

Mr. Travis Hall
Telecommunications Policy Specialist
National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Ave NW
Washington, DC 20230

June 25, 2020

Re: ITI Comment in Response to NTIA request for public comment on Implementation Plan for National Strategy to Secure 5G; RIN #0660-XC04

Dear Mr. Hall,

The Information Technology Industry Council (ITI) appreciates the opportunity to submit our response to NTIA's request for comment (hereafter "RFC"), on behalf of the Executive Branch, on developing an Implementation Plan for the National Strategy to Secure 5G (hereafter the "5G Strategy Plan").

ITI represents the world's leading information and communications technology (ICT) companies. We promote innovation worldwide, serving as the ICT industry's premier advocate and thought leader in the United States and around the globe. ITI's membership comprises companies that operate in almost every layer of the 5G stack, including semiconductor and network equipment designers and manufacturers, software and digital services companies, as well as those that will harness 5G to evolve their businesses.

We support the USG's increased focus on enabling the deployment of the next generation of cellular network technology; indeed, 5G will be transformative for our society, offering opportunities to U.S. companies and consumers not previously available. We further appreciate the comprehensive nature of the National Strategy to Secure 5G – all four lines of effort can facilitate U.S. leadership in this space.

However, we are also concerned with some of the ways in which Administration officials have proposed ensuring that leadership, including having the government buy controlling stakes in certain companies. In considering how to implement the four lines of effort under the National Strategy to Secure 5G, the USG should ensure in every instance that its actions do not result in picking winners and losers in the 5G marketplace. The private sector should lead, and the market should determine the "winners."

When considering our comments, we encourage the USG to use ITI's *5G Policy Principles* as a foundational document (attached). Recommendations that address many of the questions posed in the RFC are captured there, though in some cases we have expounded upon those principles in our response.

Immediately below, we offer a summary of our recommendations, followed by answers to each of the questions posed in the RFC.

Summary Recommendations

The U.S. government should take steps to enable an environment that supports innovation and encourages investment in the foundational and new technologies that will facilitate 5G networks.

These steps should include prioritizing freeing up additional spectrum, promoting internationally harmonized spectrum bands as appropriate, using targeted government/public funding to complement private sector investment to accelerate the rollout of 5G infrastructure, investing in workforce training, and further streamlining siting requirements.

The U.S. government should take a risk-based approach to 5G security, including focusing on threats to the 5G ecosystem beyond those associated with supply chain. We recommend that policymakers take a risk-based approach to 5G security, ensuring that any effort is evidence-based and fit-for-purpose. Policymakers should consider how to address the full range of risks as a singular focus on equipment and suppliers threatens to stifle what should be strong national attention on the full breadth of 5G security issues.

The U.S. government should continue efforts to lead in global conversations happening on 5G. This should include continuing multilateral and bilateral engagements, creating the multilateral fund set forth in several pieces of legislation, considering carving out a national security exception for telecommunications networks in Development Finance Corporation (DFC) funding, reconsidering the content rules that currently govern Export Import Bank transactions, and continuing and expanding funding for 5G- and cybersecurity-related business development trade missions, reverse trade missions, and other events.

The U.S. government should seek to support increased U.S. industry participation in standards bodies working on 5G specifications, through supporting industry-led bodies with transparent, rules-based processes, making the United States a more attractive meeting location for standards development organizations (SDOs) to host meetings, ensuring that current and future policies and regulations do not unintentionally inhibit U.S. company participation in international standards bodies, reexamining NISTIR 8074 to see whether and how recommendations are applicable to 5G work, and regularly communicating with U.S. industry.

Finally, the U.S. government should work closely with industry partners on all facets of the Implementation Plan. We appreciate the opportunity to provide comments in response to this RFC and encourage the U.S. government to maintain consistent engagement with industry on all aspects of the Implementation Plan. It is imperative that the U.S. government collaborate with industry, as secure 5G deployment will only succeed with sustained effort from all stakeholders.

