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DIGITAL INTELLIGENCE FOR ENERGY SUMMIT

Innovating with Automation, Analytics, and AI for a Smart, Resilient Energy Future

June 26 – 27, 2019 | Alexandria, VA

Who we are:	<p>RSC is a non-partisan woman owned, minority owned, small business. Since 2011, Roosevelt Strategic Council (RSC) has convened the most senior and respected leaders in business, technology and the federal government to collaborate and examine the next generation of challenges transforming global business enterprises, and mission priorities for the federal government.</p> <p>Through our high level educational and training summits and symposiums we bring together the relevant representatives in our neutral forums in order to foster the necessary discussions and debates to help them achieve efficient and effective mission success with their partners in the public, private and academic sector. In order to maintain our neutrality, we receive no funding or investment for operating costs from any outside organization, group, or individual.</p> <p><i>Supporting our Veterans, severally injured Service men and women, and their families through our charitable donations and contributions is a core mission of Roosevelt Strategic Council. To learn more about the charities we support and how you may get involved, please visit our defense division site: dsigroup.org/giving-back. (This Summit is not an official fundraising event.)</i></p>
Program Design & Goal	<p>A non-partisan educational senior level Summit designed as a “Town Hall” format that encourages an interactive level of discussion and debate amongst all in attendance. The Summit consists of two days of structured plenary and panel sessions.</p> <p>By participating in one of our meetings, you will discover an environment that strives to encourage real actionable outcomes for its participants, while fostering new and continued relationships amongst all in attendance</p>
Focus Areas:	<p>Business / Leadership Focus:</p> <ul style="list-style-type: none"> -Creating Digital Strategies that Lead to Business Value :What do we really want the data to do for us? Transforming Business Models and Processes to leverage digital applications -Establishing the end goals / defining the use case: what are we trying to achieve through utilizing big data? What insight or process improvements are we trying to achieve? - Who owns the data and what does good data governance look like? Consideration towards cost and security with increased data generating assets -Utilizing data to unlock solutions that can increase convenience and comfort for customers <p>Technical & Operational Focus: Ingesting, correlating and disseminating data in a meaningful and efficient capacity</p> <ul style="list-style-type: none"> -Data visualization: bringing together large, disparate data sources across assets for real time visualization / digital twins -Advanced analysis / predictive analytics for performance and health, load prediction, price forecasting, and DER management -Robotic Process Automation (RPA) applications/ Smart metering and leveraging customer data for improving revenue streams and enhancing customer experience -Cyber resilience: advanced data analytics for predictive and recovery modeling and planning -Leveraging cloud computing for big data analytics to increase operational efficiency and flexibility - EV Charging, big data, and the grid - Utilizing weather data sets to help in optimizing wind and solar assets and to enhance energy trading, outage prediction and load forecasting/ UAS, Geospatial, and predictive analytics
Location:	<p>The Summit will be hosted at the Mary M. Gates Learning Center / United Way: 701 N. Fairfax St. Alexandria, VA http://www.marygateslearningcenter.com * Rental fees will support the nonprofit United Way Foundation</p>
General Target Audience	<p>Public and private sector participants include but not limited to: Utilities, cooperatives, and independent power producers; Federal, state and private sector energy customers including facilities, installations, community, city level, research labs and industry innovators</p> <p>Key titles include but not limited to:</p> <ul style="list-style-type: none"> • Executive level charged with strategic planning and digital /IT integration and performance management • Energy Innovation Directors and emerging technologies representatives • Grid or market operators / Digital grid technology and software developers • System integrators and consultants/ Regulators and public policy makers • Software innovators in: asset performance management software, analytics and analysis, advanced machine-learning <p>Data science and digital integration</p>

Working Agenda – not all invited sessions listed. Sessions are NOT IN FINAL ORDER and bullet points subject to edits

