SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

Full Committee
Nomination Hearing
Thursday, March 5, 2026, at 10:00 A.M.

DEMOCRATIC QUESTIONS FOR THE RECORD

Dr. Arvind Raman

COVER PAGE

RANKING MEMBER MARIA CANTWELL (D-WA)

Manufacturing Extension Partnership Program. As I, and many of my colleagues, discussed with you at the hearing, I have serious questions about NIST withholding funds from Hollings Manufacturing Extension Partnership (MEP) Centers that Congress has approved on a bipartisan basis. The Program has strong bipartisan support for its success as a national network of go-to experts that help small and medium-sized manufacturers adopt advanced technologies and create jobs.

However, on April 1, 2025, the National Institute of Standards and Technology (NIST) began withholding and delaying funds for MEP Centers—an unauthorized dismantling of the MEP program in violation of the funding laws Congress enacted. On December 18, 2025, I led 28 of my colleagues and sent a letter to NIST seeking basic information and a briefing on MEP. We have still not received any answers.

Question 1: Yes or No: Do you recognize that in order to "follow the law," NIST must implement and disburse funds Congress has authorized and appropriated?

Answer: If confirmed, I will follow the advice of legal counsel in ensuring NIST follows applicable legal requirements.

Question 2: Yes or No: If confirmed, will you commit to "rapidly" disbursing funds to MEP Centers as specifically directed by Congress in the FY26 appropriations law, including rapidly disbursing overdue funds to program centers?

Answer: If confirmed, I will follow the advice of legal counsel in ensuring NIST follows applicable legal requirements.

Question 3: Do you agree that a program such as MEP that strengthens domestic manufacturing resilience and spurs innovation is consistent with NIST's priorities?

Answer: If confirmed, I will evaluate how NIST can best use the resources provided by Congress to most effectively enhance the productivity and technological performance of U.S. small and medium-sized manufacturers, in alignment with the President's priorities for U.S. leadership in critical and emerging technologies.

Question 4: Yes or No: If confirmed, do you commit to providing the basic information requested in the letter I sent nearly three months on how the MEP Program is being administered, within two weeks of your confirmation?

Answer: If confirmed, I will work with NIST's Office of Legislative and Intergovernmental Affairs to provide timely responses to Congressional inquiries.

Question 5: Yes or No: Will you commit to scheduling a briefing with my staff, as requested in our December 18 letter, within two weeks of your confirmation?

Answer: If confirmed, I will work with NIST's Office of Legislative and Intergovernmental Affairs to provide timely responses to Congressional inquiries.

CHIPS Act Funding and Natcast. The bipartisan CHIPS and Science Act requires the National Semiconductor Technology Center (NSTC) to be "operated as a public private-sector consortium" to better integrate R&D and workforce efforts across the semiconductor ecosystem. To do that, the Department awarded a $7.4 billion contract to the nonprofit Natcast to operate the NSTC.

Despite Natcast's well-developed plans, Secretary Lutnick abruptly voided the agreement last year under questionable circumstances at best. NIST has now "assumed operational responsibility" for the NSTC. But the Department has shared few specifics on how NIST will run this important program to achieve the goals and statutory obligations of the CHIPS and Science Act.

Question 1: Yes or No: If confirmed, will you commit to providing a detailed briefing on how NIST intends to fulfill the innovation goals of the CHIPS and Science Act within one month of your confirmation?

Answer: If confirmed, I will work with NIST's Office of Legislative and Intergovernmental Affairs to provide timely responses to Congressional inquiries.

Question 2: Yes or No: If confirmed, will you commit to providing ongoing transparency and a full accounting of the funding NIST is responsible for under the CHIPS and Science Act?

Answer: If confirmed, I will work with NIST's Office of Legislative and Intergovernmental Affairs to provide timely responses to Congressional inquiries.

Broad Agency Announcement: After severing ties with Natcast, NIST released a "Broad Agency Announcement" (BAA) under which organizations can apply for project funding. The BAA expressly stipulates that applicants may be required to issue to the Department "equity, warrants, licenses to intellectual property, royalties or revenue sharing." In other words, it seems to pressure applicants to give the government a stake in their companies if they want federal funds.

Question 1: You have received multiple federal grants as a researcher at Purdue. Do you think it's appropriate to require grant applicants to relinquish equity stakes in their company to obtain federal funding?

Answer: All federal grants I have received were in my capacity as a faculty member at Purdue, and not through any personal business interest. So, the question of relinquishing equity in my company would not arise in my case. That said, not being in the role yet, I do not know enough details to opine on appropriateness.

Question 2: If confirmed, will you commit to determining the impact of this policy on the Department's ability to proceed on projects for the advancement of U.S. microelectronics technology, and to reverse course if companies are not accepting the equity requirement?

Answer: Not being in the role yet and not knowing policy details and implementation, it is premature for me to commit to any action.

USA Rare Earth. In January, the critical minerals company USA Rare Earth announced a letter of intent with the Commerce Department's CHIPS Program that would cover a $1.3 billion proposed loan and $277 million of direct federal CHIPS funding. At the same time, USA Rare Earth selected Secretary Lutnick's former company Cantor Fitzgerald as the "lead placement agent" for their private sector fundraising. This raises some obvious and serious conflict of interest concerns.

Question 1: Yes or No: If confirmed, will you commit to providing me the non-binding letter of intent between USA Rare Earth and NIST's CHIPS Program Office, in the interest of full transparency?

Answer: If confirmed, I will work to ensure NIST provides appropriate and timely updates related to NIST programs.

