547-2018 conformant products have hit the market. EPRI is planning to test these IEEE 1547-2018 compliant inverters so we can provide specific modifications into the revision process. This mirrors the process we took back in the 2018 revision, and it allowed us to address many of the known interop issues. Stay tuned for more updates.

In the meantime, have you run into interoperability issues at your utility? Let us know so we can incorporate them into our test procedures. It is a critical we seize this opportunity and complete the feedback loop as the next update will be >5 years out and this standard defines the default for DER interfaces in the grid.

Advisory in a Nutshell

I hope everyone enjoyed advisory in Knoxville! It was great to host everyone in one of EPRI's home cities and give everyone a chance to see our labs.

Here are four takeaways from the DER Data and Connectivity segment.

- KEPCO shared an update on their DER ICCS Architecture Strategy which includes connectivity to both large scale and BTM DERs through DER Gateways. We discussed their architecture including telecom, protocols, and cyber security.
- The group discussed IoT protocols and DERs. Members expressed a need to validate compatibility of a variety of technologies including NB-IoT, LoRa, and SD-WAN with DER protocols like OpenADR and 2030.5.
- Group management came up at our last meeting in Austin and we continued this discussion in Knoxville. Members expressed a need for mechanisms to manage DERs in groups for communications between ADMS & DERMS but also for

communicating with aggregators. EPRI to publish a paper this year on the technologies available.

- We heard an update on ChatGPT and the key areas ChatGPT shared where it thinks it can help. It had some ambitious aspirations for itself, but the subsequent discussions highlighted how this tool can be used for both productivity and information purposes and what utilities may need to do to enable that.



Enterprise Architecture & Integration (161E)

Project Set Manager: Sean Crimmins

scrimmins@epri.com

Data Lakes and Analytics Platforms

The Enterprise Architecture Task Force

Tuesday, April 11th 11am – 2pm

Members of the Enterprise Architecture project will meet (virtually) to share experiences and lessons learned from the implementation of Data Lakes and Analytics platforms, especially in their migration to the cloud. The EA team will present ongoing work to meet the industries data management challenges, Data Management Capability Progressions, DER System of Record and our Digital Transformation Maturity Model. Members will inform this year's research with their highest priorities projects and initiatives. Join us, invite your team and anyone else in your organization interested in data management.

Distribution Grid Model Data Management (GMDM)

The team is leading a new project with AEP to create a roadmap for distribution grid model data management. If you'd like to know more about how EPRI can analyze your current state and identify areas of improvement with respect to your strategic plans reach out to our new team member, Varun Perumalla at vperumalla@epri.com.

GMDM Vendor Forum phase II

The team is launching the second phase of our very successful vendor forum for GMDM. You can find a nice summary of that work here: [Interoperability-event-demonstrates-successful-grid-model-data-exchange](#) As we shape this new initiative, we're very interested in data exchange use cases for DER model data exchanges. Send your suggestions to me, scrimmins@epri.com.

[Top Ten Indicators of Enterprise Architecture Maturity](#)

It's that time of year again. Now in its seventh year, our back of the envelope survey will measure your organization's EA maturity and benchmark against your peers. For a survey link, it takes just a few minutes, contact Christina Huff at chuff@epri.com.



Advanced Metering Systems (161F)

Project Set Manager: Edward J. Beroset

eberoset@epri.com

Advanced Metering Systems (161F) update:

Supplemental research opportunity:

Next Generation Metering – Distributed Intelligence

Multiple meter vendors are now touting the benefits of the ability of new devices to accommodate the development, testing and distribution of applications that can be created and downloaded to meters. Other vendors claim that there is no real benefit in doing so, and that centralized data processing is a superior model in all cases. These are obviously diametrically opposed viewpoints, that independent and objective EPRI research can help resolve. The purpose for this research is to investigate use cases to which distributed intelligence might be put, to understand the process by which the development, testing, deployment, and retirement of applications can be done in the current environment.

<https://www.epri.com/research/products/3002025322>

To learn more about this and other advanced metering research that EPRI is conducting, contact Ed Beroset, eberoset@epri.com.



Telecommunications (161G)

Project Set Manager:

Tim Godfrey

tgodfrey@epri.com

Mark your calendars for the next **161G Telecom Task Force meeting to be held June 27-28, 2023. It will be hosted by ComEd in downtown Chicago.** The meeting will be a full day on Tuesday the 27th, and the morning of Wednesday the 28th. Further details will be provided as they become available.

Please join us for the next **"3rd Thursday" webcast on April 20th.** The topic will be "New standards starting development in IEEE 802 and 3GPP 5G with utility impact, and the potential of 5G features like network slicing for utilities".

We are developing case studies for the WAN Modernization Guidebook, Private LTE Guidebook, and Network Management Guidebook. If you are interested in participating in any of these, please contact Tim Godfrey at tgodfrey@epri.com.



