

# IO.NET – Empowering the Future of Decentralized AI Computing

*“The sharing economy is not about replacing ownership, it's about unlocking the value of underutilized assets.” – Joe Gebbia*

- **IO.NET, The Overview:**

IO.NET is pioneering a distributed compute marketplace tailored for AI workloads, leveraging decentralized resources to disrupt the traditional high-cost compute sector dominated by centralized providers.

- **Solving the AI computation bottleneck, The Value Proposition:**

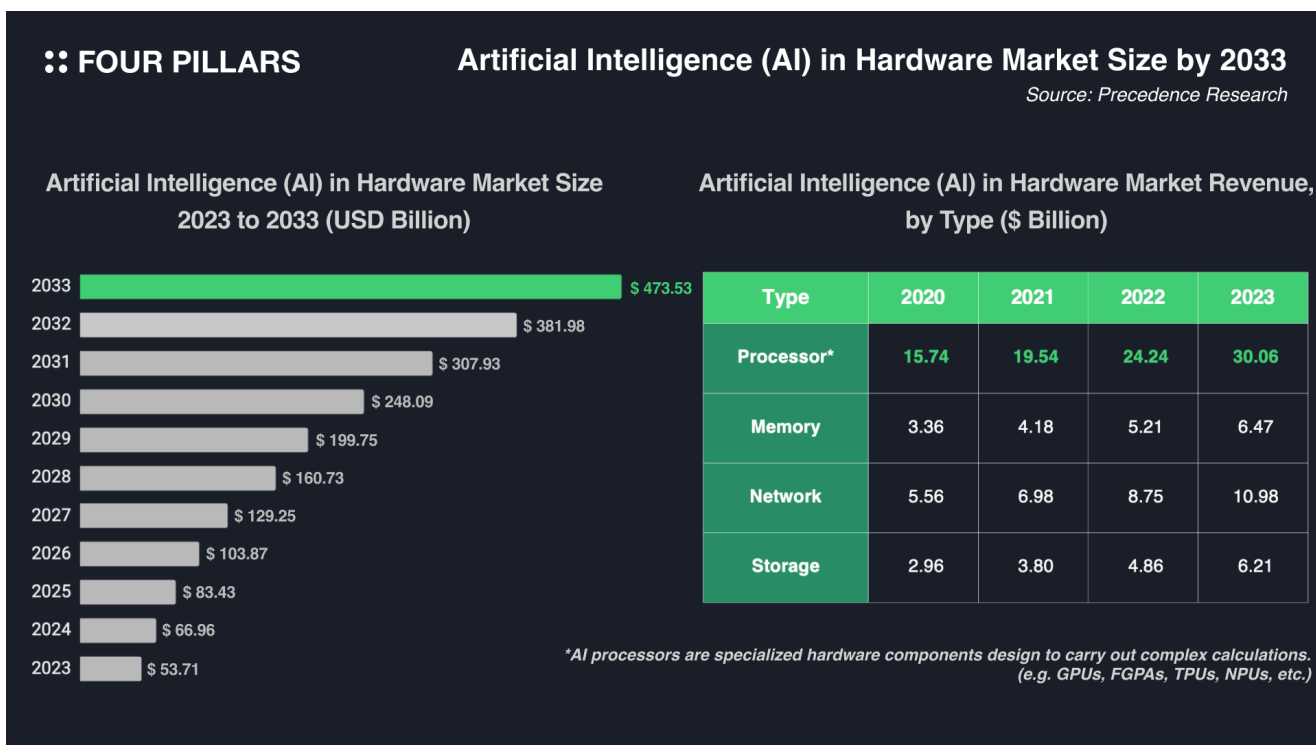
The unprecedented growth in AI applications driving a voracious appetite for computational power. Traditional centralized compute infrastructures are not only costly but also increasingly unable to scale efficiently to meet the explosive demand. These challenges are further compounded by geopolitical conflicts that threaten the stability of international supply chains. By leveraging a global network of underutilized GPUs and computational resources, IO.NET delivers affordable (up to 40% lesser) and scalable computing power to AI Enterprises/Researchers. This model bypasses traditional supply chain issues and democratizes access to essential technology, enhancing AI innovation across various sectors.

- **Sizing the Potential for IO.NET, The Expansive Market Opportunity:**

According to the Precedence Research report, the global GPU market is valued at USD 42.2 billion and is projected to surge to USD 773.07 billion by 2032, with a CAGR of 33.8% from 2023 to 2032.

