CHINA'S AI STRATEGY AND RARE EARTH DOMINANCE[10]

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ABSTRACT: *This article investigates China's strategic positioning in the emerging global order by analysing the interdependence between artificial intelligence (AI), advanced semiconductors, and rare earth elements as core determinants of technological power. The main research objective is to assess how China integrates these domains to enhance its structural influence, and how this strategy compares with the United States and the European Union.*

Methodologically, the study employs a qualitative, comparative analysis based on academic literature, policy reports, and empirical data. It combines elements of international political economy and technology governance, distinguishing between verifiable developments and forward-looking assessments. The analysis focuses on supply chains, industrial policy, and technological ecosystems, with particular attention to advanced semiconductor capabilities and resource control.

The findings indicate that global power is increasingly shaped by control over interconnected technological systems rather than isolated capabilities. The United States maintains leadership in AI through its dominance in chip design and software ecosystems, but remains vulnerable due to reliance on external manufacturing. China, despite constraints in cutting-edge semiconductor production, demonstrates a capacity for systemic adaptation through state coordination, domestic market scale, and strategic control of rare earth supply chains. The European Union holds critical assets, but faces structural limitations in scaling innovation and achieving strategic autonomy.

Overall, the article concludes that competition in the international system is shifting toward control over the "invisible infrastructures of power," including semiconductors, data, algorithms, and critical materials, redefining the nature of global economic and geopolitical rivalry.

Keywords: *China, USA, UE, Artificial Intelligence, Rare Earth Elements*

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1. INTRODUCTION

In recent geopolitical evolution, a structural transition is underway from a system dominated by traditional energy resources to one increasingly shaped by advanced digital

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technologies and strategic materials. This shift represents a multi-level governance process with complex and interdependent geopolitical, economic, and security implications.

At the core of this transformation lie *artificial intelligence (AI) and rare earth elements (REEs)*, which form the material and technological foundation of next-generation systems. These include semiconductors, electric propulsion technologies, advanced communication infrastructures, and modern defence systems.

China has systematically integrated the development of these two domains into its broader technological and economic strategy. Through a combination of industrial policy, control over critical resources, and outward economic expansion, China is consolidating a position of structural influence at the global level.

This article examines how China leverages AI and rare earth elements to shape the emerging international order, focusing on the geopolitical, economic, and security implications of this dual strategy.

2. LITERATURE REVIEW

2.1. China and the Reconfiguration of the International Order

The academic debate regarding China's rise is increasingly moving away from simplistic dichotomies between *revisionism* and *status quo* behaviour. A growing body of literature argues that China's strategic objective is neither the complete replacement of the liberal international order nor its passive acceptance, but rather *selective adaptation and structural reconfiguration* (Ikenberry, 2018; Allison, 2017).

Viewed through the lens of artificial intelligence, China's revisionist tendencies are reflected not merely as policy choices, but as deliberate interventions in the architecture of global technological governance. This *revisionism manifests in several dimensions*: first, through the active questioning and contestation of existing regulatory frameworks, whether ethical, legal, or geopolitical, thereby challenging norms that shape AI development and deployment. Second, it encompasses a strategic ambition to redefine standards of governance, safety, and accountability, effectively setting new benchmarks that may privilege state-led or coordinated technological ecosystems. Third, AI itself is leveraged as a strategic instrument to recalibrate the distribution of global power, influencing economic competitiveness, military capabilities, and the flow of critical information, thus embedding technological advancement within broader mechanisms of national influence.

Conversely, *status quo behaviour* in the AI domain is characterized by a cautious and incremental approach to technological governance. This approach prioritizes the defence and gradual evolution of existing regulatory regimes, emphasizing transparency, auditability, ethical compliance, and operational safety. Moreover, it often entails restricting the dissemination of advanced AI capabilities to mitigate risks of strategic diffusion, thereby preserving a controlled environment for technological innovation.

