



## National Security Commission on Artificial Intelligence Public Minutes of Commission Meeting

Wednesday, February 17, 2021 – 1:00pm – 4:00pm EST

Location: Video Teleconference

### ATTENDANCE

#### Commissioners Present:

- Dr. Eric Schmidt, Chairman
- Hon. Robert Work, Vice-Chair
- Ms. Safra Catz
- Dr. Steve Chien
- Hon. Mignon Clyburn
- Mr. Chris Darby
- Dr. Ken Ford
- Dr. José-Marie Griffiths
- Dr. Eric Horvitz
- Dr. William Mark
- Hon. Katharina McFarland
- Dr. Andrew Moore

#### Commissioners Not Present:

- Mr. Andy Jassy
- Mr. Gilman Louie
- Dr. Jason Matheny

#### Staff Present:

- Yll Bajraktari, Executive Director
- Michael Gable, Chief of Staff, Committee Management Officer
- Angela Ponmakha, Designated Federal Officer
- Michael Lueptow, General Counsel
- Tara Rigler, Director, Strategy, Communications, and Engagement
- Commission Staff

## **AGENDA ITEM: CALL TO ORDER AND OPENING REMARKS**

Ms. Ponmakha, as the Designated Federal Officer, called the meeting to order.

Mr. Bajraktari, Dr. Schmidt, and Hon. Work, gave brief opening remarks.

## **AGENDA ITEM: CHAPTER 1 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### **Presentation of Proposed Recommendations:**

Mr. Darby presented the draft Chapter 1 Blueprint for Action. The Chapter 1 Blueprint covers recommendations to defend against AI-enabled information operations and accelerated cyber attacks.

To address AI-enabled malign information threats, the Commission recommends:

- The Executive Branch should establish a 24/7 Joint Interagency Task Force and Ops Center to oversee government efforts to counter foreign sourced malign information campaigns. Congress should allocate \$30 million per year for this effort.
- The President should issue a national strategy to prioritize the global information domain as an area for competition that is vital to national security.
- The President should designate the Under Secretary of Public Diplomacy and Public Affairs at State to lead an International Task Force to Counter Disinformation.
- Congress should grant DARPA between \$60 and \$80 million to sponsor research on tools to detect, attribute, and disrupt AI-enabled malign information campaigns and to authenticate the provenance of digital media.
- Executive Branch departments should utilize OTAs, creative investing, and SBIR Contracts to fund and scale such tools.

To counter accelerated cyber attacks, the Commission recommends:

- The U.S. should adopt machine speed threat detection and mitigation capabilities to facilitate information sharing and leverage AI-enabled sensors to defend, adapt, and repair government networks.
- These AI-enabled defenses will require data and training that should be augmented by \$20 million in additional DARPA funding for AI vs. AI cyber defense research and by meeting NIST's authorized funding increases for AI R&D and AI testbeds.
- For inherently vulnerable infrastructure that is indefensible by AI, CISA should develop a "Cash for Clunkers" subsidy program to incentivize replacement of vulnerable systems.
- The U.S. should implement the AI-relevant recommendations of the Cyberspace Solarium Commission to improve incentives for cybersecurity, to disrupt adversary cyber attacks, and to improve government coordination to address cyber threats.

### Commissioner Discussion:

Hon. McFarland noted that the numbers included in the report are estimates. The Commission believes this is a fair way of looking at preliminary ways to spend the money based on the challenges observed.

Mr. Bajraktari agreed and stated that the report will contain a caveat to that effect.

Dr. Horvitz suggested that the Commission thinks deeply about the malign information and communication challenge by reflecting about potential recommendations around the role of AI and complementary tech along the lines of media authentication and provenance, as well as the government's role in engaging and catalyzing efforts, potentially in the form of a task force.

Hon. Work agreed that it would be a good add. This has been a topic of detailed discussion by members of the Commission who are worried about this area. He asked Mr. Bajraktari if there was a way to draft and show a potential addition during the public meeting.

Mr. Bajraktari stated that Commission staff would work on the draft addition and would present it for Commissioner discussion at the conclusion of the meeting.

Hon. Work asked about where the United States is in terms of progress in addressing the problems outlined in this section.

Mr. Darby responded that the United States is currently in the process of scoping the problem and trying to understand the nature of the threats. He noted that there is good work going on in the private sector and on the commercial side, but this is a battle that will be fought over the next 12-24 months. The United States is still very early in the process of making progress.

Dr. Horvitz commented that the Commission recognizes that national security hinges on addressing misinformation as other more traditional concerns that arise in areas like defense and intelligence. He noted that this will be a long term challenge that the Commission can make recommendations to address, particularly as it relates to intentional efforts to manipulate information. Dr. Horvitz also added that there are organic challenges that occur when it comes to morality and information that we need to address as a society.

Dr. Schmidt emphasized his support of Dr. Horvitz's statements, and also suggested the Commission is potentially understating the problem. He noted that the first national security challenge from AI will be misinformation because it's already generally available. He stated that our adversaries will do much more before the United States figures out how to stop it.

## **AGENDA ITEM: CHAPTER 2 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### Presentation of Proposed Recommendations:

Ms. Catz presented the draft Chapter 2 Blueprint for Action. She noted the Blueprint is necessarily dense. It outlines the specific actions the DoD must take, in close concert with the Intelligence Community and with support from Congress, to put in place the foundations for a Defense Department that can leverage AI for competitive advantage. The Commission recommends that, by 2025 the DoD must have the foundations for the integration of AI in place by:

- Establishing a common digital ecosystem that provides widespread access and sharing of AI software, trained models, data, and compute, as well as development environments.
- Training and educating warfighters to equip service members with core competencies to effectively employ AI, make data-driven decisions, engage in regular experimentation, and interact with autonomous systems.
- Accelerating adoption of existing digital technologies through prioritized integration of commercial AI solutions, networked innovation activities, and more agile acquisition, budget, and organizational structures.
- Democratizing the development of AI across the organization by leveraging the JAIC as the Department's AI accelerator and standing up AI delivery teams at each Combatant Command. The delivery teams should have forward-deployable components to support operational units in the field.
- Continually investing in next generation capabilities through amplified AI R&D spending and a process to divest from outdated systems and technology. Both efforts should be driven by a new technology annex to the National Defense Strategy, informed by enhanced, AI-enabled tech scouting.

Ms. Catz also noted that, within these foundational elements, the Line of Effort believes there are two that, if not accomplished, will most significantly limit the ability of the DoD to make this pivot – talent and the digital ecosystem.

### Commissioner Discussion:

Dr. Chien highlighted the strong relationship between multiple chapters. He emphasized the importance of a confluence of the technology and staff to bring AI into the national security enterprise.

Dr. Moore commented that it has been shown in industrialization of AI how embedding AI practices has helped propel organizations years into the future ahead of competition. He noted that the distinction between digital natives and digital non-natives among companies is whether they have really updated their systems to take advantage of technologies. He stated that the Commission does not want the United States government to be a digital non-native.

Dr. Chien noted that within specific entities within government and the national security community, constant rotation and cross-fertilization is needed for those on the front lines. Those people need to work with technologists and those that build tools for the future. Dr. Chien stated that the United States needs an ecosystem beyond just digital infrastructure, but also an ecosystem of talent with cross-domain expertise in order to successfully bring this technology to bear.