Quantum. On a bipartisan basis in January, Senators Young and I, as well as 12 other Senators, introduced the National Quantum Initiative Reauthorization Act.

Question 1: Yes or No: Do you support the National Quantum Initiative Reauthorization Act?

Answer: Quantum is a priority for NIST and the Department. If confirmed, I look forward to working with Congress to strengthen the efforts of the U.S. and NIST in quantum science and technology.

Question 2: If confirmed, will you commit to working with me and my staff to advance it?

Answer: See answer to Question 1.

Artificial Intelligence. On a bipartisan basis in February, Senators Young, Blackburn, Hickenlooper and I introduced the Future of Artificial Intelligence Innovation Act,

The legislation creates a strong foundation for American leadership in the global race for AI development, and as a part of this, codifies the Center for AI Standards and Innovation (CAISI). CAISI, which will fall under your leadership at NIST, will accelerate new advancements while helping companies and consumers better use AI in a safe and secure manner.

Question 1: Yes or No: Do you support the Future of AI Innovation Act?

Answer: If confirmed, I look forward to working with you to ensure that legislation related to AI advances NIST's pro-innovation and pro-science work to harness and secure the potential of AI systems.

Question 2: If confirmed, will you commit to working with me and my staff to advance it?

Answer: See answer to Question 1.

Question 3: CAISI currently has no permanent Director. If confirmed, will you commit to ensuring that CAISI has a permanent director?

Answer: While I have testified about my priorities if confirmed, it is premature to discuss specific personnel actions before I have a chance to confer with the Department and the Secretary.

NIST Approval of BEAD Fund Grants. Congress passed the Bipartisan Infrastructure Law in 2021 with $42.45 billion for the BEAD program to connect every American to high-speed internet.

At the beginning of last year, states were ready to start deploying broadband — and just when many were ready to start building, this Administration forced them back to the drawing board with round after round of conflicting, confused guidance, tearing up the rules midstream and making states redo work to comply with misguided changes.

As of last week, 52 states and territories have had their plans approved by NTIA. But only 38 have been approved by NIST. That means 14 states and territories — including the State of Washington — are sitting there, plans approved, ready to go, waiting on NIST to sign off so the money can flow. These communities have been promised this money for years. The plans are done. NTIA says they're good, but NIST hasn't gotten it across the finish line.

Question 1: If confirmed, will you commit to approving every remaining NTIA-cleared BEAD plan within 30 days?

Answer: If confirmed, I look forward to working with the Secretary, the leadership of NTIA, NIST, and counsel at the Department, to advance the BEAD Program effectively, efficiently, and expeditiously, in a manner consistent with the law.

Question 2: Will you commit to me that NIST will move the State of Washington's NTIA-approved plan expeditiously?

Answer: See answer to Question 1.

Question 3: Yes or No: Will you commit that awards made by NIST will only be frozen, paused, or canceled for lawful reasons?

Answer: If confirmed, I will follow the advice of legal counsel in ensuring NIST follows applicable legal requirements.

Question 4: Will you commit to following the NIST Grants Manual and the provisions of 2 CFR Part 200 in overseeing and administering these grants?

Answer: See answer to Question 3.

Foreign scientists. In testimony in front of our Committee this week, you recounted how you came from India to America, to pursue the American dream and study at an acclaimed institution—relying on a grant from Purdue University.

Recent reporting has indicated that there is a proposed rule at NIST that would implement a three-year limit on international researchers, including postdocs and graduate students who would not be able to complete their research projects or Ph.D.s that can take between five to

seven years to complete. This could impact up to 500 highly trained individuals working at NIST out of approximately 3,400 total personnel. In Boulder, Colorado, and Gaithersburg, Maryland, reports indicate that hundreds of scientists have already been barred from their labs.

Question 1: Yes or No: Do you support the proposed policy limiting international researchers at NIST to a maximum length of three years, including removing current researchers from their labs? Why or why not?

Answer: If confirmed, I am committed to ensuring that NIST is able to access the best talent in order to meet its mission, while ensuring appropriate safeguards are in place to mitigate risks to research security.

Question 2: Do you believe this policy supports U.S. innovation and global competitiveness? Why or why not?

Answer: See answer to Question 1.

Question 3: Do you think it is important that students who want to come to America to conduct research be granted similar opportunities to the ones that you had as an immigrant and foreign researcher?

Answer: Research security is a critical issue even for non-classified work. If confirmed, I will work to support strong research security while enabling NIST's access to the very best talents in order to meet its mission. That said, encouraging strong pipelines of US doctoral talents in critical emerging technologies is also of significant importance. The US has top notch undergraduate students in engineering and sciences, and they need to be encouraged to go into PhD programs.

Resubmitted Resume. As part of your nomination paperwork, on February 25, 2026, you submitted a 35-page resume to the Committee. The next day, you submitted an updated 30-page resume, which removed significant content in the section entitled "Summary accomplishments in academic administration," particularly from your roles as Purdue University's "Senior Associate Dean of the Faculty, College of Engineering, Dec 2017-Dec 2019" and "Executive Associate Dean of Engineering, Dec 2019-March 2023."

Examples of deleted content includes: "coordinates diversity, equity, and inclusion initiatives across faculty, staff, graduate and undergraduate students," "increase the country-of-origin diversity of international applicants," "increasing the number and success of historically underrepresented minorities, women, and first-generation students," and "supported USAID Missions in creating evidence-based designs of some of their major aid programs, for example in South Sudan."

Question 1: Why did you decide to resubmit an updated resume removing approximately five pages of content from the one you submitted the day before?

