



75% Less Energy and 94% Cheaper Development:

DeepSeek's AI Model Could Force Big Tech to Rethink Everything

By **Diane McAveaney**
CEO and Founder, Group-Q

Exploring the AI Revolution Reshaping Business and Technology

In business, change is a constant. We adapt to shifting markets, anticipate trends, and prepare for what's next. But every so often a breakthrough reshapes the entire landscape.

For years, the AI industry has accepted a fundamental trade-off: performance at a cost. Massive development expenses and energy consumption have been the price of progress. But Chinese AI startup DeepSeek is proving that this trade-off no longer holds. This isn't just a step forward—it's a tsunami reshaping everything in its path.



Who is DeepSeek?

DeepSeek is a Chinese AI start-up founded in 2023 by High-Flyer, a quantitative hedge fund with a \$13.79 billion portfolio.

Originally focused on AI-driven investment strategies, High-Flyer pivoted to developing cutting-edge artificial general intelligence (AGI), leading to the creation of DeepSeek.

DeepSeek's mission? To make AI scalable, efficient, and accessible to all.

Through my strategic alliance with Pangeanic, an AI company specializing in language solutions, I've experienced first-hand how AI is reshaping businesses, creating both opportunities and challenges. Even for businesses acclimated to change, DeepSeek stands out. To better understand this shift, I talked with two of my highly regarded colleagues that I consider to be experts on this topic:



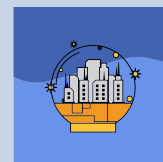
[Manuel Herranz](#)
CEO & Founder [Pangeanic](#)

Manuel has spent two decades developing AI-driven language solutions. He sees DeepSeek as a game-changer: *"This isn't just about making AI more accessible."*



[Alex Kantrowitz](#)
Founder [Big Technology Podcast](#)

Journalist and AI analyst Alex agrees: *"Right now, AI's business model is built around expensive, closed platforms. DeepSeek is showing another way."*



We explored what sets DeepSeek apart, how AI leaders are responding, and what this shift means for the future. The answers were surprising and made one thing clear: DeepSeek is already changing the AI landscape.

What Makes DeepSeek Different?

For years, AI's fundamental trade-off has been performance at high cost. Training and running large-scale AI requires massive computing power, and this infrastructure has justified its steep price. DeepSeek is forcing the industry to reconsider this equation, which is putting pressure on AI's biggest players.

When you crunch the numbers, they're startling:

- Cost: [OpenAI charges](#) up to \$60 per million output tokens; DeepSeek offers the same for just [\\$2.19](#).
- Energy Efficiency: AI models are notoriously energy-intensive, yet DeepSeek's model reportedly uses 50%-75% less energy, e.g., over [half the energy](#) of other solutions.



DeepSeek's efficiency comes from two key innovations

Mixture of Experts (MoE):
Activates only the most relevant parts of the model for each task.

Multi-Level Attention (MLA):
Prioritizes important data while minimizing redundant computation.

Together, these optimizations allow DeepSeek to deliver strong performance while dramatically lowering costs and energy consumption.

“The way DeepSeek deployed and applied Chain of Thought, plus the heavy reliance on pure Reinforcement Learning (not exclusively), is the innovation,” said Herranz. “DeepSeek’s MoE model employs a fine-grained segmentation of experts, where each expert is divided into smaller specialized sub-experts.”

While this is amazing, it does create challenges for “common knowledge” across various tasks. For example, if you simply routed the query to math or historical experts—one would be doomed. DeepSeek solved this through shared experts and introduced an Expert Choice (EC) Routing Algorithm to optimize computational efficiencies and workloads to match the experts across multiple contexts.

“This isn’t just about making AI cheaper,” said Herranz. “If models like this continue to improve, they could open doors for companies that previously couldn’t afford large-scale AI.”

With more than [2.6 million downloads](#) within days of its on January 20, 2025 release, DeepSeek’s momentum is clear. But is this a lasting shift, or just a temporary shakeup? That depends on whether DeepSeek can sustain its early promise—and how major AI players choose to respond.

Market Dynamics: How Are AI Giants Responding?

Big Tech’s Response

For years, a handful of companies—OpenAI, Google, and Microsoft—have shaped the pace of development. They control not just the models, but also the infrastructure and pricing that

determine who can access large-scale AI. DeepSeek is challenging that dynamic by proving AI doesn't have to be expensive to be powerful.

