Session 1.

Large language models in 2026 – a GenAI ecosystem analysis of China & the US

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This moment

- A rapid revolution – only four years old
- Compressed technological time and the struggle for control
- Enormous opportunities and significant danger.

Lecture series objectives

By the end of this Series participants should be able to:

- Understand the rapid evolution of GenAI
- Compare Chinese and Western GenAI models
- Identify the key characteristics of GenAI ecosystems
- Analyse the role of universities in GenAI ecosystems
- Evaluate strategies for building institutional GenAI capability
- Understand the dialectic of ‘Human Intellect-Machine Intelligence’
- Consider the future role of universities in technological and societal transformation.

Session 1 objectives

By the end of Session 1 participants should be able to understand:

- Key GenAI/LMM developments during 2025-26
- Similarities and differences between Chinese and US GenAI ecosystems
- The growing importance of AI ecosystems, agentic AI and machine memory
- The relationship between AI, political economy and technological sovereignty
- Computational/platform capitalism and socialised alternatives
- China's emerging hybrid AI ecosystem model.

Section 1.

GenAI developments in 2025-26 – a comparative China-US analysis

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Convergent Tech - divergent political economies

1. Structural similarities (Base)

- **Corporate drivers -** dominated by large tech firms with massive capital in the US case.
- **Frontier capability -** both possess competitive, multimodal, agentic models.
- **Ecosystem scale - in**tegrated infrastructure, applications, and developer communities.