Utilizing a conservative first-principles approach to calculate the Total Addressable Market (TAM), targeting approximately 20,000 large-scale enterprises, 200,000 mid-sized enterprises, and 50,000 researchers, the calculated GPU usage totals approximately 1.98 billion GPU hours (including data-intensive and real-time applications). At \$2.5 per hour, this indicates a robust TAM of nearly \$5 billion for IO.NET.

Even using a top-down approach, considering that approximately 5-6% of the global AI spending — projected at USD 124 billion — is allocated towards GPUs, IO.NET taps into a potential market of around \$7 billion, highlighting its positioning to capitalize on the expansive growth opportunities within the AI compute sector.











Source: Four Pillars

### • Competitive Landscape for IO.NET:

Navigating both traditional and decentralized competitors, IO.NET operates in a dynamic field dominated by major corporations like AWS, Google Cloud, CoreWeave and Microsoft Azure, known for their scalability, reliability, and comprehensive service offerings but often at higher costs and with less flexibility.

Emerging decentralized platforms like Golem, Akash, and Dfinity also ride on the DePIN economic flywheel and offer cost-effective, innovative models leveraging idle global resources but face challenges in scalability, market penetration, and generated little-to-no meaningful demand-side volume.

IO.NET uniquely positions itself by combining the reliability and scalability of traditional providers with the cost benefits and innovation of decentralized networks, focusing specifically on AI workloads to offer tailored, high-performance solutions.

<div>  <div> <b>IO.NET</b>  Snapsh(x)t by Eli5DeFi </div> </div> <div> <b>IO.NET PRICING COMPARISON</b> </div>							
							
	IO.NET	VAST.AI	COREWEAVE	LAMBDA CLOUD	AMAZON AWS	MICROSOFT CLOUD	GOOGLE CLOUD
NVIDIA H100	\$4.00	-	\$4.25	\$1.99	-	-	-
NVIDIA A100 (80 GB)	\$0.89	\$1.35	\$2.21	\$1.50	\$5.12	\$3.67	\$5.07
NVIDIA A100 (40 GB)	-	\$1.00	\$2.06	\$1.10	\$4.10	-	\$3.67
RTX A6000 (48 GB)	\$0.75	0.56	\$1.28	\$0.80	-	-	-
RTX 4090 (24 GB)	\$0.37	\$0.35	-	-	-	-	-
RTX 3090 (24 GB)	\$0.36	\$0.31	-	-	-	-	-