Answer: During the confirmation process I provided updates to documents and information submitted to the Committee to ensure the Committee had access to updated, high-quality

information. The final submitted version of my resume highlights what I consider are the most impactful accomplishments in my leadership roles over the years.

Question 2: Yes or No: Did a NIST or Department of Commerce official, or anyone else, direct or suggest you remove certain content and resubmit your resume? If yes, who were those individual(s) and what were their instructions?

Answer: No.

SENATOR AMY KLOBUCHAR (D-MN)

Artificial Intelligence

I have worked with Senator Thune on legislation to put guardrails on the riskiest non-defense applications of AI. The bill directs NIST to provide guidance for how to deploy AI responsibly in high-risk areas.

- What steps do you believe NIST should be taking to promote safety and transparency while protecting innovation in AI?

Answer: NIST through its programs in CAISI and the Information Technology Laboratory should continue their efforts on model testing and evaluation, as well as foundational research in developing the field of AI metrology, which is rapidly evolving. In line with the President's AI action plan, I think that NIST's focus should be on developing the very best measurement science in the world for advanced AI systems. These efforts will provide stakeholders in government and the broader public with critical information on the performance and reliability of AI systems, as well as guidelines and best practices that should be considered when adopting and implementing AI systems. A key example will be the re-released AI Risk Management Framework as called for in the AI Action plan.

I am concerned about the rise in AI generated deepfakes. My AI legislation includes a requirement that NIST conduct research into ways we can ensure that people know whether content they see is real or AI generated.

- What should NIST be doing to help Americans distinguish between real and AI generated content?

Answer: NIST's AI programs need to continue developing and promoting critical best practices for the metrology of AI systems. NIST has long-standing efforts looking at synthetic content from multiple perspectives, for example, its potential impact to biometrics, or applications in forensic science. If confirmed, advancing NIST efforts to stimulate AI innovation, including work focused on better understanding AI generated content, will be one of my top priorities.

Cybersecurity

In recent years we have seen cybersecurity breaches affecting our government, our businesses, and our citizens. NIST develops cybersecurity and privacy standards to defend our information systems against these attacks.

- NIST released its most recent Cybersecurity Framework in 2024. What updates are needed to reflect the current cybersecurity landscape?

Answer: NIST should continue working with industry and government partners to review and frequently update its Cybersecurity guidance, as the threat landscape is continuously evolving. NIST should work to increase adoption and uptake in critical sectors, and work to develop

guidelines and best practices to help partners understand the significant threats and potential benefits of AI to cybersecurity.

- What is the most important step NIST can take to help secure our communications networks and other critical infrastructure from the threat of cyber-attacks?

Answer: If confirmed it will be my priority to continue to prioritize NIST's work in cybersecurity, including efforts to promote the adoption and uptake of cybersecurity best practices in our critical infrastructure sectors. The United States is well-positioned to lead in critical and emerging technology standards.

Manufacturing Extension Partnership Program

The Manufacturing Extension Partnership (MEP) program supports a nationwide network of centers that work with small and medium-sized American manufacturers in every state. Enterprise Minnesota, Minnesota's MEP Center, has worked with over 510 manufacturers to reduce costs and add and retain jobs.

- What plans do you have to support MEP centers like Enterprise Minnesota, and how will NIST continue to strengthen American manufacturing?

Answer: The MEP program was established over 30 years ago to enhance the productivity and technological performance of U.S. small and medium manufacturers. Not being in the role yet, I am not in a position to know details about or have plans for Enterprise Minnesota. If confirmed, I will evaluate how NIST can best use the resources provided by Congress under the law to most effectively enhance the productivity and technological performance of U.S. small and medium-sized manufacturers in alignment with the President's priorities for U.S. leadership in critical and emerging technologies.

SENATOR EDWARD MARKEY (D-MA)

Question Topic: Manufacturing Extension Partnership

Congress has repeatedly appropriated funding for the Manufacturing Extension Partnership (MEP), yet the Department of Commerce has delayed or withheld congressionally approved funds to MEP centers. These actions have raised bipartisan concerns that the Administration is effectively dismantling a program Congress has chosen to fund and that thousands of small and medium-sized manufacturers rely on for technical assistance and support.

Question: Congress appropriated funding for the MEP program in fiscal year 2026. Do you agree that NIST has a legal obligation to distribute those funds, as directed by Congress, and will you commit to immediately releasing any withheld MEP funding and fully implementing the program?

Answer: If confirmed, I will follow the advice of legal counsel in ensuring NIST follows applicable legal requirements.

SENATOR TAMMY DUCKWORTH (D-IL)

Question Topic: Quantum

Question 1: I am concerned that our international competitors — including China — are making significant investments in quantum technologies, including the use of quantum technologies to secure current networks and infrastructure, and in setting the global standards that will govern them. If confirmed, how do you intend to use NIST's authorities under the National Quantum Initiative to ensure the United States is not ceding leadership in quantum standards-setting to our adversaries, and will you commit to working with me and with your counterparts across the Federal agencies to ensure a coordinated approach?

Answer: The U.S. is facing significant international competition in areas of emerging technology including quantum. If confirmed it will be one of my priorities to advance NIST efforts in quantum science including work to accelerate the development of new quantum sensors, strengthen the U.S. production of key quantum computing components, and accelerate the development of quantum networking capabilities. In terms of standards for critical emerging technologies, it will be my priority to ensure that the U.S. is playing a leading role and that the interests of U.S. industry and the U.S. Government are effectively represented in international standards development.