Taken together, these contrasting orientations highlight a fundamental tension in global AI governance: the simultaneous pursuit of transformative advantage through revisionist strategies and the stabilizing impulse of status quo practices. Understanding this duality is critical for analysing how states navigate technological power, manage systemic risks, and seek to shape the emerging norms and hierarchies of the international AI landscape.

From this perspective, China can best be understood as an actor seeking to reshape global governance through economic, technological, and institutional means.

Realist scholars emphasize the inevitability of systemic competition between the United States and China, viewing technological rivalry as a central dimension of power transition (Mearsheimer, 2019). In contrast, institutionalist and political economy approaches highlight

China's preference to integrate into existing global structures while gradually increasing its agenda-setting capacity (Ikenberry, 2018).

This duality provides an essential analytical framework for understanding China's strategic focus on advanced technologies and critical material supply chains.

2.2. Artificial Intelligence as a Source of Structural Power

Artificial intelligence (AI) is treated in recent literature as a transformative technology with profound implications for international security, economic competitiveness, and state administrative capacity (Horowitz, 2018; Kissinger, Schmidt & Huttenlocher, 2021).

Rather than being conceptualized solely as a domain of innovation excellence, scholars increasingly emphasize *implementation capacity, scale, and institutional integration* as decisive factors of strategic advantage.

Within this framework, China's comparative strength often lies in its ability to rapidly deploy AI across civil, industrial, and governmental sectors (Lee, 2018). Centralized coordination between the state and private actors, combined with permissive data governance regimes, facilitates large-scale experimentation and implementation.

According to the AI Index Report (Stanford University, 2024), the training of frontier models (the most advanced AI systems) has reached unprecedented levels. A notable trend observed in 2023–2024 is the sharp increase in computational costs required to develop top-performing models:

- *GPT-4: approximately $78 million for training;*
- *Gemini Ultra: approximately $191 million for training.*

These figures are estimated based on hardware usage and compute hours and reflect only computational costs, excluding broader expenditures such as total research and development.

The AI Index Report highlights a notable divergence between overall private investment in artificial intelligence and the subset directed specifically toward generative AI. While total private AI investment experienced a slight decline in 2023 compared to the peak levels observed in preceding years, investment in generative AI expanded markedly during the same period. In particular, funding in this subdomain increased by approximately eightfold relative to 2022, reaching an estimated total of $25.2 billion. This contrast suggests a reallocation of capital within the AI sector, with investors increasingly prioritizing generative AI technologies despite a broader contraction in aggregate investment levels.

This distinction indicates that, although overall AI funding may fluctuate, the generative AI segment (language models, text/image/video generation) remains a major focal point for investors. Capital is therefore shifting toward technologies capable of delivering rapid and scalable impact (e.g., B2B applications, AI SaaS, generative models). At the same time, other AI domains (such as traditional robotics or niche AI applications) may experience proportional declines in funding.

Empirical assessments, including Stanford AI Index reports (2023–2024), consistently show that while the United States remains the leader in frontier and fundamental research, China demonstrates significant competitive momentum in applied AI, particularly in manufacturing, logistics, surveillance, and public administration.

Security-oriented research also highlights the importance of China's military-civil fusion strategy, which accelerates the diffusion of AI technologies into defence and dual-use applications (Kania, 2019).

As a result, AI is increasingly treated not merely as a technological input, but as a *systemic factor of state power*, influencing governance efficiency, military modernization, and international projection capacity.

2.3. Rare Earth Elements and Strategic Control of Supply Chains

The literature on rare earth elements (REEs) places these materials at the intersection of industrial policy, technological development, and geopolitical competition (Humphries, 2019; Mancheri et al., 2019).

Scholars agree that China's dominance in this field does not stem from geological scarcity, but *from long-term strategic investments in processing, refining, and value-added production.* Global supply chain studies conceptualize REEs as critical inputs for advanced technological infrastructure, including semiconductors, electric motors, renewable energy systems, and AI hardware.