Line of Effort 1: Facilitate Domestic 5G Rollout

- 1) *How can the United States (U.S.) Government best facilitate the domestic rollout of 5G technologies and the development of a robust domestic 5G commercial ecosystem (e.g., equipment manufacturers, chip manufacturers, software developers, cloud providers, system integrators, network providers)?*

The basis for sound 5G policy rests on ensuring an environment that supports innovation and encourages investment in the foundational and new technologies that will facilitate the next

generation of networks, while also driving deployment by freeing up spectrum and taking steps to make 5G deployment easier. As we lay out in our policy principles, we recommend that the USG:

- **Prioritize freeing up additional spectrum for 5G.** ITI supports increasing both commercial and private access to licensed, unlicensed, and shared spectrum for 5G, particularly in the mid- and high-bands.
- **Promote internationally harmonized spectrum bands, as appropriate.** Policymakers should pursue opportunities for global harmonization of spectrum bands, while maintaining individual countries' sovereignty to allocate spectrum for domestic use.
- **Use targeted government/public funding to complement private sector investment and accelerate the rollout of 5G infrastructure.** Where public funding is available and utilizable, it should facilitate solutions that are based on open, interoperable approaches, and be made available for 5G infrastructure and services, as well as for 5G operating expenses. Additionally, we note that leading-edge semiconductor innovations are key components of the transition to 5G networks and similar funding mechanisms—whether through investment tax credits or federal and state grant programs—should be extended to include the purchase of semiconductor manufacturing equipment and semiconductor manufacturing facility investment expenditures.
- **Invest in workforce training.** In addition to the tower technicians and telecom crews servicing 5G infrastructure, 5G will also require more datacenter technicians, cloud systems administrators, cybersecurity experts and other workers with the skills to advance virtualization. Governments should prioritize funding training and retraining for workers to meet 5G-related workforce needs. This training and retraining should be conducted in conjunction with industry to ensure that it meets the required skillset and policymakers should consider providing incentives to industry to support training.
- **Further streamline siting requirements.** Governments at all levels should consider siting reforms, including streamlining licensing requirements to speed up the deployment of 5G infrastructure. The FCC should continue to remove barriers to 5G siting, considering not only how to facilitate new small cell technology but also how to upgrade existing cell sites.

2) *How can the U.S. Government best foster and promote the research, development, testing, and evaluation of new technologies and architectures?*

It is important that the USG consider market-based solutions to counterbalance immense financing and subsidization available to global competitors. The USG should also be mindful and coordinated to avoid policies that create undue financial burdens on companies and cause them to divert money from R&D to undue costs (e.g. tariffs). Funding for research and development is a hugely important factor in maintaining a consistent edge in network technology.

To foster innovation in 5G technologies, the U.S. Government should consider opportunities for public-private partnerships, cooperative agreements, and grant agreements to support ongoing research and development. Public-private partnerships are an important tool for the Government to facilitate not only the technical investment in 5G, but also the legal and policy framework to support and govern the technology long-term. Historically, public-private partnerships have helped bring to fruition large-scale projects by combining private sector technology and innovation with public sector oversight and buy-in; both are critical requirements for advancing a cohesive national 5G strategy.

Cooperative agreements and federal grants are two other mechanisms to channel federal funding toward 5G research, development, and testing in a streamlined manner. These flexible instruments are not subject to the Federal Acquisition Regulation (FAR), and can potentially expand the universe of private companies willing to partner with the federal government for research and development activities related to 5G. Legislatively, Congress should consider incentivizing 5G investments by expanding federal agencies' existing grant authorities and funds, while still ensuring federal government oversight of critical projects to maintain compliance with applicable legal requirements.

To this end, the U.S. government should also seek to support foundational semiconductor research, development, and manufacturing as part of its overall strategy to grow a strong 5G ecosystem. Continued advancements in semiconductor technology will be critical in driving advancements in 5G technology and should not be overlooked as the USG seeks to develop the National Strategy to Secure 5G Implementation Plan.

3) What steps can the U.S. Government take to further motivate the domestic-based 5G commercial ecosystem to increase 5G research, development, and testing?

Many federal agencies have existing legal and procurement authorities to support private sector research and development (R&D) work for agencies' procurement and adoption of mission-critical technologies like 5G. By investing R&D funds through contracts or other instruments (e.g. Other Transaction Authority agreements), the Government can incentivize private sector investment in 5G by providing seed funding for prototype projects, and help reduce barriers that agencies have to confront in purchasing private sector developed cutting edge solutions. This arrangement is also advantageous for private sector companies, as the technical risk is shared between the Government and the contractor.

