



Written Testimony of Dr. Eric Schmidt

U.S. House Select Committee on the Chinese Communist Party

“Leveling the Playing Field: How to Counter

the Chinese Communist Party's Economic Aggression.”

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Chairman Gallagher, Ranking Member Krishnamoorthi, and esteemed Members of the Committee, thank you for the opportunity to speak here today.

I am here to discuss the foremost strategic issue of our time: the technological aspect of the competition between the United States and the People’s Republic of China (PRC). And artificial intelligence (AI) is at the center of this competition. In 2016, China moved out when 280 million Chinese watched the AI program AlphaGo play the Chinese strategy game Go and defeat the best Go player in the world. I know the shock it sent to the Chinese people — *because I was there in person for that game*. Since then, China has dedicated enormous resources in an effort to outpace the United States in those technologies I consider fundamental to this strategic competition. This brings us to why we are here today.

I am here in my capacity as Chair of the Special Competitive Studies Project (SCSP), a nonpartisan, nonprofit organization dedicated to strengthening America’s long-term competitiveness as AI and other emerging technologies shape our national security, economy, and society. My views have been influenced by my time serving as Chair of two critical government advisory bodies, the National Security Commission on Artificial Intelligence (NSCAI) and the Defense Innovation Board (DIB). Most recently, Congress appointed me to serve on the National Security Commission on Emerging Biotechnology, created in the Fiscal Year 2022 National Defense Authorization Act. I also draw upon my years as CEO of Google, leading other private sector entities, and my academic and philanthropic efforts.

The Chinese Communist Party (CCP) leadership has long understood that the road to their objective of global dominance leads through achieving technological supremacy in areas such as AI, quantum computing, biotechnology, advanced communications, and other emerging technologies. Through comprehensive strategic planning, top-down investment, and economic maneuvering, including theft of intellectual property, the PRC has taken the lead over the United States in a number of critical technology areas, including 5G network components, advanced batteries, financial technology, and commercial drones. Global leadership in AI, semiconductors, advanced manufacturing, and next-generation networking remains a highly contested field. The PRC refers to this as “dominating the commanding heights.” I call this innovation power — the quest for leadership and dominant market share in the constellation of

emerging technologies that will underpin a thriving society, a growing economy, and sharper instruments of geopolitical influence.

Innovation power is the ability to invent, adopt, and integrate new technologies. It is fundamental to a nation's military or hard power, as developing and fielding advanced weapons systems will strengthen deterrence and, if necessary, war-winning capabilities. It will determine a nation's economic power, for the nation that establishes technological leadership maintains outsized economic leverage and is the one that sets global standards. It also dramatically impacts a nation's soft power, for the nation that most effectively and rapidly innovates will be able to weave its values into these critical technologies.

The United States, along with our many close allies and partners, must maintain our technological lead over China, and doing so requires that we harness innovation power. At stake is the future of free societies, open markets, democratic governments, and a world order rooted in freedom, not coercion. At its heart, innovation power is a fight for democracy over authoritarian rule. So how do we protect the world's democracies? We do exactly what enabled us to outpace and outmatch every rival that has risen to try and challenge us over the past century – we out-innovate them because no rival nation has ever been able to stand up to the force and power that is American innovation.

And, we do it the American way – with the government and the private sector working together as true partners, not by government edict; we do it with our brilliant domestic talent and by attracting immigrants, not by walling off the world; and we do it along with like-minded nations because we are stronger together.

I have worked in the technology sector for 50 years, in one form or another. I have never seen the gains and the speed of what we are seeing with the large language models right now. My industry is changing rapidly. And the rest of the world is also going through major changes because of this technology. Not only will we invent this AI future, but so will our direct competitor, China. We cannot prevent it. We cannot hold it to ourselves for a few years of advantage. We are in a race that will shape the world's future. While the United States is currently the leader in frontier large language models – which provides us with a strategic advantage – there is no guarantee that we will remain in the lead without a focused national effort. The task before us is not easy. But as Americans, we have done it before and will do it again. So, where do we start?