The theory of *weaponized interdependence* developed by Henry Farrell and Abraham Newman (2019, 2021) provides an influential analytical framework, demonstrating how control over key nodes in global economic networks can be transformed into geopolitical leverage. This theory shows how powerful states use interconnected global networks (finance, data, trade) to constrain other actors, turning economic interdependence into an instrument of control and challenging the liberal assumption that interdependence produces only mutual benefits. Key features of this theory include:

1. **Hub-and-spoke structure** which contains global networks contain central hubs controlled by powerful states, allowing them to exploit asymmetries;
2. **Panopticon effect** which is based on networks enable surveillance and extraction of critical information from data flows;
3. **Chokepoint effect** which means the ability to restrict or block access to essential financial or technological systems.

This framework suggests that globalization does not eliminate conflict, but transforms it, turning cooperative ties into instruments of coercion. *In this context, China is frequently cited as a paradigmatic example of structural power exercised through supply chain centrality.* Recent studies also highlight the convergence between AI development and dependence on rare earth elements, emphasizing that technological leadership in AI depends on secure access to the materials required for computational infrastructure and advanced production.

2.4. Implications for the United States, the European Union, and the Liberal Order

Policy-oriented literature reflects growing concern in both the United States and the European Union regarding strategic dependencies on China in critical technologies and materials (European Commission, 2023; ECFR, 2024).

In Europe, the concept of *open strategic autonomy* has emerged as a guiding framework, promoting risk reduction and supply chain diversification without full economic decoupling.

U.S. policy analysis increasingly promotes strategies such as *friend-shoring*, allied industrial policies, and coordinated technological governance as mechanisms to mitigate vulnerabilities while preserving the benefits of globalization. *Friend-shoring* refers to an economic and geopolitical strategy in which supply chains, investments, and production are relocated or concentrated in "friendly" countries, that are *politically, strategically, or ideologically aligned.* Its primary objective is risk reduction rather than cost minimization.

These approaches reflect *a broader reconceptualization of security, where economic resilience, technological capacity, and supply chain governance are treated as integral components of national and collective defence.* Transatlantic literature converges on the recognition that technological competition with China is systemic rather than episodic, requiring long-term coordination and coherent strategies rather than ad hoc responses.

In conclusion, the analysed literature indicates an emerging consensus: *artificial intelligence and rare earth elements constitute complementary foundations of contemporary global power.* China's strategic integration of these domains illustrates a form of cumulative structural influence that challenges traditional conceptions of power projection.

3. METHODOLOGY

The research methodology focuses on the quantitative analysis of the key indicators specific to AI adoption, as well as on the qualitative analysis of documents and policies related to AI, and on the consultation of specialized literature, studies, and articles published by renowned authors. The research is both applied and relevant for public policy and explanatory, aimed at identifying causal relationships and mechanisms of AI impact.

4. AI AS A STRATEGIC FACTOR

China conceptualizes artificial intelligence (AI) not merely as a driver of economic productivity, but as a *core instrument of national power, state capacity, and security governance.* Within this framework, AI is embedded in a broader strategy of technological sovereignty, where innovation, deployment, and control over digital infrastructures are treated as interdependent components of geopolitical influence.

A defining feature of China's approach is the construction of *a state-coordinated innovation ecosystem*, in which public institutions, private firms, and academic actors are systematically integrated. This model departs from the liberal, market-driven structures characteristic of Western economies by emphasizing *strategic directionality, policy alignment, and rapid scalability*. Rather than prioritizing frontier breakthroughs alone, China's strategy emphasis on *implementation capacity*, which functions as a critical multiplier of technological power.

Empirical evidence suggests that this model enables China to achieve *accelerated diffusion of AI technologies across multiple sectors, including industry, logistics, urban governance, and public administration. The integration of AI into the public sector, ranging from surveillance systems to resource optimization, provides a significant comparative advantage in terms of large-scale, real-time deployment*. This creates feedback loops between data generation, algorithmic refinement, and policy execution, reinforcing state capacity.

Three structural characteristics underpin this ecosystem. First, *centralized planning and sustained public investment* ensure long-term resource allocation toward strategic infrastructure, such as data centres, 5G networks, and high-performance computing systems. Second, the institutional integration of AI into governance frameworks enables China to operationalize digital technologies as tools of administrative efficiency and social control. Third, *highly dynamic flows of talent and capital*, concentrated in major technological hubs, foster competitive regional innovation clusters while remaining aligned with national priorities.

