



PIIE PETERSON INSTITUTE FOR
INTERNATIONAL ECONOMICS

US-China AI Competition

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AI is at the Center of US-China Tensions

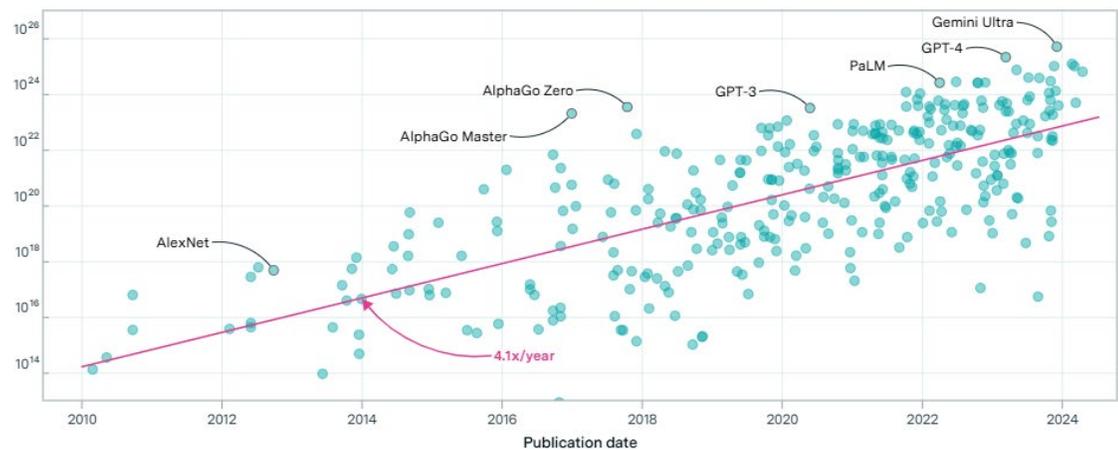
- President Trump (2025): “As our global competitors race to exploit these technologies, it is a national security imperative for the United States to achieve and maintain unquestioned and unchallenged global technological dominance.”
- China Next Generation AI Plan (2017): “firmly seize the strategic initiative in the new stage of international competition in AI development, to create new competitive advantage...effectively protecting national security.”



AI Capabilities Build on Compute

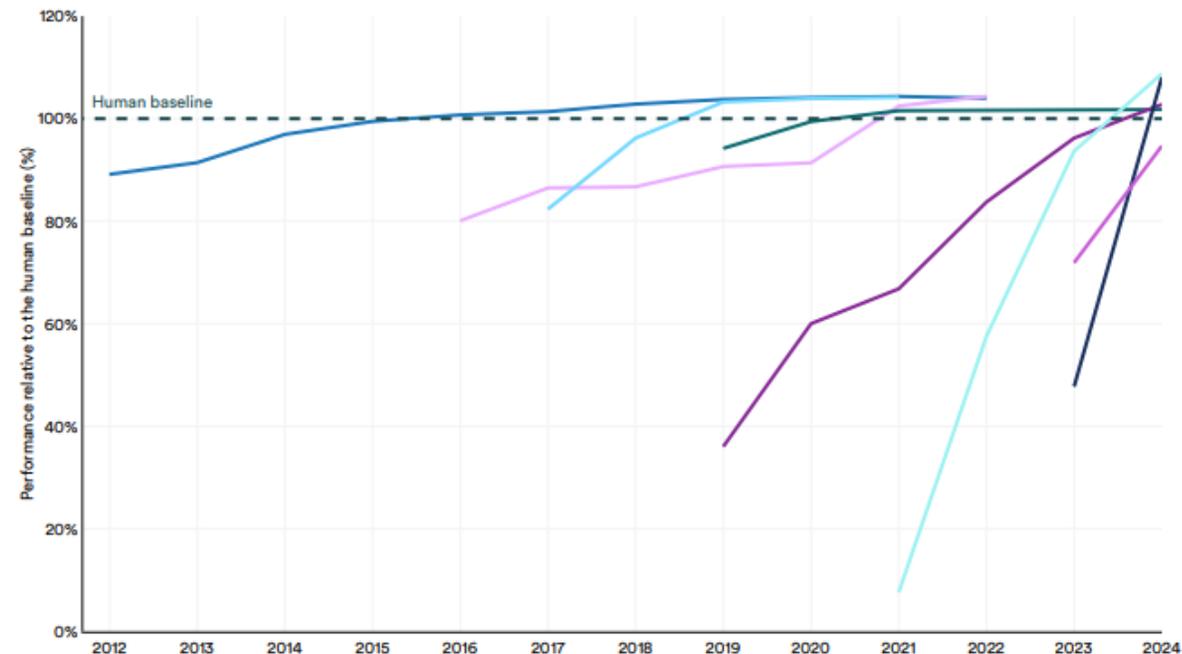
Training compute of notable models

Training compute (FLOP)



