Hoosat Network Whitepaper

Toni Lukkaroinen[1]

[1] *Hoosat Network*

25 June 2026
Version 3

Abstract

The Hoosat Network (HTN) introduces a groundbreaking approach to blockchain technology, addressing the blockchain trilemma of scalability, security, and decentralization. Built as an evolution of the Kaspa blockchain, Hoosat employs the DAGKnight protocol, enabling high-throughput, asynchronous block processing through a directed acyclic graph (DAG) structure. This allows for near-instant transaction confirmations while maintaining robust security. The network's FPGA & ASIC-resistant Hoohash algorithm democratizes mining, ensuring accessibility for CPU & GPU-based miners and enhancing decentralization. Additionally, Hoosat incorporates patent-pending quantum-resistant security mechanisms, safeguarding against emerging threats. With developer-centric ecosystem, Hoosat Network provides a scalable and energy-efficient platform for applications. This whitepaper outlines the technical architecture, tokenomics, and vision of Hoosat Network.

1 Introduction

Hoosat Network (HTN) is a shift in a blockchain technology, designed to address the critical challenges of scalability, security and decentralization. Commonly to as the blockchain trilemma. Hoosat Network is built as a fork of Kaspa Golang reference node. Hoosat Network leverages the innovative DAGKnight protocol, which enables asynchronous block processing for transaction throughput. Unlike traditional blockchains that rely on linear block addition.

Hoosat Network is committed to fostering a decentralized and inclusive ecosystem. By developing and implementing FPGA/ASIC resistant Hoohash algorithm, the network remains accessible to individuals using consumer-grade CPUs and GPUs, allowing lower barrier to entry than professional mining machines. This approach not only democratizes mining, but also strengthens network security by distributing hashing power across a diverse group of participants. Furthermore Hoosat Network introduces patent-pending security mechanism against nonce-guessing attacks, making it a pioneer in quantum-resistant proof-of-work systems.

Hoosat Network is more than just a cryptocurrency, it is a platform for innovation. With a developer-focused ecosystem, Hoosat empowers developers to create novel applications, enriching the network's utility. By prioritizing energy efficiency, community-driven development, and fair tokenomics, Hoosat Network is poised to redefine the blockchain landscape, offering a scalable, secure, and decentralized foundation for the future of digital transactions.

2 Statement of the Hoosat Network founder

There is nothing quite like true decentralization, where anyone can participate with as little as something like a mobile phone. Imagine earning profits even while you are sleeping. That is the real power of decentralized mining. The barrier to entry is so low that basically anyone can take part in it if they choose to do so.

Since cryptocurrencies inception, countless blockchain projects have emerged, yet many have compromised decentralization to protect holders. They often rely on Proof of Stake or mining controlled by expensive ASIC hardware. Running a validator can require astronomical amounts of capital, and high-end ASICs carry steep costs, concentrating power in the hands of a few.

Even worse, some projects manipulate mining to offload other cryptocurrencies, artificially inflating the value of their own coins to benefit miners. This is not decentralization, it is exploitation. I also discovered a protocol vulnerability that allows blocks to be created without performing the intended Proof-of-Work. Instead of exploiting this flaw in secret, I chose to expose it publicly, fix it in a protected manner, knowing it would spark backlash by challenging the widely held belief in the deterministic nature of Proof-of-Work.

As Hoosat Networks founder and current lead developer, my mission is to keep entry barriers low, network secure and applying DAGKnight to real-world transaction challenges. Hoohash ensuring decentralization is not just a principle but a practical reality, leveling the playing field for all the miners.

3 Goals and Roadmap

The primary goal of the Hoosat Network is to create a secure, decentralized platform where cryptocurrency is not just an investment, but a practical tool accessible to everyday users. We aim to remove barriers that have historically restricted participation and to make digital currency usable in real-world scenarios.

By leveraging a base rate of 5 BPS and a maximum block mass of 1 million, the network can handle up to 490 transactions per block. With DAGKnight technology, which enables parallel block processing by merging red block transactions, Hoosat Network achieves theoretical throughput surpassing the global transaction capacity of major payment systems such as VISA. After Nocturne Hard Fork we have seen +13 blocks being created in a second. This ensures the network is both scalable and efficient, ready for mass adoption even on 5 Blocks per second production rate.

Our mission is simple yet ambitious: to enable seamless cryptocurrency utilization. This involves building a stable, high-performance DAGKnight network with sub-second transaction times, alongside developing payment gateway and that allow users to spend their coins on everyday goods and services.

Transparency and accountability are central to our approach. The Hoosat Network publishes an updated roadmap quarterly, in January, April, July, and October. Providing clear milestones while maintaining realistic and achievable goals.

4 Hoosat Network Launch & Hard Forks

The Hoosat Network was launched on March 8, 2024, as a fork of the Kaspa Golang reference node, operating at a block rate of 1 block per second (BPS) and used the Pyrinhash Proof of Work (PoW) algorithm. Since its inception, the network has significantly diverged from the Kaspa Golang reference node through substantial updates, including multiple hard forks, establishing itself as a distinct and evolving blockchain ecosystem.