This configuration contrasts sharply with the decentralized Western model, where innovation is more fragmented and less directly coordinated by the state. Although the United States retains leadership in frontier AI, particularly in advanced semiconductor design and cutting-edge models, China's strength lies in its ability to *scale, adapt, and embed AI within systemic state functions.*

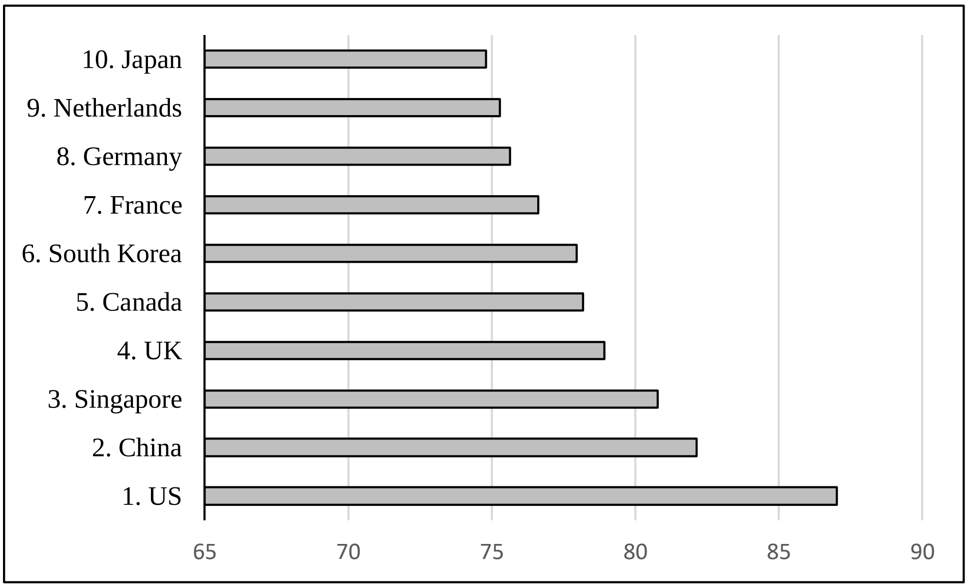
Consequently, AI in the Chinese context should be understood not simply as a technological domain, but as a *systemic enabler of structural power*, enhancing governance efficiency, economic resilience, and strategic autonomy, even in the absence of full technological leadership at the frontier.

5. AI ADOPTION ACROSS FIRMS AND ECONOMIES

The diffusion and utilization of artificial intelligence across firms and economies have been extensively examined in the academic literature, which converges on the view that AI constitutes a general-purpose technology with transformative implications for productivity, innovation, and global competitiveness (Aghion et al., 2019; Cockburn et al., 2018). However, its adoption *is uneven across regions, reflecting differences in firm capabilities, institutional environments, and strategic policy frameworks.*

The latest data from the Oxford Insights Government AI Readiness Index 2024, BCG's AI Maturity Matrix, and the Tortoise Media Global AI Index show which countries are ahead in using AI. Based on these rankings, here are the top 3 countries that stand out in adopting and applying AI across government, business, and society: the USA with a score of 87, followed by China 82.1, and Singapore with 80.79, powered by massive AI investment, world-class compute, and nation-level strategies (AllAboutAI, 2025).

Figure 1: Top 10 Countries Leading in AI Adoption (overall score) in 2025



Source: Author based on the AllAboutAI data.

Europe's leaders are UK (, France, Germany, and the Netherland, which stand out in regulated, industrial AI, using AI at scale in finance, healthcare, manufacturing, and retail while building strong governance, safety, and policy frameworks (Chart 1).

