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Written By :
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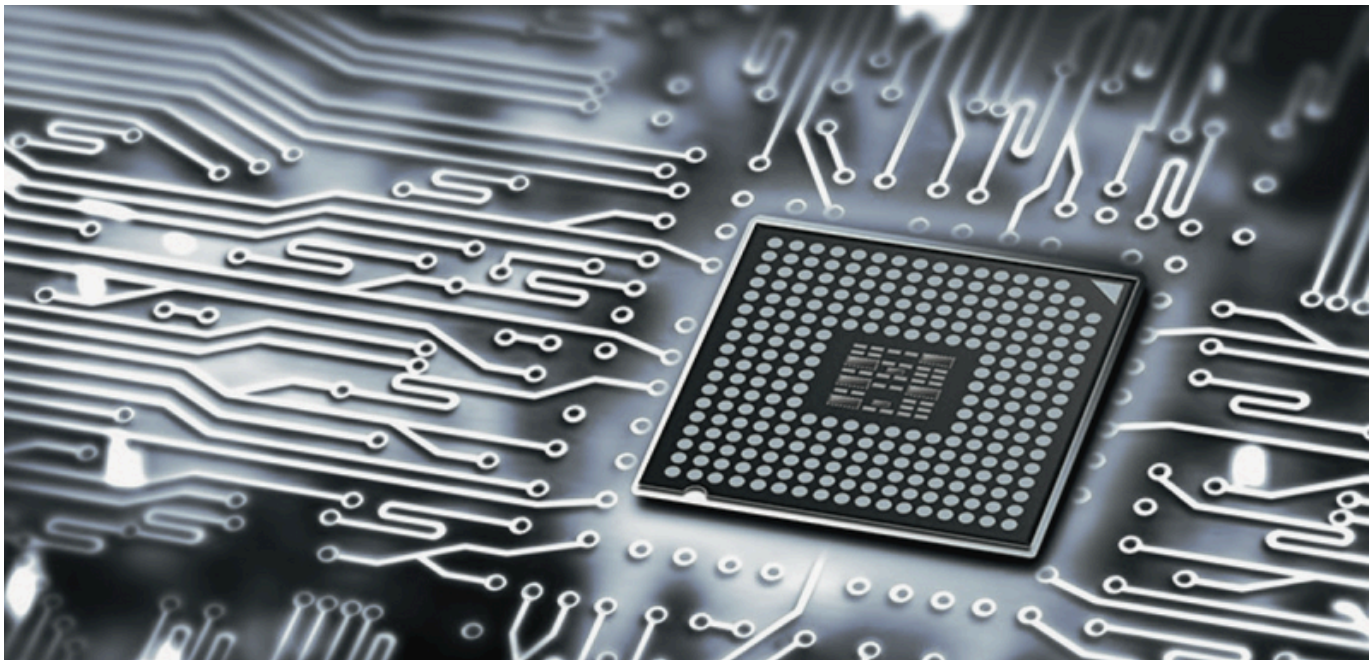
THE TRILLION DOLLAR CIRCULAR ECONOMY OF AI-CHIPS



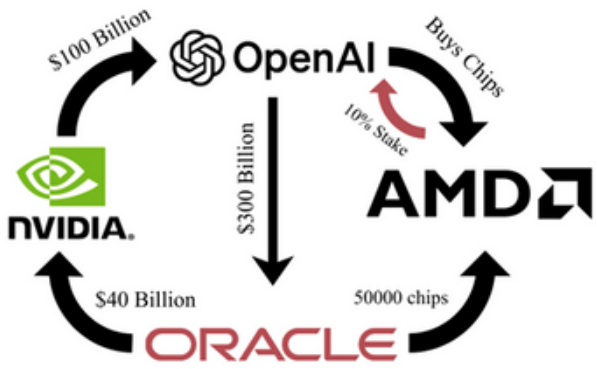
Introduction

The AI-chip economy forms a self sustaining circular economy where supply, demand and capex feed each other. The AI market size was valued at approximately $300 billion in 2025, with revenue estimates for the market reaching over $1.5 Trillion by 2032[1]. This, however, does not truly capture the size of AI's impact on the stock market and the high investment in the industry and its dependents.

