

2022 | 4  
**QUARTERLY  
REPORT**

Hathor Labs

# Letter from CEO

What an intense quarter it has been for the blockchain industry!

After the Luna/UST collapse, it seemed like things could not become worse. But the FTX collapse in November sent shockwaves across the system, affecting not just the blockchain industry. Despite these negative circumstances, there is much to rejoice and be optimistic about.

First, all events happened due to poorly-managed centralized institutions. In all situations, when blockchain technology was involved, it behaved as expected. DeFi continued to work, as did decentralized NFT marketplaces. These systems are increasingly getting more robust and mature. Once again the facts highlight the need for decentralization and indicate that we should reduce the level of trust in individuals or institutions. Blockchain technology can help us do that.

More importantly, despite these events and the negative (sentiment that followed) feeling they aroused, we are still observing a growing interest in the blockchain technology. We see banks, financial institutions and governments allocating many resources to the development and usage of this technology. A clear example is the recently launched tokenized bond issued by Santander Brazil on QR Vórtx Tokenization platform that runs on Hathor Network.

All of that points to a bright future for the blockchain market. I hope you had a joyful end of the year and wish all of us a great 2023!

YANN MARTINS

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# Executive Summary

We have selected the main milestones of Q4'22 for those who want to quickly be updated about our latest progress, but we strongly encourage you to read through the full report.

## Nano Contracts testnet update

This quarter, we kept making significant advances in the technical foundation of Nano Contracts in our private testnet.

In order to make everything run smoothly for future use cases, we are having close interaction with specifically selected key development partners. At this stage of development, they are playing a fundamental role for the 2 blueprints formerly announced – liquidity pool and betting. This process is highly productive, and we are confident that together we are taking solid steps toward having Nano Contracts ready.

For more detailed information, read page 8 of this report.

## Partnerships

We are happy to announce that we keep growing our partnership ecosystem with reputable software houses. That means we are broadening our presence, and raising public awareness about Hathor's capabilities and potential. Our shared objective is to be able to launch new business opportunities leveraged from our unique features.

Welcome, MobiUP, and AdviseU to our ecosystem!

## Use cases

During this Quarter, QR Vórtx Tokenizadora, the STO platform built on Hathor, has once again shown significant growth! This time, with the issue of an additional USD 8 million for Santander Bank, summing up more than USD 35 million since it started operating.

We are happy to announce another case using our Network! This quarter we had the launch of a white-label product built on Hathor Network and developed by Cryptum. The product enables building complete solutions such as wallets, tokens, and NFTs, and making transactions with almost no code. We are certain that this project will significantly contribute to expanding the adoption of the Blockchain and Hathor Network's ecosystem.

## Visa launch

Our Hathor VISA Debit Card is finally up and running. The card is a joint initiative between Hathor and Simplex/Nuvei. It can be used anywhere VISA is accepted, and users can withdraw from ATMs with it just like with any other debit card.

Got interested? Please order your card [here](#).

# Use Cases Highlights



## Cryptum SDK

Meet the Cryptum JS SDK, a use case that allows developers to build complete solutions such as wallets, tokens, and NFTs using the Hathor Network, and additionally making transactions with just a few lines of code. This solution was developed by Cryptum, a company participant of the Blockforce ecosystem which intends to provide Blockchain as a service for multiple sectors, such as finance, real estate, retail, etc.

So as to facilitate the transfer of projects from web2 to web3, the company has just launched a new blockchain platform. The goal is to bring the benefits of an automated and decentralized environment provided by blockchain to the traditional centralized system of services and product distribution online. Check this [article](#) to get further information about Cryptum.

Using the Cryptum Checkout plugin for WooCommerce, you can accept HTR payments in your online store. With an utterly no-code solution, configure your receiving wallet and the plugin in your WordPress and start immediately. If preferred, you can use our Checkout API to accept HTR payments in your solution.

Through the Cryptum Dashboard, create NFTs on the Hathor Network in a simple and fast way - just create a collection, upload a file, and mint. After that, install the Cryptum NFT plugin for WooCommerce and sell your NFTs in your online store! Find Cryptum SDK [here](#).