Hon. McFarland noted that, in her experience, operators must understand the technology well enough to know what to call upon to bring it to bear. She stated that a sufficient knowledge base is critical to meet our adversaries.

Ms. Catz commented on the issue with the way the United States is organized in comparison to how some of our adversaries are organized. She noted that because we are more dispersed, we have to go out of our way within our organizations to organize as much as possible and to complement our capabilities, taking into account how a free society operates. Ms. Catz stated that the United States has to try harder to collaborate and organize in some sort of structure in order to share and learn effectively.

### **AGENDA ITEM: CHAPTER 3 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

#### **Presentation of Proposed Recommendations:**

Hon. Work presented the draft Chapter 3 Blueprint for Action which outlined specific actions to support NSCAI's recommendations to achieve a state of military AI readiness by 2025. To do so, the Commission recommends:

- First, DoD must drive organizational reforms through top-down leadership.
- Second, DoD must develop more innovative operational concepts that integrate new warfighting capabilities with emerging technologies.
- Third, by the end of 2021, the Secretary of Defense should establish AI-readiness performance goals to prioritize near-term integration of AI across the department.
- Fourth, DoD must continue to invest in priority AI research and development areas that could support future military capabilities. Additionally, to support the deployment and scaling of AI applications at operational levels and across domains, DoD must aggressively define a joint warfighting network architecture by the end of 2021.
- Fifth, the Departments of State and Defense must promote AI interoperability and the adoption of critical emerging technologies among our key allies and partners.

### Commissioner Discussion:

Dr. Schmidt asked Hon. Work if he believes the recommendations are sufficient with action by the President or the Secretary of Defense, or if the Commission needs more.

Hon. Work stated that there is plenty of evidence that the Department is starting to understand how important AI is to their competitiveness. He noted there are many ongoing efforts that demonstrate that the Department is beginning to attack this issue now. Hon. Work also noted that the Commission's recommendation for a high level technology council will keep track of what is happening and will be a constant top-down oversight and pressure. Hon. Work stated that he is quite satisfied with the recommendations now, but also recognizes that they will change shape over time as momentum builds in this area.

Dr. Chien reemphasized Hon. Work's point that in order to spur the cycle of innovation, constant fertilization and experimentation is the key to seeing actual forward progress. He noted that this is a significant, complete change in the mindset in how we view the national security mission. It is not people working with tools but people working in concert with advanced technology and advanced software to accomplish the mission.

Mr. Bajraktari read a question from Alan P. via YouTube: Could the use of change agents help enforce top-down leadership values and culture? What sort of change would you recommend to be relevant to lower level change to top-down change?

Hon. Work responded that this question points to an important point. You have to have top down push and bottom up buy in and experimentation. Using examples from his experiences and conversations with DoD, Hon. Work noted that there is beginning to be bottom-up demand. He stated that this demand is the change agent that is needed.

Dr. Moore added that more than 50% of the work is changing the organization. This is why the Commission advocates for this need for top-down support. He noted that putting AI into an organization is not primarily a technological problem. Instead, you need the courage of a leader to force an organization to move to a new mode of operation.

Hon. McFarland added that the Commissioners and staff members also heard a lot of pushback related to the impediments that we have addressed in this framework. The Commission has put into the report methods to undo, activate, or build upon these challenges. She noted that the report is directly attacking and emphasizing opportunity space and challenges to be undone.

## **AGENDA ITEM: CHAPTER 4 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

Hon. Work provided a description of Chapter 4 of the Commission’s Final Report, which provides the Commission’s judgments and recommendations surrounding the strategic, ethical, and legal questions surrounding AI-enabled and autonomous weapon systems. He noted that this chapter does not have an associated blueprint for action because, given the importance of this topic, the Commissioners wanted to ensure the Commission’s arguments and recommendations were fully explained in the main body of the report itself.

Hon. Work highlighted a few of the recommendations contained in Chapter 4, which the Commission previously discussed in the January 2021 plenary session. These recommendations include:

- Clearly and publicly affirm existing U.S. policy that only human beings can authorize employment of nuclear weapons, including such a statement in the next U.S. nuclear posture review. It should seek similar commitments from Russia and China.
- Establish venues to discuss AI’s impact on crisis stability with both Russia and China.
- Jointly with U.S. allies, develop international standards of practice for the development, testing, and use of AI-enabled and autonomous weapon systems; and
- Research technical means to verify compliance with AI-related arms control agreements.

Dr. Schmidt noted that there is a subtlety in the language about human control over these systems. He asked Hon. Work if he could state the exact language that should govern over appropriate human control?

Hon. Work noted that there were deep discussions on this topic. The Commission believes that the general formulation that the Department has adopted that these weapons should be developed and operated to maintain appropriate human judgement over the use of force is the most accurate way to explain how we make sure that these weapons are used in a responsible, legal, ethical, and moral manner.

In response, Dr. Schmidt emphasized the words “appropriate human judgment” as a key part of the Commission’s recommendation.

Mr. Bajraktari read a question received from Alan P: “on Ch4: would you recommend AI automated weapon systems be classified or public information? Such knowledge could result in civilian productivity loss and lesser participation due to fear or conflict.”

Hon. Work responded no, saying that the United States has used weapons with autonomous functionalities since 1943.

When you add AI to the systems, Hon. Work stated that he believes the DoD has told the Commission that they would like to pursue weapons that will collaborate with each other and that the Department hopes AI will help ameliorate the problem of target misidentification. Hon. Work stated that none of that will be classified, however he noted that the algorithms themselves may be classified.

Hon. McFarland added that the full report shows how to develop confidence in AI. She noted that that is an important piece of this discussion. Hon. McFarland added that this is a very important process and the DoD has a very vigorous process to test. There is no suggestion that we would lose that.

Hon. Work added that every time the United States develops a weapon, there is a separate legal review of the weapon in the development and in the field. There is a very detailed, institutional apparatus to make sure when we build these weapons and employ them, they are used ethically, legally, morally, and consistent with our values.

Dr. Horvitz commented that while the United States is confident in U.S. institutional apparatus around weapons, including semi-autonomous weapons, other nations may not be. Therefore we need to reflect about actions we can take, including diplomatic actions and agreements around crisis stabilization and stability that will come from interactions of systems and behaviors of other nations when it comes to autonomous weapons.

At the conclusion of this discussion, the Commissioners agreed that all of the information should remain in Chapter 4 of the Final Report, rather than being separated out into a Blueprint for Action.

## **AGENDA ITEM: CHAPTER 5 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### **Presentation of Proposed Recommendations:**

An NSCAI staff member presented the draft Chapter 5 Blueprint for Action. He noted that, based on Commissioner feedback during the last plenary session, the NSCAI staff updated this chapter in the main report and the Blueprint for Action. The staff have reviewed the timelines and sharpened the recommendations for what can and must be done by 2025 for the IC to adopt AI-enabled technologies at scale and to maintain its strategic advantage in a technological competition with near-peer competitors.