Question 2: One of NIST's historic strengths has been its ability to partner with the private sector and with academic researchers to advance measurement science and develop consensus standards. As quantum networking and quantum communications technologies continue to mature, a number of American companies and universities are making real progress using quantum technologies — but they need a Federal partner that is actively engaged in evaluating and benchmarking these technologies.

If confirmed, will you commit to dedicating additional resources to benchmarking quantum technologies, particularly in collaboration with DARPA's Quantum Benchmarking Initiative (QBI)?

Answer: Industry engagement is indeed a strength of NIST. For example, NIST has established the Quantum Economic Development Consortia to convene and partners with the U.S. quantum industry to advance and overcome common challenges to ensure the U.S. can build out and maintain a robust and competitive quantum industry. As I've mentioned, one of the priorities for NIST will be to accelerate the development of quantum networks and quantum networking capabilities with our partners in industry, academia, and government. If confirmed, I look forward to strengthening this and other partnerships with industry, academia, and other government agencies to ensure the U.S. continues to lead in quantum.

Question 3: Would you commit to meeting with industry partners and academic leaders in Illinois to better understand how post-quantum cryptography and quantum secured methods like Quantum Key Distribution (QKD) complement each other? If confirmed, will you commit to taking a comprehensive, science-driven approach to quantum security standards, and to working with this Committee and across the interagency to make sure we are examining every viable

pathway to securing our communications networks? Will you commit to dedicating NIST resources to efforts that can create a certification framework for post-quantum cryptography?

Answer: If confirmed, I look forward to working with you on these issues and taking a science-driven approach to drive continued innovation in quantum science and technology while ensuring the appropriate standards are in place for quantum security.

Question 4: Illinois is currently building a first-of-its-kind Quantum and Microelectronics park on the Southeast Side of Chicago. It aims to accelerate the development of quantum technologies, including the creation of the National Quantum Algorithm Center, the IL-DARPA Quantum Proving Ground and hopefully the creation and operation of a full scale, photonic, fault-tolerant quantum computer. Would you commit to visiting the Illinois Quantum and Microelectronics Park (IQMP) during your tenure at NIST?

Answer: Yes.

Question Topic: Manufacturing Extension Partnership

Question 1: I am deeply concerned by the actions of NIST related to the Manufacturing Extension Partnership (MEP) Program. To everyone's surprise, over the past year NIST has tried to dismantle and delay the execution of this important program to small manufacturers. MEP has broad bipartisan, bicameral support and Congress believes that it should remain State-based as structured, per the joint explanatory statement that coincides with the recently enacted FY26 appropriations bill. Can you ensure that NIST will not revamp or reorganize it under the Office of Advanced Manufacturing without prior congressional approval? If confirmed, will you commit to executing the program as intended according to statute and not reallocating its funds to support the Institute's other initiatives like laboratory research or the Manufacturing Institutes directly or indirectly through Center awards?

Answer: If confirmed, I will follow the advice of legal counsel in ensuring NIST follows applicable legal requirements. If confirmed, I will evaluate how NIST can best use the resources provided by Congress under the law to most effectively enhance the productivity and technological performance of U.S. small and medium-sized manufacturers in alignment with the President's priorities for U.S. leadership in critical and emerging technologies. If I am confirmed, I look forward to working with you to ensure NIST programs support advancing America's manufacturing interests in the sectors that will drive our future competitiveness.

Question 2: Dr. Raman, as Dean of the College of Engineering at Purdue University, I expect that you are familiar with another NIST program within the University walls, the Purdue Manufacturing Extension Partnership Center. As you know, Purdue MEP, like all MEP Centers, play a critical role in restoring and reshoring American manufacturing by providing small and medium-sized American manufacturers with advanced manufacturing services like AI and robotics implementation, digital twin technology, cybersecurity, supply chain resiliency and workforce training and education—priorities in line with this Administration. Can you commit to restoring stability to this critical program given that on its website NIST lists it as one of the first stated manufacturing resources it provides?

Answer: If confirmed, I will evaluate how NIST can best use the resources provided by Congress under the law to most effectively enhance the productivity and technological performance of U.S. small and medium-sized manufacturers in alignment with the President's priorities for U.S. leadership in critical and emerging technologies.

Question 3: Dr. Raman, The Secretary of Commerce testified that recent Office of Inspector General reports have indicated waste, fraud and abuse within the MEP program due to a lack of NIST MEP oversight. We would agree that the lack of NIST oversight has led to significant delays in the processing of Center awards—84 days on average—delays which clearly waste time in the application of Federal resources. The Office of Innovation and Industry Services and MEP program have been operating for nearly two years without permanent leadership. The Acting MEP Director reportedly holds at least 3 jobs and spends just 2 days a week at the NIST MEP offices, which appears to be further abdicating oversight. If confirmed, will you commit to hiring a permanent MEP Director that can provide proper oversight to the NIST MEP program?

Answer: While I have testified about my priorities if confirmed, it is premature to discuss specific personnel actions before I have a chance to confer with NIST, the Department, and the Secretary.

SENATOR BEN RAY LUJÁN (D-NM)

Q1. Congress passed the Bipartisan Infrastructure Law in 2021 with $42.45 billion for the Broadband Equity, Access, and Deployment (BEAD) program to connect every American to high-speed internet. Last year, just when many states were ready to start building, this Administration forced them back to square one, upending the rules and making states re-do their work in order to comply with misguided changes in NTIA's Restructuring Policy Notice. New Mexico complied with this new guidance and just recently — at the end of January — received NTIA's approval for our $382 million BEAD plan. Yet, we haven't received NIST's approval, which is necessary for the state to access the funds. As of last week, 52 states and territories have had their plans approved by NTIA, but only 38 have been approved by NIST. That means 14 states and territories — including New Mexico — are sitting there, plans approved, waiting on NIST to sign off so the money can flow.