**Geospatial Informatics
(161H)**

**Project Set Manager:
Kevin Gorham**
kgorham@epri.com

Thank you everyone who was able to attend the ICCS Winter Advisory meeting February 27th in Knoxville and the 161H 2023 Launch Task Force meeting on March 15th. These are great collaboration opportunities and let me know if you would like more information about what was covered at either of these events.

Five Things to know in Q2 for 161H Geospatial Informatics

1. Does your GIS team have adequate resources? In April a GIS Department Survey will be sent out with the goal of gathering data needed to establish industry baselines around team resource needs. The short survey will also request information around where in the organizational structure the GIS team resides, types of GIS software used, and if your organization treats geospatial data as an asset.
2. 2023 Case Studies will be developed on geospatial data improvement projects, using imagery/machine learning to identify ROW encroachments, and identification of behind the meter rooftop solar. If you are interested in participating in any of

these please reach out to me at your earliest convenience (Kevin Gorham – kgorham@epri.com)



3. Have you been hearing all the vendor speculation around Digital Twins? Would you like to know if this technology has true ROI value for the Electric Utility Industry from an impartial source? EPRI 161H will be organizing a workshop in May for any utilities interested in collaborating on how Digital Twins can provide value to the industry.

4. Geospatial Informatics will be presenting at the 161A ICT Emerging Technologies 3rd Thursday on May 18, 2023. The topic discussed will be voted on at the April 20th - 3rd Thursday meeting. If you have any interesting GIS subjects we should cover, please reach out to Kevin Gorham kgorham@epri.com.

5. The 161H Mid-Year Task Force will be on Jun 21st, 2023 from 12:00 pm – 2:30 pm ET. This Task Force is open to anyone interested in GIS from an Electric Utility and it will be more of a collaborative event than covering 161H research details.

If you are interested in any of the above topics, please reach out to me to discuss at kgorham@epri.com.

GIS Professionals,

Geospatial and computing technologies across all industries have accentuated the role of GIS as a platform for geospatial services. This presents a challenge for utility GIS professionals since GIS now not only serves in its traditional role as a system of record, but also serves to support market differentiation and even innovation across the utility enterprise. The Electric Power Research Institute (EPRI) is conducting a survey to understand the organizational structure of GIS professionals and the resources available

(from a people and software perspective) at utilities. The primary goal of this survey is to create a staffing base line necessary to maintain the utility GIS System. The results of the survey will provide beneficial data in a GIS team staffing increase justification request. The results of this 10-minute survey will be shared with anyone who responds to the survey. It is anticipated to be open for 4 weeks. If you have any questions, please contact Kevin Gorham (kgorham@epri.com) or Christina Huff (chuff@epri.com).

Link to [Survey](#)

Upcoming Meetings & Past Meeting Materials

Use this button to see what meetings are planned and to access materials from past meetings on EPRI.com.

Events



Additional Research Results

[Distribution Digital Worker Case Study: Virtual Reality Training](#)

[Development of Utility Hazard Zones for Distribution Resilience](#)

[Summary of Interoperability Tracking and Reporting by the ICT Program in 2022](#)

[Standard Meter Communications Protocols Primer](#)

[Guidebook for Identifying and Mitigating AMI Communications Problems](#)



Program Announcements

Supplemental Project Notification

[Evaluation and Economic Feasibility Analysis of Commercial DER Gateways](#)

[Next Generation Metering - Distributed Intelligence](#)

[Enterprise Architecture Maturity Assessment](#)

[Business Capability-Based Investment Optimization \(BCM Phase II\)](#)

[Field Asset Unique Identification System](#)

[Applied Grid Model Data Management \(GMDM\) for Distribution](#)



Program Page

[Overview](#)

[Contacts](#)

[Research Results](#)

[Supplemental Projects](#)

Advisor Engagement

[Committee](#)

[Events](#)

[Training](#)

[Announcements](#)

[Meetings/Webcasts PDF](#)

Other Information

[Quick Reference Guide](#)

[2023 Webcast List](#)

[ICT Roadmap](#)

[ICT Annual Review](#)

EPRI, 3420 Hillview Avenue, Palo Alto, CA 94304 USA
www.epri.com | 650-855-2121

EPRI is a tax-exempt, not-for-profit, scientific research organization that does not sell personal information, but is committed to best privacy practices.

[EPRI Privacy Statement](#) | [EPRI Terms of Use](#) | [EPRI Cookie Policy](#)

[Hubspot Privacy Policy](#) | [Hubspot Cookie Policy](#) | [Hubspot Legal, including Terms](#)

By registering for an EPRI event, you will be asked to read and agree to the [Event Participation Consent](#).

Update your [email preferences](#) to choose the types of emails you receive.

[Unsubscribe](#) from all future emails.