References: Messari - GPU Hourly Rates | Jan 24, 2024

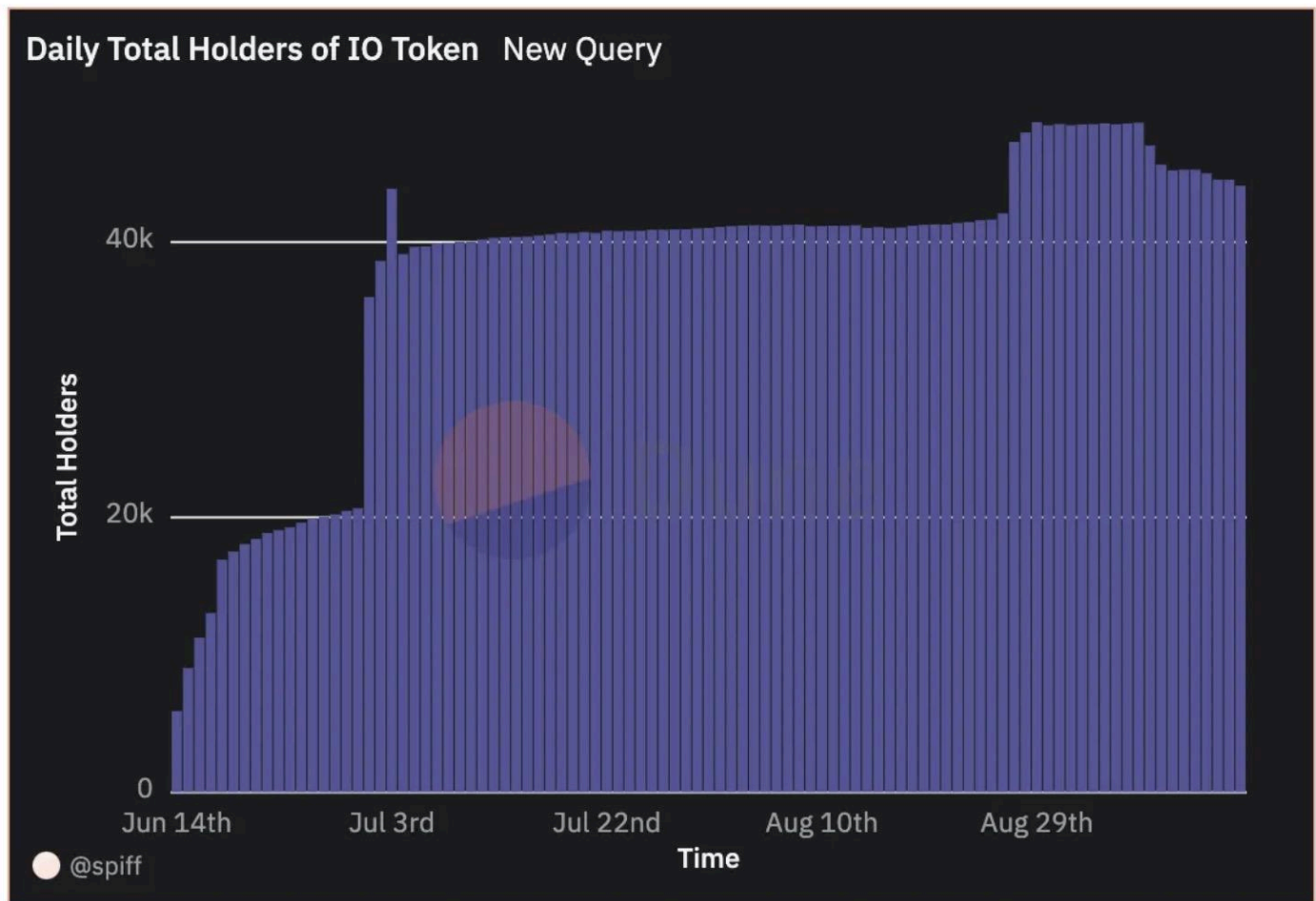
Source: Messari

### • IO.NET's right to win, The Moat:

IO.NET pioneers the use of bespoke networking and orchestration layers to create a hyper-scalable "Internet of GPUs" from latent hardware worldwide. Leveraging advanced frameworks like Ray, Ludwig, and Kubernetes, IO.NET allows machine learning teams to scale their workloads across a network of GPUs with minimal adjustments. This innovative approach enables on-demand clustering, parallelizing workloads and managing orchestration, scheduling, fault tolerance, and scaling efficiently.

With a current cluster exceeding 40,000 GPUs, over 5,600 CPU units, and more than 69,000 Worker Nodes, IO.NET can deploy 10,000 GPUs in under 90 seconds. Each inference is recorded on-chain for provenance, ensuring transparent and reliable operations. Furthermore, IO.NET incentivizes compute providers through the upcoming IO token, aiming to connect 1 million GPUs.

The sustained growth of the IO token holders and the sharp rise in GPU utilization underscore IO.NET's strategic advantage in scaling its decentralized GPU network. As illustrated by the "Daily Total Holders of IO Token" chart, the network rapidly expanded from less than 10,000 token holders to over 40,000 within a few months, reflecting growing interest and adoption of the platform. This steady upward trajectory of token holders indicates strong community engagement and network effect, crucial for achieving decentralized network growth.



Daily # of Total Holders, showing sharp and consistent interest

The cumulative inferences processed by the IO.NET network reveals the network's increasing compute demand, surging from just 300 inferences in October 2023 to over 300,000 in July 2024. This exponential growth, particularly the rapid acceleration starting in Q1 2024, highlights IO.NET's ability to meet growing computational demand for AI workloads. This not only proves the robustness of the platform but also positions IO.NET as a key player in the decentralized compute marketplace, able to scale quickly while maintaining service reliability.

