

# SUBMITTED STATEMENT OF ADAM THIERER RESIDENT SENIOR FELLOW, TECHNOLOGY AND INNOVATION R STREET INSTITUTE

BEFORE THE
HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY

HEARING ON
"DEEPSEEK: A DEEP DIVE"

APRIL 8, 2025

Chairman Obernolte, Ranking Member Stevens, and members of the subcommittee:

Thank you for the invitation to participate in this important hearing. My name is Adam Thierer, and I am a senior fellow at the R Street Institute, where I focus on emerging technology issues. Related to this hearing, I recently released a 3-part R Street series entitled, "Ramifications of China's DeepSeek Moment," and I have appended those essays to this testimony.

### China Has Caught Up

I'll begin with an admission: I am as stunned as all of you about just how fast China has caught up to America in artificial intelligence (AI) and advanced computational capabilities. In fact, in testimony just ten months ago before the Joint Economic Committee, I noted how lucky America was that our AI innovators were firmly in the driver's seat, and not yet having to worry about China surprising us with a powerful new AI system that might represent a modern "Sputnik moment."

And then in late January of this year, my worst fears came true when that AI Sputnik moment happened.<sup>2</sup> DeepSeek's January 20<sup>th</sup> launch of its open-source "R1" AI model sent shockwaves through tech markets and policy circles alike—and rightly so.<sup>3</sup> DeepSeek's model competes favorably with leading American-made AI models, and at a lower cost.<sup>4</sup> President Trump and many other policymakers referred to it as a "wake up call" for our nation.<sup>5</sup>

What happened next was equally stunning.<sup>6</sup> Just days after DeepSeek's R1 launch, Alibaba, another Chinese tech giant, announced the most powerful version yet of its Qwen model, which outperformed R1.<sup>7</sup> DeepSeek responded just a few weeks after that by announcing it would soon

<sup>&</sup>lt;sup>1</sup> Adam Thierer, Testimony for U.S. Joint Economic Committee Hearing on "Artificial Intelligence and Its Potential to Fuel Economic Growth and Improve Governance," June 4, 2024.

https://www.rstreet.org/outreach/adam-thierer-testimony-hearing-on-artificial-intelligence-and-its-potential-to-fuel-e conomic-growth-and-improve-governance.

<sup>&</sup>lt;sup>2</sup> Fareed Zakaria, "DeepSeek has created a 21st-century Sputnik moment," *The Washington Post*, Jan. 31. 2025. https://www.washingtonpost.com/opinions/2025/01/31/deepseek-sputnik-competition-trade.

<sup>&</sup>lt;sup>3</sup> Sinéad Carew et. al., "DeepSeek sparks AI stock selloff; Nvidia posts record market-cap loss, "*Reuters*, Jan. 27, 2025. https://www.reuters.com/technology/chinas-deepseek-sets-off-ai-market-rout-2025-01-27.

<sup>&</sup>lt;sup>4</sup> Tom Clarke, "How Chinese DeepSeek can be as good as US AI rivals at fraction of cost," *Sky News*, Jan. 28. https://news.sky.com/story/how-chinese-deepseek-can-be-as-good-as-us-ai-rivals-at-fraction-of-cost-13298062.

<sup>&</sup>lt;sup>5</sup> David Ingram, "Trump says China's DeepSeek AI 'should be a wake-up call' for American tech companies," *NBC News*, Jan. 27, 2025. https://www.nbcnews.com/tech/innovation/trump-china-deepseek-ai-wake-call-rcna189526.

<sup>&</sup>lt;sup>6</sup> Special Competitive Studies Project, "The View from Beijing: What DeepSeek and Manus Reveal About China's Global AI Ambitions," Apr. 3, 2025. https://scsp222.substack.com/p/the-view-from-beijing-what-deepseek.

<sup>&</sup>lt;sup>7</sup> Eduardo Baptista, "Alibaba releases AI model it says surpasses DeepSeek," *Reuters*, Jan. 29, 2025. https://www.reuters.com/technology/artificial-intelligence/alibaba-releases-ai-model-it-claims-surpasses-deepseek-v 3-2025-01-29.

release an even more capable version of its model.<sup>8</sup> Not to be outdone, Chinese tech giant Tencent Holdings launched its T1 model that outperformed both of those models and some American ones on many benchmarks.<sup>9</sup> Finally, Manus AI, a Chinese startup, also made headlines with the launch of a powerful new general AI agent.<sup>10</sup>

All of this happened in less than two months.

### **Exporting Tech Authoritarianism**

Perhaps these developments should not have surprised us. After all, the Chinese Communist Party (CCP) made its AI ambitions clear years ago with its stated goal to become "the world's primary AI innovation center" by 2030.<sup>11</sup> The CCP uses a variety of industrial policy levers and aggressive forms of "innovation mercantilism," including intellectual property theft, in pursuit of that goal.<sup>12</sup>

The House Select Committee on the Strategic Competition between the United States and the Chinese Communist Party highlighted how "the CCP has pursued a multidecade campaign of economic aggression against the United States and its allies." China's "whole-of-society approach is challenging America's traditional advantages" in advanced technology, and they have considerable talent, data, and resources to back these ambitions. <sup>14</sup>

More problematically, the CCP is engaged in a concerted effort to export digital authoritarianism through its Digital Silk Road effort, which is part of a broader campaign to spread influence

<sup>&</sup>lt;sup>8</sup> Eduardo Baptista et al., "DeepSeek rushes to launch new AI model as China goes all in," *Reuters*, Feb. 25, 2025. https://www.reuters.com/technology/artificial-intelligence/deepseek-rushes-launch-new-ai-model-china-goes-all-202 5-02-25.