Successful R&D prototypes generally move on to the testing phase and the Government's security accreditation process. This is beneficial for private sector companies as the Government shares responsibility for ensuring compliance with security protocols and standards. Technologies that meet Government technical and security requirements can move more quickly toward wide-spread Government adoption through subsequent procurements, which acts a further incentive for companies to participate in Government-sponsored R&D for emerging technologies like 5G.

4) What areas of research and development should the U.S. Government prioritize to achieve and maintain U.S. leadership in 5G? How can the U.S. Government create an environment that encourages private sector investment in 5G technologies and beyond? If possible, identify specific goals that the U.S. Government should pursue as part of its research, development, and testing strategy.

As we reference in several areas throughout our comments, we support the continued prioritization by the U.S. Government of R&D into areas foundational to next generation wireless technologies. We advocate for increased R&D in areas including increased funding for the highly technical USG labs such as those at the DoD, DoE, NIST, etc. into key foundational and applied research areas to bring USG R&D spending closer to par with the 5G investments made by competitors, as well as other important telecommunications R&D efforts, such as in the area of broadband funding. In particular, we recommend that the USG elevate R&D related to virtualized architectures and software-defined networking, two areas where the United States can leverage existing technological prowess in other contexts to increase competitiveness in 5G.

We also recommend that the USG prioritize and increase R&D spending for 5G use cases, including those related to the Internet of Things (IoT) and Artificial Intelligence (AI), as well as advanced semiconductors that will underpin such technologies. Investments in 5G infrastructure and next generation applications are absolutely imperative in fueling a cycle of investment and innovation. As more consumers and businesses harness 5G, application developers are incentivized to create innovative new offerings. From there, these new applications and use cases drive demand for 5G enabled devices and connections, thereby encouraging further investment in 5G infrastructure. Examples of R&D and pilot projects that could harness 5G built on open and interoperable infrastructure include innovations in energy monitoring on the power grid, smart network monitoring in commercial facilities that require a high degree of government regulation and security. The USG should also provide funding for cloud testbeds developed in partnership with U.S. operators to create opportunities for stakeholders to create, test, and deploy new use cases for 5G. It may also be helpful for the USG to consider allocating funding for 6G advanced research.

Finally, we recommend that the USG support research to apply risk-based and standards-based approaches to improve security of advanced communication networks in critical infrastructures.

Line of Effort 2: Assess Risks to and Identify Core Security Principles of 5G Infrastructure

- 1) *What factors should the U.S. Government consider in the development of core security principles for 5G infrastructure?*

In ITI's 5G Policy Principles, we provide recommendations for policymakers to consider in developing measures to address challenges related to 5G security. We believe these principles can inform the USG's development of core security principles.

- **5G security-related policies should take a risk-based approach.** Any policy intended to address challenges related to 5G security should be risk-based, evidence-based, adaptable, and fit-for-purpose. To the extent that governments continue to focus on supply chain security in the context of 5G deployment, they should either undertake or promote risk assessments to gain fuller visibility into the threat landscape, including the supply chain ecosystem and which risks can be mitigated and which ones cannot. Policies should promote the procurement of equipment from trusted suppliers that adhere to international standards, consider geopolitical implications of manufacturing locations, and encourage diverse supply chains to help reduce risk. Policies should also include a focus on breaking down barriers to trade in technology in order to help with diversification.
- **Policymakers should focus on threats to the 5G ecosystem beyond those associated with specific supply chain actors and equipment.** While we encourage governments to continue to focus on supply chain risk management, supply chain is only one of the many important 5G risk factors. An exclusive focus on concerns regarding particular suppliers will compromise demonstrative progress towards securing 5G. Instead, policymakers should consider adopting policies that seek to manage the full range of security risks to mobile network infrastructures, applications, and services, including devices and data. For instance, automated and distributed threats such as botnets will likely be a more pervasive issue in the context of 5G network deployment, and policymakers should consider innovative cybersecurity solutions to adequately mitigate such threats, including through

the use of AI and other automated tools. As the U.S. Department of Homeland Security recommended in its Overview of Risks Introduced by 5G Adoption in the United States, “the U.S. Government and industry partners can develop security capabilities that protect not only the 5G infrastructure, but also the applications and services that utilize it. The U.S. Government can do this by incorporating a prevention-focused approach that focuses on visibility and security across the mobile network.”¹ Further, a singular focus on equipment alone threatens to stifle what should be strong national attention in all countries on the full breadth of cybersecurity risk factors facing 5G networks.