So far, Big Tech isn't cutting costs to compete. Instead, they're looking for ways to differentiate their models beyond price.

"The strategy will likely be about adding more value rather than just adjusting price points," said Kantrowitz. "That means more ecosystem lock-in—integrated tools, proprietary features, and services that make switching harder for businesses."

[Industry leaders](#) suggest DeepSeek's emergence could push OpenAI to open-source more models to stay competitive. Others predict that Google and Microsoft will lean further into premium enterprise services, bundling AI tools with cloud infrastructure and proprietary offerings rather than competing on price.

What the Analysts Say

Gartner, which tracks AI adoption trends, [noted](#) that businesses evaluating AI models are looking beyond cost savings. Scalability, efficiency, and long-term value are becoming important in enterprise AI decisions. Meanwhile, [CSA Research](#), which focuses on AI's impact on language services, has examined how disruptive models like DeepSeek could reshape competition in industries that rely heavily on AI-driven automation.

"Big AI is watching," said Herranz. "They can't ignore cost reductions like this, even if they downplay it publicly. Silicon Valley will certainly be working on deciphering how DeepSeek developed such clever, efficient strategies, and ironically, end up 'copying' DeepSeek in many areas, such as MLA or more efficient Mixture of Experts."

Whether DeepSeek forces an industry-wide change depends on how major players respond and whether DeepSeek's efficiency claims will sustain long-term.

Models: What's the Difference?

AI models generally fall into two categories:

Open-weight models

- Offer businesses more flexibility.
- Enable developers to inspect, modify, and customize the AI.
- Ideal for companies wanting to integrate AI into their existing workflows without vendor lock-in.

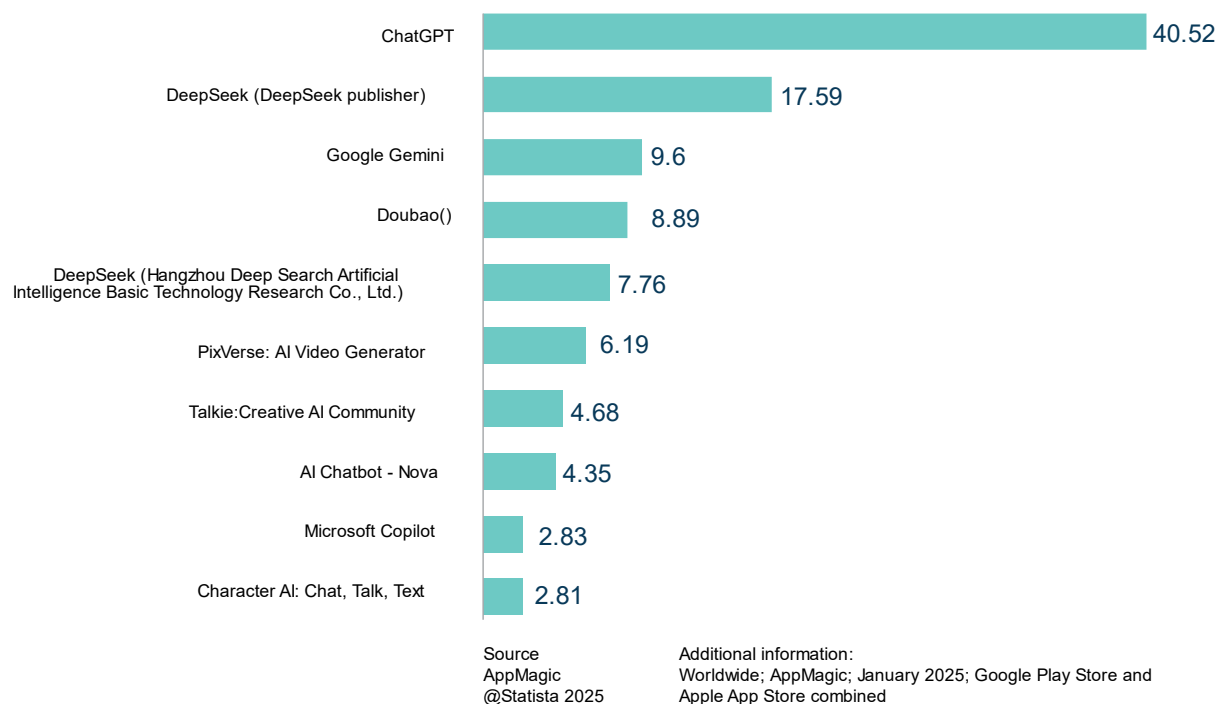
Closed-weight models

- Proprietary solutions.
- Inner workings are locked by the company that created them.
- Businesses must pay for access, but customization is limited.