If confirmed, will you commit to approving every remaining NTIA-cleared BEAD plan within 30 days?

Answer: If confirmed, I look forward to working with the Secretary, the leadership of NTIA, and NIST, and counsel at the Department, to advance the BEAD Program effectively, efficiently, and expeditiously, in a manner consistent with the law.

Will you commit to me that NIST will move New Mexico's NTIA-approved plan expeditiously?

Answer: See answer to Question 1.

Will you commit to providing meaningful guidance to eligible entities for submitting financial plans and reports?

Answer: See answer to Question 1.

Will you commit that awards made by NIST will only be frozen, paused, or canceled for lawful reasons?

Answer: See answer to Question 1.

Q2. NIST has long served as the Nation's measurement science authority, bringing rigor, repeatability, and technical credibility to complex evaluation challenges across sectors. That same discipline is now urgently needed in artificial intelligence. AI systems are being integrated into critical sectors such as healthcare, finance, and national security, yet the field still lacks widely accepted, standardized methods to evaluate them for reliability, performance, capability, and bias – much less to define the conditions under which they can be expected to behave as intended. This gap has concrete consequences. The Department of Defense recently declined to proceed with a leading AI developer, Anthropic, after the company raised reasonable concerns that certain use cases were "outside the bounds of what today's technology can safely and RELIABLY do." That decision underscores a broader challenge: we still lack widely accepted, standardized methods to test AI systems for reliability, performance, capability, and bias, and critically, to identify performance boundaries. That is why I, along with my colleagues Senators

Blackburn, Durbin, Risch, and Welch, introduced the bipartisan TEST AI Act, which directs NIST to develop standardized testing and evaluation methods for AI systems.

Given NIST's statutory role and your background in engineering, please describe how you would approach developing a technically rigorous framework for AI evaluation at NIST, one that defines not only how these systems are tested, but the specific contexts and conditions under which they can be expected to perform reliably.

Additionally, what steps would you take to ensure that the resulting standards carry sufficient technical credibility to be adopted by developers and deployers and trusted by policymakers, industry, and the public?

Answer: NIST through its programs in CAISI and the Information Technology Laboratory, should focus their efforts on model testing and evaluation, as well as foundational research in developing the field of AI metrology, which is rapidly evolving. These efforts will provide stakeholders in government and the broader public with critical information on the performance of AI systems, as well as guidelines and best practices that should be considered when adopting and implementing AI systems. A key example will be the re-released AI Risk management framework as called for in the AI Action plan. If confirmed, it will be my priority to continue to prioritize NIST's work in AI, including efforts to promote the adoption and uptake of research-based best practices.

Q3. NIST plays a central role in quantum standards-setting, yet China and other competitors are making significant investments, not just in quantum technologies themselves, but in shaping the global standards that will govern them. Ceding that ground would have serious consequences for our national security and economic competitiveness.

What specific steps would you take to ensure NIST is actively leading – not just participating – in international quantum standards bodies, and how would you coordinate that effort across the federal agencies to avoid a fragmented approach?

Answer: If confirmed, I will ensure NIST is working to ensure continued U.S. leadership in standards for critical and emerging technologies, including quantum, by leveraging NIST's unique role in standards policy coordination across the U.S. government and working with the private sector to accelerate U.S. engagement and leadership for quantum standards.

Q4. American companies and universities are making real progress on quantum networking and communications, but they need a federal partner that is actively benchmarking and evaluating these technologies as they mature, not playing catch-up after the fact.

How would you strengthen NIST's engagement with industry and academia in this space, and what would you do differently to ensure NIST's standards development keeps pace with the science rather than falling behind it?

Answer: If confirmed it will be one of my top priorities to ensure that NIST continues to lead in quantum. Quantum technologies developed by NIST, from new encryption algorithms to world-leading sensors and deployable standards, provide transformative solutions for National needs

and to support government partners. NIST's experience and know-how in quantum information science underpins innovations that have seeded and are enabling the nascent U.S. quantum industry, ensuring our Nation sustains industrial competitiveness in this critical field.

Q5. An executive order on quantum technology priorities is expected soon, and NIST will have a significant implementation role. Before the science is settled, I want to ensure NIST is examining the full suite of tools available to protect critical infrastructure, not prematurely narrowing its focus.

How would you approach that implementation to ensure it remains comprehensive and science-driven, and what would your process look like for keeping this Committee informed as those policies take shape?

Answer: If confirmed, I will work to ensure NIST remains a leader in research and technology development, and a leading measurement science institution that works across multiple technology approaches to understand performance and capability.

Q6. The Manufacturing Extension Partnership has broad bipartisan, bicameral support and serves as a lifeline for small manufacturers in New Mexico and across the country. Yet over the past year, NIST has repeatedly attempted to dismantle and delay the program, contrary to congressional intent and the joint explanatory statement accompanying the FY26 appropriations bill, which is clear that MEP should remain state-based as structured.

