

3rd Annual

Key technology advances, success strategies, case studies, and directions forward

Smart Cities International Symposium & Exhibition

January 22-24, 2019

CHICAGO



www.smartcities-symposium.com

It is predicted that by 2050 about 64% of the developing world and 86% of the developed world will live in urban areas, that nearly all global population growth from 2017 to 2030 will be absorbed by cities -- about 1.1 billion new urbanites over the next 13 years.* New insights and solutions are urgently needed in order to manage the scarce resources that will be impacted by this trend, as well as operate new and regenerated urban spaces. New generations of sensor networks, Big Data analytics, and Internet of Things (IoT) applications are being deployed in public and privately managed physical spaces to meet these requirements, though many challenges remain. Municipal governments around the world are currently formulating their Smart City strategies - now is the time to engage and learn from industry peers at the forefront of this key trend.



Organized by the [Smart Grid Observer](#), the **3rd Annual Smart Cities International Symposium & Exhibition**, January 22-24, 2019 in Chicago brings together thought leaders and practitioners from around the world to explore the most recent technology advances, business models, and lessons learned to date in making the Smart City a reality. Expert speakers will examine the experiences of municipal governments who are pushing the envelope and moving toward actual implementation of the Smart City vision. The emphasis is on implementation strategy, case studies, best practices, and the development of compelling business models for transitioning to the Smart City.

Topics to be addressed include:

- Leveraging the smart energy grid for other municipal applications
- Smart lighting advances, platforms and business models
- Smart transportation and parking
- Environmental monitoring and waste management
- IoT applications and communications networks for enabling the Smarter City
- Learning from the leaders: key smart city developments around the world
- Market trends and growth drivers: challenges and opportunities
- Phased, cost-effective approaches: efficiency measures that can fund additional steps
- Building a culture of performance via data analytics and benchmarking
- Enhancing sustainability, accessibility and livability
- Key emerging technologies and applications
- And more



Why Participate?

Chicago's Smart City Leadership: As a center for smart city application and deployment, Chicago is uniquely situated to lead the national conversation about moving toward the city of the future.

Focus on Implementation: The conference places primary focus on actual implementations, key case studies and lessons learned to date, in order to formulate real-world success strategies going forward.

Technology Exhibition: Exhibition tables in the coffee break and luncheon area allow for quality networking with industry thought leaders and interaction with cutting-edge innovations

Senior-Level Executive Attendees: The Symposium is uniquely designed for senior decision-makers, CIOs, and executives charged with making the smart city a reality in today's environment

Emphasis on Quality Networking: Ample time is reserved for focused, one-on-one meetings and high-value interaction among attendees

Who Should Attend?

- Government policy makers and managers
- Mayors and municipal leaders
- Urban planning professionals
- Telecommunication companies
- Electric, water and gas utilities
- Developers and construction companies
- Electric vehicle and transportation organizations
- Financial and investment professionals
- Smart grid and communication technology providers
- IT and Big Data analytics companies
- Standards and regulatory organizations
- Industry associations

Program Schedule

Tuesday, January 22, 2019

8:45 am - 4:30 pm **Pre-Conference Workshop: The Future of Mobility**

The smart transportation market size was estimated to be \$46.72 billion in 2015 and is projected to reach \$138.76 billion by 2020, growing at a CAGR of 24.3%.* Global vehicular usage has been surging at a rapid rate and this calls for various solutions to address emerging problems such as congestion, accidents, and infrastructure scaling.

The effective development of smart transportation solutions is a critical component of the smart city future. This includes public transportation as well as electric vehicles, for which the Midwest is considered one of the top markets. Government encouragement for public charging facilities, entrepreneurial innovation in EV technologies, and the availability of affordable power for nighttime charging are some of the factors that propel the Midwest into market leadership in this space. Furthermore, Chicago ranks third (behind New York City and Washington, D.C.) in an eleven-city pool that will split \$1.2 billion of VW money over the next 10 years. These funds will further the advancement of EVs and next-gen mobility applications in the area. This pre-conference workshop takes a look at key developments in the e-mobility space, their likely impact on current infrastructures, and how best to implement and manage them over the coming years in order to optimize the overall smart city vision.