Query results io.net Inferences		
Date	Inferences	Cumulative Inferences
2023-10-01 00:00	300	300
2023-11-01 00:00	9435	9735
2023-12-01 00:00	15447	25182
2024-01-01 00:00	31072	56254
2024-02-01 00:00	76186	132440
2024-03-01 00:00	88690	221130
2024-04-01 00:00	25540	246670
2024-05-01 00:00	24302	270972
2024-06-01 00:00	19071	290043
2024-07-01 00:00	11951	301994

With the potential to offer services similar to traditional cloud providers at significantly lower costs, and by establishing partnerships with major DePIN and AI players (including Render Network, Filecoin, Solana, Ritual, etc.), IO.NET is poised to become a leader and settlement layer in the decentralized GPU network space, driving growth and innovation in the Web3 x AI ecosystem.

GPU DePIN Network Data and Valuation 2024-03

Compiled by: ArkStream Capital							
	<u>IO.Net</u> (own)	<u>IO.Net</u> (including RNDR and FIL GPU)	RNDR	FIL	Akash	<u>GPU.net</u>	Nosana/ Gensyn
Number of GPUs	32082	42573	9638	1024	288	105	Testnet
Utilized GPUs	423	431	8	0	53	N/A	Testnet
Utilization %	1.32%	1.01%	0.08%	0.00%	18.40%	N/A	Testnet
FDV Valuation	-	-	5.3 billion	20 billion	2.2 billion	-	-

Source: Arkstream Capital

- **Revenue channel, The Business Model:**

IO.NET exemplifies the DePIN thesis by using token incentives to structurally lower the cost of acquiring and retaining supply-side resources, ultimately reducing costs for end-consumers. The primary source of revenue is transaction fees charged on each compute job processed through its marketplace, and subscription services (long-term commitments, relatively cheaper) providing a steady income as the network scales. Moreover, Payments made in USDC are subject to 2% facilitation fee. The IOG Network charges users a 0.25% reservation fee on the total cost to reserve the compute. This is added to the Renter's cost when reserving.

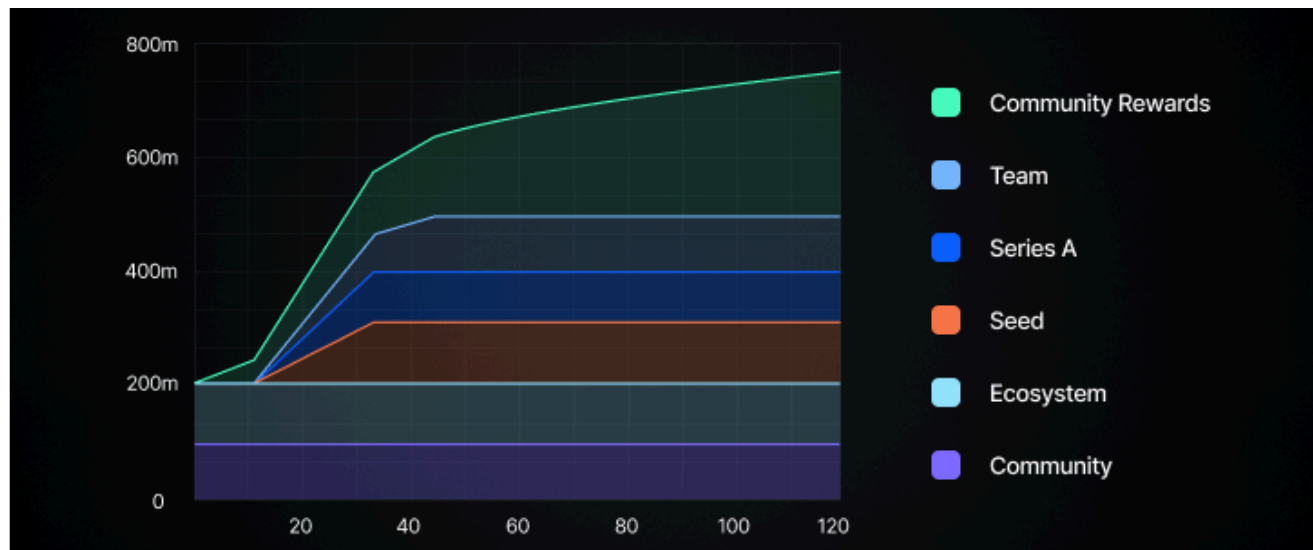
Hence, Total Annual Revenue<sup>like</sup> can be approximated by the sum of revenues from transaction fees, premium subscriptions, facilitation fees, and reservation fees.