JUNE 26, 2019 | SUMMIT DAY 1

7:15 – 8:15	Registration and Networking Breakfast
8:15 – 8:30	Welcome
STRATEGIC OPERATIONAL AND BUSINESS OBJECTIVES	
8:30 – 8:55	<p>DOE Opening Remarks: Innovating with Automation, Analytics and AI for a Smart, Resilient Energy Future</p> <ul style="list-style-type: none"> -Key elements for developing an enterprise wide strategy that includes good data governance, and a business case for digital innovation in your organization -Advice for utilities for moving from asset intensive businesses to data and information intensive businesses: increasing use of open data in the industry to build new applications for processes and empower each other to become more data and insight driven as well as collaborative -Where DOE CIO sees opportunities for applying advance machine learning and AI applications for the utility sector -Current focus of DOE towards standing up a big data platform for cybersecurity utilizing AI <p>Ms. Pam Isom, Deputy Chief information Officer of Architecture, Engineering, Technology & Innovation; Chief Data Officer (CDO); Department of Energy (confirmed)</p>
8:55 – 9:20	<p>Harnessing the Power of Data to Support a Resilient, Efficient and Sustainable Digital Utility Sector</p> <ul style="list-style-type: none"> -Establishing the end goals and defining the use case: what are we really trying to achieve through utilizing data in the utility sector? -Lessons learned and advice towards developing an operating strategy in a data driven environment: How NYPA began their journey and where are we going next -Innovating from within: Brief overview of the activities and goals of NYPA's Advanced Grid Innovation Laboratory for Energy (AGILe) - Thoughts towards how you approach your security considerations when integrating new digital capabilities <p>Mr. Ricardo DaSilva, Vice President, Strategic Operations, NYPA (confirmed)</p>
9:20 – 10:30	<p>Utility Panel: Innovating with Advanced Data Applications for the Utility Sector: Navigating new data driven technologies and methodologies</p> <ul style="list-style-type: none"> -What insight or process improvements are we trying to achieve through utilizing technical solutions rooted in big data? -How can you approach the business and use case of inserting advanced data capabilities into your IT /OT ecosystem? Key questions to consider when navigating new data driven technologies - Innovating from within: Understanding the mission and business case internal incubators and innovation labs: current areas of interest towards 'big data' innovations that can help improve the efficiency, sustainability and resiliency of the grid and increase customer engagement and convenience <p>Panelists:</p> <p>Mr. Michael Britt, Vice President, Energy Innovation Center, Southern Company (confirmed)</p> <p>Mr. Chris Johnson, Director of Enterprise Innovation and Technology, AEP (confirmed)</p> <p>Mr. Josh Gould, Utility of the Future, Con Edison (confirmed)</p> <p>Moderator: Mr. H.G. Chissell, Founder and CEO, Advanced Energy Group</p>
10:30 – 11:00	Networking break
11:00 – 11:25	<p>CVC Perspective: Strategic Approaches to Navigating and Integrating Digital Innovations into the Utility Sector</p> <ul style="list-style-type: none"> - How National Grid Partners is approaching the investment into new advanced data driven capabilities : current technologies and innovation areas of interest - Key questions to consider when navigating new technologies and opportunities <p>Mr. Pradeep Tagare, Vice President, Head of Corporate Venture Capital (CVC), National Grid (confirmed)</p>

HOW TO APPROACH AND INTEGRATE NEW DIGITAL CAPABILITIES

11:15 – 12:00 **How to Approach the Build Out and Application of Advanced Digital Capabilities for your IT/OT ecosystem**

- Your journey towards applying advanced digital capabilities to your ecosystems: understanding the steps involved towards integrating any effective digital application into your business and operational process
- Proven use cases for the utility sector, and brief case study of The Weather Company Vegetation Management - Predict : utilizing AI for geospatial satellite imagery for assisting in predictive maintenance and outage prediction, load forecasting, optimizing wind and solar assets and to enhance energy trading

Mr. Mahesh Sudhakaran, Chief Digital Officer, IBM Energy, Environment & Utilities (confirmed)