- **Elizabeth A. Kócs, PhD**, Director, Energy Initiative, **University of Illinois at Chicago**
- **George W. Crabtree**, Senior Scientist and Distinguished Fellow, **Argonne National Laboratory**
- **Bryan Tillman**, Project Manager, **360 Energy Group**
- *Additional speakers TBA*

Wednesday, January 23, 2019

8:00 - 9:00 am Registration and Continental Breakfast

9:00 - 9:30 am **Putting People First in Sustainable Urban Development**

Urban development means more than real estate and district design. Urban development brings together the activities, desires and interests of people, companies and the cities they inhabit. It unites them into a living and liveable whole -- economically, socially, sustainably, ecologically and financially.

This presentation will focus on why and how it is important to give people ownership of their community and ways we can help understand how people want to live not just now but in the future. It will also highlight how planning for the future begins with the actual performance of these places and buildings instead of just the development.

Waste management, biomass, and renewable energy are a few of the areas that will be addressed, as well as sustainable financial modeling. The presentation will also present examples of how partner networks and collaboration with new innovations can be a catalyst for thinking locally but acting globally without the need for significant government support.

Key Take-Aways:

1. What are the biggest misconceptions about Sustainable Urban Development?
2. How can North America realize the pace of innovation that has been standard in Europe?
3. Where are the biggest opportunities for Smart Cities in terms of collaboration?

- Gerben Van Straaten, CEO, **World of Walas**

9:30 - 10:30 am **Refining the Smart City Vision: Innovative Approaches and Strategies**

This session will demonstrate why the most successful Smart Cities in the future will come from developing a deep understanding of peoples' changing lifestyles and through creating new generations of deeply integrated IoT products, services and experiences that match a changing urban demographic. Disseminating research from the UNEP Creative Economy Reports and through other consumption-based statistics, a strong argument will be made that it is peoples' living spaces that are (or will) create one of the most significant affordances for inducing socio-economic and environmental sustainability. This approach to inducing local, regional and national change puts people at the beginning of the design process and allows smart tech to support the proposed changes, as opposed to merely applying technology to uncertain symptomatic issues that are being created by people.

Supported with images and videos of different multi-unit building development projects, the audience will develop a clear understanding of how people can "live bigger" in small living spaces, and how architectural robotics can allow people to create deeply engaging and interactive environments that can visually and functionally 'morph' through user input -- Spaces can function 2-3xs larger than their square footage suggests.

Additionally, the session will discuss other innovative techniques and approaches to urban housing that address the current and future needs of renters in growing cities across the country.

- Tim Antoniuk, Associate Professor, Design Studies, **University of Alberta**
- Sandy Albert, Director of Real Estate, **Common**

10:30 - 11:00 am Networking Coffee Break

11:00 - 12:30 pm **How Partnerships are Shaping Illinois' Smart City Development**

Within Illinois, strong commitments from key players and collaborative relationships are spurring smart city initiatives forward. The State of Illinois' Smart State initiative aims to not only improve efficiency and effectiveness within the state government, but also provide organizational leadership and implement policies, funding initiatives and educational programs that support the development of smart cities across the state. The relationship between the

City of Chicago and ComEd has been key to the outcomes achieved to date for the City's Smart Lighting Project. The Metropolitan Mayors Caucus, a municipal membership organization, and ComEd are working together to pilot smart lighting projects for municipalities within the ComEd territory. Developing leadership organizations and collaborative partnerships, such as these, will be integral to the growth and success of smart city initiatives.

Key Take-Aways:

1. The positive impact of collaborative partnerships on the growth and success of smart city initiatives
 2. The role states can play in supporting smart cities through organizational leadership, policy, funding initiatives and education
 3. How to craft an infrastructure modernization project without a special levy or funding mechanism
 4. Inclusion of partners outside of the typical technology and energy sphere, such as regional municipally-focused organizations, can help facilitate smart city pilot projects
- Rebekah Scheinfeld, Commissioner, Department of Transportation (CDOT), **City of Chicago**
 - Melissa Washington, Vice President, External Affairs and Large Customer Service, **ComEd**
 - Nick Cosentino, Special Projects Manager, State CIO, **Illinois Department of Innovation & Technology (DoIT)**
 - Andrew Feuerborn, Director of Data & Analytics, **City of Aurora**
 - Mary Jo Warskow, Technical Projects Manager, **Elevate Energy** (*Moderator*)

12:30 - 1:30 pm Networking Luncheon

1:30 - 2:30 pm **The Array of Things and the Future of the Smart City**

This session examines Chicago's Array of Things project, which is a unique platform in several aspects for testing smart infrastructure in a real city. First, as a sensor network it is the most comprehensive in that it measures 20 different factors (not including image and sound processing, such as traffic and pedestrian flow), and it is further unique in that the data is not tucked away behind a proprietary portal, but made open and free.

