

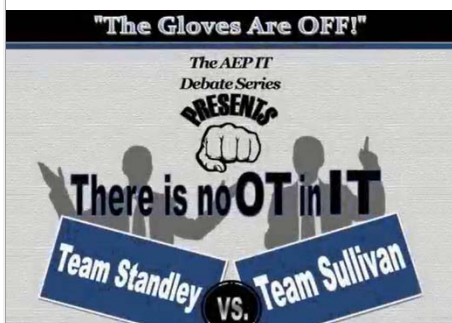
INFORMATION, COMMUNICATION & CYBER SECURITY NEWSLETTER

Dear EPRI ICCS Members and Stakeholders,

I'm really looking forward to the [EPRI Smart Distribution and Power Quality conference next week hosted by Southern Company in Atlanta](#). The big focus on integration of DER is very topical and relevant for the industry and I hope to see many of you there.

Earlier this month I attended the Symposium on the Digital Worker in Chicago, hosted by ComEd and EEI. A couple key takeaways for me are 1) 59% of attendees who responded to my live poll said they are considering or have deployed a demonstration of [Augmented Reality](#) technology for mobile workers; and 2) a primary driver for arming workers with digital technology is to improve the speed at which business is done – to enable more real-time responsiveness to a variety of business needs.

Last week I also had the honor of presenting at Smart Community Japan 2016 on “International Approaches for an Integrated Grid”. It is clear that the pace of power system transformation is accelerating around the world, and especially in Japan, due to the rapid adoption of Solar PV. There are many exciting opportunities for research and collaboration in the Japanese electric industry and I appreciate the strong support from TEPCO and other Japanese utilities during my visit.



Another issue that seems to be looming on the horizon for a lot of utilities is the IT/OT debate. What does IT cover? Where does OT belong? Who's in charge of what? In order to better understand the issues, American Electric Power (AEP) held an inter-company debate. This is a video taken of two “debate teams” squaring off at AEP. One team represents the operations group, the other represents the information technology group. Listen in as they take questions from the moderator and audience, and respond to the positions set out

by each team. Thank you, to AEP, for allowing us to share this video with EPRI members.

Keep reading for highlights of what has happened over the past month, and some of the things to come. Remember, you can always check out the Events calendar at www.epri.com and the program cockpits to see what's coming up and what's happened.

I hope the remaining summer months allow you the opportunity to relax, recharge, and enjoy time with family and friends.

Sincerely,

June 2016

In this Newsletter

[ICT Program \(161\)](#)

[Cyber Security Program \(183\)](#)

[Data Analytics \(DMD & TMD\)](#)

[CEA 2045](#)

[Upcoming Events](#)



Matt Wakefield
Director, Information, Communication and Cyber Security Research



ICT Team Industry Contributions and Collaborations

John Simmins contributed an article, [EPRI Explores Augmented Reality to Improve Grid Reliability](#), to **Public Utilities Fortnightly**, on the increasingly important role that augmented reality technology is playing in helping utilities maintain reality.

ICT / IntelliGrid (161) & Related Demonstration Deliverables

Enterprise Architecture Guiding Principles: Leading Practices for Adoption

One of the greatest challenges faced by enterprise architects is the development and implementation of guiding principles. To help address this challenge, the EPRI Enterprise Architecture Collaboration Group met in a face-to-face workshop held in conjunction with the EPRI Power Delivery and Utilization Advisory meeting in Austin, Texas, in February 2016. The discussions in that forum led to the creation of this white paper, which covers several topics related to the guiding principles of enterprise architecture, including: 1) How to structure a well-formed guiding principle; 2) Examples of existing guiding principles currently in use; and 3) What type of guiding principle can be used for system selection. This system-selection guiding principle, "Move Forward Thoughtfully," can be used when attempting to strike a balance between the needs and preferences of legacy stakeholders and the need for desired new business capabilities.

Upcoming Meetings/Webcasts

[ICT Tech Transfer Integration of Internal and External Data Sources](#)

Integration of Internal and External Data Sources – Industry Risks, Technical Challenges, and Data Integration Methodologies

27-Jun-2016

Meeting/Webcast Materials Available

[Incubatenergy Network Builds Connections, Cultivates Innovations](#)

A recent white paper and EPRI UNPLUGGED podcast illuminate the critical roles that leading U.S. clean energy incubators play in introducing innovative technologies and business models to market. Also highlighted are new relationships that EPRI and its utility members are building with promising early-stage companies previously vetted by members of the Incubatenergy Network.

The [Incubatenergy Network](#) brings together about a dozen leading U.S. incubators for the sharing of information, experiences, and entrepreneurial support services. The network was launched in February 2015 by EPRI together with the U.S. Department of Energy (DOE) and DOE's National Renewable Energy Laboratory (NREL).

ICT for Distributed Energy Resources Project Set 161D

The agenda for this webcast will include a brief update on the status of 2016 research. On this webcast, we will see a deeper dive into utilization of the DER Group-Level Integration functions development applicable to scalable utility DER deployment. The results of this working group can apply to DER aggregation such as a DMS or DERMS and the communication protocols needed for a scalable system of DER. One of our utility members, who is working in the DERMS space, is also gearing up for a presentation on their related projects.

ICT Interoperability Webcast - CIM Update

The IEC's Common Information Model (CIM) standards—61970, 61968 and 62325—provide a solid semantic model which can enable enterprise-wide application integration, and discuss recent updates to the CIM standards and UML model.