Select AI Index technical performance benchmarks vs. human performance

Source: AI Index, 2025 | Chart: 2025 AI Index report

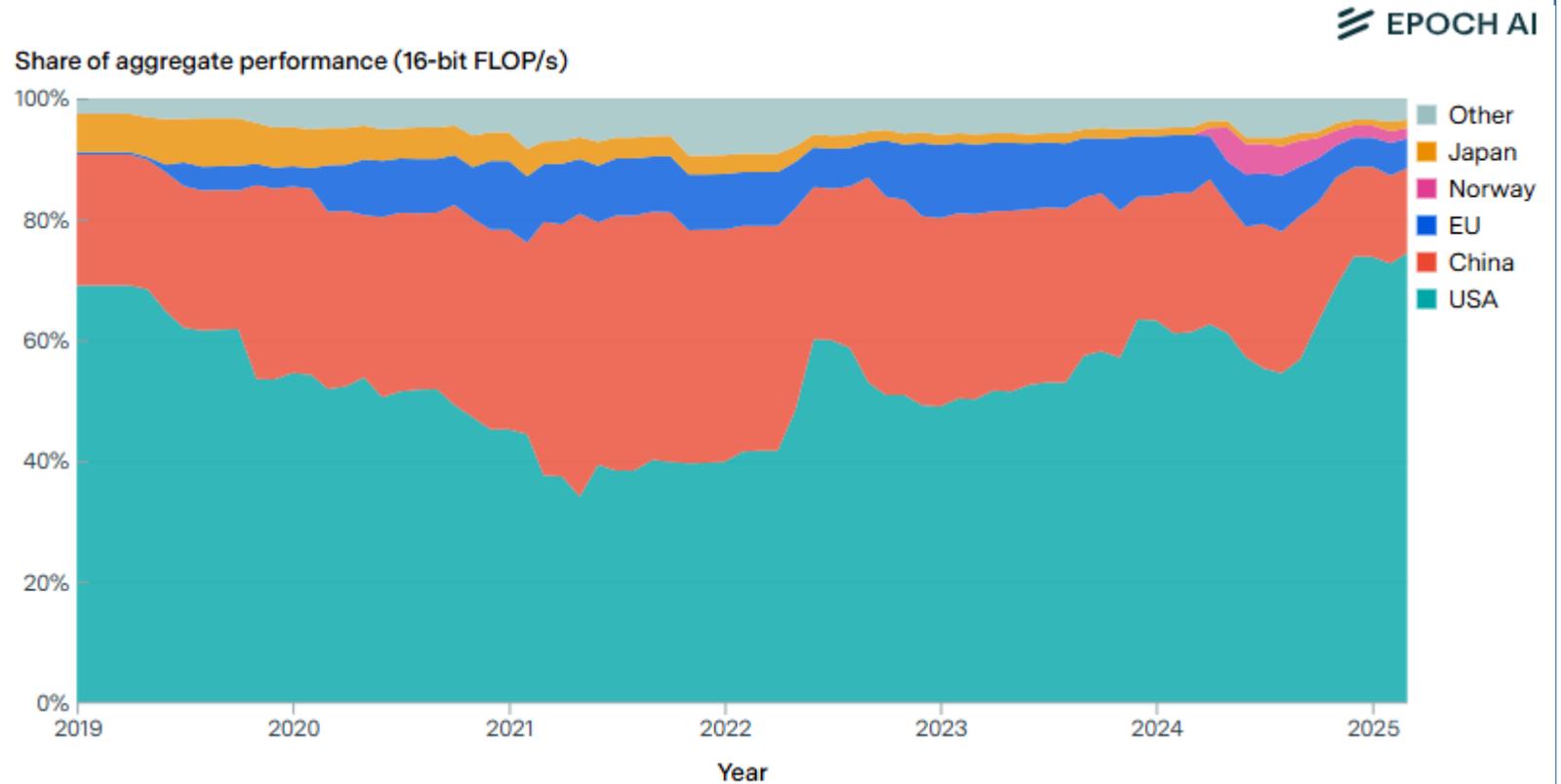


- Image classification (ImageNet Top-5)
- Medium-level reading comprehension (SQuAD 2.0)
- Multitask language understanding (MMLU)
- PhD-level science questions (GPQA Diamond)
- Visual reasoning (VQA)
- English language understanding (SuperGLUE)
- Competition-level mathematics (MATH)
- Multimodal understanding and reasoning (MMMU)

Source: Stanford HAI AI Index 2025

Export Controls Constrain Chinese Compute

- Sweeping U.S. export controls in October 2022 reserved best chips for US firms just before ChatGPT launch
- Restrictions have tightened ever year since