- **IO Coin, the Tokenomics:**

IO.NET employs a sophisticated tokenomics model centered around its native IO token, designed to incentivize participation and drive platform growth. With a fixed maximum supply of 800 million tokens, IO.NET distributes 500 million tokens at launch, increasing to 800 million over 20 years through a disinflationary

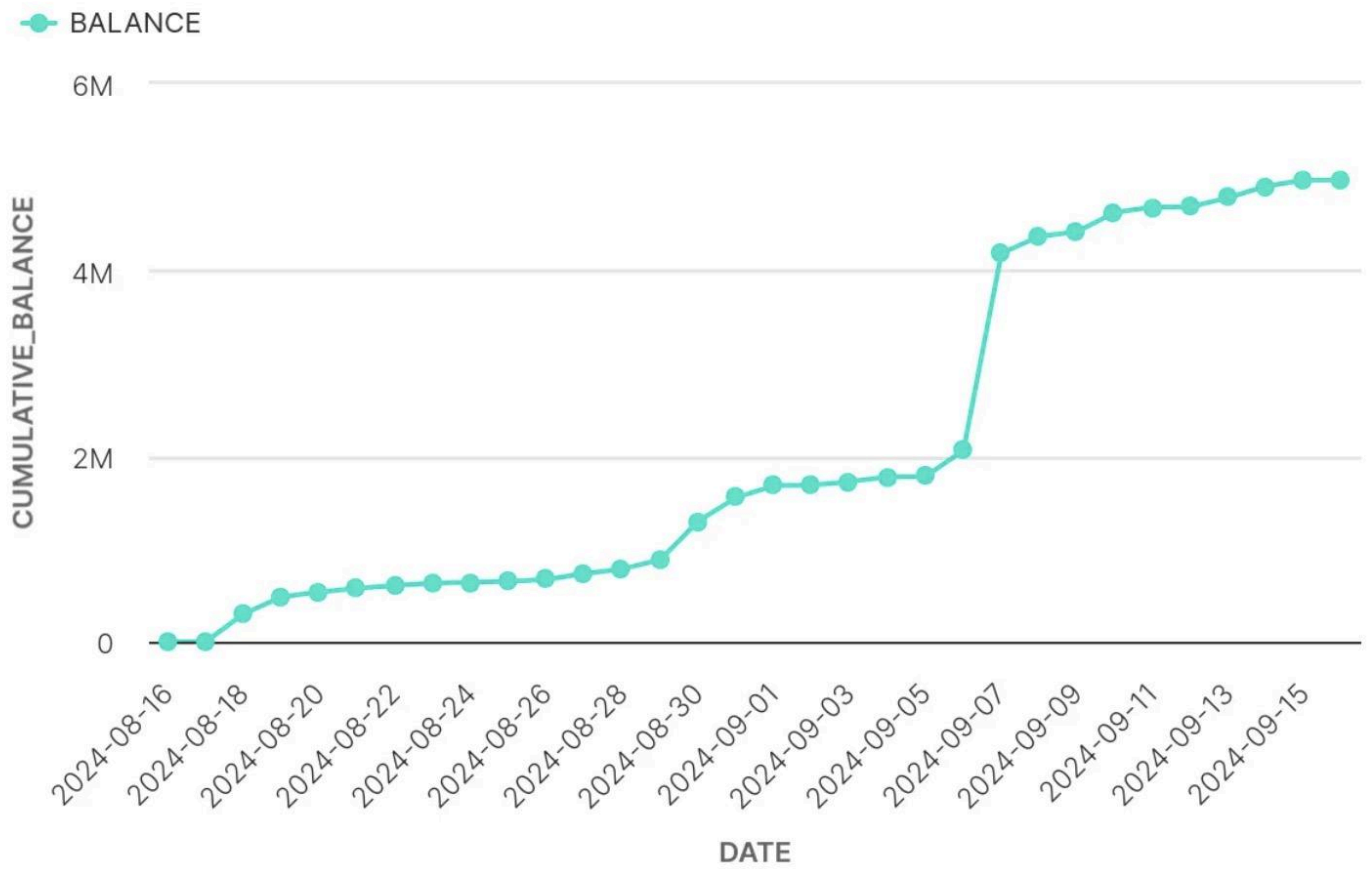
emission schedule. Emissions start at 8% annually, decreasing by approximately 1.02% per month until reaching 0.68% annually after 20 years. The IO token facilitates seamless transactions, incentivizing both compute providers and users, with no fees for payments made in IO to encourage its use. The IO tokenomics also include a programmatic coin burn mechanism, using revenues to purchase and burn IO tokens, reducing supply and creating deflationary pressure.