<sup>&</sup>lt;sup>9</sup> Coco Feng, "Tencent's Hunyuan T1 AI reasoning model rivals DeepSeek in performance and price," *South China Morning Post*, Mar. 22, 2025.

https://www.scmp.com/tech/big-tech/article/3303456/tencents-hunyuan-t1-ai-reasoning-model-rivals-deepseek-performance-and-price.

<sup>&</sup>lt;sup>10</sup> Saritha Rai, "China's Manus follows DeepSeek in challenging U.S. AI lead," *Fortune*, Mar. 11, 2025. https://fortune.com/asia/2025/03/11/china-manus-follows-deepseek-ai.

<sup>&</sup>lt;sup>11</sup> Graham Webster et al., "Full Translation: China's 'New Generation Artificial Intelligence Development Plan," New America Cybersecurity Initiative, Aug. 1, 2017.

https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017.

<sup>&</sup>lt;sup>12</sup> Robert D. Atkinson et al., "Stopping China's Mercantilism: A Doctrine of Constructive, Alliance-Backed Confrontation," Information Technology & Innovation Foundation, Mar. 16, 2017.

https://itif.org/publications/2017/03/16/stopping-chinas-mercantilism-doctrine-constructive-alliance-backed.

13 The Select Committee on the Strategic Competition between the United States and the Chinese Communist Party, Reset, Prevent, Build: A Strategy to Win America's Economic Competition with the Chinese Communist Party, Dec. 12, 2023.

https://selectcommitteeontheccp.house.gov/media/press-releases/select-committee-adopts-proposal-reset-economic-relationship-peoples-republic..

<sup>&</sup>lt;sup>14</sup> Graham Allison, et al., "The Great Tech Rivalry: China vs the U.S.," Harvard Kennedy School Belfer Center for Science and International Affairs, *Paper*, Dec. 2021.

https://www.belfercenter.org/sites/default/files/GreatTechRivalry ChinavsUS 211207.pdf.

through investment assistance for nations with basic infrastructure needs. <sup>15</sup> Experts now speak of a China-led "authoritarian tech offensive" <sup>16</sup> and the rise of an "AI axis" <sup>17</sup> of autocratic states looking to work together to advance their control agendas through global technology dominance.

### **Technological Strength Is Global Strength**

There are three lessons from the DeepSeek moment. First, China understands that AI is the most important general-purpose and dual-use technology of our era. AI is essential to both widespread economic development and national security, and there is a symbiotic relationship between the two. [See Appendix I]

Second, China understands that AI is also the most important information technology of modern times and that it has profound potential to influence cultural values and speech policies on a global scale. [See Appendix II]

Third, China understands that rapid, widespread AI diffusion drives both objectives. <sup>19</sup> China is flooding the market with nimble but effective AI systems today just as they have previously used low-cost, rapid-response strategies to gain greater market share in other global sectors. <sup>20</sup> This is part of their greater push to make their system of economic and cultural control dominant across the globe.

These are the reasons why House Energy and Commerce Committee Chairman Brett Guthrie recently argued that China's rapid ascendency in advanced computation "really is an existential threat to the country [and] the world."<sup>21</sup>

https://scsp222.substack.com/p/the-building-blocks-of-an-ai-axis.

https://insideaipolicy.com/ai-daily-news/house-commerce-chair-guthrie-details-ai-policy-agenda-119 th-congress.

<sup>&</sup>lt;sup>15</sup> Council on Foreign Relations, "Assessing China's Digital Silk Road Initiative," 2020. https://www.cfr.org/china-digital-silk-road.

<sup>&</sup>lt;sup>16</sup> Doug Kelly, "America Must Act Now to Secure Tech Leadership, New Study Finds," American Edge Project, Mar. 25, 2025. https://americanedgeproject.org/america-must-act-now-to-secure-tech-leadership-new-study-finds. <sup>17</sup> Special Competitive Studies Project, "The Building Blocks of an AI Axis?" Mar. 31, 2025.

<sup>&</sup>lt;sup>18</sup> Erik Brynjolfsson and Andrew McAfee, "The Business of Artificial Intelligence," *Harvard Business Review*, July 18, 2017. https://hbr.org/2017/07/the-business-of-artificial-intelligence.

<sup>&</sup>lt;sup>19</sup> Jeffrey Ding, *Technology and the Rise of Great Powers: How Diffusion Shapes Economic Competition* (Princeton University Press, 2024).

<sup>&</sup>lt;sup>20</sup> Thomas L. Friedman, "I Just Saw the Future. It Was Not in America," *New York Times*, Apr. 2, 2025. https://www.nytimes.com/2025/04/02/opinion/trump-tariffs-china.html. Dan Wang, "China's Hidden Tech Revolution How Beijing Threatens U.S. Dominance," *Foreign Affairs*, Feb. 28, 2023.

https://www.foreignaffairs.com/china/chinas-hidden-tech-revolution-how-beijing-threatens-us-dominance-dan-wang <sup>21</sup> Rep. Brett Guthrie, quoted in Rick Weber, "House Commerce Chair Guthrie details AI policy agenda for 119th Congress," Inside *AI Policy*, Apr. 2, 2025.