Second, the way the open source hardware/software platform has been designed and deployed in 100-unit bursts at six month intervals, allows sensor developers to test their sensors at scale across the city, partnering with Argonne National Lab, the University of Chicago, and the City of Chicago.

Third, and the clearest delineator, is that the devices contain computational capabilities and are remotely programmable. That means a city-wide testbed has been created for groups doing "edge computing" (computing inside the device, not sending data to a cloud to be analyzed), at the moment predominantly focused on analyzing the images and sound.

- Charlie Catlett, Director, Urban Center for Computation and Data; and Senior Computer Scientist, **Argonne National Laboratory** and the **University of Chicago**
- Danielle Dumerer, CIO & Commissioner, Department of Innovation & Technology, **City of Chicago**

2:30 - 3:15 pm **Viva Las Vegas, Where Tech is Used for Good**

The topic of this session will be first a deep dive by the CIO of Las Vegas about how the city is improving city amenities for residents and businesses through better use of data and technology. Specifically, highlighting their collaboration with Amazon's Alexa, digital street infrastructure, autonomous vehicles. Then, Ellory Monks will speak about how those solutions are scaling into new cities.

Key Take-Aways:

1. How a city can effectively partner with technology companies
 2. The importance of strategic citizen engagement in smart cities efforts
 3. How to manage data privacy in public safety focused smart cities efforts
 4. How other cities should think about replicating similar strategies in their cities
- Michael Sherwood, CIO, **City of Las Vegas**

- Ellory Monks, Co-founder, **The Atlas Marketplace**

3:15 - 3:45 pm Networking Coffee Break

3:45 - 5:15 pm **Is America Prepared for Energy Democracy?**

"...propelled by the urgent-the existential necessity-for human society to create a new kind of energy future. The growth and dominance of fossil fuel energy over the last 150 years has had profound adverse environmental, economic and social impacts. As a result our very survival hangs in the balance."

-- Denise Fairchild and Al Weinrub, *Energy Democracy: Advancing Equity In Clean Energy Solutions*

Energy democracy means that community residents are innovators, planners, and decision-makers on how to use and create energy that is local and renewable. This process makes communities more environmentally healthy and assists residents to reduce mounting energy costs while stemming climate catastrophe.

Key Take-Aways:

1. Definition of regenerative energy economy -- decentralized renewable energy
2. Extractivism (Energy democracy vs. labor)
3. Democratizing municipal scale power
4. Energy and underserved communities in America
5. The energy cooperative then and now
6. Policy considerations

- Dr. Danielle Kizaire, Co-Founder, **Bronzeville Urban Development**
- MeLena Hessel, Clean Energy and Sustainable Business Policy Advocate, **Environmental Law and Policy Center**
- Kim Foreman, Executive Director, **Environmental Health Watch**
- Nancy Hamill Governale, Founder, Zero Energy Lab, **Illinois Institute of Technology**
- Katanya Raby, Associate Outreach Planner, **Chicago Metropolitan Agency for Planning**
- Kyra Woods, Organizer, Clean Energy Campaign, **Sierra Club**

5:15 - 6:15 pm Networking Reception

Thursday, January 24, 2019

8:00 - 9:00 am Continental Breakfast

9:00 - 9:30 am **Modernizing Our Cities: The Role of the Utility and Other Players**

- Carlos Nouel, Vice President, Innovation and Development, **National Grid**

9:30 - 10:00 am **Energy Independent Smart Cities**

Based on recent IDTechEx research reports, this presentation will show how cities will become energy independent and zero emission. We will examine technology roadmaps for solar roads and windows and exciting new almost-continuous options without massive infrastructure: airborne wind energy and, since most large cities are on the sea, wave and tidal stream power. We will appraise solar and wind-powered, energy-independent vehicles being launched in the next three years, leading to the elimination of many fuel needs and the increasing abandonment of private cars. This all helps the "silent city" to be water- and food-independent too. Diesel genset, battery and poison elimination are prioritized.