First, we must invest in science and technology research – both basic and applied. For generations, the U.S. government powered and led the U.S. innovation ecosystem, working in concert with industry and academia. This collaboration brought us the moon landing and the

Internet. But, over time, as we came to a peaceful and decisive end to the Cold War and the threat from great power rivals receded, U.S. government investment in research and development (R&D) declined. R&D investment shifted mainly to the private sector, predominantly focused on commercialization, losing sight of higher-order scientific challenges and national needs. To stay ahead of China, we must change our approach.

While our private sector and academic research institutions continue to produce incredible breakthroughs and serve as an engine for our economy, the U.S. government must establish a foundation of basic research and provide strategic direction. Congress and the President have recognized this, as we have seen with the passage of the CHIPS and Science Act, which provided funding to bolster the R&D, workforce, and manufacturing base required to build a resilient domestic semiconductor supply chain. And while the CHIPS Act is a great achievement, we must do more. We need more strategic direction from the U.S. government. Just as Congress passes a yearly national defense budget, Congress must also pass technology-focused legislation *annually* that supports and invests in those sectors critical to U.S. innovation power and creates viable markets that incentivize the private sector.

In our final report at the NSCAI, we recommended that the government make major new investments in AI R&D and double non-defense funding for AI R&D annually to reach \$32 billion per year by 2026. However, government investments in non-defense AI R&D spending last year remained under \$2 billion. If we are to remain the world leader in AI and these other critical technology areas, the government must renew its commitment to investing in U.S. innovation and research. Otherwise, we are likely to be surpassed by the PRC as they are not blind to the advantages of AI dominance. As the U.S. government reinvigorates its investment in innovation, we must remember to take the long view. That means resourcing innovation across multiple years or even decades, as we may not see the fruits of that investment for some time. And we must remind ourselves that there will be occasional setbacks — but that is the nature of technological progress. We must be willing to take risks and push the envelope. If instead we play it safe and try to wring all the risk out of the discovery process, we will invariably fail.

Second, we must invest in talent. Talent lies at the core of innovation power. It is the people who work day in and day out in our laboratories, office buildings, and manufacturing floors who sustain our innovation and our strategic advantage over our competitors. But we are failing our people, particularly our youngest, by failing to ensure that the U.S. education system keeps pace with and takes advantage of technological progress. We need to provide our students and workers with the skills and tools they need to succeed in this fast-changing and hyper-competitive world. Our domestic pool of workers with the requisite technological know-how is simply not keeping pace with the hiring needs of our companies.

To address the domestic demand for STEM talent, the United States must provide expanded educational opportunities to our next generation of workers while simultaneously providing training opportunities to those already in our workforce. That is why the NSCAI recommended that Congress take on a new National Defense Education Act (NDEA) II, modeled after the post-Sputnik NDEA of the 1950s, that made landmark investments in the U.S. educational system, particularly K-12. The NDEA II should provide the resources students need to acquire digital skills, such as mathematics, computer science, data science, and statistics, and purposefully target under-resourced school districts to build a more robust, more diverse domestic pipeline of future scientists and technologists.

Beyond the private sector, the federal government also needs to grow technical talent, which is why at NSCAI, we recommended the creation of the United States Digital Service Academy (USDSA). Like a service academy but for civilian, federal employees, USDSA would be an accredited, degree-granting university purpose-built to meet the government's needs for digital expertise.

In parallel to preparing our next generation of workers, we must increase apprenticeship opportunities to provide hands-on training and fill current tech talent gaps. Apprenticeships allow for a combination of paid experience and education. They enable companies to train and reskill workers for immediate employment in technology areas critical to innovation power, such as advanced manufacturing and semiconductor packaging and assembly.

Even with massive investment in the domestic workers of today and tomorrow, we will only partially curb our worker shortfall in critical technology areas. We must recruit and retain top talent from abroad to close the gap. The United States has an asymmetrical advantage in recruiting foreign talent. We are home to the world's leading universities, the most innovative companies, and a society that allows the brightest minds to innovate freely. But far too many talented people cannot come and stay in the United States. Our immigration system makes it needlessly difficult for top graduates and skilled foreign workers to contribute to the U.S. economy.

