

To: Robert O'Brien, National Security Advisor
From: Emerging Weapons Table SCUSA 71
Re: Emerging Weapons Technology

Issue: In order to maintain America's global leadership in emerging technologies and put the United States at the forefront of international technological policy formulation, it is essential to focus efforts on domestic research and development (R&D) surrounding critical emerging technologies.

National Interests:

- 1) Prevent, deter, and reduce the threat from dangerous emerging technologies.
- 2) Maintain American competitiveness and put the United States at the forefront of technological innovation and policy.
- 3) Ensure the viability and stability of major global systems, specifically the global supply chain.
- 4) Encourage openness, responsibility, and cooperation on the international stage.

Analysis:

In recent years, the character and conduct of war and technology has continued to evolve, with technologies such as Artificial Intelligence (AI), drones, and hypersonic missiles emerging onto the global stage. Additionally, the United States now faces multilateral threats from other great powers, such as Russia and China, as well as lower level and non-state actors. As the U.S.' budget for R&D has dramatically declined from 70% to 30% of the world share, other nations are expanding their own technologies and threatening the United States' relative military advantage.

At the same time, R&D in the private sector has increased, leaving the U.S. government and military disconnected from the technology that industry is developing. Furthermore, arms control treaties between great powers have begun to devolve, with the end of the 1987 Intermediate-Range Nuclear Forces (INF) Treaty while countries such as Russia and China are taking steps to modernize their nuclear arsenals.

Another issue facing the United States is the entanglement of global supply chains with its adversaries. When parts and programming systems for weapons are developed in competitor states, the United States creates vulnerabilities in our integral weapons systems. The ease and availability of new weapons is also a concern, as less powerful countries and terrorist groups are able to improve their military capabilities with few limits other than resources.

Additionally, the rapid expansion of technology in conjunction with the absence of adequate policy guidelines raises significant ethical concerns and the potential for misuse, unintended consequences, and other negative outcomes. The United States must update existing policy, disentangle the global supply chain, and engage the international community and the private sector in order to maintain our economic competitiveness, military strength, and diplomatic leadership in the world.

Policy Recommendations:

Recommendation 1: *Guidelines for Emerging Technology:* It is imperative that the United States developed guidelines serve as the basis for international norms, standards, and regulations regarding the safe and ethical use of emerging technologies, rather than allowing other actors to establish rules and norms. This can be done by developing domestic R&D guidelines for AI and other noted technologies, followed by the formation of an international working group led by the United States for the determination of ethical standards with the hope of securing international adherence to a legally binding agreement on emerging technologies.

Recommendation 2: *Priorities and Procedures Working Group:* Establish a working group of relevant government agencies, industry, and academia to develop priorities and preliminary SOPs for best practices and effective use of such emerging weapons technology, with a focus on the accountability and manageability of operationalization.

Recommendation 3: *Public-Private Policy Development:* Engage with industry and academia to ensure public and private agreement on priorities and legislative proposals regarding emerging technologies in order to increase private sector compliance and collaboration with the United States government on those priorities and policies.

Recommendation 4: *Redirection of Global Supply Chains:* As China increases economic and military competitiveness with the United States, disentangling supply chains becomes critical in mitigating the Chinese threat to U.S. economic and innovative dominance. The United States should leverage economic powers through tax cuts, contract preferences, and other initiatives to incentivize domestic industry to redirect global supply chains away from rivals. Coupled with the inclusion of industry in policy creation with regards to these technologies, incentivizing supply chain redirection builds a collaborative relationship between government and industry that furthers U.S. security goals.

Recommendation 5: *Dialogue on Crisis Stability:* Emerging technologies may reduce crisis response time and increase risks of unintentional escalation. The United States needs to engage at the highest levels with China and Russia to foster common understanding. Ultimately, the goal should be to reach an arms control agreement that establishes confidence-building measures (CBMs), requires reciprocal transparency regarding strategies, plans, and dual-use capabilities.

Conclusion:

The development of emerging weapons technology represents a crucial issue that the U.S. government, along with non-governmental actors, needs to address in order to maintain stable international and domestic relations. Solutions that foster collaboration between the government and private sector, emphasize economic security, and develop strong ethical and pragmatic policies are critical to mitigate growing economic, technological, and military threats to American national security and global leadership. These recommendations will ensure that the United States is prepared to deal not only with the emerging technologies discussed here, but also with future technologies that will continue to change the character and conduct of war.

Appendix A

Recommendation 1: *Guidelines for Emerging Technology:*

<u>Pros:</u>	<u>Cons:</u>
• Imposes constraints on foreign R&D • Promotes international and domestic cooperation between developers of technology and policy	• Imposes constraints on U.S. R&D • Could result in asymmetric U.S. constraints or adversary cheating

Recommendation 2: *Priorities and Procedures Working Group:*

<u>Pros:</u>	<u>Cons:</u>
• Develop and coordinate priorities across stakeholders. • Develop best practices for effective and responsible use, enhancing the accountability and manageability of operationalization.	• Too many stakeholders create bureaucratic gridlock. • Too few stakeholders may leave out critical voices and introduce selection bias.

Recommendation 3: *Public-Private Policy Development:*

<u>Pros:</u>	<u>Cons:</u>
• Potential for increased sharing of technological developments between the government and the private sector. • Possibility for new technologies developed in the private sector.	• No time limit on discussions which could become a very lengthy process. • Gridlocking or lack of agreement possible, which could be detrimental in collaboration

Recommendation 4: *Redirection of Global Supply Chains*

<u>Pros:</u>	<u>Cons:</u>
• Decouples the U.S. and Chinese economy • Incentivizes the private sector to work towards U.S. economic and defense security goals	• Industry shoulders increase costs • Economic incentives require federal investment and potential tax raises

Recommendation 5: *Dialogue on Crisis Stability:*

<u>Pros</u>	<u>Cons</u>
• Lowers the risk of unintentional escalation during a crisis. • Fosters cooperation and mutual understanding in other areas.	• Could make the United States asymmetrically vulnerable. • Could require the United States to constrain R&D on emerging technologies.