The staff member then briefly outlined the three recommendations in the Blueprint for Action that expand upon the recommendations in Chapter 5:

- Under the recommendation to: “Empower the IC’s science and technology leadership.”
  - The Blueprint recommends two additional responsibilities for the proposed the IC Chief Technology Officer (CTO):
    - Develop and monitor IC-wide metrics for AI investments, AI implementation, AI outcomes, and AI readiness.
    - Ensure maximum sharing and reuse of AI models, code, and tools across the IC to prevent unnecessary duplication where possible.
  - In addition, Congress should establish a 10-year, \$1 billion, Program of Record to provide long-term, predictable funding for technologies identified in the technology annex to the National Intelligence Strategy.
- Under the recommendation to: “Change risk management practices to accelerate new technology adoption.”
  - The Blueprint added a recommendation to address shortcomings in the current implementation of the National Institute of Standards & Technology (NIST) Federal Information Security Modernization Act (FISMA) Risk Management Framework.
- Finally, under the recommendation to: “Improve coordination between the IC and DoD.”
  - The Blueprint includes a recommendation that the ODNI should work with DoD to establish an AI integration team focused on maximizing knowledge, data, and model sharing across and between the IC and DoD.

#### Commissioner Discussion:

Hon. McFarland noted that these recommendations mirror the Commission’s recommendations for the Department of Defense. She stated that the recommendations should not be viewed as a disparate element, but rather as a complement with the same types of organizational change, leadership, and tools.

Mr. Bajraktari read a question from Joe Bartlet on the prior discussion regarding Chapter 1: “If we are going to use AI to combat misinformation—and do it effectively, how do we ensure trust in the actual AI system or algorithm to objectively determine what is misinformation? In other words how are we going to ensure that viewpoints and opinions are not being suppressed by those building out the algorithm that may have a different opinion?”

Dr. Horvitz responded that addressing misinformation is challenging. He noted that it is critical not to interfere with free speech, but that AI can be leveraged to detect signs of deepfakes. Dr.

Horvitz outlined a need to verify and certify information, as well as identify coordinated adversarial efforts within and across platforms.

Dr. Schmidt noted that, speaking in personal capacity as a computer scientist, it seems that a lot of problems would change if we had a simple way of knowing the author of something on the internet. This would reduce the need for filters. Additionally, this solution would not interfere with free speech, but would allow viewers to know when it was published and how it was altered.

Dr. Moore cautioned against the Commission stating that we can have computers identify misinformation. Although it may be easy to have an automated system to push one agenda or another, focusing negative or positive true information in one direction or another, AI won't necessarily be able to be arbiters of true information.

Dr. Chien commented that Dr. Horvitz and Dr. Schmidt were talking about provenance, a subpart of the problem around misinformation, while Dr. Moore was discussing issues around the validity of facts. Ultimately, he noted that the conversation is about information to humans. However he noted that the problem also exists in computer interaction. One of the big challenges of AI is the correct supervisory and interpretability to recognize when one system has been compromised.

Dr. Horvitz added that this includes having uncertainty and the ability to act under uncertainties.

## **AGENDA ITEM: CHAPTER 6 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### **Presentation of Proposed Recommendations:**

Dr. Griffiths presented the draft Chapter 6 Blueprint for Action. She noted that the Chapter 6 blueprint for action, like the main body of the report, is structured around the argument that to expand and improve its AI workforce, the government must fix the way it organizes, recruits, builds, and employs its digital talent. The majority of the recommendations in Chapter 6 are reformatted versions of the recommendations the Commission approved in its 2020 quarterly memos. One new recommendation was added in the organize section: for cabinet-level departments and some agencies to establish digital corps that recruit, train, educate, and manage their digital workforce. Dr. Griffiths noted that this changed slightly from the main body, which originally recommended all agencies establish digital corps. She stated the Line of Effort's belief that the new version, which focuses on cabinet-level departments and select agencies, will be more feasible, and will enable digital corps to reach a larger and more effective scale. In

addition, a second new recommendation was added under the employ section, for the government to provide its technologists world-class tools, data sets, and infrastructure.

Finally, Dr. Griffiths reiterated the Commission's previous recommendation for the United States Digital Service Academy (USDSA). This proposal is for an independent and degree-granting university whose graduates would serve five year commitments across the federal government as government civilians. USDSA would be a single, brick-and-mortar university that would partner with other universities and the private sector through internships, exchange programs, and hiring adjunct faculty. An interagency working group would meet annually to discuss the division of USDSA's graduates into agencies, and career fields within the agencies. This would ensure it meets the interagency's demand for graduates and that each graduate would be employed.

#### Commissioner Discussion:

Hon. Work echoed Dr. Griffiths in saying that incremental measures, while helpful, are not going to be enough. Talent is the key. In order to win the AI competition, it is critical to win the talent competition. He emphasized that the implementers cannot pick and choose which recommendations to address. If you want to solve the technical deficit, all of the recommendations should be addressed because they build upon each other and reinforce each other.

Mr. Bajraktari noted that the recommendations included in this Blueprint for Action were all debated in public plenary sessions in previous quarters. As such, he recommended that the Commission move on to a discussion of the next Blueprint.

### **AGENDA ITEM: CHAPTER 7 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

#### Presentation of Proposed Recommendations:

Dr. Horvitz presented the draft Chapter 7 Blueprint for Action. Dr. Horvitz outlined recommendations for actions aimed at Leadership; Robust and Reliable AI; Human-AI Interaction and Teaming; Testing and Evaluation, Verification and Validation; and Accountability and Governance. The recommendations were as follows:

For Leadership, the Commission recommends:

1. Funding for full-time Responsible AI Leads who are part of the senior leadership at the DoD and each branch of the armed services; the IC and each component agency; the FBI; DHS; DoE; DoS; and HHS. To succeed, Responsible AI Leads must have authority and resources, including at least two full-time staff.

2. The National AI Initiative Office should create central resources for agencies, including a standing body of multi-disciplinary experts, a forum for sharing of best practices on Responsible AI issues, and product assessments supported by third-party testing.

For Robust and Reliable AI, the Commission recommends:

1. DoD and the Office of the Director of National Intelligence create dedicated red teams for adversarial testing.
2. All Departments and Agencies: create an AI Assurance Framework to address how key AI systems could be attacked and should be defended, and upgrade development, procurement, and acquisition strategies per the Key Considerations.

For Human-AI Interaction and Teaming, the Commission recommends:

1. Agencies clarify policies on human roles and functions, develop designs that optimize human-machine interaction, and provide ongoing and organization-wide AI training.

For Testing and Evaluation, Verification and Validation, the Commission recommends:

1. DoD tailor and develop TEVV policies and capabilities as AI-enabled systems grow in number, scope, and complexity in the Department.
2. The National Institute of Standards and Technology provide and regularly refresh a set of standards, performance metrics, and tools for qualified confidence in AI models, data, and training environments, and predicted outcomes.
3. To ensure optimal performance of AI systems, national security departments and agencies should adopt baseline practices from the Key Considerations.

For Accountability and Governance, the Commission recommends agencies:

1. Adapt and extend existing policies to ensure accountability is established and documented across the AI lifecycle for systems and their components;
2. Establish clear requirements about information that should be captured about the development process and about system performance and behavior in operation;
3. Institute comprehensive oversight and enforcement practices.

### Commissioner Discussion:

Dr. Moore noted the importance of Chapter 7 and praised the thoughtfulness that went into it. He asked if fairness and debiasing, which are not mentioned explicitly, are a part of the recommendations to look for ways in which an AI system might mimic biases that currently exist in society.