### **America's Path Forward**

If America is going to win this so-called "AI Cold War," we need to understand that traditional containment strategies won't work.<sup>22</sup> We're not going to bottle up all Chinese AI advances with analog era trade restrictions and export controls.<sup>23</sup> Costly and poorly targeted industrial policy gimmicks won't work either. We won't beat China by copying China.<sup>24</sup>

Instead, America must race ahead and stay on the cutting edge of the technological frontier to win.<sup>25</sup> And every facet of our government must embrace AI to get this job done.

We must reembrace America's core advantage in this fight with China: freedom—the freedom to innovate, invest, speak, learn, and grow using advanced technological systems.<sup>26</sup>

A Republican Congress and the Clinton administration worked together in the mid-1990s to create a flexible governance approach for online commerce and speech that helped America dominate the Digital Revolution.<sup>27</sup> We can do it again. [See Appendix III]

Here's a quick checklist of the pro-freedom AI opportunity agenda that America needs to beat China.<sup>28</sup> We must:

1. Embrace open source AI innovation and let it blossom globally;<sup>29</sup>

<sup>&</sup>lt;sup>22</sup> Arthur Herman, "China and Artificial Intelligence: The Cold War We're Not Fighting," *Commentary*, July/Aug. 2024. https://www.commentary.org/articles/arthur-herman/china-artificial-intelligence-cold-war.

<sup>&</sup>lt;sup>23</sup> Matthew Mittelsteadt and Keegan McBride, "Competition, Not Control, is Key to Winning the Global AI Race," *Just Security*, Sept. 17, 2024.

https://www.justsecurity.org/100130/competition-not-control-is-key-to-winning-the-global-ai-race.

<sup>&</sup>lt;sup>24</sup> Adam Thierer, "America Won't Beat China by Becoming China," *National Review*, Dec. 7, 2022.

https://www.nationalreview.com/2022/12/america-wont-beat-china-by-becoming-china.

<sup>&</sup>lt;sup>25</sup> Kayla Blomquist and Keegan McBride, "It's Not Just Technology: What it Means to be a Global Leader in AI," *Just Security*, Jan. 4, 2024.

https://www.justsecurity.org/90757/its-not-just-technology-what-it-means-to-be-a-global-leader-in-ai.

<sup>&</sup>lt;sup>26</sup> Adam Thierer, "The Policy Origins of the Digital Revolution & the Continuing Case for the Freedom to Innovate," R Street Institute, Aug. 15, 2024.

https://www.rstreet.org/commentary/the-policy-origins-of-the-digital-revolution-the-continuing-case-for-the-freedom-to-innovate.

<sup>&</sup>lt;sup>27</sup> Adam Thierer, "Flexible, Pro-Innovation Governance Strategies for Artificial Intelligence," *R Street Policy Study* No. 283 (Apr. 20, 2023).

https://www.rstreet.org/research/flexible-pro-innovation-governance-strategies-for-artificial-intelligence.

<sup>&</sup>lt;sup>28</sup> Adam Thierer, "Comments of the R Street Institute in Request for Information on the Development of an Artificial Intelligence (AI) Action Plan," Mar. 15, 2025.

https://www.rstreet.org/outreach/comments-of-the-r-street-institute-in-request-for-information-on-the-development-of-an-artificial-intelligence-ai-action-plan.

<sup>&</sup>lt;sup>29</sup> Keegan McBride and Dean W. Ball, "The United States Must Win The Global Open Source AI Race," Just Security, Nov 7, 2024. https://www.justsecurity.org/104676/american-ai-leadership-requires-support-open-source. Adam Thierer, "Policymakers Should Let Open Source Play a Role in the AI Revolution," R Street Institute Analysis, Mar. 28, 2024.

https://www.rstreet.org/commentary/policymakers-should-let-open-source-play-a-role-in-the-ai-revolution/.

- 2. Ensure diverse, competitive energy markets for AI advancement;<sup>30</sup>
- 3. Win the talent war by attracting the world's best and brightest data scientists and computer engineers;<sup>31</sup>
- 4. Ensure balanced copyright<sup>32</sup> and data privacy policies;<sup>33</sup>
- 5. Craft a national framework that preempts or puts a moratorium<sup>34</sup> on the confusing patchwork of almost 1,000 state and local AI proposals pending today;<sup>35</sup>
- 6. Require federal agencies to review their existing policies to determine how they might be hampering AI innovation;<sup>36</sup>
- 7. Ensure agencies have the resources and training needed to address novel AI-related issues, especially cybersecurity matters;<sup>37</sup> and,
- 8. Defend the importance of free speech in the algorithmic age.<sup>38</sup>

<sup>&</sup>lt;sup>30</sup> Devin Hartman and Olivia Manzagol, "AI's Energy Footprint Warrants Markets, Not Panic," R Street Institute, Sept. 26, 2024. https://www.rstreet.org/commentary/ais-energy-footprint-warrants-markets-not-panic. Neil Chilson, "Building the Launchpad for an AI Moonshot," Testimony Before the House Committee on Oversight and Government Reform Subcommittee on Economic Growth, Energy Policy, and Regulatory Affairs, Apr. 1, 2025. https://oversight.house.gov/wp-content/uploads/2025/04/Chilson-Written-Testimony.pdf.

<sup>&</sup>lt;sup>31</sup> Isobel Asher Hamilton, "The Next Big US-China Trade War is Over AI Talent," *The Daily Upside*, May 17, 2024. https://www.thedailyupside.com/technology/artificial-intelligence/the-next-big-us-china-trade-war-is-over-ai-talent; Stuart Anderson, "AI Commission: Immigrants Key To America's Tech Competitiveness," *Forbes*, Mar. 3, 2021. https://www.forbes.com/sites/stuartanderson/2021/03/03/ai-commission-immigrants-key-to-americas-tech-competitiveness.