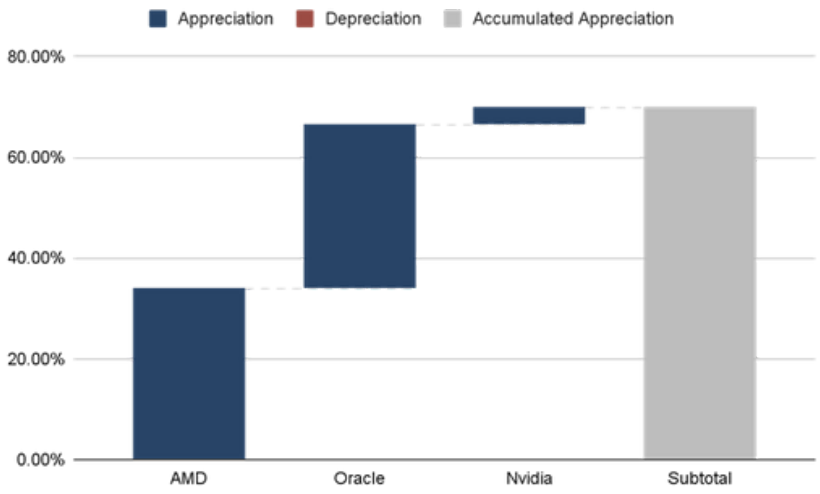
The semi-conductor market cap alone is valued at over $9 trillion as of 15th of October, driven by the investor expectation that in the AI gold rush, the real value is in computing power. This has created what can be described as a circular economy in which capital, production, and demand constantly feed one another. The central triangle of this ecosystem connects Nvidia, AMD, and OpenAI.

OpenAI's relentless requirement for processing power drives unprecedented chip purchases. Those purchases fuel the revenues and valuations of chip suppliers such as Nvidia and AMD, enabling further research, infrastructure financing, and in some cases direct equity participation. This reinforces OpenAI's own capacity to scale. What emerges is a self-sustaining flywheel of demand, capital and supply.

Recent deals demonstrate this interdependence clearly. Nvidia committed up to 100 billion dollars to support OpenAI's planned deployment of 10 gigawatts of Nvidia systems. OpenAI in parallel agreed to source thousands of GPUs from AMD, with an option to acquire a ten percent equity stake in the company. Oracle joined the same cycle through a 300 billion dollar cloud expansion, ordering 50,000 AMD Instinct GPUs and 40 billion dollars in Nvidia hardware for its Stargate project in Texas.



The result of all these deals? A rise in the stock price for all of them, accumulating roughly 65% in stock price appreciation across all 3 public companies, with the non-listed OpenAI at the center of these deals.



Source: Koyfin

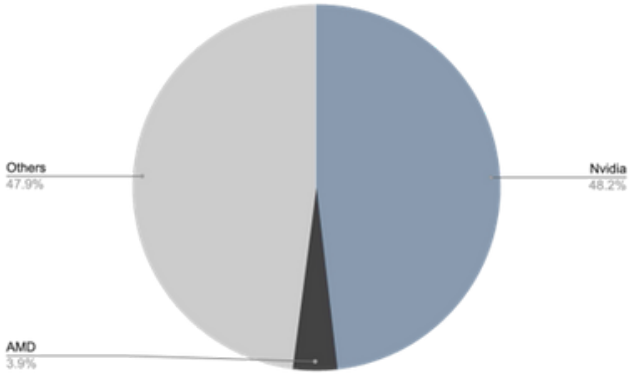
Beneficiaries and Strategic Hedges

Nvidia remains the backbone of the AI hardware ecosystem through its combination of GPUs, full systems, and proprietary software such as CUDA and NIM. However, its dominance is now challenged. The company's integrated model guarantees technological relevance but exposes it to risk if buyers diversify their suppliers. Its investment in OpenAI is therefore a financial hedge that stabilizes future demand regardless of unit market share. Even if some of OpenAI's clusters are built with AMD components, Nvidia will continue to profit through its systems, software and financing arrangements.