This model ensures a sustainable, incentivized ecosystem that supports the long-term growth and stability of IO.NET, solidifying its position in the decentralized GPU compute sector.



### Staking Growth:

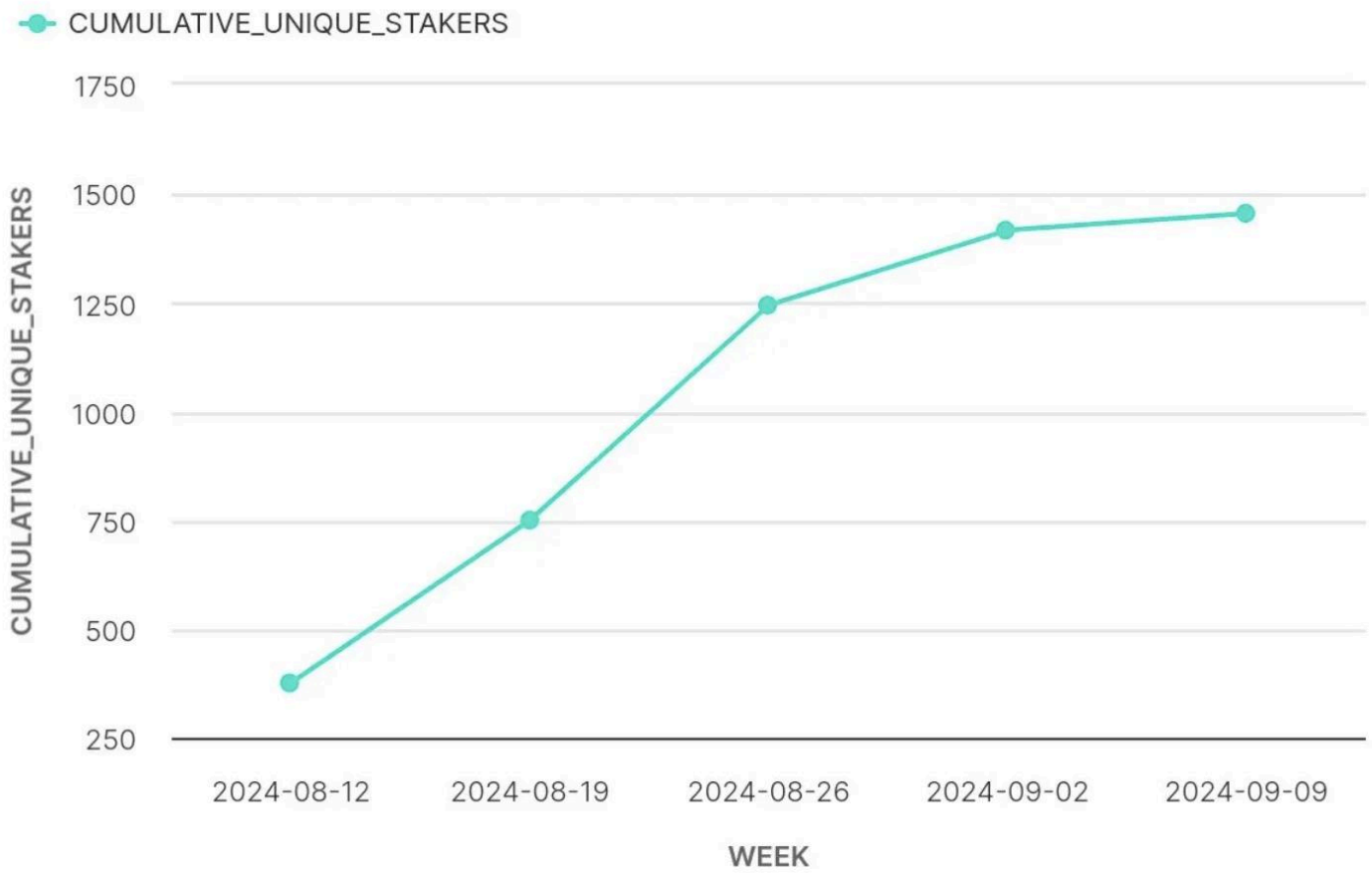
There is a sharp upward trend in staking balance, indicating increasing confidence among stakeholders in the IO.NET platform. A significant jump occurs around September 4th, 2024, with staking balance surpassing 6 million, reflecting a strong inflow of funds into the network. This kind of spike is typically seen following major announcements or milestone achievements, suggesting heightened enthusiasm and trust in IO.NET's decentralized compute marketplace. The sustained balance growth shows long-term commitment by users, which is a positive indicator of network stability.



