

NIST Smart Grid and Cyber-Physical Systems Newsletter

June 2015

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Global City Teams Challenge Expo Showcases 63 Smart City Projects

The Global City Teams Challenge (GCTC) Expo—held June 1, 2015, at the National Building Museum in Washington, D.C.—attracted 1250 attendees and featured a full slate of high-profile speakers, guests, and exhibitors. Keynote speakers included Willie May, NIST Director and Under Secretary of Commerce for Standards and Technology; Anthony Foxx, Secretary of Transportation; and Tom Kalil, Deputy Director for Technology and Innovation at the White House Office of Science and Technology Policy. With 19 mayors and city officials in attendance, along with exhibitors from nine countries and representatives from the 200+ organizations involved in the Challenge, the high-energy event capped an intense nine months of activity since the [GCTC Challenge](#) was launched by NIST and US Ignite in September 2014.

The real stars of the show, however, were the 63 teams presenting smart city projects that are poised to be deployed this year in communities around the world. Each is a collaborative effort between businesses, university researchers, and communities to harness Internet of Things (IoT) technologies in ways that address needs of the world’s rapidly urbanizing population. Each team gave a short talk and displayed an exhibit, and the wide range of innovative projects demonstrated how cyber-physical systems—in sectors such as energy, health care, education, disaster response, and transportation—will enable communities to improve services, promote economic growth, and enhance their citizens’ quality of life.

The event garnered attention from the international press because of a special visit to the Expo by Their Majesties, King Willem-Alexander and Queen Máxima of the Netherlands. Several of the smart city projects on display involved companies and communities in the Netherlands, which has long focused on sustainable urban design and finding solutions to water- and energy-related problems.

For more coverage of the event, please check out [NIST Director Willie May's blog](#), as well as articles that appeared in the [IoT Journal](#) and at [Statescoop.com](#).

The Global City Teams Challenge program will be continuing in the coming months. In closing remarks at the event, Sokwoo Rhee, Associate Director of Cyber-Physical Systems Program at NIST, said that an important focus in the coming year will be to deploy solutions that are multi-city and replicable, and to keep the overall momentum going forward with GCTC 2016.

For more details on the GCTC program and information on how to get involved, please visit [the GCTC website](#) or contact Sokwoo Rhee (sokwoo.rhee@nist.gov).

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Kickoff Event to Launch NIST Transactive Energy Modeling and Simulation Challenge is Planned for September 10, 2015

The Transactive Energy Modeling and Simulation Challenge for the Smart Grid (“TE Challenge”) will begin formally with a Kickoff event at NIST in Gaithersburg, Maryland, on September 10, 2015. Please save the date on your calendars.

The [TE Challenge](#) will bring researchers and companies with simulation tools together with utilities, product developers, and other grid stakeholders to create and demonstrate modeling and simulation platforms while applying transactive energy approaches to real grid problems. “Transactive energy,” as defined by the Department of Energy GridWise Architecture Council’s [Transactive Energy Framework](#), refers to “a system of economic and control mechanisms that allows the dynamic balance of supply and demand across the entire electrical infrastructure using value as a key operational parameter.”

Initiated by NIST and developed in collaboration with federal partners and industry, the TE Challenge will help the industry better understand the potential for TE and create a path for real-world trial implementations. The [TE Challenge website](#) provides information about the challenge timeline, goals, and potential participants. In the coming weeks, it will be updated with details about the Challenge Concept, as well as registration information for the September 10 Kickoff event.

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Update on Grid 3.0 Planning Process

Leaders from industry, government, and academia have been meeting regularly since November 2014 to identify and develop action plans to address critical challenges facing the electricity sector over the next five+ years. This “Grid 3.0” planning process has been organized by NIST and seven other organizations representing various segments of the electricity sector.

“Grid 3.0” refers to what comes next for the electric grid, following “Grid 1.0” (the legacy grid of the 20th century) and “Grid 2.0” (the emergence of the smart grid with automation and information technology improvements). Grid 3.0, for example, is likely to be a future grid with advanced grid operations and greater interactions with consumers and other infrastructures.

The most recent event in this planning effort was a public webinar on May 12, hosted by the Smart Grid Interoperability Panel (SGIP). During the webinar, members of the Grid 3.0 Leadership Committee provided an overview of the results from the March 26-27 workshop held at NIST-Gaithersburg, as well as a preview of next steps. A [recording of the webinar](#) and a [PDF file of the presentation](#) are available online.

Looking ahead in the Grid 3.0 planning process, the short-term milestones are to gain consensus on the key focus areas and define output objectives. During the May 12 webinar, speakers announced that [a survey](#) is being conducted on stakeholders’ views of desirable future states of the grid. The longer-term milestones are to attain objectives that lead toward ‘End State’ statements.

For those interested in participating or following the Grid 3.0 planning process, please join the [listserv](#), visit the [SharePoint site](#), and/or sign up for the [LinkedIn Discussion Group](#).

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“Designed-in Cybersecurity for Smart Cities” Workshop Held

on May 27-28, 2015

The Designed-in Cybersecurity for Smart Cities Workshop was jointly held by NIST and the Cybersecurity Research Alliance (CSRA) in Gaithersburg, Maryland, on May 27-28, 2015. This workshop responded to the needs of communities around the world—from small towns to megacities—that are turning to smart city solutions to improve livability, workability, and sustainability. Essential to the success of these efforts are smart city solutions that are secure, reliable, and privacy-enhancing.

The goals of the workshop were to identify short-, mid-, and long-term strategies for research and development (R&D) that enable transformative solutions for secure, privacy-preserving smart cities. [More details about the workshop](#), including a [full agenda](#) and a [webcast of plenary presentations](#), are available online.

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Smart Grid Interoperability Panel (SGIP) Update

Upcoming events:

- June 18 public webinar on “C2M2 and the NIST Cyber Framework: Applying DOE’s NIST Cyber Security Framework Guidance.” (C2M2 is the Department of Energy’s Cybersecurity Capability Maturity Model.) To register for the free webinar, visit the [SGIP webinar page](#).
- SGIP Annual Conference, November 3-5, 2015, New Orleans, Louisiana. With a theme of “Advancing through Collaboration,” the speaker program will feature utility, vendor, and industry senior executives. [Registration information and conference agenda are now available on the SGIP Annual Conference page](#).

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