4.1 First Hard Fork

- Date and Time: September 26, 2024, 06:41 PM GMT
- DAA Score: 17,500,000
- Hoohash V1.0.0: A cutting-edge algorithm designed to combat parallel processing, enhancing security and making Hoosat more resilient against FPGA/ASIC centralization.
- Adjustable Developer Fee: Introduced community voted network-wide developer fee tied to consensus, minimum 1% and by default 5%, to fund essential infrastructure and future development.

4.2 Second Hard Fork

- Date and Time: November 15, 2024, 15:50:09 PM GMT
- DAA Score: 21,821,800
- Hoohash V1.0.1: Update precision requirements in the algorithm.
- Started working on pow Hash submission from miner to node for verification.

4.3 Third Hard Fork

- Date and Time: February 10, 2025, 12:39:57 GMT
- DAA Score: 29,335,426
- Securing Proof of Work integrity solution completely implemented to mainnet.

4.4 Fourth Hard Fork - Nocturne

- Date and Time: July 21, 2025, 12:29:26 GMT
- DAA Score: 43,334,184
- Hoohash V1.1.0 with a fix to lookup table issue.
- Preliminary support for Pebble database alongside of LevelDB.
- Threaded Block Relay.
- Modified block max mass calculation to allow more UTXO in compounding transactions.
- Block rate increase from 1 BPS to 5 BPS and double the transaction max mass and many other settings for 5bps.

4.5 Fifth Hard Fork - Zenith

- Date and Time: July 20, 2026, 20:37 GMT
- DAA Score: 192,792,190
- First DAGKnight implementation.
- Better support for P2PKH and P2SH in htnwallet and node.
- Basic update for script engine to support multisig, escrows, timelocked payments and atomic swaps.
- Support for Replace By Fee.
- Support for adjustable pruning interval.
- Optimizations to the code.

5 Hoohash Proof of Work Algorithm

The Hoohash Proof of Work (PoW) algorithm is engineered to disable acceleration techniques and mandating the use of IEEE 754 standardized double-precision floating-point (FP64) computations and their precision. This design choice inherently limits the effectiveness of FPGA and ASIC implementations, as these devices would require integrating CPU or GPU-like logic to achieve optimal hashrates, effectively negating their specialized advantages.

Hoominer can be used to mine with CPU and GPU and it uses the open reference implementation

5.1 Hoohash Efficiency

Hoohash demonstrates remarkable energy efficiency. For instance, an AMD RX 6600 XT graphics card, when underclocked.

Figure 1: This is HiveOS dashboard displaying RX 6600 rig hash rates and power usage

As you can see above Hoominer can execute the algorithm using just 12W of power, showcasing its potential for low-energy mining operations. When other GPU algorithms seem to require at least 44w - 67w on the same card according to Hashrate.no.

5.2 The non-linear equations

The non-linear equations in Hoominer can not be parallel processed, meaning each thread can only execute one equation at a time. Effectively causing parallel processing bottleneck.

Hoohash currently utilizes three non-linear equations:

$$y = \frac{1.0}{\sqrt{|x| + 1}} \tag{1}$$

$$e^{\sin(x)+\cos(x)} \tag{2}$$

$$\sin(x) \cdot \cos(x) \cdot \tan(x) \tag{3}$$

These non-linear equations are called semi randomly based on previous iteration of the Hoohash main loop. Effectively slowing down parallel processing. The precise results of these equations can be used to eliminate FP64 acceleration methods, because FP64 calculus accelerations usually sacrifice precision for speed. For example OpenCL Hoohash implementation stops working correctly when compiling with *-cl-fast-relaxed-math* flag.

5.3 Differences between CPU and GPU

The algorithm is compatible with both CPUs and GPUs. This compatibility stems from GPU manufacturers often deliberately limiting FP64 performance on consumer-grade GPUs. In contrast, CPUs typically have a fully supported IEEE 754 standard FP64 calculations, enabling them to effectively participate in the mining process alongside the GPUs.