<sup>&</sup>lt;sup>32</sup> Wayne Brough and Ahmad Nazeri, "Regulatory Comments Before the U.S. Copyright Office Library of Congress In the Matter of Artificial Intelligence and Copyright," Docket No. 2023-6, Oct. 27, 2023. https://www.rstreet.org/outreach/regulatory-comments-before-the-u-s-copyright-office-library-of-congress-in-the-matter-of-artificial-intelligence-and-copyright.

<sup>&</sup>lt;sup>33</sup> Haiman Wong and Brandon Pugh, "Comments of the R Street Institute's Cybersecurity and Emerging Threats Team on the Development of an Artificial Intelligence (AI) Action Plan," R Street Institute, Mar. 15, 2025. https://www.rstreet.org/outreach/comments-of-the-r-street-institutes-cybersecurity-and-emerging-threats-team-in-req uest-for-information-on-the-development-of-an-artificial-intelligence-ai-action-plan.

<sup>&</sup>lt;sup>34</sup> Adam Thierer, "Comments of R Street Institute on a Learning Period Moratorium for AI Regulation in Response to Request for Information (RFI) Exploring a Data Privacy and Security Framework." R Street *Regulatory Comments*, Apr. 7, 2025.

<sup>&</sup>lt;sup>35</sup> As Rep. Jay Obernolte noted recently: "And so if we fail to take action in Congress, we are running the risk that all of the states are going to get out ahead of us, as they have on digital data privacy, and in short order, we're going to have 50 different standards for what constitutes safe and trustworthy deployment of AI. And that's very disruptive, not only for our ability to innovate with AI, but also very disruptive to innovation, very disruptive to entrepreneurialism." Quoted in Rick Weber, "Rep. Obernolte urges quick congressional action on AI to stem tide of state laws," *Inside AI Policy*, Apr. 3, 2025.

https://insideaipolicy.com/ai-daily-news/rep-obernolte-urges-quick-congressional-action-ai-stem-tide-state-laws. Dean Ball, Greg Lukianoff & Adam Thierer, "How state AI regulations threaten innovation, free speech, and knowledge creation," *The Eternally Radical Idea*, Apr. 3, 2025.

https://eternallyradicalidea.com/p/how-state-ai-regulations-threaten.

<sup>&</sup>lt;sup>36</sup> Adam Thierer, Testimony for House Oversight Committee hearing on "White House Overreach on AI," Mar. 21, 2024. https://www.rstreet.org/outreach/adam-thierer-testimony-hearing-on-white-house-overreach-on-ai.

<sup>&</sup>lt;sup>37</sup> Haiman Wong, "DeepSeek's cybersecurity failures expose a bigger risk. Here's what we really should be watching," R Street Institute, Feb. 4, 2025.

https://www.rstreet.org/commentary/deepseeks-cybersecurity-failures-expose-a-bigger-risk-heres-what-we-really-should-be-watching.

<sup>&</sup>lt;sup>38</sup> Adam Thierer, "AI and Technologies of Freedom in the Age of 'Weaponized' Government," R Street Institute, Feb. 8, 2024.

https://www.rstreet.org/commentary/ai-and-technologies-of-freedom-in-the-age-of-weaponized-government.

### **Conclusion**

This growth and opportunity-oriented AI agenda is the way to beat China. We must not allow fear-based policies to impede American AI development and diffusion, or else China wins.<sup>39</sup>

Thank you for holding this hearing and for your consideration of my views. I look forward to any questions you may have.

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Appendix I: "Ramifications of China's DeepSeek Moment, Part 1: AI, Technological Supremacy and National Security"

Appendix II: "Ramifications of China's DeepSeek Moment, Part 2: AI, Cultural Values, and Global Freedom"

Appendix III: "Ramifications of China's DeepSeek Moment, Part 3: What Both Parties Need to Accept and Do Next"

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<sup>&</sup>lt;sup>39</sup> James Pethokoukis, "What's Really at Stake If We Get AI Regulation Wrong," *Faster, Please!* Oct. 30, 2023. https://www.aei.org/articles/whats-really-at-stake-if-we-get-ai-regulation-wrong; American Edge Project, "American Innovation Under Siege: Venture Capital Data Reveal Risks From Rising Global Regulatory Overreach," Apr. 2024. https://americanedgeproject.org/wp-content/uploads/2024/04/AEP-and-PitchBook-Study-March-2024.pdf. Daniel Jeffries, "How to Build an American DeepSeek and Why We Need It Now," *Future History*, Apr. 1, 2025. https://danieljeffries.substack.com/p/how-to-build-an-american-deepseek. Keegan McBride, "The Threat of 'AI Safety' to American AI Leadership," *National Interest*, Apr. 28, 2024. https://nationalinterest.org/blog/techland/threat-"Cai-safety"-american-ai-leadership-210780.

### Appendix I: "Ramifications of China's DeepSeek Moment, Part 1: AI, Technological Supremacy and National Security"

By Adam Thierer Originally Published by the R Street Institute on February 3, 2025

Chinese artificial intelligence (AI) developer DeepSeek sent shockwaves through tech markets and political circles with the launch of its open-source "R1" AI model on Jan. 20. R1 competes favorably with leading U.S.-made models from OpenAI, Google, Anthropic, and Meta at a fraction of the cost (although the numbers are debated). One week after the launch, U.S. stocks lost a staggering \$1 trillion of market value—with NVIDIA alone suffering an incredible \$589 billion loss. Some market watchers attribute these losses to the R1 debut.