IO.NET Staking Balance over Time

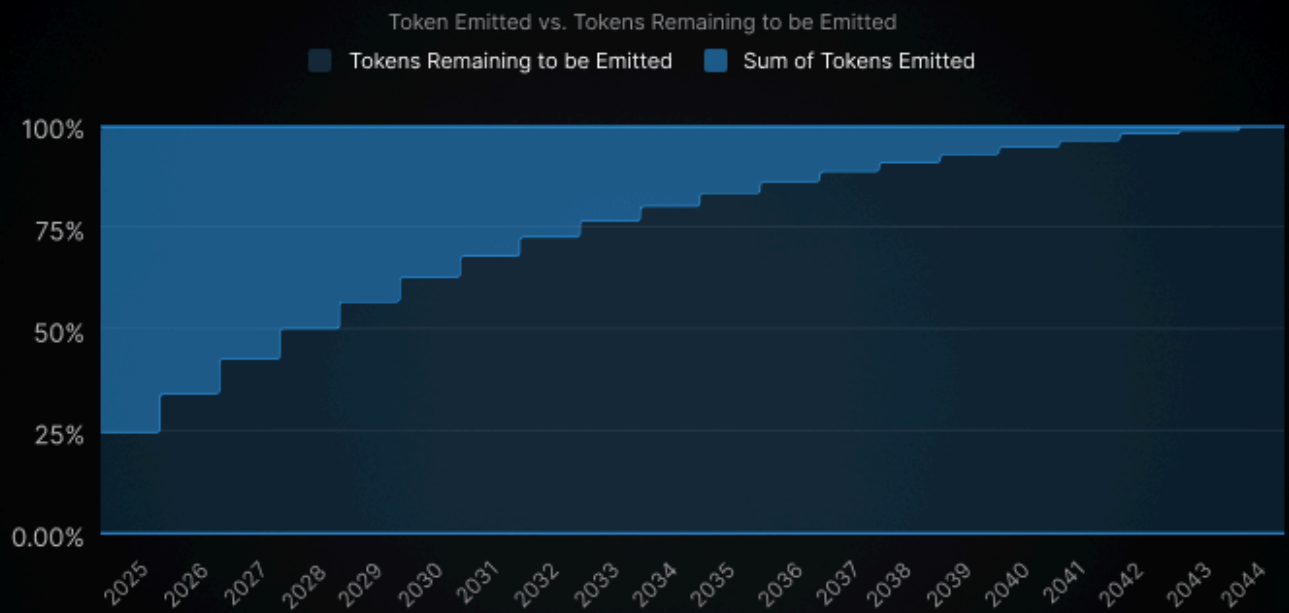
**Unique Stakers Reflect Growing Network Participation:**

This chart illustrates the consistent increase in cumulative unique stakers from August 2024 onwards, indicating a rapidly expanding base of individual participants



Unique Stakers of IO.NET

### Coins Already Emitted By Year Versus Remaining Coins To Be Emitted





Source: IO.NET

- **Stellar core team, The Founding team-Product Fit:**

The founding team of IO.NET combines extensive experience and expertise, positioning the company for success in the decentralized GPU compute sector. Ahmad Shadid, the founder and CEO, previously worked as a Quant System Engineer, identified the need for a cost-effective, decentralized solution due to high GPU service fees faced while building a GPU network for high frequency quantitative trading. Tory Green, co-founder and COO, has a strong background in operations and strategy from his roles as COO at Hum Capital and Director of Corporate Development and Strategy at Fox Mobile Group. This team's technical expertise, strategic insight, and operational experience uniquely position IO.NET for leadership in the DePIN landscape.