Dr. Horvitz responded that the discussion is mentioned a bit in the next section. He notes that the Commission mentions that key issues around fairness are above and beyond algorithmic. He commented that society must first define and assert what we mean by fairness and be transparent. Once that occurs, the rest is challenging, but easier. Dr. Horvitz also noted that it is important to distinguish which problems are algorithmic and which are societal, especially as data that can be collected and sampled organically tends to have biases that are implicit in the data.

Dr. Moore agreed, and stated that this is a hard problem that experts will need to work on very carefully. When looking at the performance of an AI system, it is important to include prevention of unfairness.

Dr. Horvitz also noted that there are regulations in certain sectors about what is legally unfair, and systems certainly must be consistent with existing regulations.

Mr. Bajraktari read aloud a comment related to a previous section: “Dr. Griffiths if you want to answer this question: The government would need to pay these talented folks better than some entry-level salary like GS-10 which would be their inclination.”

Dr. Griffiths responded that it would be fair to say that there is a tendency within the hiring practice of the federal government to stay to the status quo. However, the Commission has identified alternative hiring authorities that would allow speedy hiring and alternatives to traditional salaries. She noted that the Commission encourages HR professionals to be educated on these additional authorities, and to work more with subject matter experts as they have a better handle on the skills and expertise they need.

## **AGENDA ITEM: CHAPTER 8 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### **Presentation of Proposed Recommendations:**

Dr. Horvitz presented the draft Chapter 8 Blueprint for Action. He noted that U.S. intelligence, homeland security, and law enforcement agencies must be able to develop and use AI technologies for national security purposes; but to do so, the government must ensure their use is effective, legitimate, and lawful. Public trust will hinge on justified assurance of compliance with privacy, civil liberties, and civil rights. To this end, the Commission recommends that the government should:

- Increase Public Transparency about AI Technology Use through Improved Reporting
  - For AI systems that involve U.S. persons, require AI Risk Assessment Reports and AI Impact Assessments to assess the privacy, civil liberties and civil rights implications for each new qualifying AI system or significant system refresh.
  - DHS and the FBI should: augment practices for System of Record Notices and Privacy Impact Assessments to give a holistic picture of AI systems in a timely and pre-fielding manner; increase transparency about AI systems they employ; and improve website navigability.
- Develop & Test Systems per Critical Goals of Privacy Preservation and Fairness
  - The President should require the IC, DHS and FBI:
    - implement steps to mitigate privacy, civil liberties, and civil rights risks associated with AI systems and to document accepted risks; and
    - conduct pre-deployment review of AI technologies that will impact privacy, civil liberties, and civil rights.
  - Congress should fund NIST to sponsor third-party testing centers for AI systems that could impact US persons, and require the DOJ and PCLOB develop binding guidance for their use.

- Strengthen the ability of those aggrieved by AI to seek redress and have due process
  - The FBI and DHS should review policies and practices to ensure that parties aggrieved by government action involving AI can seek redress and know how to do so.
  - Privacy and Civil Liberties Officers throughout the government should ensure policies and procedures continuously evolve with technical updates to allow for redress of privacy and civil liberties complaints.
  - The Attorney General should issue guidance to safeguard due process rights when AI use may lead to a deprivation of life or liberty. This should include obligations for timely disclosure of AI use to a criminal defendant, including the role that AI played leading to an arrest, charge, or prosecution.
- Strengthen Oversight and Governance Mechanisms to Address Current and Evolving Concerns
  - The President or Congress should establish a task force to:
    - assess privacy and civil liberties implications of AI and emerging technologies;
    - make near-term legislative and policy recommendations for AI development and use;
    - and propose institutional changes to ensure sustained assessment and recurring guidance in this realm.
  - Congress should strengthen the Privacy and Civil Liberties Oversight Board's ability to provide meaningful oversight and advice on AI use for national security.
  - Congress should also require DHS Offices of Privacy and Civil Rights and Civil Liberties play an integral role in approval processes for procurement and use of AI-enabled systems, including data associated with those applications. Further, DHS's new AI Coordination and Advisory Council should include Privacy and Civil Rights and Civil Liberties Officers.
  - The President should require stronger coordination and alignment among oversight and audit organizations by creating an interagency working-group focused on oversight and audit.

### Commissioner Discussion:

Dr. Schmidt asked which of the details in this section are the ones that are most important, and which are most likely to be controversial.

Dr. Horvitz noted his belief that this chapter is probably one of the most important chapters when it comes to uses of AI systems in national security. He outlined that his biggest concern is whether the recommendations have teeth and whether the execution of the recommendations will lead to a powerful new culture and be implemented in a meaningful way. Dr. Horvitz also noted the importance of updating standards of practices, and practices around privacy for the modern era of AI systems. He also commented that it will be important to have an agency or entity, such

as PCLOB, to understand how to generalize its scope and its activities to include questions and issues around potential civil liberties challenges using AI.

Dr. Schmidt asked if the primary concern is that these situations naturally scope a lot of data that can be misused in such a way that violates basic principles like privacy, or if there is another primary concern.

Dr. Horvitz noted that data and its use when it comes to high stakes decisions like criminal justice and law enforcement can lead to unfair application of law. Another concern he highlighted is reliance on automation more generally. Dr. Horvitz commented that the United States does not necessarily have the right mechanisms or culture in place to deal with false positives or false negatives in criminal justice. This is why the Commission is recommending a task force to think through these issues more deeply.

Hon. McFarland stated that the United States needs to have technical people involved who understand. The task force should be able to do an impact assessment to understand and provide for mitigation. Hon. McFarland noted that this is a heavy lift, perhaps akin to a divorce court in that sometimes no one wins, but somebody has to make a decision. She noted that the language in the report speaks to this issue, in terms of risk and implementation. Hon. McFarland also commented that the United States needs to have an underlying structure that reflects what our values are.

Dr. Horvitz noted that national security agencies can now buy large amounts of privately acquired data. As a result, there is a grey area for how that data can be leveraged when it comes to civil liberties and protections for the American people.

Hon. Clyburn emphasized the importance of this chapter, as well as the difficulties associated with implementing its recommendations. It requires blending different principles and practices that are not necessarily organic but that cannot be separated. She noted that the challenge will be in always having the right mix of individuals in the room checking and balancing each other to ensure that our principles are upheld.

Dr. Horvitz also commented that, at a high level, the Commissioners and staff looked at what was new and different with AI-centric systems, and then addressed the potential implications and impact that those practices had on civil liberties.

## **AGENDA ITEM: CHAPTER 9 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### Presentation of Proposed Recommendations:

Mr. Darby presented the draft Chapter 9 Blueprint for Action. He noted that the Blueprint has two components. The first component of the blueprint pertains to the Commission's proposal to establish a high-level U.S.-China Comprehensive Science and Technology Dialogue (CSTD). This dialogue, which should be led by the State Department, should exist as part of a broader strategy toward China that mobilizes democratic allies and partners in support of a rules-based international order. It should explore collaborative technical solutions to global problems, and also serve as a forum to identify challenges with respect to emerging technologies and promote solutions which are in the U.S. national interest.

The second component is a draft executive order establishing the Technology Competitiveness Council (TCC), which the Commission proposed in the chapter text. The executive order establishes the Vice President as the chair of the TCC, creates a new Assistant to the President for Technology Competitiveness to serve as the council's day-to-day coordinator, and tasks the TCC with developing a National Technology Strategy. The TCC would exist alongside the NSC, NEC, and OSTP, and help reconcile competing security, economic, and scientific priorities inherent to technology policy.