## STO growing

Last December, QR Vórtx Tokenizadora coordinated the emission of an additional ~USD 8 Million (40 million Brazilian Reals) in private bonds for Santander Brasil. That number adds up to the amount previously emitted by Tokenizadora, reaching a total of ~USD 35 Million by the end of 2022.

Those were the first tokenized private bonds for the parking sector in the world, and they were connected to Indigo, a leading company in parking management. The tokenization met all of the company's requirements. "(...) the process was very well perceived, it was designed to be easily used, with smooth interactions, and the process was set up super quickly with great usability", says Caio Osser, Indigo's CEO.

Sandro Marcondes, director of Capital Markets at Santander Brazil, says that tokenized private bonds have advantages such as "being a technological innovation that tends to make the structuring of papers more dynamic, quicker, and more flexible".

Santander has been looking at trends, including tokenization, in the digitalization area, which "should be increasingly present in the world of global finance, and in Brazil, this will naturally also gain agility as it has an environment for such", points out Marcondes.

The idea was to have Indigo's issuance as a first test with tokenized bonds, so Santander could benefit from the know-how acquired to give sequence to other projects. "The innovation process is one of continuous learning, you learn by doing, so from the moment you participated in this issue, you manage to take this knowledge to your other customers".

"We are going to monitor the next stages of the process, and also seek to prospect new



exam. FUTURE OF MONEY

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### Santander também adota blockchain e faz emissão milionária de ativos tokenizados

Operação foi coordenada pela Vórtx DTVM para atender a uma demanda da Indigo, que atua na área de estacionamento

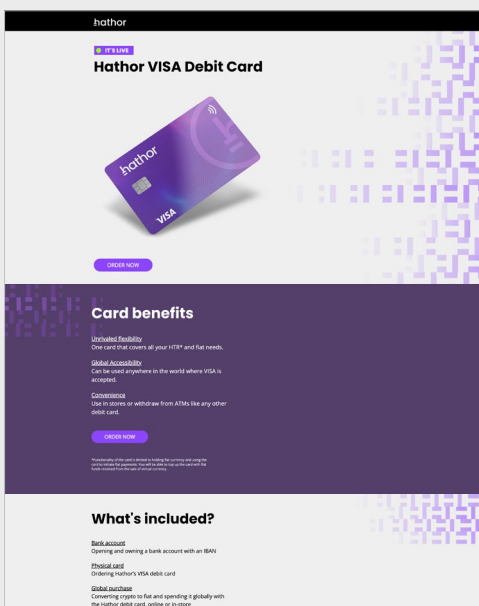
O Banco Santander Brasil concluiu nesta semana a emissão de R\$ 40 milhões em debêntures tokenizados ligados à Indigo, empresa líder na área de gestão de estacionamentos no país. A operação foi coordenada pela tokenizadora Vórtx DTVM e marca a adoção de mais uma grande banco brasileiro pela tecnologia blockchain, em lista que já tem nomes de peso como BTG Pactual, Itaú e Banco do Brasil, entre outros.

Ao todo, foram emitidos 40 mil tokens que foram adquiridos pelo próprio banco, em uma operação que fez parte do sandbox regulatório promovido pela Comissão de Valores Imobiliários (CVM) para a área de tokenização e uso de blockchain.

transactions that require us to replicate this experience with other types of products", explains the director. In addition, he comments that the bank may carry out new tests in the future with functions such as offerings to institutional and qualified investors.

"These are stages that need to be tested for the development of the market and emulate the traditional private bonds market", he explains. At a broader level, Santander intends to continue to act in the tokenization and digitization field, using blockchain in the financial market.

According to Hathor Labs CEO, Yan Martins, it makes us all proud to see Tokenizadora working independently and perfectly fine, with no technical issues whatsoever! That proves that Hathor is performing seamlessly as the ledger for this use case and confirms that Hathor Network is fast, secure, and extremely reliable.



