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Nvidia ($NVDA)
CyberArk ($CYBR)
Fortinet ($FTNT)
Palo Alto Networks ($PANW)
Zscaler ($ZS)

Impacted Groups: Semi-Conductors – Materials - Cybersecurity

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DeepSeek or Deep End

Introduction

Over the past year, the artificial intelligence (AI) landscape has been largely dominated by U.S.-based enterprises. However, this dynamic shifted dramatically with the introduction of China's DeepSeek AI model. This development singlehandedly one-shot the industry when it delivered a more cost-effective, powerful, and efficient AI solution for free in open-source format. Many analysts are calling this a modern-day "Sputnik moment," as financial markets responded with over $1 trillion in losses across related stocks by the close of Monday's trading session.


Above: DeepSeek Logo

Abstract

How did a Chinese company, bogged by chip sanctions pull this off? What does this mean for US spending, national security and economic stability? Should US politicians' step in, and how? Finally, what do all these developments in AI mean for the consumers? This piece will explore these questions and more, keeping you up to date on the happenings of the world of technology, geopolitics, and the game of global dominance.

How is this Possible?

Before we break down the implications of DeepSeek, we must first dive into how *"Tony Stark was able to build this, in a cave, with a box of scraps!"*—metaphorically speaking.

Given China's *questionable* accounting practices in the past (Luckin Coffee, anyone?), it is difficult to determine whether the reported $5.5 million figure is accurate. This is especially true considering the possibility that they may have access to restricted chips and are simply not reporting it.

A review of the sanctions imposed on China indicates that most of the chips used for training DeepSeek were legally acquired in 2022 and 2023, prior to the implementation of stricter export controls. At the time, these were H800 chips—several generations behind the current H100 models. Given their lower computational power and efficiency, China had to innovate within these constraints, ultimately leading to this breakthrough. Additionally, there are unverified reports suggesting access to illegally acquired H100 chips, though these claims remain unsubstantiated.
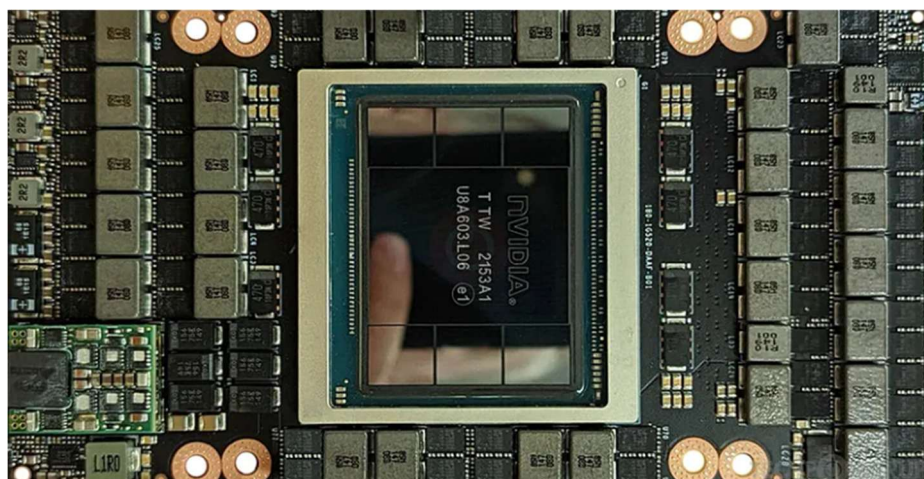
Training AI models demands substantial computational power, which in the U.S. is primarily supplied by private-sector giants such as Amazon, Microsoft, and Google.

Above: Nvidia CEO, Jensen Huang, attends a Nvidia meet & greet and signs more than just pictures with one of the attendees.

President Donald Trump's nominee for Commerce Secretary, Howard Lutnick, has raised concerns over the ability of Chinese artificial intelligence startup DeepSeek to circumvent U.S. export controls. During his Senate confirmation hearing on Wednesday, Lutnick pledged a "very strong" response if confirmed, emphasizing the need to close regulatory loopholes.

"Nvidia's chips, which they bought in large quantities and found ways around restrictions, are powering DeepSeek's AI model," Lutnick stated. "This has to stop. If they are going to compete with us, they must do so without relying on our technology. I intend to take a strong stance on this issue."

At the hearing, Lutnick underscored the limitations of current U.S. export controls, likening them to a "whack-a-mole" approach without the reinforcement of tariffs. "We need to back our export controls with a tariff model," he asserted. "The notion that DeepSeek operated entirely above board is nonsense."

If confirmed, Lutnick would oversee the Bureau of Industry and Security (BIS), the agency responsible for drafting and enforcing export restrictions on semiconductor sales and manufacturing equipment to China.

In contrast, China operates under a different paradigm, with the government actively supporting and subsidizing cloud computing infrastructure. This state-backed approach enables firms to train and deploy models at a significantly lower cost. Beyond direct subsidies, AI has been designated a national priority in China, driving a surge in government-led investment. Meanwhile, U.S. companies must carefully navigate the financial tradeoffs between innovation and commercial viability.