MEP funds have been at risk of being redirected toward laboratory research, Manufacturing Institutes, and other NIST priorities. **How do you intend to ensure MEP funding is used strictly for its statutory purpose, and what safeguards would you put in place to prevent reallocation?**

Answer: If confirmed, I will follow the advice of legal counsel in ensuring NIST follows applicable legal requirements. If confirmed I will evaluate how NIST can best use the resources provided by Congress to most effectively enhance the productivity and technological performance of U.S. small and medium-sized manufacturers in alignment with the President's priorities for U.S. leadership in critical and emerging technologies.

There have been efforts to reorganize MEP under the Office of Advanced Manufacturing without congressional input. **How would you approach any structural changes to MEP, and what role do you believe Congress should play in that process?**

Answer: If I am confirmed, I look forward to working with you to ensure NIST programs support advancing America's manufacturing interests in the sectors that will drive our future competitiveness.

MEP has been without stable leadership, which has contributed to the program's dysfunction. **What is your plan for hiring a permanent MEP Director, and how would you use that role to restore confidence among the small manufacturers and state partners who depend on this program?**

Answer: While I have testified about my priorities if confirmed, it is premature to discuss specific personnel actions before I have a chance to confer with NIST, the Department, and the Secretary.

SENATOR JOHN HICKENLOOPER (D-CO)

NIST: Foreign Researchers:

Dr. Raman, NIST's core mission of conducting research and supporting technical standards development in key technologies is carried out by its world-class researchers. Recent reports indicated NIST was attempting to expel over **500** researchers from NIST facilities if they were non-U.S. citizens. This would apply regardless of whether these researchers possess a green card, a visa, or an ongoing research contract. This policy would apply to researchers whether they are from Russia or Canada. This article from Science provides an overview: https://www.science.org/content/article/nist-moves-restrict-foreign-scientists-its-labs.

Question 1: Dr. Raman, are you aware of these reports? Yes or no? If yes, what comment do you have on the impact this policy would have on the mission of NIST, if implemented?

Answer: While I am not in the role, I have only seen reporting on this subject and am not aware of any policy on this subject. If confirmed, I am committed to ensuring that NIST is able to access the best talent in order to meet its mission, while ensuring appropriate safeguards are in place to mitigate risks to research security.

NIST: Foreign Researchers II:
We have heard directly from whistleblowers. This alleged NIST policy was (1) poorly communicated within NIST, (2) without transparency or an appeals process; and (3) viewed as haphazard and short-sighted.

On Friday, the acting NIST Director finally released the first official communication on this policy to lab employees. The communication states, "NIST realizes and appreciates that foreign national associates are a key part of NIST's scientific and technical workforce across the entire talent pipeline including doctoral students, postdoctoral associates, research scientists, professors, and metrology experts from the U.S. and around the world."

It further states, "Renewals and requests for new foreign national associates continue to be reviewed and processed in accordance with published and in-force Department Administrative Orders and the NIST research security policy and related orders. Under these policies there is no explicit ban on foreign national research associates from any country, nor any mandated time limit or cap for the length of an associate's potential tenure at NIST. NIST understands that each collaboration is unique and will have different parameters that will need to be taken into consideration for each request."

According to the National Science Board's latest report, over half of the doctorates conferred in the U.S. in computer science, mathematics, and engineering are foreign-born. To that point, most of our leading startups valued over $1 billion were started by immigrants.

We share the bipartisan goal of promoting research security and building our STEM pipeline with the brightest minds.This includes people of all backgrounds, and is not bound by international borders.

Dr. Raman, you are one of the many researchers who comes to the U.S. to study, and stays here, not only to further your career but to contribute to our society and to our economy.

As a scientist myself, I find these reports are appalling. Science thrives with collaboration, curiosity, and commitments to new discoveries.

Question 2: Do foreign researchers contribute to the success of the United States' scientific goals? Yes or no?

Answer: See answer to Question 1.

Question 3: Dr. Raman**,** if confirmed, will you commit to immediately briefing this Committee on how you will promote robust scientific collaboration and how you'll comply with the CHIPS & Science Act's guardrails for research security?

Answer: If confirmed, I will work with NIST's Office of Legislative and Intergovernmental Affairs to provide timely responses to Congressional inquiries.

NIST: Facility Conditions
A 2023 report by the National Academies of Sciences, Engineering, and Medicine found that over 60% of NIST facilities **do not** meet the Department of Commerce standard for acceptable building conditions. Reports indicate some of NIST's labs experience power outages, flooding, and other infrastructure deficiencies.

Question 4: Mr. Raman, what will your plan be, within existing appropriations available, to ensure NIST has the equipment and facilities necessary to fulfill its mission?

Answer: If confirmed, consistent with law and administration policy, NIST will invest in efforts to address the needs of facilities necessary to fulfill its mission.

NIST: Foreign Research Recruitment
The Trump Administration has issued mixed signals when it comes to science and innovation. The Trump Administration claims a goal of achieving "AI dominance", and then moves to blacklist a leading AI innovator from federal contracts. It claims it wants to promote innovation, and then slashes federal funding for scientific research and lays of leading scientists.

We believe science and research security can successfully coexist. In 2024, the Biden Administration issued evidence-based guidelines to protect our discoveries from Malign Foreign Talent Recruitment Programs. Last year, Canada, Germany, France, and Japan all established funds and streamlined visas to attract displaced researchers from the U.S.

Question 5: Mr. Raman, what do these recruitment efforts from our international counterparts say to you about the message we are sending globally about our scientific ambitions?

Answer: If confirmed, I will ensure NIST is working to ensure continued U.S. leadership in standards for critical and emerging technologies by leveraging NIST's unique role in standards

policy coordination across the U.S. government and working with the private sector to accelerate U.S. engagement and leadership.