- **Government and industry must share responsibilities and collaborate.** Government and industry share the goals of mitigating cybersecurity threats to mobile and 5G network infrastructure, preventing cyberattacks, and reducing the impact of related cybercrime. As in all areas of cybersecurity, achieving these goals is a collective effort. Public-private partnerships should be leveraged to ensure that we arrive at the desired policy outcome of more secure 5G networks.
- 2) *What factors should the U.S. Government consider when evaluating the trustworthiness or potential security gaps in U.S. 5G infrastructure, including the 5G infrastructure supply chain? What are the gaps?*

As an overarching matter, we would like to emphasize our support for viewing issues of 5G equipment or infrastructure security through the lens of “trustworthiness,” which has many dimensions, rather than solely through the lens of country-of-origin. While country-of-origin is one risk factor to be considered, it is not the sole and dispositive factor. Indeed, after a year of study the Information and Communications Technology Supply Chain Risk Management (ICT SCRM) Task Force working group on Threat Assessment catalogued 188 supplier related threats. While one of these factors was appropriately the country of origin of a supplier, it would be a mistake to not take a holistic view of the 5G threat and risk landscape when evaluating the trustworthiness of 5G equipment. In fact, the practices of a vendor-- how securely a vendor develops its products and services within a wider culture of security and recognized development best practices -- should be the priority and focus. This is a better indicator of the security of products/services than looking just at the product/service itself. The work of the ICT SCRM Task Force has made many recommendations regarding good practices and how to incentivize vendors to adopt these practices.

Additionally, we fully support the Prague Proposals² and we recommend that the USG continue to leverage them as a starting point in understanding relevant risk assessment criteria. Utilizing the Prague Proposals as a foundation for policymaking can further promote procurement of equipment from trustworthy suppliers.

Beyond that, when evaluating trustworthiness, we recommend that the U.S. government consider the geopolitical implications of manufacturing locations, adherence to international standards, the risk management processes that a company or supplier is undertaking, and the other supply chain threat vectors identified by the Task Force.³ As mentioned above, this working group's [supplier](#)

¹ https://www.cisa.gov/sites/default/files/publications/19_0731_cisa_5th-generation-mobile-networks-overview_0.pdf

² <https://www.vlada.cz/en/media-centrum/aktualne/prague-5g-security-conference-announced-series-of-recommendations-the-prague-proposals-173422/>

³ <https://www.cisa.gov/publication/ict-scrm-task-force-interim-report>

[threat assessment](#) identified country-of-origin as *one* threat out of 188 potential factors to take into consideration.⁴ We believe this assessment is a useful tool for policymakers and industry alike to understand the full range of threats that may impact a supplier and that can help to inform trustworthiness evaluations.

Another important point to make is that security is not static, so the notion of filling “gaps” is perhaps not ideal. 5G infrastructure risk management will be a continuous process of assessing changing threats and adapting to new technologies. Government direction to focus too much on one element may actually divert resources from safeguarding the broader technology ecosystem. Companies must be able to manage their systems based on evolving priorities and circumstances. That is why a focus on risk management processes in the context of 5G security is so important.

- 3) *What constitutes a useful and verifiable security control regime? What role should security requirements play, and what mechanisms can be used to ensure these security requirements are adopted?*

We generally advocate for voluntary, flexible frameworks when it comes to security requirements, especially because security is not static and any regime needs to be adaptable. It is our view that a useful and verifiable security control regime should be voluntary, flexible, and able to adapt to different risks as they emerge. We suggest that any mechanism considered should be voluntary and industry-driven.

- 4) *Are there stakeholder-driven approaches that the U.S. Government should consider to promote adoption of policies, requirements, guidelines, and procurement strategies necessary to establish secure, effective, and reliable 5G infrastructure?*

The ICT SCRM Task Force is a private sector and government stakeholder-driven group that the USG should continue to leverage when implementing the National Plan to Secure 5G. Indeed, the ICT SCRM Task Force brings together government and private sector participants to effectively identify, prioritize, and mitigate ICT supply chain risks – which include 5G security risks as a subset -- with the goal of providing realistic, actionable, timely, economically feasible and risk-based recommendations for addressing those risks.