12:00- 12:30 **Building the Operating Strategies and IT Architecture to Unlock the Capabilities and Power of Data for a Smart, Resilient Energy Future**

- How to begin to harness and operationalize data for enhanced data driven decisions while overcoming legacy systems and infrastructure : where do you begin your integration and what type of support team do you need
- Where to store your data? How best to ingest, correlate and disseminate data for meaningful outcomes that solve and meet a desired end goal
- Current focus and approach for implementing near term capabilities, from RPA to advanced data analytics and ML

Mr. Richard Rosenstiel, Director, Information Technology, ComEd ; Director, Data Analytics Platform Implementation, Exelon Corp (confirmed)

12:30 – 1:15 Networking Lunch

DEPARTMENT OF DEFENSE INSTALLATIONS FOCUS

1:15 – 1:45 **Strategy: DoD: Army Installations of the Future and the Role for Digital Capabilities to Improve Resiliency and Efficiency**

- Establishing the end goals / defining the use case: what are we trying to achieve through utilizing digital capabilities on our installations? What insight or process improvements are we trying to employ by looking to smart city technologies and IoT
- Starting with the data: how Army is approaching the strategic build out of the IT Infrastructure to support new data capabilities while overcoming legacy systems
- Where future opportunities may arise to apply advanced machine-learning, and varying levels of autonomy /AI throughout the strategic and operational IT/OT ecosystem on our installations

Mr. Richard Kidd IV, SES, Deputy Assistant Secretary of the Army for Strategic Integration, Office of Assistant Secretary for Energy, Installations and Environment (confirmed)


1:45 – 2:10 **Implementation: Determining Effective Use of Data to Improve DoD Facility Energy Investments and Resiliency**

- Learn about the areas of interest with The Department of Defense (DoD) Installation Energy Test Bed that is seeking to demonstrate innovative solutions that improve the use, access and quality of data for the purposes of efficient and informed decision-making and improved installation/facility energy and water management.

Mr. Tim Tetreault, Program Manager for Installation Energy & Water (EW), Environmental Security Technology Certification Program (ESTCP), DoD (confirmed)

2:10 – 2:20 **10 minute Tech Talk: The Emerging “Grid” Behind the Meter...The Disruptive Force of Facility-Based IoT Networks**

- Showcasing the evolution of solutions enabling the integration and connectivity of “behind the meter” energy systems
- How connectivity of facility-based energy systems is enabling entirely new services and customer benefits

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2:20 – 2:40 Networking Break

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DERS, EV, and the GRID

2:40 – 3:10

Advanced Grid R&D from DOE: Shaping the Future Development and Application of Faster Grid Analytics and Modeling through data driven applications

-How DOE is supporting efforts to derive more value from the sensor data already being gathered and used to monitor the health of the grid and support system operations.

-Integrating advanced sensors, communications, visualization and analytics to enable 100% observability

-Improving applicability of large, multi-source datasets for real-time operations and off-line planning studies

Deputy Assistant Secretary Mr. Michael Pesin, Advanced Grid R&D, Office of Electricity, DOE (confirmed)

3:10 – 3:35

EV Charging, Big Data, and the Grid

- How Greenlots is utilizing data to support an open standards grid balancing service that helps grid operators avoid overloading their system by aggregating and shifting EV loads based on grid conditions and events.

-Current capabilities for prioritizing and controlling charging at times when additional grid capacity is needed

- Lessons learned: what data sets are proving the most meaningful according to the end goals and early lessons learned towards ingesting, correlating and disseminating our data

-Update on pilots with Avista and SCE

Mr. Scott Fisher, Vice President, Greenlots (confirmed)

3:35– 4:05

Conquering Mountains of Data Creating an Analytical Avalanche

- How to bring disparate datasets together harmoniously to support analysis initiatives including data quality, rate analysis, demand response performance, and other advanced analytics

- Mapping master data using a flexible data model

- Best practices for integrating tracking, billing, AMI, and other secondary data



Mr. Chuck Juhasz, Senior Principal Consultant, Energy Insights, DNV GL (confirmed)

UAS CAPABILITES

4:05- 4:35

Utilizing UAS in the Utility Sector

-Current applications of UAS platforms within AES and what data feeds are proving most useful

-Current challenges with comms at the edge and power supply

-How AES is managing the ingest of large data and then utilizing that data in a meaningful way? Where to store your data?