The data indicates that AI adoption in *financial services* is relatively high but unevenly distributed across countries. China (68%), Singapore (64%), and United States (61%) lead the sector, suggesting a strong alignment between AI deployment and advanced digital financial ecosystems. Mid-range adoption is observed in countries such as the United Kingdom (57%) and Canada (53%), while lower levels are recorded in Germany (46%) and Japan (45%). Overall, the spread from 45% to 68% suggests moderate global convergence, with leading countries maintaining a measurable but not extreme advantage (Tabel 1).

Healthcare shows greater variation in AI adoption compared to financial services. Singapore stands out significantly with 92%, well above all other countries, followed by China (76%) and the United Kingdom (61%). Most other countries cluster at lower levels, including the United States (42%), Canada (44%), and France (39%). The range from 36% to 92% highlights substantial disparity, with a clear leading outlier and a broad mid-to-low adoption group (Tabel 1).

The *data on the tech sector* is expressed through different indicators, showing distinct strengths rather than directly comparable percentages. The United States dominates in computational capacity, holding 73% of global AI compute, while China and Germany demonstrate large human capital bases with 35,000+ AI researchers and 43,000+ AI specialists respectively (Tabel 1). Meanwhile, the Netherlands stands out for its high startup density. This indicates that leadership in the tech sector is distributed across different dimensions, including infrastructure, workforce scale, and innovation activity.

Tabel 1: Top 10 Countries Leading in AI Adoption by sectors of activities

COUNTRY	KEY STRENGTH	FINANCIAL SERVICES	HEALTH CARE	TECH SECTOR	MANUFACTURING	RETAIL	PUBLIC SECTOR
United States	Private investment	61% adoption	42% adoption	73% of global AI compute	45% adoption	68% adoption	830+ federal AI applications
China	Government planning	68% adoption	76% hospital adoption	35,000+ AI researchers	57% adoption	92% e-commerce AI	$150B national AI plan
Singapore	National strategy	64% adoption	92% diagnostic accuracy	71% adoption	52% adoption	54% adoption	90% of services AI-enabled
United Kingdom	AI safety governance	57% adoption	61% NHS trust adoption	385 AI startups	41% adoption	52% adoption	First AI Safety Institute
Canada	Ethical frameworks	53% adoption	44% adoption	7% of global research	39% adoption	46% adoption	$1.2B innovation fund
South Korea	Technical infrastructure	51% adoption	47% adoption	Global 5G leader	58% adoption	49% adoption	$8.5B Digital New Deal
France	Research excellence	48% adoption	39% adoption	€1.5B startup funding	45% adoption	47% adoption	€1.5B AI initiative
Germany	Industrial applications	46% adoption	38% adoption	43,000+ AI specialists	55% adoption	43% adoption	€5B national strategy
Netherlands	Strategic specialization	49% adoption	45% adoption	Highest EU startup density	43% adoption	48% adoption	Transparent AI registry
Japan	Robotics integration	45% adoption	36% adoption	$11.2B Vision Fund	57% adoption	44% adoption	Society 5.0 initiative

Source: (AllAboutAI ,2025).

AI adoption *in manufacturing* is relatively consistent across countries, with most values falling within a narrow band. South Korea (58%), Japan (57%), and China (57%) lead slightly, while countries such as Germany (55%) and United States (45%) follow. Lower adoption appears in Canada (39%). The relatively tight range (39%–58%) suggests that manufacturing is one of the more uniformly developed sectors in terms of AI integration.

Retail displays one of the most uneven distributions in AI adoption. China leads decisively with 92%, followed by the United States at 68%. Other countries, including the United Kingdom (52%), Singapore (54%), and Germany (43%), fall into a mid-range cluster. The gap between the leading country and the rest is substantial, indicating a highly concentrated leadership structure in this sector.

Public sector AI adoption is described through qualitative and investment-based indicators rather than uniform percentages, but clear differences in scale are evident. Singapore reports approximately 90% of services being AI-enabled, indicating extensive integration. The United States shows broad activity with over 830 federal AI applications, while China stands out with a large-scale $150 billion national AI plan. European countries such as France (€1.5B) and Germany (€5B) demonstrate more moderate but structured investment levels. The data suggests significant variation in both scale and approach across countries.