Tech Transfer: Using IEC Standards for Asset Condition Monitoring

Discussion on the continued development of low cost digital microprocessors that has enabled the expansion of sensor technologies into a wide variety of vendors now providing such devices. However, one of the challenges is how to easily interface these sensors with other relevant data sources so that informed decisions can be made. This is where the use of standards is helpful. The recent emergence of asset condition monitoring standards is helping to ease the data integration issues by standardizing the relationship and names of the various parameters. This tech transfer webcast will provide an introduction to some of these recent standards and provide guidance in their applicability.

ICT Advanced Metering Systems Project Set 161F

A review of the status of our Advanced Metering research projects.

ICT Enterprise Architecture and Systems Integration Project Set 161E

Update of the 161E project.

[EPRI Information, Communication and Cyber Security \(ICCS\) 2016 European Engagement Summit](#)

Topics include: Augmented Reality in Utility Operations; Advanced Metering System Data Usage and Prognostics; Open, Interoperable Advanced Metering System Development; Communication Standards for Demand Response and Distributed Energy Resources



Published in Electric Energy Online, [From Research to Action | A Matter of Time](#), by Christine Hertzog and Glen Chason

Utilities are aware that their growing reliance on wired and wireless sensor networks to support advanced grid operations has a downside – an increased attack surface. But many utilities have yet to realize that there’s another risk in the significant deployments of machine to machine (M2M) networks that’s relatively undefined but has potential impacts that could cost utilities dearly. That’s the issue of vulnerabilities to timing accuracy incorporated into sensors and intelligent devices deployed in today’s grids.



Annabelle Lee has been invited to speak at The Council of European Energy Regulators (CEER) training course for regulators on **Cyber Security and the Protection of the European Energy Sector on 12-13 September 2016 in Brussels** and will speak on the "Recap of the policy development context and why regulators need to address cyber security. Comparison of the practices from Europe and USA". Annabelle has also been asked to contribute to a simulation exercise of a cyber-attack (a true simulation) or a case study on cyber security from a USA session.

Cyber Security (183) Program Demonstration Deliverables

[Security, Cyber, Risk Assessment Methodology \(SCRAM\) Version 2.0](#)

This web application provides an interface to a cross reference database of cyber security risk management guidelines for the electric sector.

Upcoming Meetings/Webcasts

[Threat Management and Incident Response - Birds of a Feather Workshop](#),
San Diego, CA

This workshop will bring together threat management and incident response specialists with the goal of advancing our sector's capabilities in these critical areas. Topics covered during the meeting will include OT incident response, leveraging the E-ISAC, threat hunting, and advanced threat management. The meeting will be interactive in nature, with a mixture of presentations, panel discussions, and round tables. Recommended attendees include security operations center managers, incident response staff, and threat analysts. (NOTE: Attendance is limited to P183B funders.)

20-Jul-2016

Meeting/Webcast Materials Available

[Timing Security Access Supplemental Webcast](#)

Is precision timing important in advanced grid operations? Of course. But are we really collecting, analyzing, and storing accurately timestamped data? There's no

certain, affirmative answer. The vulnerabilities to various timing methods are largely unknown, and the impacts to grid operations are big question marks. EPRI's Cyber Security technical lead, Glen Chason, and representatives from San Diego Gas & Electric and Southern Company discuss the issues of timing security in an age of increased reliance on precision timing and introduce a new supplemental project launching NOW!!



Meeting/Webcast Materials Available

[EPRI Distribution Modernization Demonstration and Transmission Modernization Demonstration Spring Advisory Meeting 2016](#), EPB, Chattanooga, TN

11&12-May 2016

Modular Communications (CEA-2045)



CEA-2045 Demonstration Deliverables

[2015 Fourth Quarter CEA-2045 Field Demonstration Project Update](#)

EPRI's Field Demonstration Project, described in CEA-2045 Field Demonstration Project Description (EPRI report 3002004009), is a three-year collaborative research activity designed to assess this new standard. This report provides an update on project activities through the fourth quarter of 2015.

[Demand Response-Ready Variable-Speed Pool Pump Specification: Preliminary Requirements for CEA-2045 Field Demonstration](#)

This document is a specification for variable-speed pool pumps with built-in demand response (DR) capabilities and a standard communication interface port. The context for the development of this specification is a field demonstration project that EPRI is facilitating regarding the ANSI/CEA-2045 modular communication standard. In this project, utilities are fielding consumer end-use products and integrating them into a wide range of demand response systems in order to assess the communication standard and determine the degree to which interoperability is achieved.

Upcoming Events

Dates

[EPRI Smart Distribution and Power 2016 Quality Conference and Exhibition](#), Atlanta, GA June 28-30, 2016

[EPRI Power Delivery and Utilization Advisory & Sector Council Meetings](#), Hollywood, FL Sept. 19-22, 2016

Save-the-Date: EPRI Telecom Initiative Advisory Meeting, St. Louis, MO, Hosted by Ameren Oct. 5, 2016

Save-the-Date: EPRI Advanced Metering Infrastructure Summit, Charlotte, NC Oct. 18, 2016

Save-the-Date: EPRI Data Analytics Advisory Meeting (DMD and TMD), Columbus, OH, hosted by AEP Oct. 19-20, 2016

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