2. Strategic & social divergences (Superstructure)

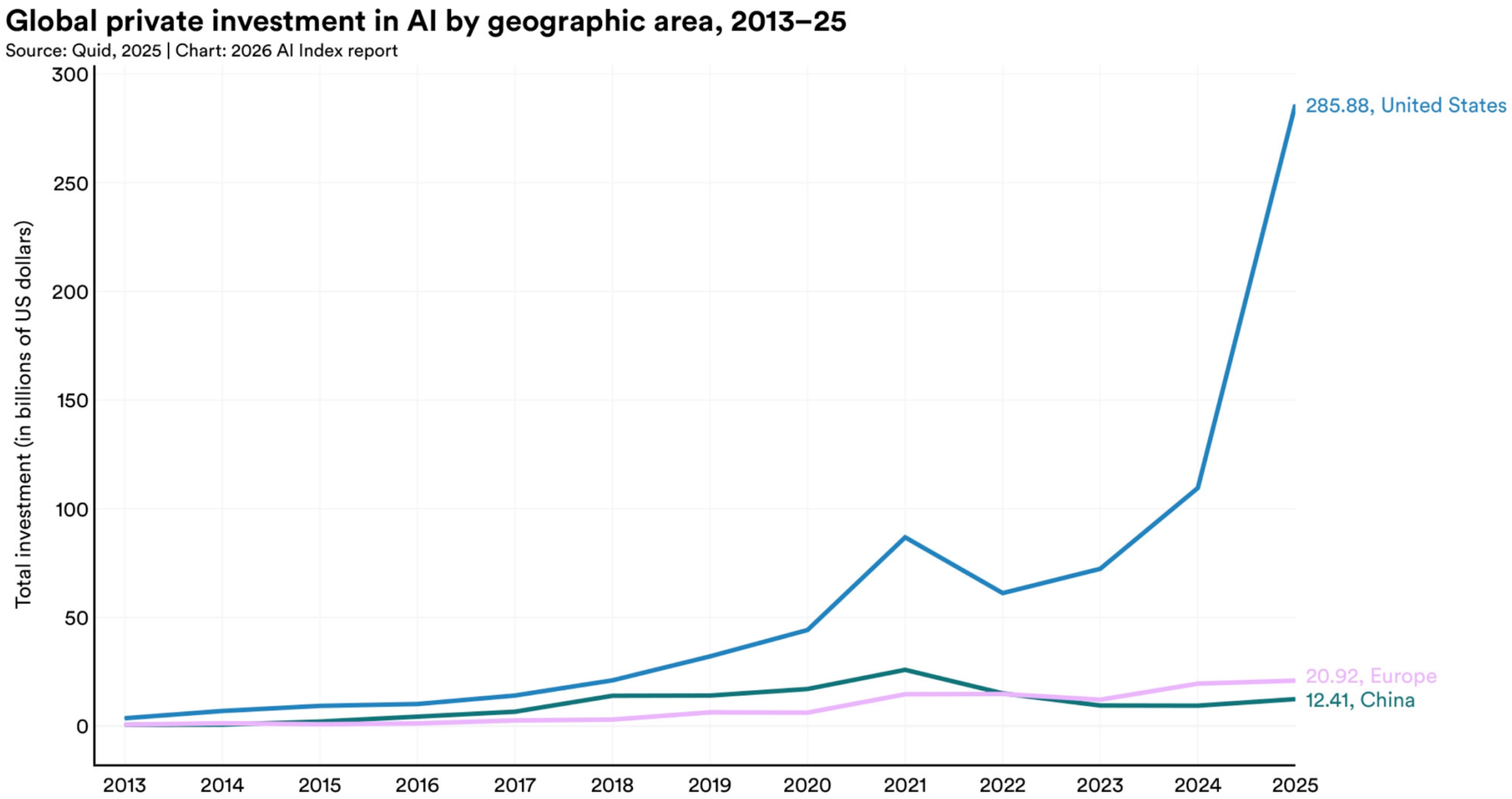
US - market-led fragmentation

- Driven by venture capital and proprietary competition.
- **Social contradiction -** growing rift between tech elites and public fear (uncontrolled AI, data centre proliferation and job losses).

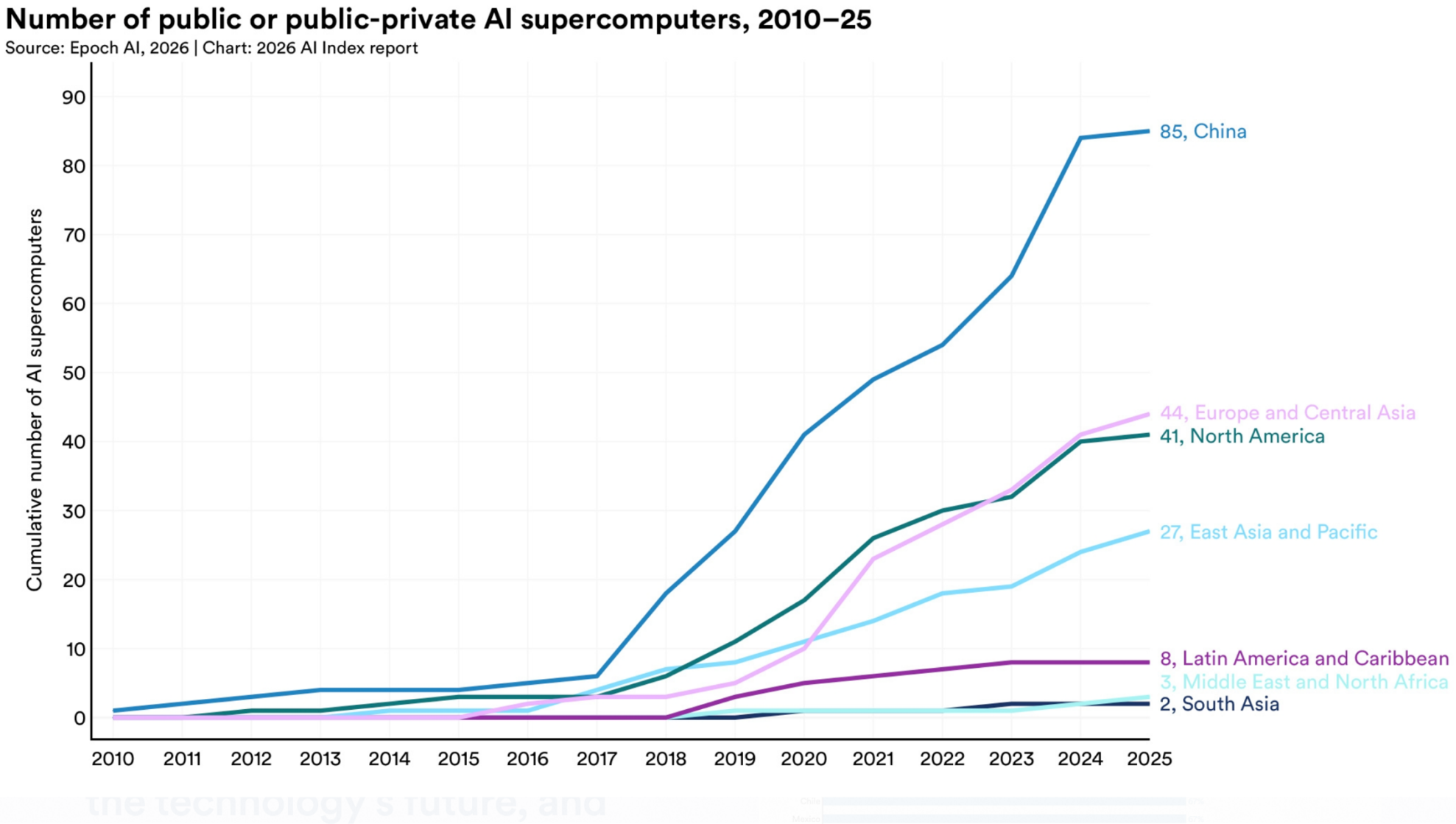
China - State-guided consensus

- Driven by national industrial policy and technological sovereignty.
- **Social alignment -** broad consensus on AI as a tool for national modernization; reduced social friction.