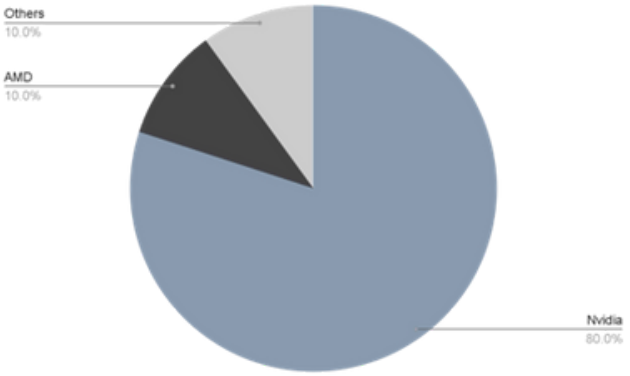
AMD has positioned itself as the pricing governor of the market. Its Instinct MI300 and MI350 series compete directly with Nvidia's Hopper and Blackwell lines, while the ROCm software platform now supports most major frameworks used for model training. AMD's value lies in lowering total cluster cost. Even modest share gains force price discipline across the entire market. The company's recent agreement with Oracle to deliver 50,000 GPUs beginning in 2026 demonstrates that large-scale buyers are comfortable splitting their capacity between suppliers.

OpenAI is deliberately maintaining a portfolio of suppliers. It uses AMD's alternative to gain leverage in pricing negotiations and Nvidia's financing to secure guaranteed delivery windows. This balance gives OpenAI scheduling certainty and pricing flexibility, making it the orchestrator of competition rather than a passive customer. The triangle therefore operates as a managed ecosystem where each actor hedges against the others.

Market Cap Distribution (Semiconductors)



Market Share Distribution AI Chips



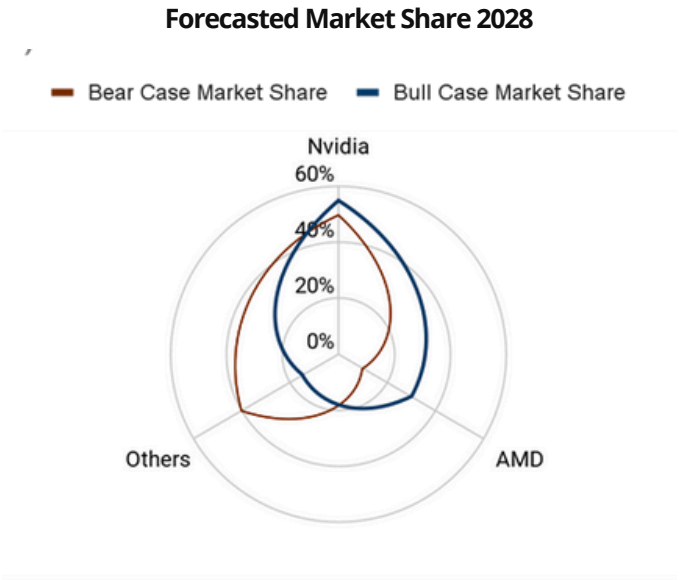
Source: VisualCapitalist & Stock Analysis

Outlook and Scenarios

The next three years will test the durability of this circular economy. In a base scenario, Nvidia continues to grow through systems, software and financing while AMD captures between fifteen and twenty percent of the accelerator market. OpenAI expands predictably, supported by both suppliers, and valuations remain high but stable.

In a bullish scenario, AMD achieves near performance parity with Nvidia and gains more than a quarter of the market by 2028. Nvidia's unit share would decline, but it could maintain revenue growth through higher-value integrated systems and service contracts with partners such as OpenAI. Buyers would benefit from lower total costs and faster hardware availability, supporting continued model scaling.

In a bearish scenario, any disruption in packaging supply or power infrastructure could slow deployments, leading to deferred revenue and valuation declines across the sector. In that case, Nvidia's financial commitments to OpenAI would act as a cushion, ensuring project continuity despite temporary hardware bottlenecks. AMD's lower-cost designs would position it to recover volume more quickly once supply normalizes. Moreover, rising Global or US companies could overtake AMD and Nvidia's market share backed by government and private investments with products that are much more scalable than the currently offered chips. This year alone AI has pulled over 192.7 billion dollars in Venture Capital investing.