We must reform the H1-B visa process to address these shortfalls, focusing on providing visas to workers from strategic sectors and increasing the H1-B visa cap. With appropriate security screening, the United States should give green cards to international students who earned advanced degrees from U.S. universities in critical technology areas. Lastly, the United States should create an "Innovators Visa" for technology entrepreneurs looking to establish and grow their businesses in the United States.

Third, we must implement a defense strategy empowered by technology and AI. At the Defense Innovation Board, we recommended a number of steps that the Department of Defense (DoD) should pursue to generate military advantage against advanced peer adversaries. The DIB’s [Software Acquisition & Practices](#) report was instrumental in launching the “software revolution” across DoD. DIB’s recommendations helped launch Project Maven, which served as a pathfinder project for many subsequent AI initiatives. The DIB’s work also paved the way for the first AI Strategy and the creation of the Joint Artificial Intelligence Center (JAIC) at the Pentagon, which has now evolved into the [Chief Data and Artificial Intelligence Office](#), chartered with accelerating the Pentagon’s adoption of data, analytics, and AI to generate decision advantage. The DIB also looked beyond AI, exploring risks and opportunities for DoD on [5G](#), [cyber](#), and [talent management](#), to name a few.

At NSCAI, we recommended that DoD be AI-ready by 2025. Becoming AI-ready will require the DoD to invest in R&D, but it will also require engaged leaders who shepherd the development of innovative operational concepts and business practices that take advantage of AI’s speed, scale, and optimization. To drive adoption, the DoD needs to establish AI-readiness performance goals focused on logistics, experimentation, and use in training. Just as importantly, the DoD needs leadership empowered to hold accountable organizations that do not meet their performance goals.

And now, driven by the fundamental changes in the character of war we are witnessing in Ukraine, along with the PRC’s accelerated military modernization, we must lay the groundwork to achieve and maintain military-technological superiority. That means developing entirely new ways of operating enabled by advanced technologies — specifically AI. During my trip to Ukraine, I saw firsthand how technology is making a difference on the battlefield. The war in Ukraine is a technical war fought by technical people. And war is now fought at a much more rapid pace, on a highly decentralized battlefield, with capabilities employed in incredibly innovative ways. The combination of autonomy, vast improvements in drone technology, and the use of commercial space are changing war as we know it. There is no place to hide anymore. This reality demands we rethink how we organize and design our military.

We must transform our military for the future of warfare, which is changing at an accelerated pace. That means we must organize to operate as a distributed, network-based force; lead the world’s militaries in human-machine collaboration and combat teaming (e.g., 50 networked drones assisting every human soldier); and develop, deploy, and update innovative software that will help us defeat any potential adversary.

Fourth, we must develop and shape technologies with democratic values. The nation that leads in the technology competition will set the global rules of the road for standards and

norms. It is critically important that these standards and values reflect the democratic way, not a world in which technology is deployed to surveil, control information flows, and oppress societies. AI strengthens authoritarian regimes' abilities in these areas. It is already assisting authoritarian governments in tracking their citizens' movements. AI also provides them with ways to exploit social media to better manipulate their own people — as well as democratic societies. This requires a focused approach to AI governance. Rigid and inflexible regulation that stifles innovation could cause us to miss out on the exceptional benefits of technology, especially AI. It could also lead to ceding our technological advantages. At the same time, we must act to mitigate the worst of the potential harm that may come from increasingly powerful AI tools. Governments that encourage technology innovation while ensuring it is accomplished safely, responsibly, and with public support will achieve a competitive advantage and offer a model for the rest of the world.

I want to emphasize to all of you the importance of AI as a foundational technology. It will shape and influence nearly every aspect of our lives, especially as generative AI becomes ubiquitous. From healthcare to R&D, banking and finance, advanced manufacturing, education, and social media, we must develop and use AI in ways that reflect the rule of law, our values, and our democratic ideals. We must ensure that AI is developed and used to benefit society, enhance our economy, and protect our nation. That means establishing an American model of AI governance that achieves these objectives.