### Commissioner Discussion:

Hon. McFarland commented that the TCC is a whole of government approach and it is critical for the United States to have a strategic plan. It is sort of a cornerstone for the rest of the recommendations throughout the report.

Dr. Schmidt asked for further information on how the National Technology Strategy would be created.

Mr. Darby responded that the vision is for the TCC to be a convening function that brings together government interests and also involves the private sector in order to coordinate a vision for the country in the technology arenas and hopefully coordinate investment opportunities. He emphasized the importance of joining together to build a national consensus because that is what the United States' adversaries are doing.

Dr. Schmidt noted that China has a national technology strategy, but the United States does not have an official equivalent. He emphasized that this is an important job for the TCC or an equivalent organization to provide..

### **AGENDA ITEM: CHAPTER 10 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**



### Presentation of Proposed Recommendations:

Dr. Griffiths presented the draft Chapter 10 Blueprint for Action. She outlined that Chapter 10 is built on two foundational ideas: growing domestic talent, and recruiting and retaining existing talent from foreign countries. In relation to growing domestic talent, the Commission proposes the National Defense Education Act II, and for international talent it proposes a variety of immigration recommendations for Congress and the Executive branch.

Regarding domestic talent, Dr. Griffiths noted that the commission voted to approve the majority of the initiatives within the proposed NDEA II during the plenary session for the third quarter memorandum. The exception is a proposal for state legislators to add statistics and computational thinking to student testing. As key elements of AI and digital skills, learning these principles would prepare students for the desperately needed digital careers.

Regarding immigration, the Commission recommends that the Executive Branch should implement four key reforms

- Broaden the scope of “extraordinary” talent to make the O-1 Visa more accessible and emphasize AI talent
- Implement and advertise the International Entrepreneur Rule
- Expand and clarify job portability for highly skilled workers
- Recapture green cards lost due to bureaucratic error

Further, the Commission also recommends that Congress should also take four key actions, packaged under a National Security Immigration Act:

- Grant green cards to all students graduating with STEM PhDs from US Universities that graduate from a program that is at least partially residential and in the United States, have a job related to their PhD in the United States, and have passed a security review.
- Congress should also double the number of employment based green cards,
- Create an Entrepreneur visa, and
- Create an Emerging and Disruptive Technology visa.

### Commissioner Discussion:

Dr. Moore commented that he grew up in England and considered the United States to be the technological leader of the world. He expressed his hope that that status will be maintained.

Dr. Griffiths agreed, noting that she came to the United States because of the research opportunities available.

Mr. Bajraktari and Mr. Darby concurred with this sentiment.

Dr. Horvitz stated his belief that the testimonials from our immigrants do a great job of expressing the Commission's views of this chapter.

## **AGENDA ITEM: CHAPTER 11 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### Presentation of Proposed Recommendations:

Dr. Moore presented the draft Chapter 11 Blueprint for Action. He outlined three core recommendations:

- First, scale and coordinate federal AI R&D funding by establishing a National Technology Foundation (NTF); increasing federal funding for AI R&D at compounding levels to reach \$32 billion per year, tripling the number of National AI Research Institutes; and launching grant awards that make big bets on the people and ideas that could transform the field.
- Second, establish a National AI Research Infrastructure that provides access to cloud-based compute resources co-located with data sets; a set of domain-specific AI R&D test beds; large scale, open training data; and an open knowledge network.
- Third, strengthen public-private partnership. To do so, the Commission recommends the government create markets for AI and other strategic technologies as a consumer of technology, and form a network of regional innovation clusters. The Commission also recommends the private sector contribute by setting up a non-profit to support AI research and training.

Dr. Moore then provided further details on two of the newer recommendations in the section: the NTF and the regional innovation clusters.

### Commissioner Discussion:

Dr. Schmidt asked if the recommended doubled R&D funding would go into the NTF or if it was a separate recommendation.

Dr. Moore noted that there are foundational areas of science and math that are essential to AI. At the same time, there is a component of AI research that is not related to foundational science, mainly finding new ways to employ all of the new systems of learning, robotics, etc. Dr. Moore emphasized that the United States must be sure to fund individuals pushing the boundaries there as well.

Dr. Chien asked for further clarification from an NSCAI staff member.

An NSCAI staff member responded that the Blueprint outlines that the compounding doubling of funding would go across many S&T agencies--not just the NTF but also NSF, DOE, NASA, NIST, and other agencies that are currently funding AI R&D.

Hon. McFarland sought to ensure that there is no misinterpretation between NTF and NSF. She stated that everyone knows that science evolves into technology. The Commission needs to be sure that people understand the roles of these Foundations.

Dr. Schmidt noted that roughly a year ago, the White House agreed with the Commission's interim recommendation of increasing AI funding, but did so by taking funding away from other important areas. He stated that this is not what the Commission wanted, and that the Commission should clearly state that funding increases should be incremental, but should not come out of other science budgets.

Dr. Horvitz noted that when discussing this recommendation, the Line of Effort greatly considered what parts of NSF involve engineering in order to be careful about concerns regarding overlap and responsibilities for funding.

Mr. Bajraktari read a question from Divyansh Kaushik: "In the last Congress, a bipartisan group of lawmakers introduced the Endless Frontiers Act that would restructure the NSF as NSTF and put \$100 billion towards R&D in specific areas. I'm curious as to your views on why NSF and NTF should be separate and not a unified entity (NSTF)?"

Dr. Horvitz noted that there was a specific conversation regarding how to shape the recommendation.

Dr. Chien expressed his belief that the Commission was in agreement regarding its priorities: 1) Increase the amount of effort, via federal funding, in the civil portion of AI R&D and 2) Ensure that a significant amount of effort goes into engineering of AI systems, not just basic technology. He noted that one way of doing that is via the creation of the NTF as a dedicated sub-portion of NSF being more about engineering. Dr. Chien emphasized that under no circumstances does the Commission want to detract from non-AI sciences. Instead, the Commission believes there is an incredible synergy, as AI will enable and advance innovation in these areas and the hard problems in other areas will drive AI research.

Dr. Moore added that in academia there is a phenomenon of brilliant people where their grant proposal is very solid but will not require new science. Technology used in new ways should be funded. That is where the passion is. Dr. Moore noted that, all things being equal, the Commission proposes the creation of an NTF, but that specific choice is less important than the overarching concept that technology and engineering needs to be funded directly.