Key Take-Aways:

1. Energy-independent cities are planned

2. Rapidly widening portfolio of zero-emission distributed generation options
3. Almost-continuous new options without infrastructure: airborne wind, wave, open tide
4. Structural integration of generation: building, road, "massless energy" vehicles
5. Trends toward the silent, zero-emission electrified city: eliminating gensets, battery, poison and grid

- Dr. Peter Harrop, Chairman, **IDTechEx**

10:00 - 10:30 am Networking Coffee Break

10:30 - 12:00 pm **Different Approaches To Structuring A Smart Cities Movement**

As the smart cities movement takes hold across the U.S., cities big and small are taking different approaches to the leadership behind the initiative. For some, the chief information officer - the traditional stalwart behind information technology in city government - takes the lead. In others, specially appointed coordinators are taking the helm of the efforts to bring smart to the forefront of a city's technology efforts. This session will explore these different approaches and the effectiveness each.

Key Take-Aways:

1. How cities should structure the leadership and decision-making of their smart cities efforts
2. Obstacles and opportunities of the traditional IT shop in the smart discussion
3. How to streamline decision-making and get technology on the streets

- Jake Williams, Associate Publisher & Director of Strategic Initiatives, **StateScoop**
- *Panelists to be announced*

12:00 - 1:00 pm Networking Luncheon

1:00 - 2:30 pm **Catalyzing Smart Communities: Changing Parameters, Players And Structures**

Growing electrification, digitalization and distributed energy are breeding rich opportunities for accelerating smart community development based on intelligent energy management. Technologies such as distributed intelligence, data analytics, advanced power control and communications, and microgrids can enable communities to pursue integrated, energy and resource efficient strategies to develop, manage and optimize local energy across end use sectors.

This panel will discuss how communities can "get ahead of the technology innovation curve" to bring down administrative silos and advance "Energy Sharing" economies, towards forging a course to managing energy seamlessly and interchangeably through intelligent interconnectivity. The panelists will draw on their own case studies and initiatives to roadmap a resilient and sustainable pathway for market development, combining smart growth, smart grid and local energy and communications networking.

Particular areas that will be addressed:

1. Developing mutually reinforcing utility and community resource planning and development processes to integrate enabling technologies
2. State leadership critical for developing new tools, financing strategies, pilots and technical assistance, workforce training
3. Supporting public-private partnerships; Leveraging limited public support to attract private capital
4. Modernizing the "Rules of the Road" to harness market forces

- Larisa Dobriansky, Chief Business & Policy Innovation Officer, **General Microgrids**
- *Panelists to be announced*

2:30 - 3:00 pm Networking Coffee Break

3:00 - 3:30 pm IoT and LPWA: Two Smart City Acronyms That Need Each Other

In the next five years, LPWA networking technologies, such as Sigfox, LoRa, LTE-M and NB-IoT, will connect hundreds of millions of smart city sensing devices to low cost multi-kilometer cloud connected networks, according to research firm, ResearchAndMarkets.com. LPWA networks continue to displace existing outdoor networking technologies for metering and streetlight monitoring, but they are also disrupting Internet of Things (IoT) solutions for parking, waste management, smart water networks, geotechnical monitoring, pollution monitoring and bike sharing.

In his speech, the founder of Aeris will:

1. Explain what problem LPWA networks are solving and how they are built specifically for M2M and IoT communications to offer long-range, low-power consumption;
2. Share how LPWA networks solve cost and battery-life issues that cellular technology cannot and how LPWA networks solve range issues that technologies like Bluetooth or Bluetooth Low Energy (BLE) struggle with; and
3. Cite examples of how the need for LPWA is much greater in smart cities' applications. In these environments, the huge numbers of connected devices can only be supported if communications are efficient and power costs are low.