Source: Pilz et al 2025

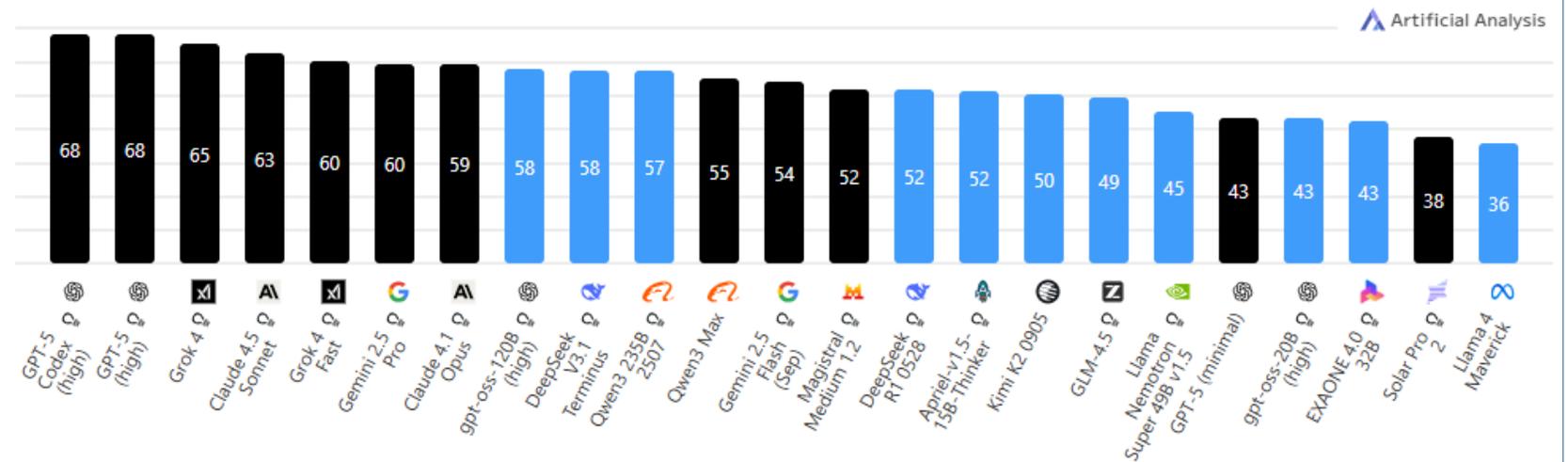
US and China Make All the Best Models

- US has top 8 models and 13 of top 20
- China has 6 of top 20
- Europe has one model in 13th place

Artificial Analysis Intelligence Index by Open Weights vs Proprietary

Artificial Analysis Intelligence Index v3.0 incorporates 10 evaluations: MMLU-Pro, GPQA Diamond, Humanity's Last Exam, LiveCodeBench, SciCode, AIME 2025, IFBench, AA-LCR, Terminal-Bench Hard, τ^2 -Bench Telecom