## **AGENDA ITEM: CHAPTER 12 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### Presentation of Proposed Recommendations:

An NSCAI staff member presented the draft Chapter 12 Blueprint for Action on behalf of Commissioners. She noted that Chapter 12's Blueprint for Action includes two overarching recommendations. First, the President should issue an executive order that directs the Vice President, as Chair of an interagency task force, to oversee the development of a comprehensive plan to reform and create IP policies and regimes that further national security, economic, and technology competitiveness strategies. The second overarching recommendation is for the Secretary of Commerce and USPTO Director to assess and examine a non-exhaustive list of "IP considerations" as part of developing and proposing IP policies and regimes. The 10 considerations are:

1. Assessing the impact of current patent eligibility doctrine on innovation in AI and emerging tech;
2. Countering China's narrative on "winning" the innovation competition based on patent application filings;
3. Assessing the impact of China's application filings on USPTO resources and U.S. inventors;
4. Proposing mechanisms to overcome impediments in IP contractual ecosystem to AI public-private partnerships and international collaboration;
5. Exploring the need for additional IP-type protections for data;
6. Combat IP theft;
7. Assessing the need for policy changes to address issues raised by AI-generated inventions;
8. Working with allies and partners on global AI-related IP alignment;
9. Democratizing innovation and IP ecosystems, particularly by supporting SMEs;
10. Assessing policies to protect the integrity of processes by which "standard essential" patents are claimed, asserted, and litigated

### Commissioner Discussion:

Hon. McFarland emphasized the importance of this section, commenting that it is another cornerstone of the report where the Commission underscores very meaningful action that needs to be taken for the preservation of innovation. She stated that this effort needs to have all elements of the government involved.

Dr. Schmidt also voiced his satisfaction with the Blueprint for Action.

## **AGENDA ITEM: CHAPTER 13 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### Presentation of Proposed Recommendations:

Mr. Darby presented the draft Chapter 13 Blueprint for Action. He noted that the Line of Effort Commissioners and staff incorporated feedback from the plenary discussion in January. In the Blueprint for Action, the Commission offers a draft Executive Order on microelectronics leadership to help the U.S. government take the necessary first steps. NSCAI also recommends Congress provide funding for microelectronics on a scale of \$35 billion over the coming years. This includes funding for grants to support the creation of new domestic manufacturing capabilities; research on new technologies; advanced packaging techniques and facilities; infrastructure; and hardware security. It also includes support for private sector financing through loan guarantees.

### Commissioner Discussion:

Dr. Schmidt noted that the United States cannot lead in AI without having access to the best quality hardware. Thus it is important to stay ahead of the competition. Dr. Schmidt noted that this will cost a lot of money from the government and a coordinated effort with semiconductor manufacturers. He asked if the Commissioners have an estimate regarding how much money is needed.

Mr. Darby responded that it would likely cost tens of billions of dollars, explaining that the recommendations involve advanced facilities, as well as significant amounts of research. However, he stated that it may not be in the nation's best interest to put a hard number on the funding needed.

Dr. Schmidt also noted that there has been a fair amount of press coverage on the Biden Administration's work in this area. He also expressed his hope that the Commission's report will aid this effort. Dr. Schmidt also inquired if Mr. Darby could briefly summarize the current status of U.S. semiconductor manufacturing.

Mr. Darby noted that there are talented microelectronic firms here in the United States. However, when you look at the merchant fab capabilities that are driving innovation, that largely exists within TSMC in Taiwan and Samsung in South Korea. The United States needs that capacity to fuel innovation in small companies. Additionally, U.S. firms also have significant capacity offshore. Mr. Daby stated that it is in the national interest for the United States to bring that production back to the U.S in terms of company-centric fabrication as well as merchant facilities.

Mr. Bajraktari read a comment from Alan P: “If the US takes some of that market share from East Asian manufacturers, those countries might stop collaborating with the US.”

Mr. Darby responded that this is a relevant observation. He noted that the Chips for America Act tried to incentivize companies to come to the United States, not replace them. He added that the United States has to make sure we are being innovative on the packaging side and being the best we can be from a disruptive standpoint.

## **AGENDA ITEM: CHAPTER 14 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### Presentation of Proposed Recommendations:

An NSCAI staff member presented the draft Chapter 14 Blueprint for Action. He stated that the Blueprint closely mirrors the recommendations from the main report, and provides specific steps the United States should take to modernize U.S. technology protection policies to combat state-directed technology transfer and theft.

The first half of the Blueprint discusses the U.S. export control and investment screening regimes, providing guidance for how the United States can carry out the requirements of critical export control-related legislation; best utilize export controls on targeted semiconductor manufacturing equipment; implement end-use controls on specific hardware components; and increase mandatory CFIUS disclosures from U.S. competitors in critical technologies, while expediting exemptions for trusted partners. It also outlines more detailed proposals to enhance U.S. regulatory capacity to design and implement appropriate technology protection policies, which is currently woefully insufficient.

The second half of the blueprint for action deals with the need to prevent foreign adversaries from exploiting the United States’ open research environment to expedite development of their military and intelligence capabilities. To counter these actions, the Commission recommends that the government:

- Build capacity to protect through the Academic Research Protection Act, a government-sponsored center of excellence on research security, and enhanced intelligence sharing with research institutions.
- Coordinate protection efforts with allies and partners and bolster cybersecurity support to research institutions.
- Counter foreign talent recruitment programs through standardized grant processes, resourced compliance operations, and updates to FARA.
- Use special visa review processes to limit entrance of researchers with ties to military and intelligence services of countries of concern.

### Commissioner Discussion:

Mr. Bajraktari reiterated the NSCAI staff member's comment that this section was discussed at length in the last plenary. When no Commissioners voiced additional comments or concerns, he proposed moving on to the next Blueprint for Action.

## **AGENDA ITEM: CHAPTER 15 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### Presentation of Proposed Recommendations:

An NSCAI staff member presented the draft Chapter 15 Blueprint for Action. He noted that during the January 26th Public Meeting, the Commissioners agreed on a series of recommendations in Chapter 15 designed to create a favorable international technology order by enhancing cooperation with allies and partners and coordinating and strengthening the tools of U.S. foreign policy. The associated Blueprint for Action detail steps to realize these recommendations. The Blueprint recommends that the President should direct the development of the International Science and Technology Strategy (ISTS), by a White House-led ISTS Task Force focused on four big initiatives.

- First, the White House and State Department should build an Emerging Technology Coalition, or ETC, with like-minded nations.
- Second, the United States should work with ETC partner states to launch an International Digital Democracy Initiative.
- Third, the ISTS task force should develop and implement a coordinated U.S. national plan to support these efforts.
- Fourth, the ISTS should enhance the United States' position as an international digital research hub.

### Commissioner Discussion:

Dr. Schmidt commented that when the Commission spoke to the Trump Administration, they were generally in favor of the Commission's recommendations. He asked if any of the recommendations have been implemented in the State Department yet.

An NSCAI staff member responded that a number of the Commission's previous recommendations have either been implemented or are in the process of being implemented. One example is the recommendation for the Regional Technology Officers at the State Department. The staff member also noted that overall, there has been a great deal of support for the Commission's recommendations in both the Trump Administration as well as the current Biden Administration.

## **AGENDA ITEM: CHAPTER 16 BLUEPRINT FOR ACTION REVIEW AND DELIBERATION**

### Presentation of Proposed Recommendations:

An NSCAI staff member presented the draft Chapter 16 Blueprint for Action which focuses on associated technologies. Chapter 16 contains actions the United States should take to advance U.S. leadership in the emerging technologies that will be key to U.S. competitiveness in the future: biotechnology, quantum computing, 5G, robotics, advanced manufacturing, and energy systems. The staff member briefly outlined how the section has been updated to reflect Commissioner feedback since the last Plenary on January 25. First, the Commission extended the existing biotechnology recommendations to include establishing a world-class, secure biobank for genetic data at the National Institutes of Health. Second, the Commission stressed the importance of developing hybrid quantum-classical algorithms that leverage noisy intermediate-scale quantum computers in the near term, and ensuring that the United States retains long-term leadership in the fabrication of quantum computers and their materials. Last, a recommendation was added expanding the loan authority of the U.S. International Development Finance Corporation to include domestic industrial base capabilities that support key emerging technologies.