NIST: Quantum Cryptography

The U.S.-China Economic & Security Review Commission warns about China's ambitions to challenge U.S. leadership in quantum technology. The Commission's 2025 Report to Congress recommends increasing investments in quantum development across modalities such as quantum computing, quantum secure communications, and post-quantum cryptography, within a measurement deadline by 2030. The Commission also recommends creating a Quantum Software Engineering Institute (QSEI) to develop software foundations for scalable and secure quantum computing, modeled similarly to the National Artificial Intelligence Research Institutes.

Question 6: How will you ensure NIST leverages Colorado's quantum ecosystem, including through regional partnerships with entrepreneurs, academics, manufacturers, and workforce development leaders, to meet the U.S.-China Economic & Security Review Commission's 2030 goal for quantum computational advantage?

Answer: If confirmed, I look forward to working with you to explore options to ensure the U.S. attains its goals in quantum computing and quantum technology.

Question 7: What is your plan to ensure NIST helps accelerate the transition to Post-Quantum Cryptography (PQC) standards?

Answer: If confirmed, I will work to ensure NIST's work in post-quantum cryptography standards provides a solid foundation for protecting our computer systems from the threats of a future quantum computer, and in supporting American industry's implementation to integrate post-quantum cryptography into IT systems.

Question 8: How will you ensure NIST communicates with non-federal stakeholders about the relationship between guidelines found within its Post-Quantum Cryptography (PQC) and Cybersecurity Framework (CSF)?

Answer: If confirmed, I will support NIST's efforts in cybersecurity and Post-Quantum Cryptography to ensure that key stake holders in industry and other sectors have the information and support needed to ensure adoption and uptake, and to ensure that the U.S. meets its PQC-transition timelines.

NIST: PREP Program

The NIST Professional Research Experience Program (PREP) is a partnership between NIST and specific universities, including some in Colorado. This program allows graduate students and postdocs to contribute to world class research alongside Federal scientists in the NIST facilities.

For PhD students in fields like quantum physics, their research program typically takes 5 to 7 years to complete. As a former graduate student yourself, you understand how essential access to specialized equipment is, how long a doctoral program can take, and how disruptions to research can negatively impact a student's career.

Furthermore, you also are aware of how the research ecosystem is built on the work of dedicated graduate students and postdocs. Much of the cutting-edge research being conducted at various NIST laboratories is carried out by these committed researchers.

Question 9: Dr. Raman, will you ensure that the PREP program is continued, as a vital part of the work conducted at NIST?

Answer: If confirmed, I am committed to ensuring that NIST is able to access the best talent in order to meet its mission, while ensuring appropriate safeguards are in place to mitigate risks to research security.

Question 10: Will you also ensure that students participating in the program are able to carry out the remainder of their work and are provided the time to complete their PhD research as initially planned when they began the program?

Answer: See answer to Question 9.

NIST: Coordination on AI with International Allies

The Center for AI Standards & Innovation (CAISI) conducts applied research, coordinates with the private sector on red-teaming AI systems, and engages in multilateral dialogue with international counterparts on AI governance discussions.

Question 11: If confirmed, how do you plan to empower CAISI to fulfill its new mission and balance coordination within NIST and its Information Technology Laboratory (ITL)?

Answer: If confirmed, I will work to solidify American dominance in AI innovation and prioritize work described in the AI Action Plan, including leading evaluations and assessments of the capabilities of U.S. and adversary AI systems and developing guidelines and best practices to measure and improve the trustworthiness and security of AI systems. NIST, including CAISI, efforts to accelerate advanced metrology in AI model evaluation are critical for trust in and adoption of AI systems and applications.

NIST: Standards Development & Coordination

NIST plays a key role in pre-standardization research, contributes to industry-led standards development organization (SDO) deliberations, and post-standard implementation activities. Reports indicate adversaries such as China and Russia are undertaking massive influence campaigns to subsidize participation in, and influence the outcomes of, international standards development programs.

Question 12: To prevent the United States' values from being drowned out, how will you lead NIST, along with federal agency partners, to help promote the influence of U.S. industry, scientific, and academic viewpoints at gatherings of international standards-setting organizations?

Answer: If confirmed, I will ensure NIST is working to ensure continued U.S. leadership in standards by prioritizing NIST's unique role in standards policy coordination across the U.S. government and working with the private sector to accelerate U.S. engagement and leadership in international standards for critical and emerging technologies.

NIST: VET AI Act

The bipartisan *Validation and Evaluation for Trustworthy Artificial Intelligence (VET AI) Act* directs NIST to lead a multistakeholder process to publish voluntary guidelines to help developers and deployers conduct independent assurance evaluations of AI systems, either internally or with external third parties. NIST and CAISI also conduct their own vulnerability testing through red-teaming exercises. It is essential that across the AI governance ecosystem, from upstream developers to downstream deployers, our testing regimes can keep pace with rapidly evolving 'dual-use' AI models.

Question 13: How will you balance the need for rigorous security testing with the necessity of keeping these testing tools–including independent assurance and conformity assessments–accessible for startups and researchers in the AI ecosystem?

Answer: If confirmed, I will prioritize NIST's work to promote the adoption and uptake of best practices for industry and government to ensure the security of AI systems.

Question 14: What observations would you make about the *VET AI Act*, and what recommendations would you offer to the legislation?

Answer: If confirmed, I look forward to learning more about this effort and working together to advance the President and the Secretary's AI priorities.

NIST: Research Security

NIST conducts world class research experiments in its Gaithersburg and Boulder facilities, in partnership with industry, academic, and international partners. NIST and its open research environment could make it susceptible to intellectual property theft.