DeepSeek's approach leans toward openness, making it a more adaptable and cost-effective alternative to models controlled by major AI providers.

Note that open-weight AI isn't the same as open-source AI. Open-weight models provide access to the AI's architecture and outputs, but don't always come with fully open code.

Most Downloaded Generative AI Mobile Apps Worldwide in January 2025 by Number of Downloads in the Millions



Regulatory Issues: Can Governments Keep Up?

While DeepSeek creates opportunities, it also presents new regulatory challenges. Unlike closed-weight systems, open-weight AI can be downloaded, modified, and deployed by anyone, making oversight difficult. Existing regulatory frameworks weren't designed for this level of accessibility, forcing policymakers to rethink how AI is monitored and governed.

"A key concern is DeepSeek's data handling practices and what authorities see as 'insufficient information on data retention, categories, and user rights', but these were similar to concerns raised by ChatGPT 3.5 in 2023," said Herranz. "DeepSeek's censorship mechanisms, like refusing to discuss certain topics about China, and potential security vulnerabilities, like reportedly being easy to jailbreak, create additional regulatory complications."

The EU has already begun [investigating](#) DeepSeek's GDPR compliance, while global regulators scramble to adapt. But the question remains: Can traditional frameworks keep up with decentralized AI?

AI Democratization: Who Benefits from Cheaper, More Open AI?

By lowering the cost of AI development and deployment, DeepSeek enables startups, smaller firms, and independent developers to integrate AI into their products and services—expanding access beyond large corporations with significant infrastructure budgets. This democratization of AI allows a broader range of players to innovate and compete in the market.

"From a user perspective, there is little differentiation in performance, except that DeepSeek won't answer certain questions about politics," said Herranz. "DeepSeek challenges the assumption that bigger is better, or that excessive spending for big data centers, high energy consumption, and premium pricing are really necessary."

While DeepSeek lowers barriers to entry, it raises questions about the redistribution of power within the AI ecosystem. As more entities gain access to advanced AI capabilities, the competitive landscape will evolve, potentially challenging the dominance of established tech giants.

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Alex Kantrowitz

What DeepSeek Means for AI-Driven Translation and Localization

DeepSeek is also lowering the cost of AI-powered translation and localization, helping more companies to expand globally. But while pricing is becoming more competitive, localization isn't just about automation—quality, accuracy, and domain expertise remain critical.

We're constantly evaluating emerging AI models and their translation capabilities, and what we're seeing so far looks really good, especially for major European languages and some Asian languages," said Herranz. "DeepSeek is interesting because it challenges assumptions

about cost and efficiency, but open-weight AI still has limitations—it's not a plug-and-play replacement for customized solutions."

"The strategic advantage is the apps, features, and knowledge you build on top and around an LLM."

Manuel Herranz, Pangeanic

For companies exploring open-weight AI, the real question isn't just affordability—it's whether the model delivers the precision, reliability, and customization that professional localization requires.

"The strategic advantage is the apps, features, and knowledge you build on top and around an LLM," Herranz said. "Deep Adaptive AI Translation customizes any input into the expected translation in terms of terminology and style. You cannot achieve this by simply deploying an LLM or plugging into an API. Anybody can plug into Google Translate, DeepL, or DeepSeek, but adapting AI to match the styles and terminology of your 2, 20, 200, 2,000 clients? The answer is to move away from old-fashioned CAT-tool workflows to document-level solutions."

AI's Next Evolution: Where Do We Go from Here?

As more companies adopt a decentralized AI development approach with DeepSeek, AI's competitive landscape will move beyond model size and raw computing power. Instead, success will depend on how well AI integrates into real-world applications.