Ms. Assel Ayapova, Global Drone Program Manager, AES Corporation (confirmed)

4:35 – 4:50

UAS Innovation for the Energy Sector

4:50 – 5:00

Closing Remarks, End of Day 1

June 27, 2019 | DAY 2

7:30 – 8:45

Networking Breakfast and welcome back

8:45 – 9:15

A CEO's Approach to Evolving a Utility of the Future and the Role for Digital Innovation

-Perspective towards where digital innovations will make the greatest strides in the near term that will help improve the resilience, efficiency and sustainability of the Grid.

-Defining the use and business case for advanced digital capabilities: from improving customer communication to enhancing the efficiency and safety of operations and the nation's grid infrastructure

Mr. Calvin Butler, CEO, BG&E (confirmed)

REGULATORY LANDSCAPE

9:15 – 10:00	<p>Panel Discussion: The Regulatory Landscape Towards Digital Intelligence and Data Governance</p> <p>This panel will provide an in depth discussion towards key regulatory and governance topics surrounding the continued integration and applications of advanced digital capabilities. Panelists will offer a diverse set of viewpoints to provide all in attendance a beneficial and insightful understanding of the current landscape</p> <p>Panel Moderator : Mr. Erik Ford, Executive Director, New Jersey Energy Coalition (confirmed)</p> <p>3 Panelists to be included:</p> <p>Mr. Thomas F. Zadlo, Manager, Corporate Data Management Department, PJM Interconnection (confirmed)</p>
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10:00- 10:30	Networking Break
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CYBER RESILIENCY

10:30 – 11:15	<p>Federal Panel: Cyber Resilience and Recovery for the Energy Sector</p> <p>From Increasing resiliency across an expanding footprint of sensors and networks, to exploiting data to enhance decision-making, this panel will offer you insight, advice and available resources from our federal leaders and their respective mission priorities towards cyber resilience, response and recovery</p> <ul style="list-style-type: none"> -Hear how DoD approaches cyber resilience and recovery across its military installations and bases: Current policies or approaches that our partners and stakeholders need to know and how we coordinate with our energy partners. -Gain updates from DOE’s CESAR office on current priorities and initiatives focused on improving cyber resiliency of the national energy infrastructure. Available resources for private sector and energy partners. -Learn about DHS’s current priorities for strengthening the security and resiliency of our Nation’s Grid and their perspective towards the rising challenges in an ever expanding digital footprint in our energy sector: Available resource for private sector and energy partners <p>Panelists:</p> <p>The Honorable Karen Evans, Assistant Secretary, CESAR, DOE (invited)</p> <p>Mr. Donald Heckman, SES, Principal Director, Deputy CIO for Cybersecurity, Department of Defense (confirmed)</p> <p>Ms. Jeanette Manfra, Assistant Director for Cybersecurity, CISA, DHS (invited)</p>
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11:15 – 11:45	<p>Cyber Resiliency through AI enabled Blockchain and Next-Generation Cyber Tools for the Power Grid</p> <ul style="list-style-type: none"> -Exploring AI enabled blockchain solutions to distribute and automate IoT in a more secure way : how AI enabled blockchain solutions may help increase cyber resilience and optimize complex exchanges of DERs by encrypting, monitoring and automating transactions and removing third parties -Brief status report and overview of PNNL’s DOES funded research projects for next generation cyber tools and what the utility sector needs to prepare for <p>Dr. Michael Mylrea, Senior Advisor, Cybersecurity & Technology Blockchain Lead (PI), Pacific Northwest National Laboratory – PNNL (confirmed)</p>
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TURNING DATA INTO POWER