### Commissioner Discussion:

Dr. Schmidt noted that this list is a great starting point for the United States to unify our national competitive strategy around.

Mr. Darby responded that the Line of Effort Commissioners tried to make sure they did not contradict themselves. He stated that this is the right place to start when envisioning a new era of technology leadership.

Dr. Schmidt agreed that this is the right list.

Mr. Darby noted that there is also an interesting discussion from a national security perspective around alternative currency and payment platforms. He commented that exploring a lot of these new areas in a frame of a national strategy is really important for this country.

Hon. McFarland commented that this conversation emphasizes the threat of how AI has been used against the United States by countries that don't share our principles. She noted that there are diverse threats eroding our nation's stability and that we are just beginning to recognize the effects of not being in the lead.



Dr. Horvitz agreed that it is important to think deeply through the lens of American values vs. authoritarian views. The United States needs policy that plays to our unique strengths, including our ability to innovate and the openness of ideas in American culture.

### **ADDITIONAL DISCUSSION ITEMS: REVIEW OF DRAFT ADDITIONS TO FINAL REPORT AND BLUEPRINTS FOR ACTION**

Based on Commissioner feedback, NSCAI staff drafted two sections to be added to the draft Final Report and Blueprints for Action. The draft sections were presented on screen for Commissioner review.

The first presentation was a draft recommendation for Chapter 1 of the Final Report and the Chapter 1 Blueprint for Action on Malign Information. The proposed text read as follows:

***Recommendation: Create a taskforce to study the use of AI and complementary technologies, including the development and deployment of standards and technologies, for certifying content authenticity and provenance.***

*In response to the challenges of misinformation, efforts are underway to develop standards and pipelines aimed at certifying the authenticity and provenance of audiovisual content. These efforts make use of technologies, including encryption and fragile watermarking, to secure and track the expected transformations of content via production and transmission pipelines and to challenge malign information campaigns that seek to spoof highly trusted sources of information across our digital ecosystem. Several private organizations have come together to fight disinformation efforts in this realm.*

The Commissioners agreed that this recommendation should be included in Chapter 1 of the Final Report and in the Chapter 1 Blueprint for Action.

The second presentation was a draft paragraph to be added to the “AI in Context” section of the Final Report to provide additional context on the Commission’s views. The changes as presented to the Commissioners are included below, with the red text showing the proposed changes to the previously released draft language.

*Toward More General Artificial Intelligence. AI solutions to date have demonstrated narrow and deep competencies, but with fundamental distinction from capabilities demonstrated by humans. Humans perform tasks by learning without explicit supervised signals; they generalize skills required for one task and apply them to other tasks; and they accrue, manipulate, and reason with large amounts of commonsense knowledge. Some researchers have used the phrase*

*“artificial general intelligence” (AGI) to refer to a goal of extending AI beyond narrow, vertical wedges of expertise. Debates have focused on whether there might be specific breakthroughs that would lead to more general, human-like capabilities or whether the field will more likely continue to push more general AI along one or more dimensions of skills. No matter what the perspective, significant progress across the research areas mentioned in this section will be required to create more general AI systems. There are some efforts to pursue more general AI. If achieved, more general AI methods would have an enormous impact economically, socially, and in terms of security. While breakthroughs are ~~decades away and~~ in no way guaranteed, the United States should not shy away from studying, analyzing, and working to achieve the long-term goals of creating systems with more human-like capabilities.*

*Advances in AI, including the mastery of more general AI capabilities along one or more dimensions, will provide new capabilities and applications. Some of these advances could lead to inflection points or leaps in capabilities. Such advances may also introduce new concerns and risks and the need for new policies, recommendations, and technical advances to assure that systems are aligned with goals and values, including safety, robustness and trustworthiness. The US should monitor advances in AI and make necessary investments in technology and give attention to policy so as to ensure that AI systems and their uses align with our goals and values.*

The Commissioners decided to modify the first sentence in the red to state *“Advances in AI, including the mastery of more general AI capabilities along one or more dimensions, will likely provide new capabilities and applications.”* (The agreed upon modification is underlined here only to better illustrate the change for the purposes of these minutes.)

Following this modification, the Commissioners came to a consensus that this change should be made to the “AI in Context” section of the Final Report.

In the time remaining, Mr. Bajraktari read aloud some written comments from the public that the Commission received prior to and during the meeting. He also posed questions from the public to the Commissioners for answers. All received comments are included in an appendix to these minutes.

In closing, Mr. Bajraktari noted that the Commission staff will update the Final Report and associated Blueprints for Action based on Commissioner feedback. All portions of the Final Report will be packaged for final Commissioner review and approval on March 1, 2021.

## **AGENDA ITEM: CLOSING REMARKS**

Dr. Schmidt and Hon. Work gave closing remarks.

**ADJOURNMENT:**

The meeting was adjourned at 3:55 PM EST by Ms. Ponmakha, the Designated Federal Officer.

Meeting minutes prepared by: Commission Staff

Approved and signed by the Commission's Designated Federal Officer: March 29, 2021

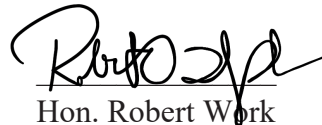
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Ms. Angela Ponmakha  
Designated Federal Officer

Approved and signed by the Commission's Chair and Vice Chair: March 29, 2021



Dr. Eric Schmidt  
Chair



Hon. Robert Work  
Vice Chair

## **Appendix: Public Comments and Questions Received for the Feb 17, 2021 Meeting:**

### **Comments/Questions received through event registration or email:**

Joe Bartlett: If we are going to use AI to combat misinformation—and do it effectively, how do we ensure trust in the actual AI system or algorithm to objectively determine what is misinformation? In other words how are we going to ensure that viewpoints and opinions are not being suppressed by those building out the algorithm that may have a different opinion?

Peter Brown: A comment regarding the additional element presented a little earlier on disinformation. Alongside our Special Committee on Artificial Intelligence, the European Parliament has also established a Special Committee on Disinformation. I would extend the cooperation of our office in DC to facilitate any contacts you may find useful with Members and staff of this committee in a similar way that we have been able to with the AI committee. This is a continuing and important issue and we have much to share and learn.

Douglas Johnson: I understand the Commission is delivering a report to the federal government and making recommendations for actions by the Executive Branch and Congress. But what one thing would Commission members want to highlight or emphasize for the average American citizen? Is there a role for American citizens to play, or a specific call to action for them?

Peter MacKinnon: Greetings, a question relating AI to quantum crypto. Q: Can any Commissions comment on the role AI is likely to play in developing defense capabilities through Post Quantum Cryptography (PQC)? Thank you.

Steven Martinez: Who will get to decide if the strategy articulated in the report is actually improving our ability to meet the objectives of the National Defense Strategy? Will that entity have the authority/responsibility to redirect funding allocated to Combatant Commands, Services & Agencies to focus on the best value to the DoD as a whole, vs. suboptimizing among specific entities within DoD?