We need a set of governance principles for AI to balance the tradeoffs between innovation and protecting our rights and values. One of the critical principles is that we should focus our regulatory efforts on AI platforms that have or will have the most significant consequences for our people. We want to encourage and harness the considerable benefits that AI technologies offer and mitigate and prevent harmful outcomes. For example, concerning certain AI and AI-enabled platforms, Congress needs to clarify various platform responsibilities by directing the following:

1. Platforms must, at minimum, be able to establish the origin of the content published on their platform;
2. We need to be able to identify and know who the specific individual or organization is on the platform representing each user or organization profile; and
3. The platform must publish and be held accountable to its published algorithms for promoting and choosing content.



Lastly, to sustain innovation power, the United States must not act alone; we must work with our many allies and partners, for they are a true force multiplier. I believe the United States possesses two foundational advantages. These are the quality and dynamism of our people and the globe-spanning network of allies and partners that ensure America is never alone in any competition or conflict. As you know, the latter is an advantage our strategic rivals do not share. A combination of shared foundational values and PRC coercive behavior is again drawing together the United States and its global partners. Predatory PRC practices from Australia to Lithuania have demonstrated the dangers of strategic dependencies on the whims of the Chinese Communist Party. A window of opportunity has opened, but we must move skillfully and with urgency to take advantage of the PRC's stumbles and the clumsy way in which it seeks to extend its influence around the world. Now is the moment when we must deepen the cooperation with our allies and partners across critical technology sectors, supply chains, and markets.

Because leadership today in emerging technologies also requires cooperation with our allies and partners. After World War II, the United States occupied a unique position of technological advantage. The devastating conflict left few other science and technology hubs operating at the most advanced frontiers. The world has changed. Scientists and private companies from allied and partner countries are now operating at the cutting edge of research, development, and manufacturing. By working together, we can jointly run faster in this technology competition and, when necessary, slow down our rivals. We have seen this just recently in practice as our close alliances with Japan and the Netherlands offered a key reinforcement to U.S. export controls on the most advanced semiconductors.

We must demonstrate to the world the many advantages and the shared benefits of U.S. technological leadership. We must continue to work with our allies and partners to push out democratic technologies to the wider world. The world works off of tech platforms, and those platforms become global platforms. We want these platforms to be built in democratic nations and to reflect democratic values. Just imagine if the internet had been built using the CCP's principles. China is a global platform competitor that is already negatively impacting the world, using technology to control and surveil populations. They are an autocratic competitor run by technocrats that is very capable of inventing an adverse future, be that a new communications future via Huawei and 5G or a new application known as TikTok, which has taken over social media around the world.

Winning this technology competition with China requires private firms to scale globally to capture market share to survive and compete against authoritarian-based alternatives. A democracy-based company that believes in human rights and operates under the rule of law fundamentally differs from a PRC-based company that does not. Therefore, it matters that our

companies — those from America and our allies and partners — win around the world in these strategic technology sectors that matter for our security, our privacy, and our future.

To achieve this competitive framework, I submit for your review and consideration the following resources to advise and assist the Committee in its critical work:

- [Offset-X: Closing the Deterrence Gap and Building the Future Joint Force](#), Special Competitive Studies Project, May 2023;
- [National Action Plan for U.S. Leadership in Biotechnology](#), Special Competitive Studies Project, April 2023;
- [Innovation Power: Why Technology Will Define the Future of Geopolitics](#), Eric Schmidt, Foreign Affairs, February 2023;
- [Platforms Interim Panel Report](#), Special Competitive Studies Project, November 2022;
- [Economy Interim Panel Report](#), Special Competitive Studies Project, November 2022;
- [Mid-Decade Challenges to National Competitiveness](#), Special Competitive Studies Project, September 2022; and
- [Final Report](#), National Security Commission on Artificial Intelligence, March 2021.

Thank you again for the opportunity to appear before you, and I look forward to our discussion.

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