At the microeconomic level, the adoption of AI builds upon earlier waves of data-driven technologies. Brynjolfsson and McElheran (2016) demonstrate that data-driven decision, making diffuses unevenly, with adoption concentrated among larger and more productive firms. This pattern is further explained by Wamba et al. (2017), who argue that firms' dynamic capabilities, their ability to integrate, reconfigure, and exploit technological resources are critical determinants of successful adoption. *These findings suggest that AI diffusion is structurally conditioned, favouring firms with advanced technological infrastructure and managerial sophistication.*

This capability-based perspective is particularly relevant when comparing global regions. In the United States, AI adoption is highly concentrated among leading technology firms, reflecting strong innovation ecosystems and access to capital. In contrast, *the European Union exhibits slower and more fragmented adoption patterns, often attributed to structural constraints such as market fragmentation and limited scale-up capacity*. Meanwhile, China demonstrates a distinct model in which state coordination compensates for firm-level capability gaps, accelerating diffusion through industrial policy and large-scale investment (Dwivedi et al., 2021).

6. THE ROLE OF RARE EARTH ELEMENTS IN GEOPOLITICS AND TECHNOLOGY

6.1. Strategic Significance of Rare Earth Elements (REEs)

Rare earth elements (REEs), a group of 17 chemically similar elements, constitute a foundational input for advanced technological systems and industrial innovation. Their applications span across critical sectors, including renewable energy (electric motors and wind turbines), consumer electronics, semiconductor manufacturing, and defence technologies such as radar systems and high-performance battery systems.

Despite their relative geological abundance, REEs are characterized by significant extraction and processing constraints. *Their separation requires complex, capital-intensive, and environmentally sensitive procedures.* Consequently, the strategic value of REEs lies less in their availability and more in the control of their supply chain, particularly in refining and processing capacities, where *technological barriers to entry are high*. Control over these stages confers substantial economic and geopolitical leverage.

6.2. China's Structural Dominance in the REE Supply Chain

China occupies a structurally dominant position in the global REE ecosystem, controlling approximately *60–70% of global extraction and over 90% of processing capacity.* This asymmetry is even more pronounced in downstream industries, particularly in the production of permanent magnets, *which are essential for artificial intelligence systems, electric vehicles, and advanced military technologies.*

This vertically integrated dominance enables China to exert influence not only over raw material supply but also over high-value industrial applications. The concentration of processing infrastructure within China creates systemic dependencies for other economies, particularly those lacking domestic refining capabilities.

6.3. Rare Earths as Instruments of Geopolitical Leverage

In recent years, REEs have increasingly functioned as instruments of strategic statecraft. *China has introduced export controls, licensing mechanisms, and regulatory constraints on specific rare earth elements and associated technologies, particularly those with dual-use or military relevance.* These measures have been employed within the broader context of economic competition and technological rivalry with major actors such as the United States and the European Union. Thus, REEs have evolved beyond their role as industrial inputs to become tools of geopolitical influence.

7. A SYNTHETIC ANALYSIS OF ADVANCED CHIPS (CUTTING-EDGE SEMICONDUCTORS) IN CHINA, THE UNITED STATES, AND THE EUROPEAN UNION

Table 2 presents a concise empirical analysis based on official sources, policy documents, and expert assessments. It distinguishes verifiable facts from interpretative judgments while remaining oriented toward future trajectories concerning strategic AI resources in the United States, China, and the European Union, from the perspective of advanced semiconductor capabilities.