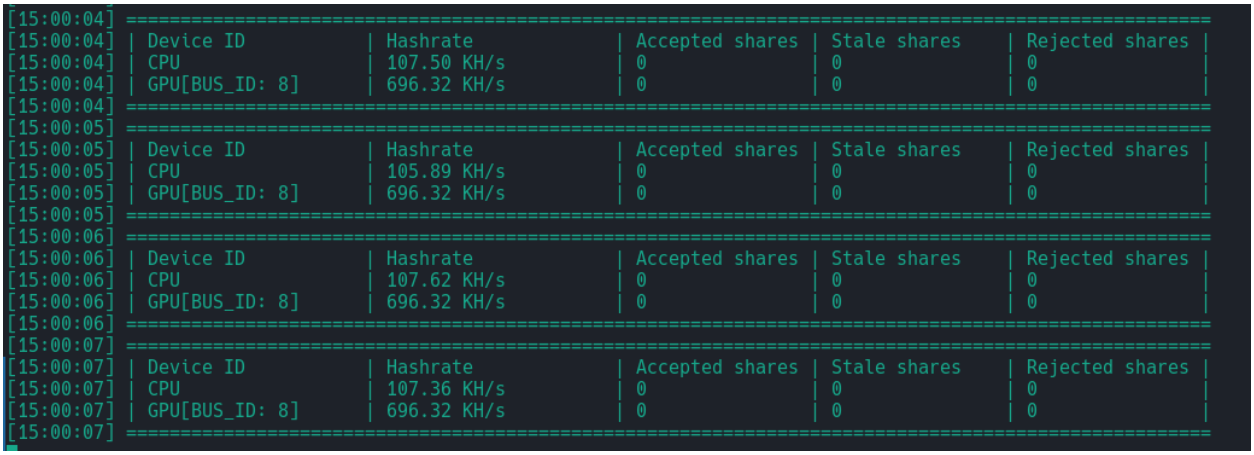

Figure 2: AMD Ryzen 5 3600 and AMD RX 6600 XT hashrates in Hoominer 0.3.1

Using optimized versions of the algorithm can significantly increase hashrate, but the performance gap between CPU and GPU mining is relatively small even on the reference algorithm, allowing both to be viable options.

5.4 Hashrate table

Here is a list of the most efficient CPUs and GPU:

Device	Hashrate (kH/s)	Watts	kH/W	Miner
Nvidia H100	25000,00 kH/s	300,00 w	83,33 kH/w	Hoo_gpu
AMD Radeon RX 6600	326,00 kH/s	13,00 w	25,08 kH/w	Hoominer
AMD Radeon RX 6600 XT	372,00 kH/s	15,00 w	24,80 kH/w	Hoominer
AMD Radeon RX 6700 XT	486,00 kH/s	22,00 w	22,09 kH/w	Hoominer
AMD EPYC 7K62	3500,00 kH/s	163,00 w	21,47 kH/w	Hoo_cpu
AMD Radeon RX 6800 XT	866,00 kH/s	44,00 w	19,68 kH/w	Hoominer
Intel Core i5-13600K	1260,00 kH/s	65,00 w	19,38 kH/w	Hoo_cpu
AMD Radeon RX 6900 XT	981,00 kH/s	51,00 w	19,24 kH/w	Hoominer
Nvidia RTX 3070M	625,00 kH/s	35,00 w	17,86 kH/w	Hoo_gpu
Nvidia RTX 3090	1190,00 kH/s	67,95 w	17,51 kH/w	Hoo_gpu
AMD Ryzen 9 3950X	1510,00 kH/s	88,00 w	17,16 kH/w	Hoo_cpu
Nvidia RTX 3060M	416,00 kH/s	25,00 w	16,64 kH/w	Hoo_gpu
Nvidia RTX 3080	779,00 kH/s	47,38 w	16,44 kH/w	Hoo_gpu
AMD EPYC 7532 X 2	5160,00 kH/s	316,00 w	16,33 kH/w	Hoo_cpu
AMD Radeon Pro VII	1400,00 kH/s	88,00 w	15,91 kH/w	Hoominer
Nvidia RTX 3060	348,00 kH/s	22,00 w	15,82 kH/w	Hoo_gpu
Nvidia RTX 3060 Ti	448,00 kH/s	28,55 w	15,69 kH/w	Hoo_gpu
Nvidia RTX 2080	670,00 kH/s	43,00 w	15,58 kH/w	Hoo_gpu
Nvidia RTX 3070 Ti	615,00 kH/s	43,00 w	14,30 kH/w	Hoo_gpu

For a more complete, community collected list you can open our Google Spreadsheet Google Spreadsheet

5.5 Power Efficiency

The AMD Radeon RX 6600 XT offers strong computational performance with exceptional energy efficiency. Benchmarks report a hash rate of 866 Kh/s while consuming only 44 W of power, yielding an efficiency of approximately 19.68 Kh/W.

At the current network difficulty of ~ 0.23 G, a single GPU can mine roughly 900 blocks over a 24-hour period, illustrating its potential for cost-effective and sustainable participation in the Hoosat Network.

To estimate energy usage per transaction, consider that each block contains 490 transactions, and a single GPU mines approximately 900 blocks per day. The total number of transactions per day is:

$$\text{Transactions per day} = 900 \times 490 = 441{,}000 \text{ tx/day}$$

The total energy consumed by the GPU over 24 hours is:

$$\text{Energy per day (Wh)} = 44 \times 24 = 1056 \text{ Wh/day} \approx 1.056 \text{ kWh/day}$$

Dividing this by the total number of transactions gives the energy per transaction:

$$\text{Energy per transaction} = \frac{1056}{441{,}000} \approx 0.002395 \text{ Wh/tx} \approx 2.4 \text{ mWh/tx}$$

At an electricity cost of \$0.10 per kWh, the cost per transaction is:

$$\text{Cost per transaction} = 0.002395 \times \frac{0.10}{1000} \approx 2.4 \times 10^{-7} \text{ USD/tx}$$

This demonstrates that each transaction consumes a **very small amount of energy**, making the Hoosat Network highly efficient and economically sustainable. For context, the electricity cost per transaction is roughly **0.24 microdollars (\$0.00000024/tx)** at \$0.10/kWh.

Note that this calculation considers only the energy required for mining the blocks, not the additional energy for transferring them across the network or how much nodes spend energy when they process all the blocks and transactions. If network difficulty increases, the energy and cost per transaction will also rise proportionally.

