Center for Public Policy Innovation
Internet of Everything: Trucks, Tractors, Training and Jobs
April 21, 2015

Rep. Darrell Issa delivers opening remarks

On April 21, 2015, the Center for Public Policy Innovation hosted a forum on Capitol Hill- *Internet of Everything: Trucks, Tractors, Training, and Jobs*. The event focused on ways the Internet of Everything (IoE) is transforming major sectors of the U.S. economy, including agriculture, transportation, and local government while creating new ecosystems of jobs and opportunity. The event is part of CPPI's greater mission of educating Members of Congress and their staff on issues related to emerging technologies. Given the pace of innovation,

Co-Chair of the newly formed Congressional Internet of Things Caucus, **Congressman Darrell Issa (CA-49)** delivered opening remarks for the event, and stressed the importance of education among lawmakers on issues surrounding technology to the audience of senior Hill staff. "[As staff] you have to get smarter than Members of Congress on technology, a few of us get credit for being 'used-to-bes' when it comes to new technologies, but the rapid rate of technological change is outpacing our knowledge… There is a lot more to IoT that you need to be on top of for your members and it pertains to the decisions that they make every day. "

Blair Christie, Chief Marketing Officer for Cisco delivered the keynote address, calling IoE the next powerful wave of the Internet. "There are 13 billion things connected to Internet, in the next five years that number will reach 50 billion. What is so powerful about this? It is more than just things connecting. We are also going to see another 2 billion people connected to the Internet in the coming years. This creates power and opportunity and significant information sharing," said Christie.

Christie went on to note the amount of data now created in one year is greater than the past 5,000 years combined. The value of IoE will come from that data, and Cisco estimates $19 trillion in economic value across the public and private sector as a result. "Entire industries will be disrupted. Just look at Airbnb and how it's replacing traditional hotel accommodations. Smart cities are popping up all over the world, creating new

revenue opportunities and greater services to citizens."

Cisco's Chief Marketing Officer Blair Christie discusses economic potential of IoE

After her presentation, Christie moderated a panel

discussion with subject matter experts: **Mark Lewellen,** Manager of Spectrum Advocacy, John Deere; **Dr. Michael Mandel**, Chief Economic Strategist, Progressive Policy Institute; **Dan Hoffman**, Chief Innovation Officer, Montgomery County, MD; and **Jeff Campbell**, Vice President, Cisco Government Affairs.

Senior Hill staff participate in Q&A with panelists

Throughout the panel discussion, it became clear that every industry imaginable will be affected by IoE. Michael Mandel of the Progressive Policy Institute provided a quick summary of how IoE is different than the Internet, "The internet has transformed industries that are digital such as finance, telecom, entertainment, and journalism. These make up 20 percent of the total economy. IoE extends transformations to the other 80 percent of industries."

"We are going to see IoE affecting growth. IoE could add 2-5% to U.S. GDP. This boosts productivity and helps bring back manufacturing jobs to the U.S. from other countries. When you have innovative industries, they create jobs rather than destroy them. IoE will create new jobs that didn't exist before. Paying for training is one of the most difficult things in the economy and something that needs to be accomplished for IoE to excel," continued Mandel.

Agriculture is a great example of IoE in action, as Lewellen, of John Deere cited various ways technology is allowing farmers to become more efficient. Labor, input, fuel, and seeds can all be better utilized through IoE by using technology like geo-referencing with GPS to create a yield map. "A lot of has been available to large farms for a while, but now we are seeing small/medium sized farms gaining access to the same data," said Lewellen.

Another sector feeling the impact of IoE is transportation. Thomas Lehner of MEMA stated that, "There is a dramatic and radical transformation going on right now in the motor vehicle industry. Autonomous and semi-autonomous safety features have rapidly emerged and are going to enable people to cede control to the vehicle. This type of development is coming along quickly, probably faster than you realize. Most industry stakeholders are predicting vehicles to be fully operational by 2020."

Smarter vehicles will lead to an increase of mobility for people around the globe, a decrease in accidents, and an increase in efficiency and fuel economy.

Meanwhile, Dan Hoffman, Chief Innovation Officer of Montgomery County, Maryland, discussed ways the public sector is utilizing IoE technology. Hoffman runs a civic R&D lab for the county, which is meant to run test beads to better vet, understand, and refine products. One example is the "Senior Living Facility Test Bed" which monitors air and water quality at

Dan Hoffman, CTO of Montgomery County discusses IoE's impact on public sector

senior living centers. The county is working with large companies, small start-ups, and academic institutions to create a diverse group of stakeholders.

"We make concepts real to policy makers. We want to put a story to some of the things we're talking about. It's easy to come up with scary scenarios around privacy and some other far-fetched concerns. But when you actually show someone the reality of what a connected home for a senior can do, that is really helpful."

"One approach we are taking in the county- IoE needs to be for everyone. The gap between people who can and can't afford devices and Wi-Fi is something we look at closely. The public sector's panacea is when we see IoE save lives, reduce recidivism, and improve education outcomes- that's when we make significant return on our investment," added Hoffman.

Several of the panelists, including Jeff Campbell of Cisco Government affairs, addressed the issue of broadband as the backbone for IoE infrastructure. "We've had enormous amount of investment across the country, but there are still rural areas that need work- we want to make sure we don't leave any parts of the country behind."

Christie concluded by encouraging the attending staff to continue learning to better understand IoE and its implications. "Innovation balanced with regulation cannot be more important than it is right now."