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Live coverage: JAX Infrastructure Innovation Summit brings out city leaders in energy, transportation, technology

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City and industry leaders have converged at the Prime F. Osborn III Convention Center to wrestle with the biggest disruptors coming to energy, transportation and infrastructure, from microgrids to artificial intelligence to blockchain.

This post will be regularly updated all day long, so check back in for the latest coverage.



WILL ROBINSON

JEA interim CEO Aaron Zahn opens the Infrastructure Innovation Summit 2018 Oct. 5 at the Prime F. Osborn III Convention Center.

Transportation panel - 2:45 p.m.

In a panel of transportation experts, JTA CEO Nat Ford reaffirmed JTA's role as a transportation integrator, an identity Ford formalized at the State of JTA in May.

"We're looking at any mode of transportation and integrating that, rather than just rail or bus," said Ford.

In Jacksonville, 80 percent of commuters drive to work alone, one of the highest proportions in America, according to census data. Ford, however, believes transit can win riders even in Jacksonville.

"To grow that mode share, the quality of the mode has to improve," said Ford.

JTA has created an app for ticketing and seeing real-time system data, added Wi-Fi on buses and more, Ford noted. The authority's plans for an autonomous vehicle network, the Ultimate Urban Circulator, to extend the Skyway infrastructure to popular areas around downtown and its new transportation center, currently under construction, are both efforts to bolster transit service options and densify populations around transit infrastructures, Ford said.

JTA is also one of several entities applying for a federal grant to fund an innovation corridor. If successful, JTA would operate a 15-shuttle autonomous network within two years, Ford said.

"We are already on the path of developing what has already gotten national attention – not an autonomous shuttle, but an autonomous system," said Ford.

"We're hoping that Jacksonville will be the first city that does the first full deployment of a network."

Future of transportation - 2 p.m.

Gabe Klein, co-founder of CityFi and former commissioner of the Chicago and Washington, D.C. departments of transportation, outlined transportation's role in urban life, public health and local economies as the industry adopts "transportation as a service."

Transportation as a service (TaaS) includes bike shares, ride shares, scooter services and more that offer customers access to transportation without ownership. Klein noted that Lyft recently launched a monthly subscription service where a monthly fee gives riders unlimited trips.

"We're moving to collaborative ownership," Klein said. "We'll own fewer things in the future, but we'll have access to more things."

To Klein, TaaS is a welcome change to the conventional car-dominated way of getting around in America is a public health monster.

"We went all in on cars," said Klein, noting that vehicle deaths went up 15 percent last year, transportation has become the number one cause of air pollution worldwide, chronic asthma has become the leading childhood illness in the U.S.

and Europe and Americans weigh on average 15 pounds more than they did 15 years ago.

Klein encouraged the kind of experimentation JTA and others in Jacksonville have put forward, ranging from an autonomous vehicle transit system to an innovation corridor that allows private companies to test their systems.

"Give [JTA CEO] Nat Ford and the Mayor freedom to try new things," said Klein.

Utility panel - 12:15 p.m.

A panel of utility executives addressed a number of themes in the industry, including declining energy sales, greening energy supplies and the need to innovate quickly. The executives, including JEA President Melissa Dykes, expressed a focus on adding new services to stem revenue losses from declining energy sales.

"We have to build a portfolio of complementary services to offset our declines in energy sales," said Dykes.

In that effort, JEA has formed an innovation lab that has the freedom to "deploy quickly and fail fast," said Dykes. The lab is working in projects to use data analytics to conduct predictive maintenance that prevent power outages, use sound waves to detect small water leaks and other projects.

The panelists also expressed a shared focus on becoming a trusted advisor to customers in a distributed energy environment by either recommending service providers or becoming service providers themselves.

Trends in the utility industry - 11:30 a.m.

Sue Kelly, CEO of the American Public Power Association, encouraged JEA to take on three trends in the utility industry: Amazonification, connectivity and socialization.

Amazonification – Just as Amazon (Nasdaq: Amazon) transformed from a company that sells virtually anything, utilities need to become one-stop shops for energy,

according to Kelly. They also need to adopt Amazon's hyper-focus on customers by thinking about new ways to serve emerging customer needs. Specifically, JEA can explore becoming a solar panel installer, make its grid work two-ways with smart meters and more.

Connectivity – In the age of the Internet of Things and blockchain technologies, "Anything that can be connected will be connected," Kelly said. This brings a host of opportunities and challenges that need to factor into planning.

Socialization – Social media has ushered in a new era of customer interaction, according to Kelly. Utilities need to be proactive in reaching out and become a reliable source of information. Focusing on local community service opportunities and investments is also a proactive step.

The data gold rush - 10 a.m.