It is also worth highlighting the importance of continuing to support industry-led SDOs, which are developing many of the technical specifications, including those related to security, that will support 5G networks. See our response in 4.2 for additional recommendations as to how to support private sector participation.

- 5) *Is there a need for incentives to address security gaps in 5G infrastructure? If so, what types of incentives should the U.S. Government consider in addressing these gaps? Are there incentive models that have proven successful that could be applied to 5G infrastructure security?*

The SECURE Technology Act (P.L. 115-390), though not yet fully implemented, requires that the Federal Acquisition Security Council, established under the Act, identify best practices, legislative and regulatory policy changes for securing cyber supply chains and recommend

⁴ https://www.cisa.gov/sites/default/files/publications/ict-scrm-task-force-threat-scenarios-report_0.pdf

policies to incentivize their adoption by industry in its Strategic Plan. Product security assurance practices, based on recognized international standards such as ISO/IEC 29147:2018 (vulnerability disclosure), ISO/IEC 30111:2019 (vulnerability handling), and the FIRST PSIRT Services Framework (incident response), are examples of best practices that industry partners should be encouraged to adopt. In alignment with the work being undertaken by the ICT SCRM Task Force referenced above, the U.S. government could explore incentives such as procurement preference, via Qualified Bidder/Manufacturer Lists, for vendors who follow such best practices.

Line of Effort 3: Address Risks to U.S. Economic and National Security during Development and Deployment of 5G Infrastructure Worldwide

Economic and national security are very closely linked. As we note in our *National Security Principles*⁵, it has never been more important for the U.S. government and industry to work together to harness U.S. technological leadership, economic openness, and international engagement to strengthen national security.

- 1) *What opportunities does the deployment of 5G networks worldwide create for U.S. companies?*

The deployment of 5G globally presents enormous opportunity for U.S. companies, particularly as 5G technology is expected to enable \$13.2 trillion in economic output by 2035.⁶ 5G use cases are expected to generate tremendous economic growth – the increased speed, capacity, and functionality of 5G networks will help to enable the next generation of data-enabled innovations such as IoT and AI.

As countries around the world deploy 5G, U.S. companies can seize upon these new networks to implement use cases that were previously unachievable. Beyond that, encouraging open and interoperable solutions in the deployment of 5G networks will ensure that different vendors can supply different aspects of the 5G network, allowing U.S. companies the opportunity to better compete.

- 2) *How can the U.S. Government best address the economic and national security risks presented by the use of 5G worldwide?*

We recommend that the USG reference our recently released [National Security Principles](#), which offer guidance to U.S. policymakers on how to best approach both economic and national security risks while maintaining its technological leadership, economic openness, and strong alliances. These are applicable across a broad swath of technology areas, including 5G. As a foundational matter, strong national security requires maintaining technological leadership in a variety of areas. Our

⁵ https://www.itic.org/policy/ITI_NationalSecurity_Policy_June2020.pdf

⁶ <https://www.qualcomm.com/media/documents/files/ihs-5g-economic-impact-study-2019.pdf>

recommendations in response to Line of Effort 1 address some ways in which the United States Government can help to support U.S. technological leadership.

The USG should also seek to advance trade and investment policies that allow companies to succeed commercially, thereby contributing to the technological leadership and economic competitiveness that is so vital to strengthening U.S. national security. We offer some ideas for this in response to questions under Line of Effort 4.

The USG should also ensure that any approach it takes is targeted at identifiable national security risks, thus avoiding overly broad policy responses that may have negative impacts on U.S. competitiveness, the United States' relationship with allies, and the USG's ability to procure 5G technology.

Finally, given the constant cross-border flow of goods, services, and data, we recommend that the USG closely coordinate its technology-related national security policies with like-minded economies, avoiding harmful policy fragmentation and maximize the likelihood of achieving shared security objectives.

3) How should the U.S. Government best promote 5G vendor diversity and foster market competition?