"The real innovation is going to be in how AI gets used," said Kantrowitz. "We're past the point where model size is the main differentiator. The future is in AI's practical impact—how businesses, developers, and industries shape it for their needs."

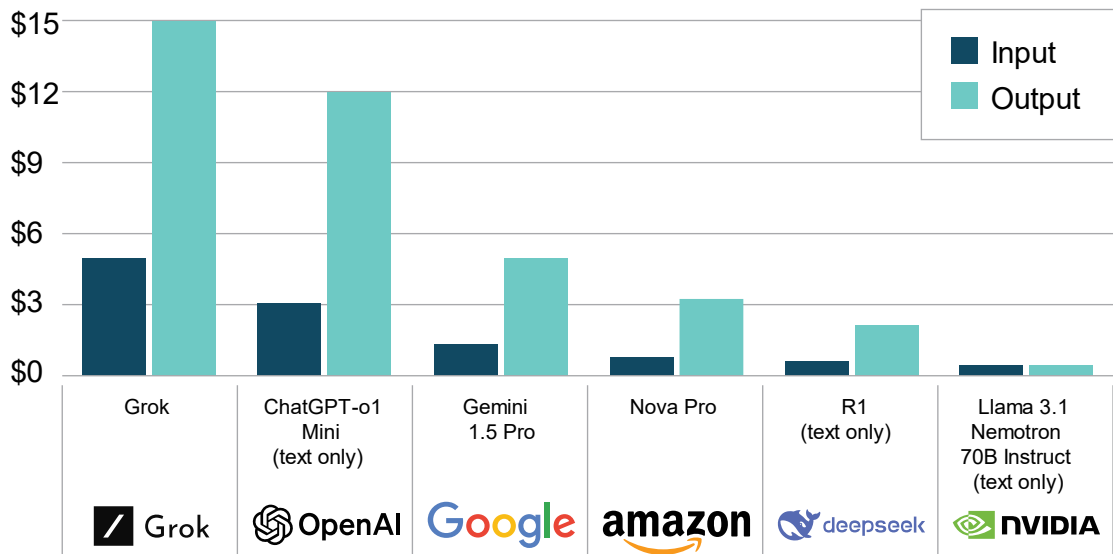
Herranz sees a growing demand for industry-specific AI that goes beyond general-purpose models, whether in healthcare, finance, or language services.

"Companies are already moving toward models built especially for their needs," said Herranz. "But as individual models become more efficient, AI infrastructure demand may increase as more organizations begin developing and deploying AI solutions—this is shown by Microsoft's rapid integration of DeepSeek into Azure."

Herranz referenced [a CSIS report](#) predicting AI democratization could lead to a ‘two-track’ AI ecosystem: where high-end proprietary models from major tech companies would co-exist alongside more affordable, specialized solutions from smaller players. While infrastructure costs per model may decrease, he believes the total market for AI infrastructure could expand significantly as more businesses enter the field.

DeepSeek-R1 Upsets AI Market with Low Prices

Estimates price for processing one million input/output tokens on different AI models



A token is the smallest unit of AI model processing (~4characters).
 o1 is ChatGPT’s latest model. List includes most comparable model per company
 * Uses Meta’s open-source Llama AI

Source
 DocBots
 @Statista 2025

The Real Revolution is Just Beginning

DeepSeek is proving that AI isn’t just for tech giants anymore. Advanced AI can now be more affordable, more efficient, and, most importantly, more accessible, which is forcing businesses to rethink what’s possible.

I’ve spent years observing how technology transforms industries and one key insight stands out: technology never develops in isolation. DeepSeek’s rise is a testament to the fact that innovation often emerges from the most unexpected sources.

As AI continues to reshape the technological and industrial landscape, the question is no longer if businesses will adapt, but how quickly and how boldly. The companies that embrace AI as a transformative force—not just a tool—will not only thrive but also redefine the boundaries of innovation and competition.

The future belongs to those who act decisively. Is your business ready to lead, or will it be left behind in the wake of progress?

About the author



Diane McAveaney, CEO and Founder of Group-Q, is a seasoned expert in sales optimization and business transformation. With years of experience helping companies navigate the technological shifts, she is passionate about the potential of AI to reshape industries. Connect with her at dmcaveaney@group-q.com or visit Group-Q to learn more. <https://group-q.com/>