Before the
DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration

In the Matter of:	)	
	)	
The Benefits, Challenges, and Potential	)	Docket No. 160331306-6306-01
Roles for the Government in Fostering	)	
the Advancement of the Internet of Things	)	

COMMENTS OF THE NATIONAL ASSOCIATION OF MANUFACTURERS

On behalf of the more than 14,000 members of the National Association of Manufacturers (NAM), the largest manufacturing association in the United States representing manufacturers in every industrial sector and in all 50 states, please accept these comments on "The Benefits, Challenges, and Potential Roles for the Government in Fostering the Advancement of the Internet of Things."

The Internet of Things (IoT) is Transforming Manufacturing

Once a tool accessible only through our personal computers, the internet has seamlessly integrated into every aspect of our daily lives. The growth of wireless networks and broadband systems capable of transmitting tremendous amounts of data keep us constantly connected as do handheld devices whose capabilities seemed unimaginable just a decade ago.

This nexus of exciting technologies has given us the "Internet of Things" (IoT) – the interconnectivity of devices of all kinds that has resulted from secure network connectivity, wireless technology and cloud infrastructure. The number of connected devices is increasing exponentially. Billions of devices are already connected and billions more are coming online every year. This is creating transformative change and new opportunities in the manufacturing sector.

The manufactured products and the shop floors where they are made have become increasingly connected. This constant connectivity is dramatically changing the way manufacturers compete and the relationships with their customers. On the shop floor and in the field, our industry is using technical tools and infrastructure for managing production activities, safeguarding and monitoring plant security, enhancing product performance and reliability as well as satisfying customer needs, tracking inventory and raw materials and shipping logistics.

The IoT plays an integral role in driving innovation in the manufacturing sector which is increasing our global competitiveness and our ability to create jobs in the United States.

Industry-Government Collaboration Critical to Continued Growth of IoT

To continue to unleash the potential for increased economic growth in the manufacturing sector supported by the IoT, government and industry must work together to develop a strategy that will preserve, sustain and expand the opportunity this technology trend is generating.

Manufacturers cannot afford to lose our leadership role in the digitally driven economy as a result of ill-advised legislation and regulation. By creating a strategic partnership with manufacturers, all levels of government can take a step toward establishing policies that encourages continued innovation in our sector.

Smart IoT Policy Decisions Will Drive Growth in Manufacturing

Policymakers at all levels of government are becoming more exposed to the potential impact the IoT will have on our economy, specifically in the manufacturing sector, and are engaging in the debate. The NAM recommends that all policymakers consider the implications of regulatory and legislative proposals, proceed with caution and not attempt to influence the marketplace, especially when no intervention is required. Any decisions made by policymakers must facilitate the growth of the IoT rather than stunt the expansion of connected technology. We therefore must not threaten this opportunity that can benefit all sectors before it even starts to be realized.

Coordinate Across the Government: The NAM recommends that the federal government must first develop its own IoT strategy that focuses on coordination across all agencies. An uncoordinated, agency-by-agency regulatory approach to this new technology will lead to confusion and compliance challenges for industry while simultaneously creating an environment that drives down incentive to invest. To achieve this proper balance, the NAM supports the *Developing Innovation and Growing the Internet of Things (DIGIT) Act* (S. 2607 introduced by Senators Fischer (R-NE), Ayotte (R-NH), Booker (D-NJ), and Schatz (D-HI)/H.R. 5117 introduced by Representatives Paulsen (R-MN) and Welch (D-VT). This bill creates a steering committee of federal stakeholders including manufacturers which is charged with helping to develop recommendations to Congress on how best to encourage IoT growth.

Let Industry Continue to Lead on Cybersecurity and Privacy: Manufacturers, through their comprehensive and connected relationships with customers, vendors, suppliers and governments, are entrusted with vast amounts of data. Security of this information as well as the maintenance and protection of our nation's information technology and communications critical infrastructure are essential to our national security and economic stability.

Manufacturers recognize that respecting and safeguarding privacy and prioritizing security builds consumer confidence in new and innovative technologies and services. As a result, industry's best practices in the proper handling and securing of data are constantly adapting and evolving to address new threats. Government mandates that address specific tools or technologies to be used can hold back innovation by freezing today's state-of-the-art in place, where it can become quickly outdated.