Melba Kurman, author and former Microsoft (Nasdaq: MSFT) analyst dove head first into the issues surrounding ongoing efforts by the North Florida Transportation Planning Organization, JEA and the Jacksonville Transportation Authority – agencies that are working to create an integrated data exchange, innovation corridor and autonomous transit system.

Kurman laid out what cities have to consider in the world of the "API economy," where companies use city owned or managed data to build apps for autonomous vehicles and connected infrastructures.

"Whether they like it or not, cities are the ground zero," said Kurman.

This new world has utopian and dystopian possibilities, according to Kurman. Both futures are built on a wealth of sensors communicating to each other – light poles that detect gunshots, sewer sensors that detect an outbreak of a virus, streets that direct traffic to avoid congestion and more.

In the utopian future, autonomous vehicles nearly eradicate accidents and air pollution; distribution centers send goods automatically; trash and power travel underground; companies design apps for uses unimaginable today. In the dystopian future, connected devices create an unprecedented surveillance state.

"If cars going around filming everything ever where every day, it could be a privacy nightmare," said Kurman. "At best, we'd see aggressive marketing, at worst a surveillance state."

Connecting more devices also means exposing more infrastructure to the risk of cyberattacks. Buildings, cars, power grids could all be hacked.

This puts city governments in the middle of a "data gold rush" from companies looking to monetize the world of possibilities created by connected devices and gives them a critical role to define and protect the data rights of consumers.

Exponential energy - 9 a.m.

What will the energy of the future be? According to Glen Hiemstra, founder of Futurist.com, it will be a mixture of wind and solar generation. Why those? For Hiemstra, its a simple matter of dollars and cents.

Natural gas power generation, widely considered the cheapest form of generation, costs about six cents per kilowatt hour. However, utility scale solar and wind generation can generate power at close to two cents per kilowatt hour. The two energy sources have also seen massive increases in adoption – 6.5 times adoption growth in wind and 50 times adoption growth in solar over the last decade.

But what about when the sun doesn't shine and the wind doesn't blow? Based on Germany's experience, the wind typically blows when the sun doesn't shine; solar peaks in the summer, and wind peaks in the winter. Still, battery storage is critical to make those energy sources consistent enough for a grid.

However, battery storage has benefited from the same "virtuous learning cycle" that has brought the costs of wind and solar energy down so dramatically in such a small span of time. The U.S. Department of Energy projected just a few years ago that the costs of storing a kilowatt hour of energy would reach \$400 by 2050; Tesla (Nasdaq: TSLA) can only store a kilowatt hour for \$200 today.

"We are in fact in the era of exponential energy," said Hiemstra.

Coal and oil will lose to the economies of scale of wind and solar in a future Hiemstra called "almost inevitable." Nuclear is less likely to be a part of the energy

future, Hiemstra believes.

"In Jacksonville, you are very well aware of the issues related to nuclear," he said, referring to JEA's expensive experience with Plant Vogtle. "It's unheard of to bring those projects on budget. It's difficult to foresee a future where we build a lot of nuclear projects when we can install 70,000 solar panels every hour as we are right now."

Disruptions are coming, and they're coming faster than ever - 8:30

Genetically building infertility into mosquitoes, robots building robots, genome mapping cheaper than water, 3D-printed homes that take a day to build and cost \$1,000 – all these and more are on the horizon thanks to the rapid rate of change facilitated by modern computing power, according to Nathaniel Calhoun, chair of global grand changes at Singularity University.

The takeaway: Buckle up for change. It's accelerating.

Visions of the future - 8 a.m.

JEA interim CEO Aaron Zahn opened the summit by telling the audience, which includes many JEA employees, to rethink JEA's role as a utility.

"Stop thinking about a utility company," said Zahn. "That's the JEA of the past."

The industry is changing too fast for JEA to keep its role as a centralized power supplier and transmitter, Zahn said. Instead, JEA can become "the center of the energy economy" in a world where Jacksonville's power grid includes widely distributed rooftop solar generation, microgrids and more. Zahn also touted JEA's new-found ability to convert waste water into drinking water, the product of a recently completed development project.

JEA's power and water visions are two examples of JEA's plans for its long-term future, according to Zahn.

"If we're successful, then what we will create is a Jacksonville of the future that has all of the elements you're going to learn about today," said Zahn.

Mayor Lenny Curry took the stage after Zahn and addressed the last year of JEA discussions in Jacksonville, discussions that were dominated by the question: Would Jacksonville be better served if JEA was sold to a private utility?

"There have been tough conversations over the last year, and those conversations have created fear and uncertainty," said Curry. "But all of those conversations were filtered to you through a media narrative that was not true."

Curry then lauded the \$290 million in debt the City has paid down in recent years, savings Curry said will allow the City to invest in infrastructure ideas of the future, like those that will be presented today.

Will Robinson

Reporter

Jacksonville Business Journal