So before independent verification, it's advisable to approach these claims with caution.

5.6 DAGKnight Protocol: Advancing Beyond GhostDAG

The Hoosat Network is proud to be the world's first blockchain to implement and activate the DAGKnight protocol on mainnet. DAGKnight, conceived by Prof. Yonatan Sompolinsky, represents a significant evolution of the original GhostDAG consensus protocol. While GhostDAG already enables high-throughput asynchronous block production through a Directed Acyclic Graph (DAG) structure, DAGKnight introduces key innovations that make the protocol more robust, adaptive, and parameter-efficient.

5.6.1 Key Improvements of DAGKnight over GhostDAG

GhostDAG relies on a parameterized approach to blue/red block classification and ordering, where certain constants must be carefully tuned based on expected network latency and block rate. This parameterization can lead to suboptimal performance if network conditions deviate from assumptions.

DAGKnight addresses these limitations through two core advancements:

- **Parameterless Design**: DAGKnight eliminates the need for manually tuned protocol parameters. It dynamically adapts to real-world network conditions without requiring hardcoded constants for latency or security thresholds. This makes the protocol more future-proof and easier to maintain as the network scales.
- **Latency-Adaptive Consensus**: The protocol continuously measures and responds to actual network latency. It intelligently merges transactions from "red" blocks (blocks that would be orphaned in a traditional chain) into the main ledger while preserving security guarantees. This results in higher effective throughput and faster probabilistic finality under varying global network conditions.

These improvements allow Hoosat Network to sustain a base rate of 5 blocks per second (BPS) while achieving dynamic, sub-second transaction confirmations that scale gracefully with network participation. In practice, the network has demonstrated peaks exceeding 13 blocks per second post-Nocturne, with DAGKnight further optimizing block ordering and reducing confirmation variance.

5.6.2 Security and Performance Benefits

DAGKnight maintains the strong security properties of GhostDAG, including resistance to 51% attacks and double-spend protection, while improving liveness and fairness in block inclusion. By reducing the impact of network delays on consensus, it minimizes the "red block" penalty and maximizes the utilization of honest mining power.

As the first public and open implementation of DAGKnight, Hoosat Network has contributed meaningfully to the broader blockchain research community. This achievement demonstrates our commitment to pushing the boundaries of DAG-based consensus ahead of larger projects still in development phases.

For a deeper mathematical treatment, we recommend Prof. Sompolinsky's original research papers on Phantom, GhostDAG, and DAGKnight. The Hoosat implementation is fully open-source and available on our GitHub repository.

The integration of DAGKnight positions Hoosat Network as a leader in scalable Layer-1 Proof-of-Work blockchains, delivering Visa-level (and beyond) transaction throughput while preserving true decentralization and energy-efficient mining.

5.7 Securing Proof-of-Work Integrity

Hoosat Network introduces a solution to enhance the integrity of Proof-of-Work (PoW) systems. Patent pending as of 01.01.2025 in EU, US, China and Taiwan. This innovative approach effectively counters nonce-spamming attacks while significantly expanding the brute-force search space without altering the nonce range itself. Directly expanding the nonce range is often ineffective against nonce-spamming, as it can slow down PoW algorithms, inadvertently increasing vulnerability to such attacks. For a comprehensive exploration of nonce-spamming challenges, refer to the white paper available at Hoosat Network's Nonce-Spamming White Paper.

Nonce spamming represents a significant vulnerability in slow PoW systems, where malicious actors exploit network protocols to produce valid blocks with minimal local computational effort. In traditional PoW mechanisms, miners are expected to invest substantial resources in finding a suitable nonce that results in a hash meeting the difficulty target. However, nonce spamming allows attackers to broadcast numerous candidate block headers with varied nonce values, offloading the validation and hash computation to other network participants.

Key implications of nonce spamming include:

- Undermining miner accountability and the decentralized consensus mechanism.
- Heightened risks for networks with slower PoW algorithms or lower difficulty levels, such as those using CPU/GPU-friendly designs.
- Potential for share stealing in mining pools, where attackers flood pools with candidate nonce values to claim disproportionate rewards.
- Extension to quantum threats, where algorithms like Grover's provide speedups in nonce searches.

In the current Hoosat Networks mainnet implementation, generating a valid block requires a classical brute-force search space of 2^{192}, further fortified by the inefficiencies of quantum hardware in handling FP64-level computations.

This comprehensive strategy not only secures PoW integrity but also positions Hoosat Network as a forward-thinking blockchain platform resilient to evolving threats.

6 Coin supply and distribution

The Hoosat Network (HTN) is a UTXO-based cryptocurrency with a transparent and predictable monetary policy designed to ensure long-term sustainability. Here's a breakdown of the key points:

- Total Coin Supply: The maximum supply of Hoosat Network is capped at around 17.28 billion, earlier incorrectly calculated at around 17.1 billion. This finite supply helps control inflation and maintain the value of the coin over time.
- Regular block reward decrease: The block reward for mining new coins will be subsided every year. This process gradually reduces the rate at which new coins are introduced into the network, further contributing to coin scarcity and stability.
- Long-Term Sustainability: With a total subsidy cycle of over 65 years, the issuance of new coins will reach zero in 115 years, ensuring a predictable and sustainable long-term supply.
- It takes about 5 years to halve the reward supply. This gives decent time for the project to advance in technology and early adopters to join the network, when the project is bootstrapped from nothing.