From a business and technical perspective, this episode demonstrates the remarkable volatility of the current AI ecosystem, where technology giants' market-leading positions can be disrupted seemingly overnight. It has left investors and market-watchers wondering what the future holds for America's leading AI innovators with Chinese rivals rapidly catching up. DeepSeek even overtook OpenAI's ChatGPT as the Apple App Store's top free app. Chinese media called it "a historic moment" to surpass ChatGPT in the United States and boasted of experts saying China "has caught up with the United States."

While the market ramifications of DeepSeek's ascendancy are still under debate, the policy ramifications are clearer. Given that many experts are referring to DeepSeek's R1 launch as a modern "Sputnik moment" for America, the success of this important new AI model is showing policymakers that China does indeed represent a formidable challenge to America's geopolitical competitiveness and security—and the United States will need to adjust its policies to reflect that reality.

This three-part series will consider some of the broader ramifications of this development along with possible policy responses. This opening essay considers the impact of the DeepSeek moment on global competitiveness and national security considerations.

## Technological Advantage as a Source of National Strength and Security

President Donald J. Trump referred to the release of R1 as "a wake-up call for our industries that we should be laser focused on competing to win," and Senate Majority Leader John Thune (R-S.D.) likewise noted it was "a wake-up call for us that we've got to step up our game." David Sacks, the White House's "AI and crypto czar," argued that "DeepSeek R1 shows that the AI race will be very competitive" and said this development made Trump's repeal of President Joe Biden's earlier AI executive order (EO) more important because the order "hamstrung American AI companies without asking whether China would do the same."

Signed by Trump on Jan. 23, the new AI EO aims to "solidify our position as the global leader in AI ... to sustain and enhance America's global AI dominance in order to promote human flourishing, economic competitiveness, and national security."

These statements and the new EO signal an increased appreciation for the important relationship between a nation's technological capabilities, global competitiveness, and geopolitical strength and security. This relationship has been elevated in importance with the rise of AI, which scholars tend to agree is the most significant "general-purpose technology" (GPT) of our era.

GPTs are important because they intertwine with almost every other sector of the economy and are used ubiquitously throughout society. A recent book titled *Technology and the Rise of Great Powers* explains the crucial role that GPT diffusion plays in fueling economic growth, productivity, and national power. Many GPTs like electricity, motors, automobiles, electronics, and computers are also dual-use technologies with both peaceful and militaristic uses, making them even more important.

AI and high-powered computational systems can have profound ramifications for national security in both direct and indirect ways. These technologies have an obvious direct bearing on the sophistication of a nation's algorithmic or autonomous systems, which can be used to bolster

offensive or defensive capabilities. Indirectly, a strong technology base allows a nation's policies, institutions, and values to have greater influence on global affairs. Part II of this series will discuss the importance of that indirect relationship.

### The Race Against China

It is essential that the United States be a leader in AI to counter autocratic nations looking to lead in next-generation computational systems in this new "era of great power competition." Russian President Vladimir Putin said in 2017 that "whoever reaches a breakthrough in developing artificial intelligence will come to dominate the world," while Chinese President Xi Jinping declared in 2021 that "technological innovation has become the main battleground of the global playing field, and competition for tech dominance will grow unprecedentedly fierce."

With China and the United States engaged in what scholars call "the great tech rivalry" of our time, many have increasingly worried that "China will soon lead the U.S. in tech." The National Security Commission on Artificial Intelligence produced a major 2021 report concluding that "America is not prepared to defend or compete in the AI era."

The author of the 2018 book *AI Superpowers: China, Silicon Valley, and the New World Order* predicted that "[t]he winner in this race will likely depend on whether the final bottleneck is about core technology or implementation details. If the bottleneck is technical—major improvements for core algorithms—then the U.S. has an advantage. If the bottleneck is about implementation—smart infrastructure or policy adaptation—then advantage China."This exact issue played out last week with technologists and AI market analysts wondering whether the DeepSeek moment signified that Chinese AI developers had indeed figured out how to do more with less by developing state-of-the-art models without the same compute capacity U.S. firms enjoyed. It remains too early to answer that question definitively; however, as some scholars have pointed out, "[America's] current lead is not as stable as many presume and should not be relied on as the basis of a long-term, sustainable competitive advantage."

China made AI supremacy a national goal in its 2017 *New Generation Artificial Intelligence Development Plan*, which proposed to "achieve a world-leading level and AI becomes the main driving force for China's industrial upgrading and economic transformation" by 2025. By 2030, the country expects its AI systems to "achieve world-leading levels, making China the world's primary AI innovation center," on its way to "becoming a leading innovation-style nation and an economic power."

The DeepSeek moment and other recent Chinese developments make it clear that the United States must take these efforts seriously and recognize that the Chinese Communist Party (CCP) will take major steps to accomplish its goals. Beyond the various industrial policy efforts the CCP pursues to promote its national technology champions, China continues to engage in more aggressive forms of "innovation mercantilism," including intellectual property theft and industrial espionage.

Some analysts speak of a growing "technology Cold War," and now an AI Cold War is happening between the United States and China because of China's mercantilist practices and the U.S. government's response to them. A December 2023 report from the bipartisan House Select Committee on the Strategic Competition between the United States and the Chinese Communist Party highlighted how "the CCP has pursued a multidecade campaign of economic aggression against the United States and its allies." It also stressed the need for the United States to "invest in technological leadership and build collective economic resilience in concert with its allies."