As AI adoption accelerates, so does the demand for energy. While the U.S. continues to grapple with a growing energy crisis, China has made significant advancements in securing power for its AI ambitions. The country's abundant hydroelectric reserves, particularly in Sichuan, have become a strategic hub for compute-intensive operations, potentially contributing to the significantly lower cost estimates associated with AI development.

Implications for the United States

As previously discussed, China's ability to develop cutting-edge AI models at a fraction of the cost raises critical questions for the U.S. and enterprises investing in AI. While the structural differences between the U.S. and Chinese economies must be considered, the fundamental question remains: Is the level of spending in the U.S. justified?

In short, we believe it is. In fact, there is a strong case for the U.S. government to take a more active role in AI development by increasing funding, providing strategic subsidies, and prioritizing enhancements to the power grid which is one of the most significant cost drivers in AI training. Over time, as competition increases and more players enter the semiconductor market, chip prices are likely to decline, following a familiar pattern observed in industries where a monopolistic leader initially dominates a critical technological advancement.

Security Concerns

It is no surprise that the United States and its allies remain at the forefront of technological advancements, and artificial intelligence is no exception. While many consumers view AI as a convenient tool, the reality is far more complex especially in the realm of cybersecurity. For malicious actors, both foreign and domestic, AI presents a powerful opportunity to exploit vulnerabilities and compromise data integrity.
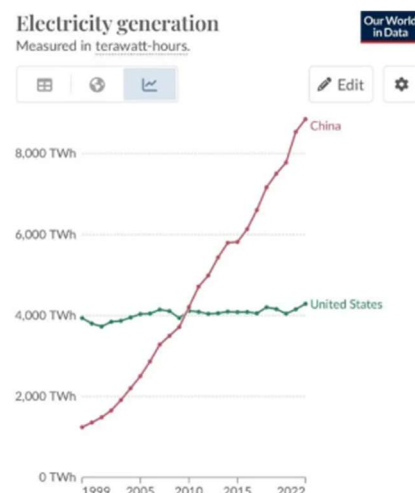
Above: Graph highlighting the change in electricity generation between United States and China since 1999.


Above: Ontario Premier Doug Ford, a consistent media figure that has been speaking out against Trump's tariffs.
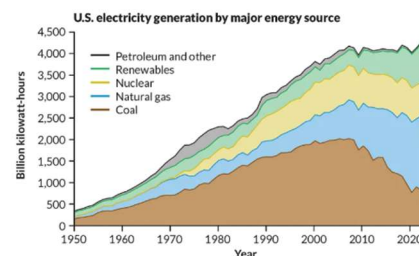
Above: Graph highlights the changes in electricity generation since 1950 across the 5 major energy sources.

The challenge is clear: while stronger AI enhances security, it also escalates risks, including data breaches, cyberattacks, and algorithmic exploitation. As a result, cybersecurity firms such as CyberArk Software ($CYBR), Fortinet ($FTNT), Zscaler ($ZS), and Palo Alto Networks ($PANW) have experienced a surge in demand, with enterprises and governments racing to fortify their defenses. As AI capabilities evolve, so too will the sophistication of cyber threats, making robust security not just a priority but an absolute necessity.
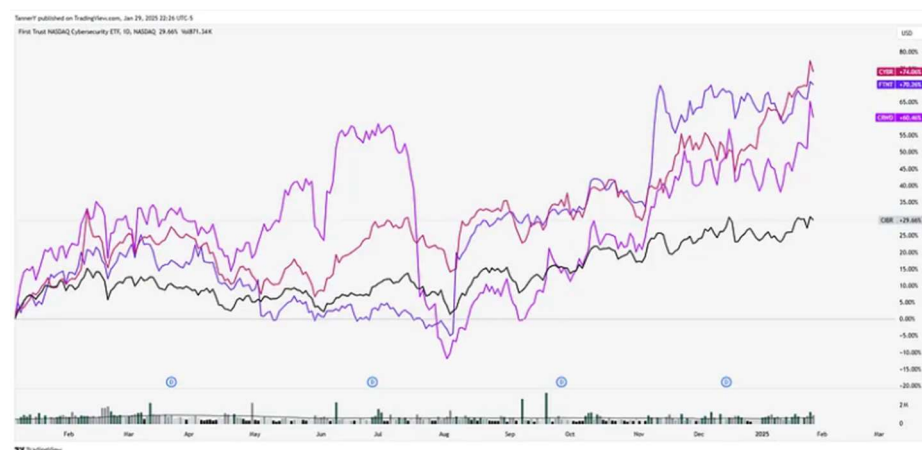
Above: Comparison of performance between CyberArk ($CYBR), Fortinet ($FTNT), CrowdStrike ($CRWD), and Nasdaq Cybersecurity ETF ($CIBR)

Conclusion

The release of DeepSeek AI marks another pivotal moment in the global AI race, highlighting the growing technological divide between the United States and China. China's ability to bring a high-quality, efficient, and government-backed large language model (LLM) to market, despite intense global scrutiny and sanctions, raises critical questions not only about the legitimacy of U.S. policies but also about the security risks associated with advancing foreign AI models.

To maintain strategic leadership, the United States must prioritize AI development. Even if this technology ultimately serves no greater purpose than streamlining everyday tasks like drafting emails, the risks of allowing a foreign power to take the lead are simply too great.