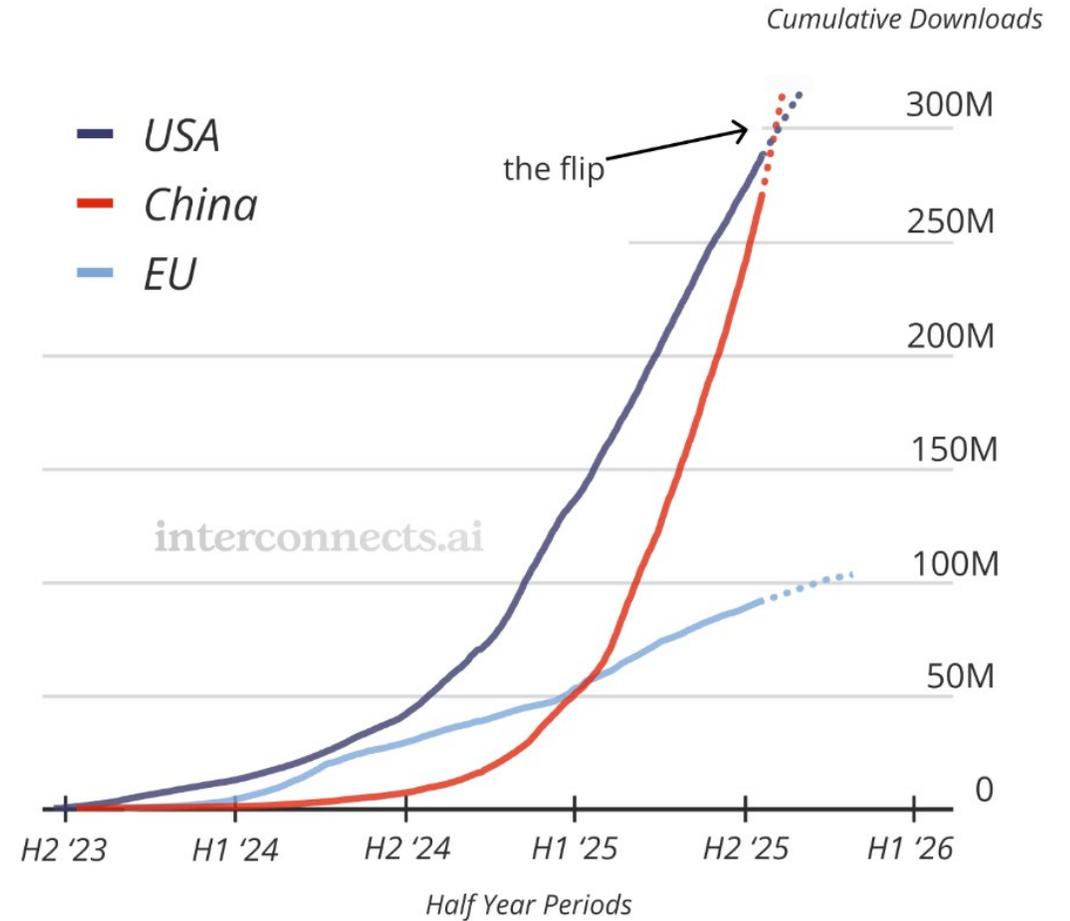
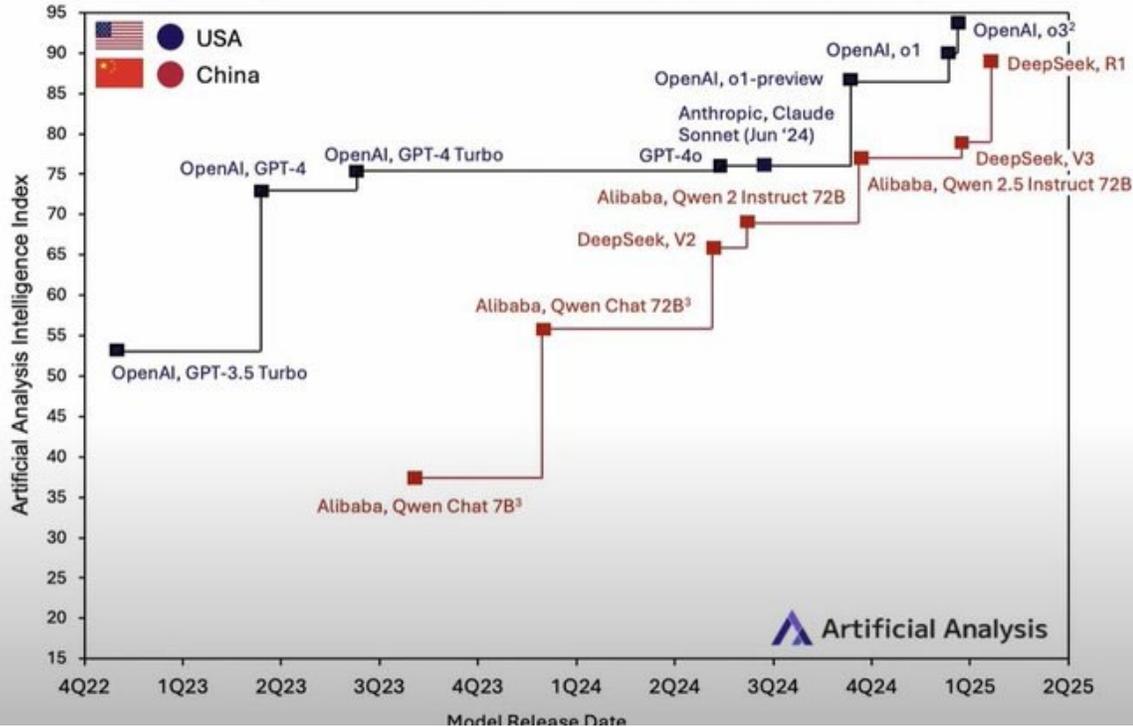
■ Proprietary ■ Open Weights



China: Not Far Behind and Dominates Open Weight Models

US & China: Frontier Language Model Intelligence, Over Time¹

Artificial Analysis Intelligence Index: MMLU, GPQA Diamond, MATH-500, HumanEval. Top 5 Labs by Market Share.



Source: Nathan Lambert, Hugging Face

How do US-China AI Tensions Affect Other Countries?

- Compute constraints on Chinese developers likely contributed to decision to release open models
- Strength of Chinese open models put pressure on US to release better open models (overriding safety and leakage concerns)
- Low cost, open models from China could limit capture of AI surplus by US developers
- Producers of controlled goods (JP, NL, Korea, Taiwan) face severe pressure from both sides, so far complying with US controls



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Thank you!

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