### Conclusion

As a leading AI policy scholar observes, we live in a world of "tech-enabled states," where governments seek to "leverage their domestic tech industries to influence and design emerging global norms" and "reshape global power dynamics." The national security and geopolitical stability ramifications are profound, leading another scholar to conclude that "the United States needs to develop an overall AI strategy that aims not just at countering China's moves in AI but advancing American AI supremacy." These scholars identify why public policy regarding AI

and advanced computational systems is so vital. Not only could wise policy choices help strengthen our economy and provide better services and jobs, but they could also bolster national security and allow our values to shape information technology platforms and markets globally. A 2020 Lexington Institute report notes that "[t]echnology is thus a critical driver of national security, because it is the variable that determines the significance of all the other factors." Part 3 of this series will discuss some of the specific policy steps needed to ensure a positive outcome in this regard.

### Appendix II: "Ramifications of China's DeepSeek Moment, Part 2: AI, Cultural Values, and Global Freedom"

By Adam Thierer Originally Published by the R Street Institute on February 7, 2025

Part 1 in this three-part series discussed some of the competitive and national-security ramifications of Chinese artificial intelligence (AI) innovator DeepSeek launching its powerful new R1 open-source AI model. In this second installment of the series, we discuss why, in this "DeepSeek moment," it is essential for America to get AI policy right. This is not merely to boost global competitiveness and innovative outcomes, but also to ensure that other values our nation cherishes—pluralism, liberty, democracy, free speech, privacy, and civil rights—continue to thrive globally.

Stopping the spread of "digital authoritarianism" has been a long-standing bipartisan priority across parties and presidential administrations. As one Biden administration official testified at a Senate hearing in 2023, America needs to shape global technology markets "so that AI advances democratic values and human rights, protects our safety and security, and supports consumers and workers. When the United States pulls back, our adversaries and competitors fill the void."

It has become clear that the Chinese Communist Party (CCP) is taking steps to export its own values of control, surveillance, and censorship to boost its geopolitical influence and that of other autocratic regimes. This poses a threat to global order, freedom, privacy, and human rights. It is why some analysts argue that Chinese supremacy in AI is "potentially more catastrophic for human freedom than anything dreamed up by science fiction" and that "[t]he fate of societies and economies founded on Western liberal principles hangs in the balance—a future that Beijing and the Chinese Communist Party want to replace with their own totalitarian template."

Policymakers must take these considerations seriously as they look to formulate policy in the race for global AI leadership.

### **Lessons from the Analog Age**

A nation's technological vitality has broad social and cultural ramifications, both domestically and globally. Consider an analog age example: the American entertainment industry. While some might decry the American entertainment industry's outsized influence on global culture, it actually had important advantages for the United States in terms of spreading American values far and wide. It is impossible to measure how much influence American entertainment has had over time on foreign cultures—and there certainly have been some downsides to it. Nonetheless, the world is better off today because the American information industries dominated over propaganda-laced communications and censored media from autocratic nations.

Consider, for example, how global norms and freedoms might have been negatively shaped had the Soviet Union's information controls extended well beyond Soviet Bloc countries. If the entire European continent had been trapped under the same informational control regime, or if those authoritarian approaches and values had dominated entire other continents across the globe, the world would have been worse off for it.

This same danger exists today, but the ramifications could be even more profound with America's leading nondemocratic adversary now being a more technologically sophisticated country like China, which is actively seeking both to be the global leader in AI, robotics, and autonomous systems and spread its values through those systems to other nations to counter Western values.

### **How China Spreads Digital Authoritarianism**

As three former national security officials noted last year, American principles and values "stand in sharp contrast to rival foreign organizations which are oftentimes state run and act as an extension of their authoritarian governments." This is particularly true of Chinese companies. For example, DeepSeek's R1 reflects Chinese values, and censorship is embedded by design. R1 is actively censored to exclude communications that would run afoul of CCP directives, which DeepSeek must do to gain favor with the CCP and become a so-called "national champion."

This should be one of America's great advantages in the race for global communications technology influence. U.S.-based technology firms enjoy the benefits of constitutionally protected free speech rights and a more culturally pluralistic amalgamation of viewpoints and expression. By contrast, the CCP demands that Chinese tech companies fall in line with various party priorities, which limit those things.

Unfortunately, that does not necessarily mean U.S. firms or values will win out globally in the fight against the sort of digital authoritarianism being pushed by nations like Russia and China. The Chinese government in particular is working actively to shape global markets and cultural norms more to their favor through a process some scholars refer to as "weaponized interdependence," in which some powerful nations use global networks and investments as leverage to influence other countries.

For example, China has been expanding its Digital Silk Road effort, which is part of its Belt and Road Initiative. These are major Chinese global initiatives intended to spread CCP influence through investment assistance for nations with basic infrastructure needs. Atlantic Council scholars explain how the goal of the Digital Silk Road initiative is to "shape the global AI ecosystem according to [China's] own terms, which risks undermining international norms and values on privacy, transparency, and accountability."

These Chinese efforts have made significant inroads, particularly in the Global South, through major investments in various telecommunications systems and digital technologies. With many countries looking to accelerate their information and communication technology capabilities, cheap Chinese hardware and software is seductive. American firms and interests are challenged by these developments. "Without a clear, viable model of digital governance to oppose digital authoritarianism, the United States stands to lose political influence over a number of countries in these areas," one New America Foundation scholar notes.