Investment in AI (billions US dollars)



Public supercomputers



Western & Chinese LLM comparison in 2026

Western Models	Key strengths	Chinese Models	Key strengths
GPT-5 / GPT-4o (OpenAI)	Frontier reasoning, enterprise integration, multimodal AI	**DeepSeek V4.1**	Open-weight frontier model, reasoning, coding, 1M-token context
Claude (Anthropic)	Long-context analysis, research support, safety and reliability	**Qwen 3.8 Max (Alibaba)**	Strong multilingual performance, coding, agentic tasks
Gemini (Google)	Very large context windows, multimodality, ecosystem integration	**ERNIE 5.1 (Baidu)**	Advanced multimodal, search integration, reasoning
Llama (Meta)	Open-weight ecosystem, research and customisation	**Kimi K3 (Moonshot AI)**	Long-horizon reasoning, coding, research, 1M-token context

Machine memory for sustained intellectual collaboration – 2026 developments

- **Larger context windows** - from 128k-200k tokens to 1M+
- **Improved contextual** recall allows more consistent responses across extended dialogues
- **Enhanced tracking** of complex projects, documents and multi-stage tasks
- **Growing capacity to support long-term research**, planning and knowledge development

LLMs - what changed between 2025-2026?

2025	2026
LLMs the main focus	AI ecosystems becoming the focus - the whole application system
Text generation dominated	Multimodal systems (text, image, audio, video) becoming standard
General-purpose chatbots	Personal and institutional AI agents
AI as a tool	AI increasingly embedded in workflows and organisations
Focus on model size	Focus on efficiency, diffusion & integration

Discussion

What has been your experience of LLM models during 2026?

Section 2.

The Chinese and US GenAI ecosystems

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What is a GenAI ecosystem?

A GenAI ecosystem is a **multi-level system** of factors and forces that **interact** to shape the development, governance and application of GenAI.

- **Macro-level powers -** tech companies, technologies, government strategies, regulation, public and private investment.

- **Meso-level frameworks** – middle-range systems of organisations, institutions, GenAI applications

- **Micro-level activities –** individual, collective users, communities.

GenAI Ecosystems range from **market-led/platform-centred** configurations to **state-coordinated/socialised** models.

US & Chinese GenAI ecosystems compared

Dimension	United States	China
Frontier Models	Leadership in foundation models	Strong domestic model development
Innovation System	Venture capital investment	Strategic coordination and long-term planning
Technology Firms	Globally dominant platforms	Integration of digital and industrial firms
Semiconductors	Leadership -advanced chip design	Investment in domestic chip capability
Manufacturing	Software and platform services	Industrial and manufacturing deployment
Universities & skills	World-leading AI research institutions/elite talent	Universities integrated into national innovation strategies
AI Adoption	Strong business innovation in Fintech	Rapid diffusion across public services and industry
Strategic Goal	Technological leadership/market domination	Technological sovereignty/coordinated development

Challenges for the Chinese GenAI model

Challenge	Strategic issue	Key question
Frontier innovation	Sustaining breakthroughs	Parity with US models?
Semiconductor dependence	Increasing domestic capabilities	Chinese development now sufficient for technological sovereignty?
Innovation v. regulation	Maintaining creativity and coordinated governance	Role of GenAI ecosystems?
University transformation	Universities becoming effective AI ecosystem builders	All universities not just elite hubs?
Global fragmentation	International engagement + technological sovereignty	Influence of ‘lean’ open weight Chinese models?
Social outcomes	Distributing AI benefits broadly across society	Preventing digital divide and job loss?

Collective ecosystemic development

More frontier models are **necessary but not sufficient** – requirement to transform technological capability into ‘collective ecosystemic development’.

- social purposes for benefit and consent
- advanced models and computational infrastructure
- industrial and societal applications
- universities and skilled users for talent pipelines
- regulatory and self-regulatory frameworks
- developing ecological sustainable approaches.

A social hybrid model with Chinese characteristics?

How far has China developed an optimal balance between:

- *strategic co-ordination*
- *institutional responsiveness*
- *social benefit and*
- *sustainability?*

What needs to develop further?

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