The NAM recommends the federal government expand its commitment to working with industry on a voluntary cybersecurity system that does not lead to any new or unnecessary burdensome regulations that will slow the deployment of the Internet of Things. The National Institute of Standards and Technology (NIST) is well-positioned to include a focus on IoT as it

moves toward enhancing its “Framework for Improving Critical Infrastructure Security” (the Framework).

The NAM recommends NIST explore opportunities to continue outreach to manufacturers of all sizes with a focus on smaller firms on how best to utilize the Framework and how it will impact the Internet of Things.

Creating a transparent and straightforward regulatory regime to protect personal information should also be a priority across government. Establishing different and potentially duplicative privacy reporting and compliance requirements in multiple agencies does not benefit the consumer. The NAM is therefore concerned with the Federal Communications Commission’s (FCC) efforts to create separate privacy requirements for the telecommunications industry. This will create an undue burden on this segment. It will take away critical resources that would otherwise be applied to further investment in our nation’s broadband infrastructure on which manufacturers depend to fuel their innovation pipeline. The manufacturing industry needs a consistent privacy regulatory framework across the entire internet ecosystem.

Encourage Global Growth and Interoperability: The Internet of Things is generating significant amounts of valuable data for manufacturers and their customers all around the world. This new currency must travel freely between the vendor and the end-user. The products and processes leveraging it need to work regardless of where they are located and be secure while they are supporting global operations.

The NAM encourages the federal government to work with its counterparts around the world to continue to put in place a modernized system that allows this data to flow seamlessly across borders without data localization mandates. The responsibility of protecting national security and the privacy of sensitive data should be taken very seriously but any new policy discussions should center on facilitating the growth of interstate and global commerce and not obstruct it.

International security protocols and interoperable standards are also necessary because they create certainty for manufacturers targeting the international marketplace. The federal government should support industry-led efforts to create mutually-agreed upon, interoperable global standards so manufacturers of all sizes have an increased ability to reach the 95% of the world’s consumers that live outside of the United States.

Modernize our Telecommunications Laws and Regulations: Advancements in our nation’s telecommunications infrastructure have been supported by hundreds of billions of dollars of private-sector investment. This investment has allowed manufacturers to have access to advanced technology and tools that are transforming the products they make and the processes they use. As the entire manufacturing industry has kept pace with technological change our nation’s regulatory structure has not. If that is not updated soon our global leadership position in advanced manufacturing may be at risk.

Manufacturers need our telecommunications laws to reflect the realities of the 21st century and not be based on 1930’s era regulations. The federal government must partner with manufacturers on a sensible strategy that encourages the growth of the IoT and investment in our telecommunications infrastructure rather than deploying rules that will chill further expansion of these enabling technologies.

Spectrum Policy Should Benefit All Industries: Connected products and devices are dependent on spectrum to run effectively. The diversity of the products in the marketplace reflect the wide range of opportunities every manufacturing sector sees in the Internet of Things.

Our government's approach to spectrum policy must be sensitive to these differences and make decisions that benefit all industries. As the federal government works to manage this finite resource any future spectrum policy decisions made should not place any individual industry segment at a disadvantage when deploying connected technology solutions in their products or processes.

Protect Intellectual Property: As manufacturing becomes an increasingly digitally-driven industry with billions of connected devices the threat of intellectual property (IP) theft and infringement increases. The NAM encourages the government to enforce IP protection laws domestically and work with its international counterparts to improve foreign enforcement of IP rights.

The IoT also may disrupt traditional notions of IP rights and enforcement. Any attempts to change how IP is protected must take into consideration the different business models of the very diverse industry segments deploying IoT solutions and how they manage their IP portfolio. Any changes to IP protection must not undermine the ability of any sector to protect and enforce its intellectual property rights.

Conclusion: Role of Government Should be IoT Enabler

The entire economy and the government is interdependent and reliant on the internet for communication, commerce and homeland security. Billions of devices are now attached and exchanging information over this global network making it even more essential to our nation.

The growth of the Internet of Things has translated into improved quality of life for citizens, expanded growth for businesses across both urban and rural regions, and greater opportunity for all. Still, what has been achieved will be dwarfed by the possibilities which still lie ahead.

The federal government has a role and responsibility to facilitate the continued growth and accelerate the adoption of the Internet of Things if the United States is to maintain its technological and economic leadership position. The NAM looks forward to engaging in a partnership across the government on developing policies to ensure this opportunity is fully realized without needless burdens and restrictions.

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