6.1 UTXO consolidation

Each block you mine in Hoosat Network creates a coinbase UTXO. Think of UTXOs like coins you physically hold. For example, imagine you earn 1 penny for every block you mine. If you mine 10,000 pennies, that's already about 15 kilograms of coins, enough to need a backpack just to carry them around.

To make them easier to manage, you could exchange those 10,000 pennies for a single $100 bill. Suddenly, you've turned 15 kilograms of coins into just 1 gram of paper money.

UTXOs work in a very similar way. You can split a large UTXO into smaller ones, or combine many smaller UTXOs into a larger one when making transactions on the network. This flexibility helps keep your "digital coins" easy to handle and efficient to move.

This is a reminder that you will need to do UTXO consolidation if you are solo mining. The HTND command-line wallet allows scripting automated compounding to combine the mined UTXO into larger UTXO.

6.2 Block Reward Schedule

The distribution of block rewards follows a controlled reverse-inflation schedule designed to gradually reduce issuance over time. The reward at time t is determined by the following decay function:

$$\text{Subsidy}(t) = \frac{\text{BaseSubsidy}}{1.5^{\,t/\text{CurveFactor}}}$$

This mechanism ensures that rewards decrease predictably as the network matures, aligning long-term issuance with sustainable tokenomics.

Year	Block Reward	HTN Mined Per Year
2024	100	3,153,600,000
2025	81.64965809	2,574,903,618
HF Nocturne: Transition from 1 BPS to 5 BPS		
2025	16.32993162	2,574,903,618
2026	13.33333333	2,102,400,000
2027	10.88662108	1,716,602,412
2028	8.88888889	1,401,600,000
2029	7.25774739	1,144,401,608
2030	5.92592593	934,400,000
2031	4.83849826	762,934,405
2032	3.95061728	622,933,333
2033	3.22566550	508,622,937
2034	2.63374486	415,288,889
2035	2.15044367	339,081,958
2036	1.75582990	276,859,259
2037	1.43362911	226,054,639
2038	1.17055327	184,572,840
2039	0.95575274	150,703,092
2040	0.78036885	123,048,560
2041	0.63716849	100,468,728
2042	0.52024590	82,032,373
2043	0.42477899	66,979,152
2044	0.34683060	54,688,249
2045	0.28318600	44,652,768
2046	0.23122040	36,458,832
2047	0.18879067	29,768,512
2048	0.15414693	24,305,888
2049	0.12586044	19,845,675
2050	0.10276462	16,203,926

Table 1: summarizes the projected block rewards and the corresponding annual HTN supply. The table also highlights the **HF Nocturne** event, where the system transitions from 1 block per second (BPS) to 5 BPS, significantly affecting annual distribution between miners.