Question 15: If confirmed, what is your strategy for hardening research security at our national labs without stifling the culture of open scientific inquiry that has led to multiple Nobel Prizes in Colorado from international researchers?

Answer: If confirmed, I am committed to ensuring that NIST is able to access the best talent in order to meet its mission, while ensuring appropriate safeguards are in place to mitigate risks to national security and IP theft.

NIST: Cybersecurity Framework Update

The NIST Cybersecurity Framework is the gold standard for businesses to adapt, implement, and execute safeguards to protect their systems from cybersecurity breaches. Recently we are seeing a shift from simple data breaches of cloud storage or software systems to physical infrastructure like our power grids and water systems.

Question 16: How do you plan to evolve the Cybersecurity Framework to specifically address the evolution of sophisticated cyber threats to critical infrastructure assets essential to our economic and national security?

Answer: If confirmed, I will support NIST's work with industry and government partners to review and frequently update its Cybersecurity guidelines, as the threat landscape is continuously evolving.

NIST: AI Risk Management Framework Update

The NIST AI Risk Management Framework (AI RMF) is an adaptable methodology to identify, assess, and attempt to absolve risk from the development lifecycle of AI systems and applications. The NIST AI RMF has been lauded by industry and academic leaders as a model framework for promoting innovation and increasing adoption of AI.

Question 17: If confirmed, in future updates of the AI RMF, how will you seek to gather feedback and publish an updated version which accounts for 'adversarial machine learning' where models are intentionally manipulated?

Answer: If confirmed, I will work to ensure that NIST's AI efforts, including updates to NIST guidelines such as the AI RMF, help solidify American dominance in AI innovation.

Question 18: How can NIST help U.S. innovators ensure their AI systems are resilient against technical threats such as adversarial machine learning?

Answer: See answer to Question 16.

Question 19: Will NIST consider the efficacy of governance or risk management guidelines released by international allies in an updated NIST AI RMF? If yes, what process would you take to evaluate elements of international AI governance or risk management frameworks?

Answer: See answer to Question 17.

NIST: Synthetic Content & AI

Powerful frontier AI models are capable of producing texts, images, videos, and audio clips which could appear to be created by a human creator. Meanwhile, private sector standards development efforts are underway to enhance the accuracy of detection AI-generated content and promote content provenance around authentic content. NIST has undertaken prize competitions and R&D to advance the state of the art in synthetic content or deepfakes involving AI.

Question 20: What steps will you take to accelerate NIST's work in detecting synthetic content and promoting content provenance, watermarks, or transparency indicators around AI-generated content or deepfakes?

Answer: NIST has long-standing efforts looking at synthetic content from multiple perspectives, for example its potential impact to biometrics, or applications in forensic science. If confirmed

advancing NIST efforts to stimulate AI innovation including through promoting best practices for the metrology of AI systems, will be a priority.

NIST: Semiconductors & Export Controls

NIST oversees the CHIPS Program Office (CPO), which administers financial award incentives created by the Biden Administration's bipartisan CHIPS & Science Act. NIST carries out key research, development, metrology, assembly, prototyping, and advanced packaging activities and provides incentives to expand manufacturing of leading edge semiconductors in the U.S.

In the last few years, a variety of export controls have been issued to prevent leading edge U.S.-made semiconductors from being exported to adversaries or compromising U.S. national security interests. NIST's recent work on the STAMP (Semiconductor Traceability and Metadata Provenance) project highlights a critical gap in our national security: we often lack a verifiable 'birth certificate' for the microelectronics powering our most sensitive infrastructure. NIST's Computer Security Resource Center recently held a convening to discuss methods, techniques, and standards for developing capabilities to increase supply chain assurance and physically track where semiconductors are exported and how they're being used.

Question 20: While NIST does not oversee export control enforcement, how will you lead NIST to advance the state of the art in chip traceability to increase security across the semiconductor supply chain, including with end users?

Answer: If confirmed, I look forward to working with the Secretary, the leadership of BIS, NIST, and counsel at the Department, to evaluate this issue.

SENATOR JOHN FETTERMAN (D-PA)

1) Mr. Raman, broadband is no longer a luxury. It's necessary for families to participate in the 21st century economy, and that's why the BEAD program is so essential. I understand that NTIA has approved Pennsylvania's BEAD application, and is waiting for action from NIST. **As congressional intent and speed were the goal of the Commerce Department's restructuring of BEAD last year, will you commit to quickly approving Pennsylvania's BEAD application?**

Answer: If confirmed, I look forward to working with the Secretary, the leadership of NTIA, NIST, and counsel at the Department, to advance the BEAD Program effectively, efficiently, and expeditiously, in a manner consistent with the law.

2) Leadership at NIST will be critical to maintaining America's lead in AI. While efforts to implement standards at the federal level on AI are still taking shape here in Congress, states like mine have stepped up to protect their residents, passing laws to safeguard consumers from AI-enabled scams, financial exploitation, and other harms. I've heard directly from constituents and leaders in Pennsylvania who are concerned about losing guardrails we have put in place. **In your view, what are the risks posed to consumers if state AI protections are preempted before a federal standard exists?**

Answer: If confirmed, I will work to support American AI innovation and prioritize work described for NIST in the AI Action Plan, including leading evaluations and assessments of the capabilities of U.S. and adversary AI systems, developing gold standard metrology of AI systems, and developing guidelines and best practices to measure and improve the trustworthiness and security of AI systems.