### **Western Nations Have the Wrong Focus in International Negotiations**

Many Western pundits and politicians are ignoring this problem and instead focusing on formulating global "AI safety" treaties that would only tie the hands of Western nations while China and other countries race ahead. Some scholars call for sweeping global computational control mechanisms to address AI risks, including new global regulatory control bodies that would limit the development of more sophisticated frontier AI models in America. Some of these proposals may be debated at the "AI Action Summit" taking place in Paris next week, which Vice President JD Vance will be attending.

Today's global AI safety negotiations embody some of the same sort of idealistic Cold War-era thinking about how to address the dangers of previous dual-use technologies. In 1972, the United Nations' 1972 Biological Weapons Convention (BWC) looked to ban biological and toxic weapons globally. While well-intentioned, cheating was rampant: While the former Soviet Union signed the BWC, it ignored it and instead secretly developed biological weapons on a massive scale.

In a similar way, the danger exists today that China will continue to rapidly accelerate both its own internal AI and robotic capabilities, while at the same time hoodwinking the rest of the world when it comes to global AI safety promises.

If it is the case, as one leading commentator writes, that "China, Russia, and many other rival nations have no such plans" to stop the development of their own advanced AI systems, then the "U.S. has no real choice other than to try to stay ahead of them." China recently refused to sign on to a nonbinding blueprint that emerged from an international conference on "Responsible Artificial Intelligence in the Military Domain." But even if the CCP were to sign on to any global AI accords, there is little reason to trust that they would live up to any promises made.

Meanwhile, many foreign nations—including some in Europe—are looking to impose speech-related restrictions on AI systems. These new information-control efforts increasingly

come into conflict with the First Amendment rights of Americans. "We are on the threshold of a revolution in the creation and discovery of knowledge," argues the President and Chief Executive Officer of the Foundation for Individual Rights and Expression. Unfortunately, free speech and free inquiry are at risk in the AI age due to "regulatory overreach that limits its potential as a tool for contributing to human knowledge," he notes.

### Conclusion

Ultimately, America must lead in global AI markets, even if it ends up being the case that "every country is on its own on AI," as two Center for a New American Security scholars conclude of the current situation. At some point, as previous R Street research has argued, "the 'realpolitik' of international AI governance demands that U.S. officials prioritize not only our national security but also the liberal values that will help ensure broad-based human flourishing along multiple dimensions."

Part 3 in this series will take a closer look at some of the ramifications of the DeepSeek moment for the broader politics of AI. It will also outline some specific AI policy priorities for U.S. legislators that both parties should hopefully be able to agree on.

### Appendix III: "Ramifications of China's DeepSeek Moment, Part 2: What Both Parties Need to Accept and Do Next"

By Adam Thierer Originally Published by the R Street Institute on February 7, 2025

Part I in this series explained how the recent release of a powerful open-source artificial intelligence (AI) model called "R1" by Chinese developer DeepSeek confirmed what many policymakers and scholars have long suspected: China is a formidable competitor in AI and advanced computation. This makes public policy decisions for these technologies more important than ever.

The United States has many advantages over China in the AI market, including world-leading private-sector computational capacity, a vibrant venture capital market, and a diverse digital ecosystem; however, China has its own advantages and is gaining ground rapidly in the race for global AI leadership.

Most notably, Chinese AI developers have gotten very good at cobbling together rapid-fire, low-cost digital technology solutions to remain highly competitive in global markets. Just days after the R1 release, another Chinese tech giant, Alibaba, announced the latest version of its Qwen large language model (LLM), claiming it surpassed DeepSeek's model across various benchmarks and competed favorably with OpenAI and Meta's latest LLMs.

President Donald J. Trump and other leaders argued that DeepSeek's debut served as a "wake-up call" for America and that our nation's technological lead and national security could no longer be taken for granted as Chinese AI capabilities advance. Part II of this series explained how cultural and speech-related values are also at stake in the global debate over AI governance, with China and other autocratic nations increasingly looking to control the most important information technology of modern times. Thus, the challenge is to American economic strength as well as broader pluralistic values.

Part III discusses some of the changes needed to ensure this will not happen as America looks to respond to the "DeepSeek moment." The most obvious policy lesson is that the United States cannot stop China from pushing ahead on AI and advanced computation; instead, the nation must ensure its computational capabilities remain at the cutting edge of the technological frontier, running ever faster as the AI race with China intensifies.

### **Tech Attitudes Must Change in Both Parties**

Both liberals and conservatives will need to adjust their approaches to digital technology in the wake of the DeepSeek moment to create a more positive innovation culture for AI. Digital technology companies and algorithmic systems have come under attack from both parties in recent years, but for different reasons. This must change to ensure America does not shoot itself in the foot by discouraging some of the nation's leading innovators.

The left needs to move away from the fear-based rhetoric and technocratic regulatory approaches that dominated many of the Biden administration's AI policy documents, including their historically long executive order (EO) and the "Blueprint for an AI Bill of Rights." The latter document claimed that AI algorithmic systems are "unsafe, ineffective, or biased," and "threaten the rights of the American public." Such rhetoric and calls for extensive proscriptive AI regulations undermine the innovation policy culture needed to counter China.

The right must also be more flexible in two ways. First, the endless "Big Tech" bashing and threats of aggressive regulation need to stop. Vice President JD Vance recently said, "we believe fundamentally that big tech does have too much power," having previously stated that tech companies should be broken up. However, just days before Vance made those latest remarks, Trump hosted a White House ceremony with leading large tech CEOs to announce an ambitious \$500 billion "Stargate Project" AI venture to "provide a strategic capability to protect the national security of America and its allies." This follows other major investment announcements by large tech companies as private U.S. venture capital continues to drive the AI revolution.