We appreciate the interest that the USG has taken in examining the role that open radio access networks can play in promoting vendor diversity and fostering market competition. We believe that all governments, including the USG, should support open and interoperable solutions for 5G networks, which will allow for interoperability, supplier diversity, competitiveness, and innovation on a massive scale. Indeed, leveraging open and interoperable solutions can help to avoid vendor lock-in. We therefore encourage the USG to adopt policies that promote the use of open 5G architectures.

In particular, we support the language used in Sec. 501 of the Intelligence Authorization Act for FY2021, which would create a Communications Technology Security and Innovation Fund to help spur innovation in open, software-based wireless technologies, an area where the United States could be very competitive.

4) What incentives and other policy options may best close or narrow any security gaps and ensure the economic viability of the United States domestic industrial base, including research and development in critical technologies and workforce development in 5G and beyond?

Please refer to our responses to questions posed under Lines of Effort 1 and 2, which we believe sufficiently address the question asked here.

Line of Effort 4: Promote Responsible Global Development and Deployment of 5G

1) How can the U.S. Government best lead the responsible international development and deployment of 5G technology and promote the availability of secure and reliable equipment and services in the market?

We appreciate the efforts the USG has undertaken to promote responsible international development and deployment of 5G technology thus far. We have several specific recommendations to offer when considering how to continue with these efforts, including:

- **Create the Multilateral Telecommunications Security Fund as proposed in Sec. 501 of the Intelligence Authorization Act for FY 2021.** In addition to setting up other helpful funding mechanisms noted elsewhere in our response, the language set forth in the Act would create a Multilateral Telecommunications Security Fund. We are supportive of this fund, as it would provide additional direct support to the United States in its engagements with foreign partners.
- **Carve out a national security exception for telecommunications networks in Development Finance Corporation (DFC) funding.** While 5G is rightfully a top priority for the DFC, there are currently constraints on where it can operate. The European Energy Security and Diversification Act of 2019 (P.L. 116-94, Div. P, Title XX) eases DFC's less-developed country requirement for energy infrastructure projects in Europe and Eurasia. This authority for energy projects, which provides commercial opportunities in upper-middle-income countries that may have both strategic and development benefits, should be extended globally for deployment of secure and trusted telecommunications infrastructure.
- **Reconsider the content rules that currently govern Export Import Bank (Ex-Im) transactions as they are not necessarily applicable to the tech sector.** Indeed, current U.S. content requirements hinder the ability of Ex-Im to support the deployment of trusted network equipment overseas. Especially in the tech sector, IP and R&D may be U.S.-based, even if the *product* is manufactured elsewhere. This important aspect is not considered in the current iteration of U.S. content requirements that dictate whether Ex-Im can support an overseas deal, therefore making it significantly more difficult for Ex-Im to support deals related to 5G technology.
- **Continue advocacy through bilateral and multilateral dialogues, including the Digital Connectivity and Cybersecurity Partnership Program and Prague Conference.** We encourage the USG to continue consistent engagement on this issue through bilateral and multilateral dialogues, engaging with other countries wherever possible. That said, we encourage the USG to consider how to creatively advocate for secure equipment and services, especially in countries where cost is a significant driver in decision-making. Different arguments may be more effective in different places. In any engagement with foreign countries, we encourage USG to work closely with industry representatives, who can oftentimes present unique and persuasive perspectives on issue areas related to 5G deployment.
- **Continue and expand funding for 5G- and cybersecurity-related business development trade missions, reverse trade missions, and other events led by the U.S. Trade and Development Agency (USTDA), U.S. Agency for International Development (USAID), and U.S. Department of Commerce.** These agencies regularly organize opportunities for U.S. companies to identify business opportunities and potential customers in foreign markets for U.S. technologies. The breadth of missions and events focused on 5G/mobile security/cybersecurity has increased in recent years, largely due to growing demand. Although many in-person missions/events have been put on hold due to the Covid-19 pandemic, they should be resumed as soon as practicable, and they should be expanded in terms of regularity and participating countries. During the current crisis, these agencies should determine ways to hold these missions/events virtually.