- **Risk and Challenges, the speed breakers:**

1. Economies of Scale: Achieving economies of scale is critical yet challenging in a decentralized, P2P environment. IO.NET must ensure significant pre-prepared supply capacity and ease entry barriers for users and suppliers to maintain service continuity and generate transactions.
2. Competitive Pressure and Technological Uncertainty: Facing intense competition from established providers, IO.NET must continually adapt to rapid AI innovation to remain competitive. Its services targeting B-class customers are still in early stages, which could impact project valuation and market performance.
3. Privacy and Regulatory Concerns: Handling sensitive data and PII on decentralized networks may face privacy and regulatory hurdles, potentially limiting the addressable market and extending sales cycles.
4. Latency and Performance Limitations: The reliance on internet connections and globally distributed devices can cause latency and performance issues, restricting adoption for latency-sensitive applications
5. Technical Security Risks: IO.NET is a nascent platform that has not undergone extensive testing, making it vulnerable to malicious attacks. As evidenced by 25th April sybil attack that required extensive countermeasures, highlighting the need for robust security protocols and rapid response capabilities

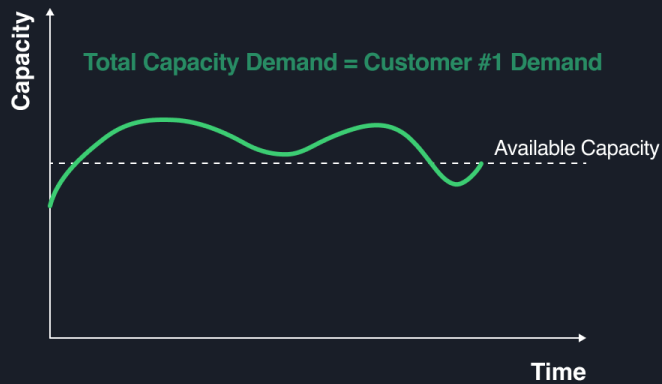


## :: FOUR PILLARS

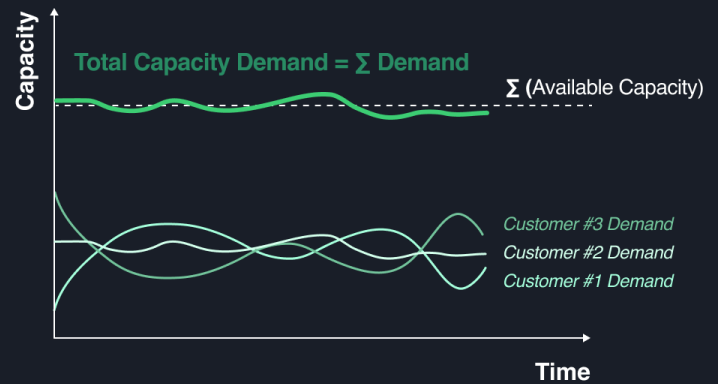
## Demand Fluctuation Scenarios w/ and w/o Resource Sharing

Source: @JayLovesPotato (Four Pillars) / Ádám Szaller, Christian Fries, Botond Kádár, *Financial aspects of a trust-based resource sharing platform*, CIRP Journal of Manufacturing Science and Technology, Volume 43, 2023, Pages 88-105,

### Demand Fluctuation without Resource Sharing



### Demand Fluctuation with Resource Sharing



Source: Four Pillars

- **Conclusion:**

IO.NET stands at the forefront of a transformative shift in the AI compute sector, leveraging decentralized resources to offer a scalable and cost-effective solution to the growing demand for computational power. By addressing the limitations of traditional centralized infrastructures and capitalizing on the expansive growth of the global GPU market, IO.NET is poised to capture a significant share of this burgeoning industry. The company's

unique positioning, robust tokenomics model, and experienced founding team provide a strong foundation for sustainable growth and market leadership. Despite the inherent risks and challenges, including technical security vulnerabilities, market expansion hurdles, and intense competition, IO.NET's innovative approach and strategic partnerships position it well to drive the future of decentralized GPU compute. With a clear value proposition, substantial market opportunity, and solid execution strategy, IO.NET represents a compelling investment opportunity in the evolving landscape of Web3 and AI.

## The Exponential Growth in AI Computation

### The rise of artificial intelligence over the last 8 decades: As training computation has increased, AI systems have become more powerful

Our World  
in Data

The color indicates the domain of the AI system: ● Vision ● Games ● Drawing ● Language ● Other

Shown on the vertical axis is the **training computation** that was used to train the AI systems.