If the Trump administration and populist conservatives spend the next few years engaged in a war against large AI firms, it will just play to China's advantage. Vance articulated a better approach for America during a major address before the Paris AI Action Summit last week, explaining that "excessive regulation of the AI sector could kill a transformative industry just as it's taking off, and we will make every effort to encourage pro-growth AI policies."

Additionally, conservatives must moderate their approach to high-skilled immigration—a currently contentious issue. The United States is involved in a talent war, and the nation has long benefited from attracting some of China's top minds, who moved here to complete doctoral degrees and stayed to help develop cutting-edge technologies. Essentially, the United States was on the receiving end of a "brain drain" from China—and it was hugely advantageous to American innovation. Hard-nosed immigration policies could encourage talented students and entrepreneurs to stay home, which would deprive the United States of a major advantage in the race for AI "talent dominance."

Luckily, policymakers on both sides of the aisle are increasingly realizing that the DeepSeek moment necessitates a more positive bipartisan approach if America is to remain the global leader in AI. In late 2024, the Bipartisan House Task Force on Artificial Intelligence released a 273-page report and concluded that "the United States must take active steps to safeguard our current leadership position" to "help our country remain the world's undisputed leader in the responsible design, development, and deployment of AI." An earlier report by the Bipartisan Senate AI Working Group, led by Sen. Chuck Schumer (D-N.Y), identified the need to "ensure the United States remains at the forefront of innovation in this technology." In January, Trump signed a new EO on "Removing Barriers to American Leadership in Artificial Intelligence," which aimed "to promote human flourishing, economic competitiveness, and national security."

The DeepSeek moment serves as another reality check that these positive, pro-development statements and actions are needed to ensure America's AI innovation culture can thrive.

### **Open-source Supremacy Is Crucial**

While many policy steps are needed to ensure that result, one of the most important things policymakers must do in the wake of the DeepSeek moment is embrace open-source AI. While some critics want to limit open-source capabilities, the United States "must win the global open source AI race" to ensure American systems and values remain at the forefront of this global technology revolution.

China has made impressive strides with open-source systems and has been closing the gap with America. Containment strategies to slow Chinese AI advances can only get us so far because "over time, open artificial-intelligence systems are likely to outperform closed systems." If the United States restricts its open-source capabilities, Chinese systems will fill that gap.

The Biden administration generally supported open-source AI, and Vance has been vocally supportive as well. Unfortunately, Sen. Josh Hawley (R-Mo.) recently introduced a bill that would ban the import or export of any AI technology to or from China. This sweeping prohibition, which includes stiff fines and jail time for violations, will stifle American AI progress and ultimately backfire because, as critics note, it will "erode the influence of U.S. firms abroad" and "promote a global reliance on Chinese technology." More flexible approaches will be needed.

### **Export Controls Have Limits**

The effectiveness of tech export controls became the topic of intense discussion across Washington following the DeepSeek moment. While that debate will continue in Congress and the Trump administration, there is growing consensus that export controls cannot hold back China completely. "Public policy can diminish Chinese computing power; it cannot weaken the minds of China's finest researchers," one analyst noted.

Even with some hardware-based export restrictions in place, Chinese AI developers have found ways to assemble enough powerful chips and technical know-how to produce impressive gains.

And while China's chip sector lags behind America's, it may be that U.S. controls only serve to accelerate the development of China's domestic chip-making capabilities.

Hardware-side controls will still play a role, at least in the short term, by keeping some computational hurdles in place for Chinese developers looking to match American investments. But the success of DeepSeek and other Chinese developers shows why American policymakers should focus more energy on removing domestic hurdles to expanding our own technological frontier. "For the United States to maintain its global AI leadership," two AI scholars argue, "it must focus on competition and outcompeting its geopolitical rivals in the development, implementation, and diffusion of AI-based systems domestically and internationally instead of an expert-control-first approach."

Before the Biden administration left Washington, it announced a significant expansion of AI export controls that could undermine U.S. leadership in advanced computing and will likely need to be revised by the Trump administration.

### National Framework Needed to Protect Interstate Computational Commerce

Perhaps the greatest policy threat to America's AI innovation culture today comes from the looming and rapidly growing patchwork of state and local AI regulations. One AI tracking service counts well over 600 AI bills already introduced in 2025—almost as many as all of last year. Most of those are state bills, and many are regulatory in character.

With the pace of AI development unfolding rapidly, the need for coherent governance becomes even more crucial. American innovators thrived in internet and digital technology markets in recent decades because a Republican Congress and the Clinton administration worked together to create a national marketplace for the free movement of digital speech and commerce. Today's growing patchwork of AI regulations threatens that highly effective policy framework.

Unfortunately, neither the Trump EO nor any recent congressional proposal or congressional task force reports grapple with this problem. Congress must once again establish guidelines for what types of state AI regulation might impinge upon the interstate marketplace to ensure robust investment and competition can develop.

### **Conclusion**

Many other important issues came into play following the DeepSeek wake-up call, including policies for energy and critical mineral access, cybersecurity and data privacy issues, worker training, and STEM education, and much more.

However, policy flexibility and forbearance should be lodestars of this revolution. America will not beat China by becoming China. Instead, as two former defense officials wrote in a 2024 op-ed, "our path forward instead lies in America's capacity to innovate" and "it's time to innovate as if the free world depended on it." The key to that will be pro-innovation policies and investments that meet China's challenge and clear the way for our nation's best and brightest to help us win this technological race.