6.3 Graphs

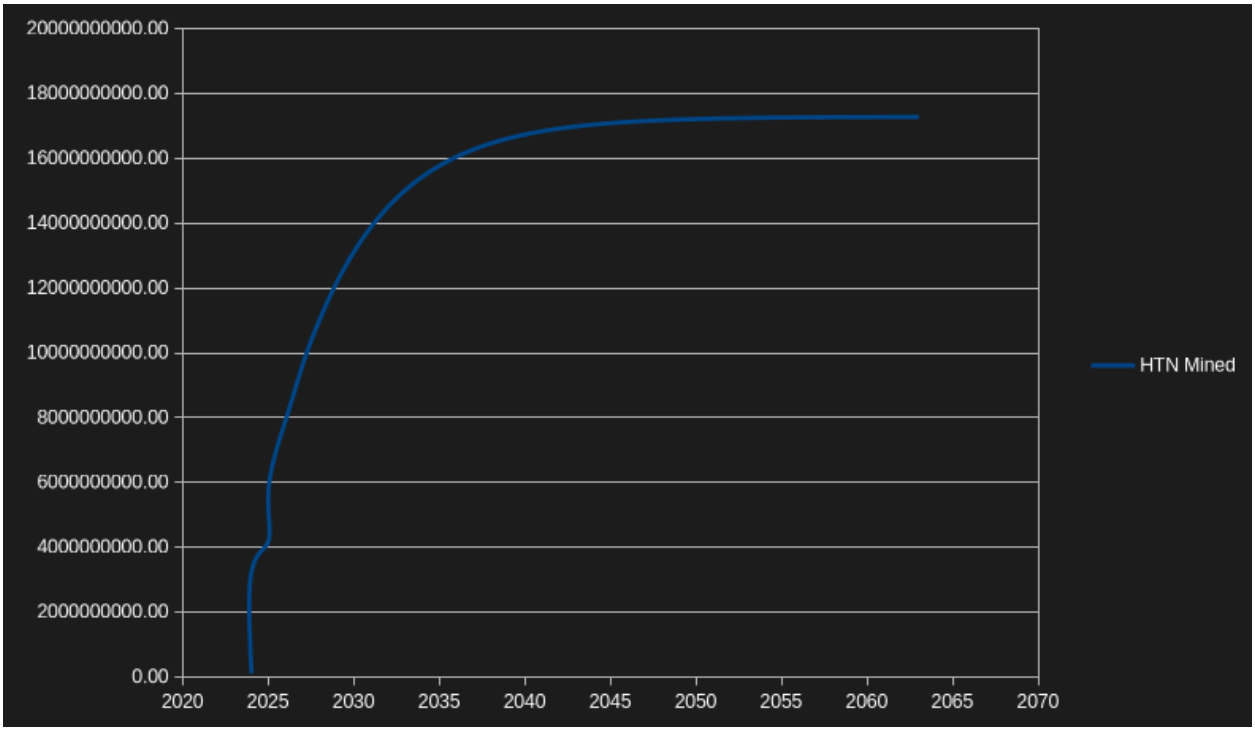

Figure 3: Graph of Hoosat mined overtime.

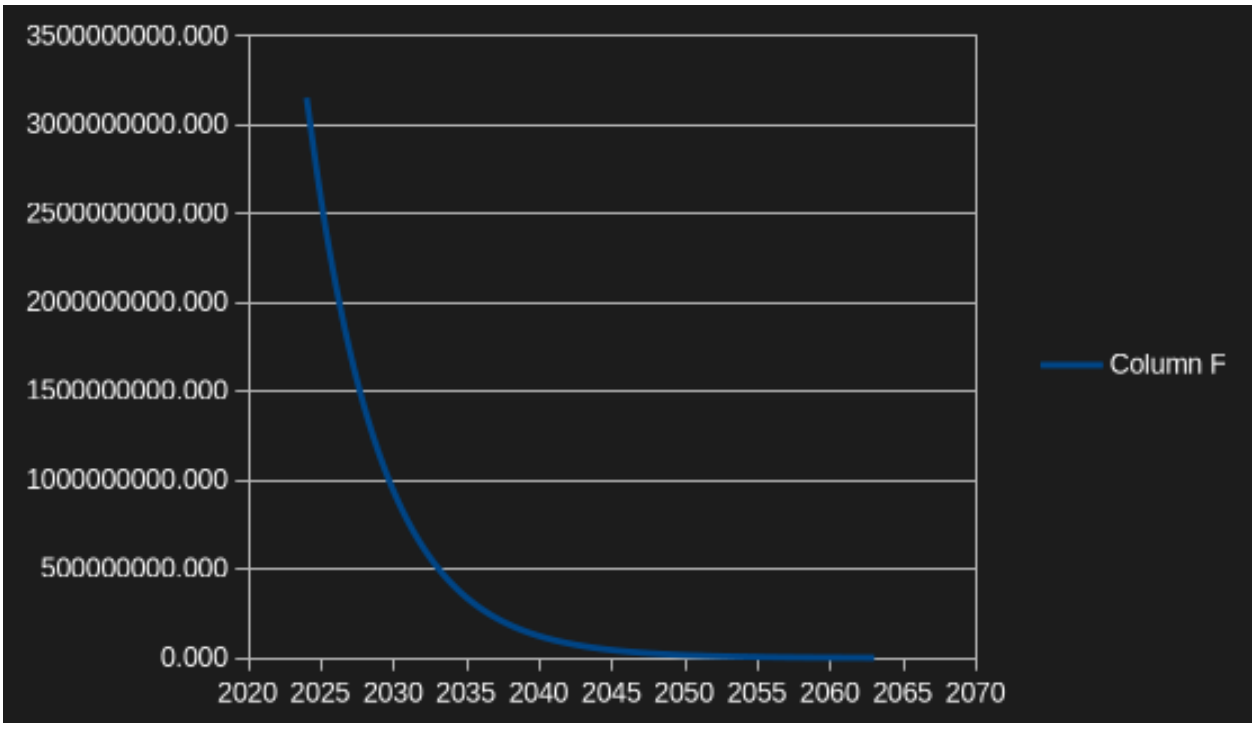

Figure 4: Graph of Hoosat mined per year.

7 Governance

Hoosat Network is a community-driven project designed to provide an open platform where anyone can propose ideas for consideration and participate in collective decision making through voting. The community holds the authority to influence project direction, including the selection of the core development team. At the same time, the core development team retains the ability to exercise discretion in managing and guiding the project. As such the community provides oversight of the core development team.

Originally the community votes were kept in Discord #polls channel. Now they are kept in our onchain vote platform. Anyone can create a governance poll there.

7.1 Funding

Hoosat Network is bootstrapped community project, without capital funding. There has been several funding mechanism tested and finally network wide developer fee was voted and accepted by the community.