2) *How can the U.S. Government best encourage and support U.S. private sector participation in standards development for 5G technologies?*

As we state in our *5G Policy Principles* and earlier in our response, standards are an incredibly important driver and enabler of 5G technology. We appreciate that the USG recognizes this and is considering how to encourage and support U.S. private sector participation in standards development, consistent with longstanding US government policy and the law. Below are specific recommendations that the USG can undertake to best incentivize and support U.S. industry participation:

- **Support industry-led bodies with transparent, well-understood rules-based processes in place.** Companies that seek to compete in 5G technologies must participate in international standards development processes, and they must not be restricted in their decisions to choose which bodies are best suited for their specific work. The U.S. government should continue to support participation in industry-led bodies with transparent, rules-based processes in place. The U.S. government should also encourage other nations to rely on and reference international standards in relevant policies and regulations.
- **Make the United States a more attractive meeting location for SDOs to host meetings.** Attending standards meetings typically requires a significant amount of travel and time commitment, making the U.S. a more appealing meeting locale for those based in the U.S. The U.S. government can encourage this by facilitating visa applications for foreign standards experts to routinely attend meetings in the United States. The inability to get U.S. visas on time has often proved an impediment to hosting meetings in the United States.
- **Ensure that current and future policies and regulations do not unintentionally inhibit U.S. company participation in international standards.** For example, the May 2019 entity list designation of Huawei and the associated Temporary General License created an unfortunate situation in which U.S. companies were precluded from participating in technology-related SDOs in which Huawei or other listed entities were also a participant. It also adversely affected standards development activities in some US-headquartered standards and specifications developing organizations.
- **Reexamine NISTIR 8074: Interagency Report on Strategic U.S. Government Engagement in International Standardization to Achieve U.S. Objectives to Cybersecurity⁷ and see whether and how the recommendations included in that report are applicable to 5G.** NIST published a comprehensive report in 2015, which set out proposed USG strategic objectives for pursuing and developing international standards related to cybersecurity and provides a series of recommendations for doing so. We believe that the strategic objectives set out in this document are similarly applicable to 5G standards. It would be helpful for the USG to reference this document and consider which recommendations may be applicable to help achieve these strategic objectives in the context of 5G.
- **Engage in regular communications with U.S. stakeholders.** The U.S. government and the private sector should regularly engage outside of standards development activities. Consistent engagement helps ensure that all government and U.S. private sector stakeholders are aware of standards-related activities. This exchange creates mutual understanding of progress, concerns, and strategies, along with clarifying any

⁷ <https://nvlpubs.nist.gov/nistpubs/ir/2015/NIST.IR.8074v1.pdf>

misunderstandings about ongoing efforts. ITI has sought to convene public-private sector standards roundtables to periodically bring stakeholders together and would be eager to work with the U.S. government to regularize such meetings.

Further, while we understand the desire to send diplomats and other US government staff to track standards activities, technical subject matter expertise is critical to fulsome engagement in standards meetings, which are highly technical meritocracies. At the same time, there often is a gap between policy generalists and technical experts, so creating regular opportunities for the two to engage is important to developing a strategic plan to approach to these issues.

3) What tools or approaches could be used to mitigate risk from other countries' 5G infrastructure? How should the U.S. Government measure success in this activity?

We understand and acknowledge that the USG is appropriately focused on national security risks related to the global 5G networking buildout, and that the USG has made judgments regarding the use or deployment of 5G equipment in U.S. networks. However, we also note that other countries appear to have reached different conclusions regarding security risks posed by their 5G infrastructure, including whether and how such risks can be mitigated. We recommend the USG continue to engage with international partners to better understand their approach to mitigating such risks, and factor this into its own risk-based analyses of other countries' 5G infrastructures.

In seeking to mitigate risk that may stem from other countries' 5G networks, the USG should avoid overly broad policy responses, which can often result in unintended consequences that pose an even greater risk to national or economic security. For example, consider Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, which prohibits government agencies from contracting with entities that "use" equipment from covered Chinese entities in their supply chains. While the national security objective of this law is well-intentioned, this overbroad provision will drastically impede the USG's ability to purchase equipment from leading trusted tech companies. Even if companies do not integrate covered equipment into their own products, it is often impossible for companies to have full visibility into all equipment used at all levels of their supply chain, especially considering that many downstream business transactions do not have formal contractual relationships. Thus, many innovative companies will find it difficult to certify compliance with the law at all supplier tiers and may have to consider exiting the US federal market. While this policy has not come into effect yet, we caution against similar overly broad policy responses that may create unintended consequences to U.S. technology competitiveness.

