U.S. House of Representatives
Committee on Energy and Commerce
Subcommittee on Digital Commerce and Consumer Protection
"Disrupter Series: Smart Communities" Hearing

March 16, 2017

Statement for the Record

On behalf of the undersigned companies and associations representing the technology sector, we appreciate and welcome the Subcommittee on Digital Commerce and Consumer Protection's consideration of policy measures that improve and enhance the deployment of "smart" technology at the local level.

We believe that strong smart technology policy begins with the inclusion of all stakeholders, both public and private, and aims to improve livability, workability, and sustainability across a broad range of communities, including the most vulnerable. As mentioned in the subcommittee's hearing memo, the technology sector has a history of collaborating with government, academia, and other key stakeholders to innovate and deploy smart technology in communities across the country. [1]

We strongly support investment in the infrastructure that supports the deployment of next generation technologies, namely the internet infrastructure. With 50 billion devices to be connected to the internet by 2020, robust and cutting-edge broadband networks like 5G will be essential to realizing the full potential of smart technology use cases across the transportation, consumer, government and industrial sectors. Ubiquitous, affordable, high-speed broadband connections are critical to enabling the countless smart city benefits and services. Such

[1] Disrupter Series: Smart Communities Hearing Memo. 14 March 2017.

infrastructure investments have "triple bottom line" returns, providing social, financial and environmental benefits.

For example, a recent report by the Smart Cities Council estimates that 12,000 job-years of employment are created for every $1 billion investment in wireless infrastructure[2]. The sustainability benefits from technology innovations in intelligent transportation systems (ITS) and information and communications technology (ICT) is another example, as these solutions offer ways to make our transportation systems more efficient and less costly.

We're encouraged by the existing federal policy that promotes and support efforts by cities and municipalities to improve quality of life for their citizens, like the Department of Transportation's (DOT) Smart Cities Challenge and the National Institute of Standards and Technology (NIST) Global City Teams Challenge. As the subcommittee examines the role of the federal government in supporting smart technology deployment, we support the proposals outlined in the draft Smart Communities Bill. The bill outlines critical priorities, including (1) enhanced federal coordination and investment in smart city and community programs, (2) community assistance, (3) improved performance and interoperability, and (4) promotion of international cooperation and proliferating best practices.

As outlined in the bill, coordination of activities among federal agencies working in smart communities application areas is an important next step. The National Science Technology Council highlighted this importance of bridging existing divisions and silos (see Figure One) in their 2017 *Smart Cities and Communities Federal Strategic Plan.*[3] To address this coordination challenge, the bill directs the Secretary of Commerce, in coordination with the Secretaries of Energy, Transportation, and Housing and Urban Development and the Director of the National Science Foundation (the Secretaries), and other agencies, to develop a strategy for coordinating federal smart communities activities and to promote private sector partnerships and international cooperation.

[2] Smart Cities Council. *Smart Infrastructure Unlocks Equity and Prosperity for Our Cities and Towns*. September 2016.

[3] National Science and Technology Council. *Smart Cities and Communities Federal Strategic Plan: Exploring Innovation Together*. https://www.nitrd.gov/drafts/SCC_StrategicPlan_Draft.pdf

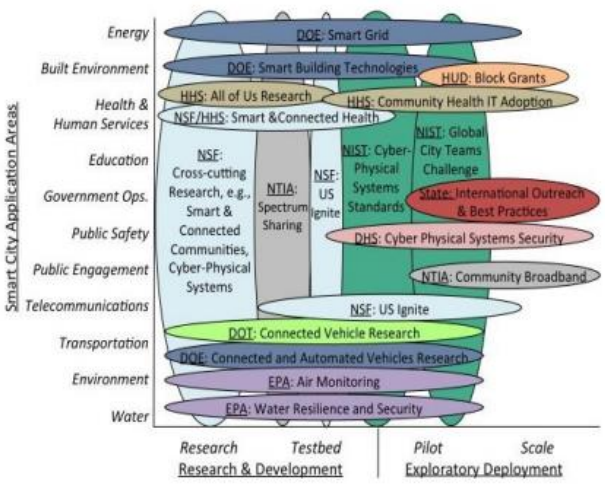

Figure 2: Examples of Federal smart city/community bridging programs. The image depicts examples of smart city/community bridging programs supported by the Federal government by application area (vertical axis) and technology readiness level, from research to exploratory deployment (horizontal axis). Bridging programs are those that cross multiple application areas (vertically-elongated ovals) or span multiple technology readiness levels (horizontally-elongated ovals).

FIGURE 1- SMART CITY APPLICATION AREAS (NATIONAL SCIENCE AND TECHNOLOGY COUNCIL)

Another priority of the Smart Communities Bill that should be considered by the subcommittee is the importance of improved performance and interoperability, which is encouraged in the bill. Systems of intelligent devices must be connected to the network and to each other to maximize the potential of smart communities. To enable broad, scalable adoption of smart communities technologies, and avoid proprietary silos or non-repeatability, attention must be placed on (1) the use of industry-led standards developed by globally relevant standards-setting organizations, and (2) ease of connectivity and interoperability of devices, platforms, software and infrastructure. The bill encourages federal government participation in industry-led smart cities standards development and interoperability.

A certain level of standardization will be necessary to drive a successful, nationwide smart community security ecosystem – e.g., to ensure that multiple applications within communities can securely communicate with each other and municipal infrastructure. Industry is in the best position to develop the technological standards and solutions to address the security challenges facing smart communities. The private sector should lead the development of open and voluntary standards that enable interoperability, and partner with the public sector to encourage the sharing of standards and best practices. The federal government should encourage industry/laboratory research and market acceptance, but policymakers should refrain from mandating specific technologies or standards.

With respect to cybersecurity and privacy in smart technology deployment, we strongly encourage integrating privacy and security from the outset, as is done by the companies we represent. To drive smart communities' adoption, applications must evoke trust through hardened privacy and security solutions, looking to widely accepted best practices as well as novel approaches. Most importantly, privacy and security must be designed into smart communities systems at the outset using best-known Privacy-by-Design and privacy engineering

methods, as well as secure development practices, which contemplate the varying objectives and risks for different smart communities' solutions.

Finally, we support the promotion of international cooperation and proliferating best practices. Whereas 54 percent of the world's population now lives in cities, it is estimated that 70 percent of the world's population will live in cities by 2050. The global smart cities market is projected to reach $408 billion by 2020 and U.S. GDP is projected to increase 25-40% due to cyber-physical systems by 2030. The continued cooperation and partnership between the United States and countries around the world with regards to smart U.S. technologies holds the potential to increase U.S. exports and increase job growth in the United States. Furthermore, continued international promotion of U.S. smart technologies in countries around the world holds the potential to advance shared interests, including the adoption of energy and resource saving technologies that can secure the availability of water, food and energy, and improve public health, disease prevention, and pandemic response.

We thank the subcommittee for holding this hearing and allowing us to submit written testimony. We look forward to working with you to coordinate federal efforts on smart communities, and provide federal tools and resources to assist communities across this country as they look to deploy these job-creating and cost saving technologies.