11:45 – 12:15	<p>Turning Data into Power: Utilizing advanced data applications to improve Power Plant Operations and Maintenance</p> <ul style="list-style-type: none"> - How Duke Energy is utilizing advanced sensors to increase automation of predictive maintenance - Creating a digital worker platform utilizing big data analytics and visualization to provide insight and drive actionable intelligence: what are the desired goals and objectives? -How far can the data really take us? viewpoint on current limitations towards trust and validation and verification towards the data outcomes and what the future may hold for applications in the utility sector -Best practices and advice towards optioning the right data sets according to the desired outcome <p>Dr. Michael Reid, General Manager, Technical Programs, Fossil Hydro Group, Duke Energy (confirmed)</p>
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12:15 – 12:25	<p>10 minute Tech Talk: The ALI Platform</p> <ul style="list-style-type: none"> - A SaaS application that separates, classifies, groups, organizes, and analyzes your contracts and agreements through Human Assisted AI to provide: Assisted Document Separation and Classification and Automated Document Intelligence & Analytics <p>Sponsored by:  ThoughtTrace</p>
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12:25 – 1:00	Networking Lunch
1:00 – 1:30	<p>Creating a Digitally Connected and Dynamically Optimized Power Plant: Update on EPRI's work in this area</p> <p>The i4Gen vision requires an increase in data collection, autonomous data integration, methods for massive data management, data analysis, and applications that convert data to actionable intelligence. Here about current work and pilots focused on:</p> <ul style="list-style-type: none"> - Maturing technology in the areas of sensors, advanced control, data analytics, digital worker, and next stage monitoring and diagnostics. - Improving decision-making through data analytics and potential application of prognostics, - Integrating fundamentals and digital tools to enable a digital workforce - Improving communication using data visualization to display relevant information in a timely manner <p>Ms. Susan Maley, Principal Project Manager, Instrumentation, Controls, and Automation Program; Project Manager i4Gen, EPRI (confirmed)</p>
1:30 -1:55	<p>Big Data and Machine Learning in NETL's Fossil Energy Portfolio: including digital twinning, predictive maintenance and sensors and controls</p> <ul style="list-style-type: none"> - Brief overview of FE technology thrusts and active portfolio leveraging big data and machine learning - Perspective towards where future opportunities may arise to apply advanced machine-learning, and varying levels of autonomy throughout the IT/OT ecosystem <p>Dr. Antonio Ferreira, CIO National Energy Technology Laboratory (NETL) , DOE (confirmed)</p>
1:55 – 2:10	Refreshment break
2:10 – 2:30	<p>Transforming Customer Experience with RPA and Advanced Digital Capabilities</p> <p>Case Study: Improving Customer Experience through Digital Intelligence and Innovation</p> <ul style="list-style-type: none"> - Established procedures and governance models to improve customer's digital experience including: data hygiene, compliance, preference management, and request process...3 things we got right, and 3 lessons along the way - Support tools that have proved of value in supporting customer communication
2:30 – 2:55	<p>Closing Highlight:</p> <p>The Future of Advance ML / AI Applications for the Energy Sector</p> <ul style="list-style-type: none"> -APRA- E's current concentration on developing energy technologies and bringing them to market by employing emerging machine learning (ML) /artificial intelligence (AI) algorithms and toolkits -Viewpoint towards where future opportunities may arise to apply advanced machine-learning, and varying levels of autonomy /AI throughout the strategic and operational IT/OT ecosystem
2:55 – 3:00	Closing Remarks, end of Summit

Working Agenda . Sessions are not in final order and bullet points subject to edits

POC: Monica Mckenzie, Managing Partner, Roosevelt Strategic Council

mckenzie@rscouncil.org | 917.435.1266

Website: <https://rscouncil.org/digitalenergy>

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