It is therefore important that the USG encourage and participate in information-sharing between stakeholders to gain a full picture of the risk landscape, potential mitigations, and potential downstream ramifications of policies intended to address those risks. For example, although we understand that the State Department is still collecting responses to its "5G Clean Path" RFI, the goal it is intended to achieve -- to assist the USG in identifying approaches to secure 5G networks and mitigate risks associated with other countries' 5G infrastructure -- appears to be an approach worth exploring.

4) Are there market or other incentives the U.S. Government should promote or foster to encourage international cooperation around secure and trusted 5G infrastructure deployment?

The United States should endeavor to increase its competitiveness as a global investment destination. In addition to providing incentives through investment tax credits and grant programs related to the 5G technology ecosystem, the United States should continue efforts to strengthen trade and investment relationships with allies, partners, and economies around the world. Such efforts would be well-received and will complement efforts to strengthen international cooperation around secure and trusted 5G deployment.

- 5) *Both the Department of Commerce and the Federal Communications Commission (FCC) have rulemakings underway to address the security of the telecommunications infrastructure supply chain. Are there other models that identify and manage risks that might be valuable to consider?*

We recommend that the USG consider a similar approach to that which the EU has taken in developing the EU 5G Security Toolbox.⁸ Before releasing the 5G Security Toolbox in January 2020, the EU consulted with all Member States regarding an EU-wide joint risk assessment for the 5G rollout followed by a 5G threat landscape report. The EU 5G Security Toolbox was developed by a group of public and private sector experts to facilitate an EU-wide vision for managing cybersecurity risks of 5G.

The EU 5G Security Toolbox lays out strategic measures, technical measures, and supporting actions to address nine risk categories. Member States can prioritize risks according to their risk assessments and select the corresponding measures and mitigation plans that suit their needs. We recommend the USG look at this model, which could be helpful in identifying and managing risks related to 5G. That said, there are areas of the Toolbox that could be improved, specifically with regard to adding additional recognized cybersecurity best practices that are necessary to counter the sophisticated, automated nature of cybersecurity adversaries.

With respect to the Department of Commerce rulemaking referenced here, we refer NTIA to our comments submitted in response to the Commerce Department's NPRM.⁹ We reiterate here that any approach taken to secure the ICTS supply chain should be risk-based, evidence-based, narrowly scoped, and tied to the specific national security criteria outlined in the associated Executive Order. We also stress that the current rule as drafted is far too vague to be practically implementable and given the breadth and scope, serves to undermine all information and communications technology and services transactions with any nexus to the United States. We therefore recommend that any future iteration of this rulemaking: ensure that it advances U.S. national security interests without putting American competitiveness at risk or eroding trust in U.S. businesses; address identifiable, material concrete security risks for a narrow subset of ICTS elements; provide clear guidance to industry by including parameters and criteria for a fair, workable, repeatable process that Commerce will use when evaluating a transaction; and be guided by existing taxonomies, amongst other suggested improvements as noted in the above-referenced submission.

⁸ <https://ec.europa.eu/digital-single-market/en/news/cybersecurity-5g-networks-eu-toolbox-risk-mitigating-measures>

⁹ <https://www.itic.org/dotAsset/d6447508-0425-4848-b968-4f91490b8494.pdf>

6) *What other actions should the U.S. Government take to fulfill the policy goals outlined in the Act and the Strategy?*

We cannot overemphasize the importance of a coordinated, whole-of-government approach to supporting the deployment of 5G in the United States and globally. In the United States, too often there are a host of agencies working on different initiatives, sometimes duplicating efforts. We appreciated the USG's efforts to appoint a "5G Czar" in charge of coordinating all ongoing efforts related to 5G. However, with his recent transition to a new role, we would encourage the Administration to consider appointing a new office (or person) to lead 5G-related efforts.

Once again, ITI appreciates the opportunity to submit comments to this RFC. We believe that the United States has an enormous opportunity to lead in secure 5G deployment both at home and abroad. We hope that our comments will be helpful in guiding the White House as it seeks to develop an Implementation Plan for the National Strategy to Secure 5G.

Sincerely,



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and Senior Counsel



Courtney Lang
Director of Policy