Table 2: Advanced Chips (Next-Generation Semiconductors)

COUNTRY	STRENGTHS	STRATEGIES	RISKS
UNITED STATES	Technological leadership; industrial vulnerability.	Dominates AI chip design (NVIDIA, AMD, Intel, Google TPU, Apple); control over critical software (CUDA, global AI ecosystem); decisive influence over global supply chains via allies (ASML, EDA tools such as Synopsys and Cadence).	*Advanced manufacturing is outsourced* (TSMC – Taiwan); major geopolitical risk linked to Taiwan; the U.S. controls the "brain" of AI but not the full industrial "body."
CHINA	Limited autonomy; accelerated development.	Large domestic market with strong absorptive capacity; massive state-coordinated investments; rapid progress in AI chips.	*Not leading in cutting-edge chip design*, but compensates through scale, adaptation, and partial autonomy (supported by rare earth resources); restricted access to EUV lithography and sub-7 nm chips; dependence on Western equipment.
EUROPEAN UNION	Scientific excellence; control over key manufacturing technologies.	ASML monopoly on EUV lithography; top-tier academic research; strong industrial know-how (Germany, Netherlands).	*Lack of AI hardware champions; political fragmentation; underinvestment in scaling.*

Source: Author, based on analysed academic and policy literature

This analysis demonstrates that advanced semiconductors constitute the *material infrastructure of artificial intelligence*, and control over them is a key determinant of global technological power.

The United States occupies a *paradoxical position*: it dominates chip design and the software ecosystem, yet remains vulnerable in advanced manufacturing. A major structural advantage lies in its control over the *software layer essential for AI functionality*, which enables it to shape global innovation trajectories.

China's position in the global semiconductor ecosystem is defined by a *structural tension* between ambitions for technological autonomy and constraints imposed by Western control over critical technologies. *Unlike the United States, China does not lead at the technological frontier; however, it compensates through scale, centralized coordination, and systemic adaptation.* A fundamental strategic advantage of China lies in the size of its domestic market, which enables:

- rapid absorption of emerging technologies;
- amortization of development costs;
- large-scale real-world experimentation (industry, smart cities, surveillance, logistics).

This domestic ecosystem functions as an **"***implementation laboratory***,"** reducing immediate external competitive pressure. China treats semiconductors and AI as national strategic priorities, embedded in long-term industrial plans such as *Made in China 2025* and the *New Generation AI Development Plan*.

Within the global architecture of advanced semiconductors and AI, the European Union occupies a *distinct but incomplete strategic position*, characterized by critical assets but limited systemic integration, which may be termed **"***fragmented excellence***."**

The EU's most significant strategic asset is ASML, the only company globally capable of producing *extreme ultraviolet (EUV) lithography equipment*, indispensable for manufacturing chips below 5 nm. This monopoly provides:

- indirect structural power over global supply chains;
- the ability to influence geopolitical dynamics through export controls;
- disproportionate strategic relevance relative to its own chip production volume.

However, this advantage remains largely *exogenously valorised*, benefiting manufacturers in the United States and Asia more than the European industrial ecosystem itself.

The EU also possesses strong scientific capital through leading universities, research institutes, and networks such as IMEC (Belgium) and Fraunhofer (Germany). While this enables significant contributions to frontier innovation, the *translation of research into scalable industrial products remains limited.*

In contrast to the United States, where firms such as NVIDIA and AMD play a central role in AI chip design, and China, where companies like Huawei and SMIC are actively advancing domestic semiconductor capabilities, *the European Union has not succeeded in cultivating globally competitive champions in this domain.* This relative underperformance can be attributed to a combination of structural factors, *including the fragmentation of the internal market, which limits the scalability of innovation; the predominance of risk-averse financing mechanisms, which constrain high-growth technological ventures; and the absence of sufficiently developed scale-up ecosystems capable of supporting firms in transitioning from research and development to global market leadership.*

8. MAIN FINDINGS AND DISCUSSIONS CONCERNING CHINA'S STRATEGY IN THE NEW WORLD ORDER

8.1. A Multipolar Power Model

China's rise should not be interpreted through the classical lens of hegemonic transition, but rather as the construction of a ***network-centric model of power projection***. Unlike traditional hegemons, which rely on military dominance and institutional leadership, China operationalizes influence through ***functional control over systemic nodes*** of the global economy.

This model is structured around three mutually reinforcing pillars. First, control over ***critical resources and supply chains*** enables China to occupy strategically indispensable positions within global production networks. Second, initiatives such as the Belt and Road Initiative function as instruments of ***embedded economic diplomacy***, creating asymmetric interdependencies across regions. Third, the deployment of strategic technologies, particularly AI and 5G, facilitates the creation of ***technological ecosystems*** in which standards, infrastructure, and data flows are partially aligned with Chinese governance preferences.