Across all cases, the underlying mechanism remains the same: demand stimulates supply, supply finances demand, and the capital cycle spins. The key difference lies in how profits are distributed between hardware, systems, and software providers. Nvidia's hedging through equity and financing links its success less to market share and more to overall ecosystem growth, while AMD's strategy keeps pricing grounded and diversification alive.

Conclusion

The circular AI-chip economy has become a defining feature of the global technology landscape. It connects chipmakers, AI developers, investors, and infrastructure providers into a feedback system that converts innovation into capital and capital back into demand.

Nvidia, AMD, and OpenAI stand at the center of this structure, each with different exposures and protections. Nvidia is no longer the automatic winner but remains the indispensable enabler. Its investment in OpenAI ensures participation in every stage of the value chain, hedging against direct competition. AMD gains as the cost-efficient challenger, forcing discipline and accelerating the ecosystem's expansion. OpenAI manages both, balancing suppliers to maximize flexibility and maintain delivery assurance.

For investors, this arrangement creates both opportunity and risk. The upside lies in the continuing expansion of AI infrastructure and the secondary industries it powers, from data-center construction to advanced packaging. The downside lies in potential overinvestment, regulatory intervention, and the finite limits of energy and material supply.

As AI investments are not only concentrated within these few companies, it is impossible to rule out competitors and new entrants as a threat to this triangle built by these 3 companies. The probability of market penetration from other companies is hedged however by the reinvestment strategy these companies have created through this circular economy.

Ultimately, the AI-chip triangle illustrates how financial engineering, industrial capacity, and technological innovation intertwine in the twenty-first century. Its sustainability will depend on maintaining equilibrium between competition and cooperation, profit and reinvestment, growth and governance.

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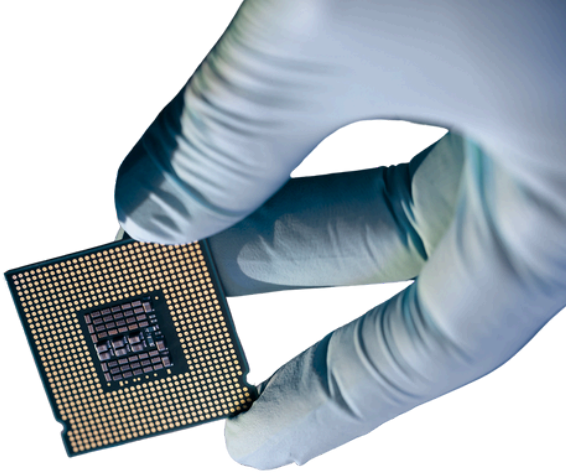

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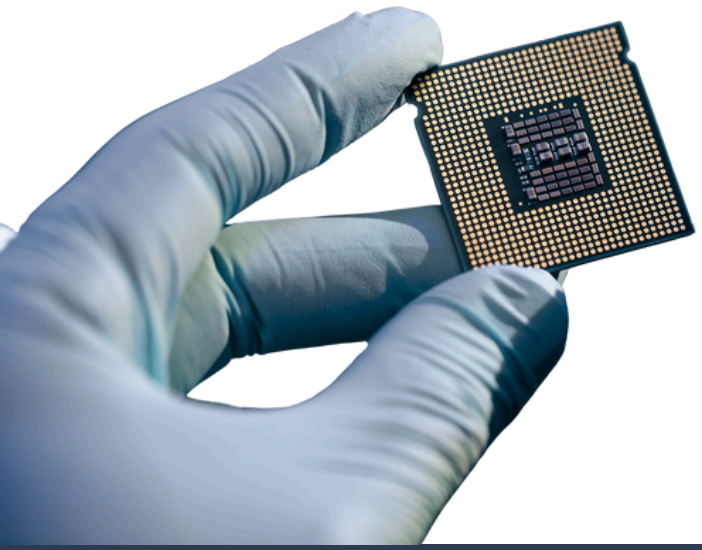

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