Finally, Hosain will communicate a "call for action" that prompts the audience to embrace why IoT and LPWA together need each other and will help smart cities and their leaders on a journey of turning cities' unconnected products into connected services.

- Syed Zaeem Hosain, Founder and Chief Technology Officer, **Aeris**

3:30 - 4:00 pm The Smart City Protocol: Key to Interoperability in Cities

Cities get smart: streetlights are connected, waste bins are monitored, parking availability is detected, and more, but still, most of solutions are proprietary, locking cities into single vendor solutions. The TALQ Smart City Protocol enables interoperability and a choice between multiple vendors.

The new TALQ interface is a specification for information exchange, suitable for implementation in various products and systems. This way interoperability between Central Management Software (CMS) and Outdoor Device Networks (ODN) from different vendors will be enabled, such that a single CMS can control different ODNs in different parts of a city or region.

The TALQ Consortium, as a Non-Profit organization, can support and educate cities and solution providers, not least by publicizing the use of the TALQ technical specifications - how to implement them it and the benefits of their adoption.

Furthermore TALQ has set up a carefully created Certification Program with transparent procedures and an intelligent test suite to assure full interoperability between different systems. In 2017 the first street lighting products were certified as TALQ-compliant, in summer 2018 TALQ version 2.0 with RESTful/JSON API was released to connect various smart city applications with less effort for integration.

Key Learning Points

1. Educating cities and solution providers further about the benefits of global standards
 2. Providing a solid base for various industries to build on future-proof and interoperable systems
 3. Achieving tangible cost savings through the use of innovative technology and avoiding vendor-lock-in for cities
- Simon Dunkley, Secretary General, **TALQ Consortium**

Media Partners



About the Organizer



The Smart Grid Observer is an online information portal and weekly e-newsletter serving the global smart grid industry. SGO delivers the latest news and information on a daily basis concerning key technology developments, deployment updates, standards work, business issues, and market trends driving the smart energy industry worldwide. The publication serves a global readership of executives and practitioners in the electric power generation, transmission, and distribution industry. For a free subscription, click [here](#).

Attendee Feedback on Previous Editions



"Excellent opportunity to hear from technical experts and other practitioners of smart cities. Discussions from elected and appointed officials about how they are creating smart cities, as well as real examples and case studies were very helpful."

-- Tom Dallessio, former President and CEO, Next City

"Lots of good and relevant information - very informative! I liked hearing from cities about how they are attacking the smart city initiative and seeing the different approaches. Also, very impressive and diverse crowd and panels." -- Kevin Clements, Project Manager, GDP Group



"Very high quality speakers, well designed and organized, very professional attendees -- the dialog has been amazing. An impactful, meaningful use of my time to attend."

-- Jenn Toothaker, Project Manager, Tucson Department of Transportation



"The Symposium provided great discussion of what 'smart city' means today, with important practitioner insight bringing recent advances to life. Great event!"

-- Matt Schmitt, Senior Research Fellow & Director, Regional Competitiveness Institute, University of Minnesota



"We need more conferences like these. It was a good balance from underground to city infrastructure to individual use of technology, even some social issues such as security. We need discussions like these between companies, academia and government to equitably implement smart cities."

-- Eric Boria, Urban Planning Graduate Student, UIC

Registration

Your registration includes:

- Attendance at networking breakfasts, coffee breaks, lunches, and drink reception
- PDF copy of all presentations
- Copy of attendee list
- Access to pre-conference messaging platform for arranging meetings with fellow attendees

<u>Attendee Category</u>	Before Friday, December 21, 2018	After December 21
<u>Standard - Equipment, Software, or Services Provider</u>		
Conference Only (Jan. 23-24)	\$795.00	\$995.00
Workshop Only (Jan. 22)	\$295.00	\$395.00
Conference + Workshop (Jan. 22-24)	\$995.00	\$1,195.00
<u>Government, Academic, and Non-Profit Organizations</u>		
Conference Only (Jan. 23-24)	\$395.00	\$495.00
Workshop Only (Jan. 22)	\$195.00	\$295.00
Conference + Workshop (Jan. 22-24)	\$495.00	\$695.00

To register securely online, visit <http://smartcities-symposium.com/register.htm>

For information regarding sponsorship and exhibition opportunities, contact:

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