In this configuration, power is not territorially concentrated but ***relational and distributed***, emerging from the ability to coordinate, influence, and selectively constrain actors within interconnected systems.

8.2. Global Interdependence and Western Vulnerabilities

The persistence of Western dependence on Chinese rare earths reveals a structural asymmetry embedded within globalization. While interdependence is often conceptualized as mutually beneficial, in practice it is ***highly uneven and node-dependent***, creating vulnerabilities that can be strategically exploited.

This is particularly evident in the European context, where supply chains for critical materials remain significantly exposed to Chinese processing and refinement capacities. The United States, despite greater diversification, also faces bottlenecks due to limited domestic processing infrastructure.

Western mitigation strategies, such as diversification, recycling, and re-shoring, reflect an emerging paradigm shift toward ***resilience-oriented economic policy***. However, these efforts are constrained by *long investment cycles, environmental regulations, and technological barriers*. As a result, ***short- to medium-term dependency persists***, reinforcing China's structural leverage within critical supply chains.

8.3. China's Strategic Capital

China's strategic advantage can be conceptualized as a form of ***compound structural capital***, derived from the intersection of material resources and technological capabilities. Control over rare earth supply chains, when combined with advances in AI and semiconductor-related ecosystems, generates ***multi-dimensional leverage.***

This leverage operates across several domains. Economically, it enhances China's bargaining power in trade negotiations by introducing credible supply constraints. Technologically, it allows China to shape or influence ***global standards-setting processes***, particularly in emerging digital infrastructures. Strategically, it enables forms of ***non-kinetic coercion,*** where economic and technological dependencies substitute for direct military pressure.

Importantly, this form of power is cumulative and self-reinforcing: as AI systems increasingly depend on specialized hardware and materials, China's position within upstream supply chains amplifies its downstream influence.

8.4. Global Response

The response of Western actors indicates a gradual recognition that competition with China is ***systemic rather than sectoral***. Policy measures increasingly target not only economic outputs but also the ***architecture of production and innovation systems***.

Initiatives include the formation of supply chain alliances, strategic stockpiling of critical materials, and the promotion of domestic industrial capacity. These efforts are complemented by investments in alternative technologies and attempts to *establish* ***trusted technological ecosystems*** *among allied states*.

However, these countermeasures face coordination challenges, particularly within the European Union, where divergent national interests complicate collective action. Moreover, the scale and speed of China's state-coordinated approach contrast with the more fragmented and market-driven Western models.

Overall, the evolving policy landscape suggests that global competition is transitioning toward ***control over supply chain governance, technological standards, and innovation ecosystems.*** This marks a shift from traditional economic rivalry to a more complex contest over the structural foundations of global power.

9. CONCLUSIONS

China's strategy in the emerging global economic order is based on a paradigm in which *technological dominance and control over strategic resources are inseparable*. In a world defined by AI, semiconductors, and critical materials, power is increasingly derived from *system-level integration.*

Through its rare earth policies and its state-coordinated AI strategy, Beijing has consolidated a form of influence that no longer relies primarily on military strength, but on the *economic and technological dependencies of other actors. This strategic model should not be underestimated: it equips China with tools to shape trade negotiations, project influence across key regions, and maintain a central role in the global technological architecture of the 21st century.*

The comparative analysis of the United States, China, and the European Union demonstrates that AI, advanced semiconductors, and critical resources must be understood as *interdependent components of a new global power architecture.* Overall, the emerging international order is defined by competition over the **"***invisible infrastructures of power***,"** such as: chips, algorithms, data, critical materials, and supply chains. This competition is not primarily military, but is expressed through: technological standards, export controls, industrial policy, and structural influence over the global economy.

In conclusion, the global race for artificial intelligence and advanced semiconductors is not merely technological. It is a contest over *the rules, values, and institutional structures* that will govern global economic and security systems in the decades ahead.

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