- **Premine**: There was 360 block premining phase, which equaled 100,224,000 HTN. From the premine 86,109,599.91 HTN was later burned.
  - Burn transaction: ba895204c64a4a6b74dff143ff2b04195a4baf9183c98533e0bf0434b11c54ed
  - Premine: hoosat:qzdz9t3j5pmrmqwzj3htquk82kxj77uqdh47ucq23wv00evkxnff6sefjdrg4
  - Burn: hoosat:qzm5vg7uv66ze6mv8d32xhv50sxwhthkz9ly7049e87hr2rm7wr6zjxytztv7
- **Hoosat Mining Pool**: was created to fund HTN ongoing costs when premine was burned, but it was deemed not to be efficient without servers globally to decrease ping for miners.
- **Consensus wide Developer fee**: Every block created will donate 5% to developer fee address. The default percentage is voted by the community and those who want to modify it can decrease it to minimum of 1% in the HTND source code.
  - Dev Fee: hoosat:qp4ad2eh72xc8dtjjyz4llxzq9utn6k26uyl644xxw70wskdfl85zsqj9k4vz
- **Fundraising:** There is fundraising wallets for HTN and USDT and the community decides with a vote if the funds can be used for something.
  - HTN Fund: hoosat:qqqht7hgt5jay507ragnk73rkjgwvjqzq238krdd9mpfryr6jcah28ejmxruv
  - USDT TRC20 Fund: TQQzQS1hepsZNuCdhBnGYryCCDegpiASHm

7.2 Management of Funds

Funds allocated for development and fundraising are managed by a member of the core development team, typically the lead developer or designated treasurer. In the event of disputes or concerns between the core team and the community, the community retains the ability to modify the developer fee amount in the node code and the address is changeable through a hard fork. This mechanism ensures that the community, which generally controls a majority of the network's hashrate, maintains ultimate oversight and governance over the allocation of funds, providing a balance between developer autonomy and decentralized control.

7.3 Core team roles

- **Founder & Co-Founders:** The individuals who initiated the project and shaped its original vision.
- **Lead Developer:** Responsible for guiding the development of the project and managing the core team.
- **Software Architect:** Designs and implements software solutions to advance Hoosat Network.
- **Infrastructure Architect:** Manages and maintains the network infrastructure to ensure project stability and growth.
- **PR Manager:** Handles public relations, communications, and promotional activities.
- **Moderators:** Oversee community interactions and maintain a healthy online environment.
- **Miner Developer:** External developer who supports Hoosat Network by creating and maintaining mining software.
- **HTN Owls:** Members holding 10 million or more HTN tokens.
- **HTN Army:** Supporters who contribute to the project through various non-critical roles and initiatives.

New roles can be created when required and the people filling those roles can change.

8 Utilization of the Hoosat Network

The Hoosat Network provides a robust and flexible foundation for the development of a wide spectrum of applications. Its architecture enables financial services such as payment gateways and escrow systems, while also supporting secure native channels for messaging and data transfer. By combining resilience, scalability, and verifiable security, the Hoosat Network empowers developers to build applications that operate seamlessly within a decentralized environment.

Beyond these initial use cases, the network offers fertile ground for innovation across multiple domains, including finance, communications, supply chain management, digital identity, and other emerging sectors. In this sense, the Hoosat Network is not merely a platform for existing solutions, but a framework upon which entirely new categories of decentralized services and ecosystems can be designed and deployed.

Crucially, these capabilities are achieved without reliance on Layer-2 smart contracts. Leveraging the efficiency of the DAGKnight protocol, the Hoosat Network delivers transaction throughput and confirmation speeds sufficient to support applications at a truly global scale.

For example GetBlockTemplate functions extradata argument can be used to transfer data in a blocks coinbase. This gives single entry point and multiple outpoints for reading the data.

8.1 Utilizing a Volatile Cryptocurrency as a Payment Medium

The inherent price volatility of cryptocurrencies like Hoosat Network's HTN challenges their adoption as a reliable payment medium. Hoosat Network addresses this through its high-throughput architecture and developer-friendly ecosystem, enabling HTN to support seamless real-world transactions. The DAGKnight protocol ensures sub-second transaction confirmations and scales to 2,450 transactions per second, providing the speed and capacity needed for efficient payment processing. To mitigate volatility, the Hoosat ecosystem developers can build stabilizing mechanisms such as real-time fiat conversion at the point of sale, escrow-based payment systems, and dynamic pricing models that adjust for exchange rate fluctuations. These solutions deliver predictable transaction values for payers and merchants, simplifying pricing in volatile markets. Additionally, HTN's transparent tokenomics, with a fixed supply cap of 17.28 billion and a predictable reward schedule, fosters user trust. By combining these features with intuitive payment interfaces, Hoosat Network positions HTN as a robust and efficient payment medium, driving widespread adoption for everyday transactions.

However, the European Union's Markets in Crypto-Assets Regulation (MiCA), effective from June 2024, prohibits algorithmic stablecoins, including those using Proof-of-Work (PoW) mechanisms, due to their lack of tangible reserve backing. This restriction prevents Hoosat from stabilizing HTN's price through mining difficulty adjustments tied to exchange rates. Consequently, Hoosat must rely on alternative stabilization methods, such as those mentioned above, to ensure HTN's viability as a payment medium in the EU, or explore fully backed stablecoin models to comply with MiCA's stringent requirements. Operating outside the EU remains an option for projects pursuing algorithmic stability.