Alan J Pan: This comment requests an amendment to the final report to be titled “Chapter 17: American Cybercivics: Convincing the Common Public” or related. I propose this chapter to discuss items such as:

- Provide an overview of current technological standards of the common public by urban/rural, geographic region, and industry
- List current national education priorities of America’s youth (e.g. STEM and common core) and how they prepare or do not prepare for an future AI America

- Highlight senior populations and their outcomes as a result of technological displacement, especially how they survived and remain productive or lacking productivity
- Address mistakes and lessons learned from previous technology leap forwards and how to reduce American-on-American attrition due to excessive competition and other policy issues
- Map the distance and steps required to push or pull the common public from current infrastructure to the infrastructure recommendations addressed in this report (how could the federal level help promote the adoption of AI to achieve this report's recommendations?)
- Consider fail safes in the accelerated adoption of AI defense and winning the technology competition without losing America's already advantageous position

### **Comments/Questions received during the meeting via YouTube/Twitter:**

#### YouTube

*The below is a copy of the comments and questions the public submitted via the NSCAI YouTube meeting livestream comment section. These have not been edited, except for a few minor spelling or grammatical mistakes.*

S Martinez: Who gets to decide if this strategy is actually improving our ability to meet the NDS? Will they have authority to redirect resources allocated to CCMDs, Services/Agencies for best value to the DoD?

Alan P: Comment Chapter 3: Could the use of change agents help enforce top-down leadership values and culture? What sort of change would you recommend to be relevant to lower level change to top-down change?

Alan P: e.g. values of liberty, civil rights, equity? American values and identity?

S Martinez: So are we really trying to advocate for a Digital Transformation of the U.S.' national security enterprise? Not Technology but focus on necessary changes to People, Process & Governance?

Alan P: Ch4: would you recommend AI automated weapon systems be classified or public information? Such knowledge could result in civilian productivity loss and lesser participation due to fear or conflict

chapajoe: Who should determine, for a given context, what level of human judgment is appropriate? Will that fall to DoD/JAIC? Or is it a train/man/equip service function? Or should it be the combatant commands?

Alan P: As an ethnic minority in the USA, it is difficult for me to believe such claims

Alan P: About 35% of the US population is considered an ethnic minority

Alan P: Misinformation is not only an offensive capability, but can also be used as a defensive capability

Peter MacKinnon: Does any chapter of the report discuss the role AI could play in developing software defense capabilities through Post Quantum Cryptography? Thank you.

Alan P: Ch6: Would you recommend to also plan technical talent through immigration, recruiting, headhunting, arranged marriages, etc.?

Matt MacGregor: The government would need to pay these talented folks better than some entry-level salary like GS-10 which would be their inclination.

Divyansh Kaushik: In 2019, the Reagan Institute's Bipartisan Taskforce recommended that the government establish a STEM Corps to develop a civilian AI workforce for the US Government. What are your views on that?

Alan P: "Plan short-term, med-term, long term talent acquisition"

Tom Creely: I would recommend that humanities, i.e. philosophy of technology and philosophy of ethics, be included in the curriculum to balance the technical.

Matt Sheehan: Strongly support the plan for the Digital Service Academy. Excellent suggestion

david barnes: concur with Tom's humanities curriculum recommendation

Alan P: Ch7: How would you restore AI confidence through government from predatory data-gathering practices to build existing AI systems?

Matt MacGregor: Thanks, that is a great answer!

Wade Pulliam: Chap 8: How does the concept of a pre-deployment review of certain AI technologies sync with an efficient, agile development approach

Alan P: Ch8: Would you recommend efforts to shape the American public to be more compatible with AI systems?

Chris Cawley: Greetings, was any of this reviewed by a legal team?

Alan P: The PRC is working on data-driven democratic participation with what they call "mass line ideology"

Alka Patel: Chap7: while having robust/reliable/secure AI-capabilities is imp't, where do you see the ethical considerations in the design & deployment/use of these technologies fitting in these recommendations

Divyansh Kaushik: A recent report from CSET found that the number of U.S. residents who advanced through Canada's skilled immigration program rose 75% between 2017 & 2019.

Divyansh Kaushik: The UK established the Global Talent Visa last year which saw a large number of US residents apply (mostly non US citizens). How high would you rank these recommendations as priority for Congress?

Alan P: Ch10: Would you recommend to include inter-generational planning to ensure talent retention and diversity with institutions to protect future talent from being exploited by ethnic extremist groups?

Divyansh Kaushik: Additionally, the UK has a Migration Advisory Council formed of a group of lawmakers from across the political spectrum, academia, research, and industry. Should the US establish a similar council?

Divyansh Kaushik: In the last Congress, a bipartisan group of lawmakers introduced the Endless Frontiers Act that would restructure the NSF as NSTF and put \$100 billion towards R&D in specific areas.

Divyansh Kaushik: I'm curious as to your views on why NSF and NTF should be separate and not a unified entity (NSTF)?

Alan P: Ch12: How about an update to IP attribution laws from incremental filings to shared ownership?

Alan P: Ch13: If the US takes some of that market share from East Asian manufacturers, those countries might stop collaborating with the US

Alan P: We need those East Asian countries to help monitor China's growth

Divyansh Kaushik: So there was a point made about not issuing visas to military officials of some countries. I'm curious how do you see this in light of US recruitment of Soviet officials during the cold war?

Alan P: @Kaushik you really think people would be honest when the entire world is at stake?

Divyansh Kaushik: as well as recruiting scientists (some of whom had served in the military) in Operation Paperclip?

Divyansh Kaushik: I'm not advocating for anything here, I'm just curious about their thoughts

Divyansh Kaushik: Interesting article, I read it too. I wanted to flag another article for you that appeared in China Daily recently,  
<http://global.chinadaily.com.cn/a/202101/11/WS5ffba57ba31024ad0baa1a37.html>

Divyansh Kaushik: And this quote from the article, ""The strength of the US as a nation is not land, it's the talent. What can we learn from the US? Attract talent," said Ren Zhengfei, founder of Huawei."

Alan P: How fierce is AI competition? Back in 2016 A group of psychologists worked together to convince my PhD committee that I was mentally ill

Tom Creely: The American public needs education about this. I constantly promote ethics of technology and find people haven't the needed knowledge or awareness.



Randall Hill: Many thanks to the Commission. I commend Mignon for her comments on education.

Tom Creely: Most informative. Thank you.

### Twitter

@AlanP23897652: “Comment Chapter 1: Do we have evidence there exists a threat to American security and defense that requires AI-speed adaptability?”

@jschmeling: "This is important - we must address misinformation and the techniques used to promote it, to spread it, and to legitimize it with people who cannot spend enough time to understand its nature."

@AlanP23897652: “Comment Chapter 2: Could you consider a recommendation section on social welfare and retraining provisions for human tasks that become obsolete due to DoD AI initiatives to, if needed, motivate Americans to contribute more in AI development?”

@mattsheehan88: "The US National Security Commission on AI (@AiCommission) currently deliberating on final report. Very interesting (and promising) to hear from commissioner Bob Work that the section on "risks from AI-enabled warfare" led to the most intense discussion.”

@GMOdlum: “@AiCommission #NSCAI recommends that the USG publicly affirm existing policy that only human beings can authorize use of #nuclear weapons, and that @POTUSand @StateDept seek similar pledge from #russia and #china. Excellent idea. #natsec #AI”