9 Comparison

Lets Compare few different types of cryptocurrencies:

Comparison	Hoosat	Kaspa	Monero	Etherum
Max Supply	17.1B	28.7B	Unlimited	Unlimited
VC	N/A	$8 Million	Not Public	N/A
ICO	N/A	N/A	N/A	$18.4 million
Premine	~14M	~850M	N/A	60M for ICO
Community Fund	Yes	Yes	Yes	N/A
Dev fee	5% of block reward	N/A	N/A	N/A
Staking	N/A	N/A	N/A	Yes
Mining	CPU/GPU	ASIC	CPU/GPU/ASIC	N/A
Smart Contracts	N/A	KRC20	N/A	ERC20
Consensus	PoW	PoW	PoW	PoS
Algorithm	Hoohash	kHeavyHash	RandomX	N/A
Privacy Focused	N/A	N/A	Yes	N/A
Average Block Time	0.2 s	0.1 s	120 s	12 s
Reward Halving	Yearly	Monthly	Not Fixed	N/A
Launch Year	2024	2021	2014	2015
TPS	2450 TPS	2450 TPS	4–6 TPS	30–100 TPS
Energy Use	Low	Medium	Medium	Low
EU Compliance	Yes	wKAS - ART	Privacy - AML	Yes
Development Activity	Active	Active	Active	Very active

Table 2: Comparison of Hoosat, Kaspa, Monero, and Ethereum.

9.1 Comparison notes:

- Wrapped Kaspa token means Kaspa would need authorization, white paper approval, reserve management, and ongoing reporting under MiCA for offering their L2 token in EU. The CASPs offering wKAS (exchanges, custodians, DeFi platforms) would also need to comply with MiCA.
- Monero privacy features make AML compliance nearly impossible, so EU exchanges are delisting Monero.
- Hoosat and Kaspa TPS, there is notable difference. Hoosat is 5 BPS with max 490 TPB, Kaspa is 10 BPS with max 245 TPB, as such they can do basically same TPS. Though these TPS calculations does not account for the transactions merged from DAGKnight red blocks.

10 Regulation and Compliance: MiCA & MiFID II

Hoosat Network operates within the evolving global regulatory landscape and is committed to responsible innovation while adhering to applicable laws. The two primary European Union frameworks relevant to the network are the **Markets in Crypto-Assets Regulation (MiCA)** and the **Markets in Financial Instruments Directive II (MiFID II)**.

10.1 MiCA Compliance

The Markets in Crypto-Assets Regulation (MiCA), which became fully applicable across the EU following the end of transitional periods in mid-2026, provides a harmonized framework for crypto-assets and Crypto-Asset Service Providers (CASPs). Its goals include enhancing market integrity, investor protection, and financial stability.

Hoosat Network aligns with MiCA in the following key areas:

- **Token Classification:** HTN is best classified as an "Other Crypto-Asset" under MiCA because:
  - It is not asset-referenced or e-money backed.
  - It is not pegged to any fiat currency or stable value.
  - Its primary purpose is to serve as a utility token for network transactions, governance, and decentralized applications.
- **Transparency and Disclosure:** The project maintains comprehensive public documentation, including this whitepaper, technical specifications, and regular updates on governance and tokenomics. This approach supports MiCA's emphasis on clear, accurate information for participants.
- **Consumer and Investor Protection:** Transparent mining mechanics, community-governed developer funding (via adjustable consensus fee), and open-source code reduce risks of misleading practices or unfair treatment.
- **Operational Resilience and Security:** The decentralized PoW infrastructure, DAGKnight consensus, ASIC-resistant Hoohash algorithm, and patent-pending security features demonstrate strong operational and cybersecurity standards aligned with MiCA expectations.
- **AML/CTF Considerations:** While the base layer itself is permissionless, ecosystem participants (such as exchanges and service providers) are expected to implement appropriate AML and Travel Rule (TFR) measures where required.

10.2 MiFID II Considerations

MiFID II regulates investment firms, trading venues, and financial instruments. HTN, as a utility token rather than a financial instrument or security in most jurisdictions, generally falls outside the direct scope of MiFID II. However, certain activities built on the network, such as tokenized investment products, derivatives, or regulated trading platforms, may trigger MiFID II obligations.

Hoosat Network addresses this through:

- **Regulatory Awareness:** Developers and service providers building on HTN are encouraged to ensure compliance with licensing requirements when offering investment-related services.

- **Market Integrity:** The transparent, public ledger and robust consensus mechanism help prevent manipulation and support fair trading practices.
- **Supporting Compliance Tools:** The network architecture is compatible with third-party monitoring, reporting, and KYC/AML solutions that CASPs and investment firms may integrate.

10.3 Proactive Compliance Strategy

Hoosat Network adopts a forward-looking approach to regulation:

- Continuous monitoring of MiCA, MiFID II, and global regulatory developments.
- Engagement with legal and compliance experts to assess evolving requirements.
- Iterative improvements to documentation, governance, and technical features to support ecosystem participants in meeting regulatory obligations.
- Encouragement of transparent, compliant innovation by third-party builders and service providers within the Hoosat ecosystem.

By prioritizing transparency, decentralization, and technical excellence, Hoosat Network aims to provide a secure foundation for innovation while contributing to a trustworthy digital asset ecosystem in the EU and beyond. Participants are encouraged to consult qualified legal advisors regarding their specific regulatory obligations.

11 Acknowledgements

Thank you to the community of Hoosat Network for keeping up with the development of Hoosat Network. There are many people who make this decentralized network possible.