## Fiat on Ramp

We are excited to share with our community members that the Hathor VISA Debit is finally live! As a collaborative action between Hathor and Simplex/Nuvei to expand HTR's liquidity and bridge the gap between traditional finance and crypto, the card is now fully functioning in the EU and UK.

It can be used just like any other debit card to buy anything or to withdraw money from ATMs anywhere where VISA is accepted.

In addition to strengthening Hathor Network as a legit tech infrastructure in the crypto market, the card also enriches and solidifies our ecosystem.

You can order your Hathor VISA Debit Card [here](#).

# Product Releases & Updates

## **Nano Contracts**

In Q4, we continued the development work on the Nano Contracts technical foundation. With the foundation, we are referring to the implementation of basic Nano Contracts support in all affected pieces of our infrastructure. This includes Hathor Core (API for the wallets, WebSocket for real-time updates, Consensus, P2P Sync, Storage, and Execution), the wallets (wallet library, desktop wallet UI, and headless wallet), and our explorer.

Improving the foundation will be a continuous process going forward, and it will be done in parallel with internal and external testing, together with selected use cases that are joining our testnet.

The “testing team” right now consists of five separate projects/use cases that are being built on Hathor. These teams have expertise in various areas and volunteered (themselves) to present concrete initiatives that will require various Nano Contracts blueprints.

We are having close interactions with all of them to guarantee that their requirements will be covered by our products, and the discussions have been very productive so far! We are moving forward, guaranteeing that we are taking solid steps.

We look forward to working alongside these projects and assisting them with any challenges they might face on their way. Having these projects collaborating with us hopefully means there will be some quality use cases close to going live once Nano Contracts reach mainnet.

Most of the work in this initial phase has been concentrated on building our Nano foundations, and good progress has been made! We are now in a much better position to further expand our development to other blueprints besides Liquidity Pool and Betting. That is why we are happy to announce that Staking and Lending blueprints are next in line to be developed for the testnet projects.

If you have an idea for a project that you wish to build on Hathor and you would like to get started coding now, please get in touch with our team on [Discord](#) to discuss this further.



## Headless Wallets

In total, three new versions of the headless wallet were released in Q4. You can find and download all of them [here](#).

These were the most notable new features included in the new releases:

### Atomic Swaps

Atomic Swaps is a feature that lets you exchange different tokens on Hathor in a single transaction. All Hathor assets are supported, so you can swap HTR, custom tokens, and NFTs.

Atomic Swaps enable use cases such as trustless, non-custodial token swaps on platforms that implement the protocol – functionality that usually requires using smart contracts on other platforms.

Read more about Atomic Swaps in our [blog post](#). If you are a developer and want to jump right into coding, check out the guide for Atomic Swaps on our [GitBook](#).

### Read-only wallets

Read-only wallets make it easier to set up a system to sign transactions offline, e.g., using a hardware wallet or key managers. Read-only wallets also let you track any balance/history changes without risking exposing your private keys.

### External notifications

A new plugin system ensures you receive notifications of important events in all running wallets. New event handlers will, for example, let you know whenever a new transaction arrives, so there is no need to keep polling the API to get the latest transactions.

We are working on GitBook guides with more details on how to implement and use the read-only wallets and external notifications features.

# Partnerships



We are excited to share that Hathor has partnered with MobiUP, a software house focused on mobile solutions, payment methods, and blockchain. Focusing on making it easier and faster to bring value to the final customer, the company acts in the financial, industrial, and retail segments.

MobiUP has assisted great corporations such as XP Investimentos, C6 Bank, Rede, Cielo, Coca-Cola, JBS, Suzano, etc., and now Hathor Network is part of their blockchain infrastructure portfolio. Get to know more about MobiUP [here](#).



In Q4, we also partnered with AdviseU, a consultancy dedicated to helping build highly complex software and mobile applications, considering every special need from each particular project.

The company is focused on the financial market and aims to deliver tools for a true digital transformation in an accessible way. Regardless of the structure and moment of their clients, they are committed to understanding each project and finding the most appropriate solution with a technology perspective integrated into the clients' business.

AdviseU has been operating for more than 8 years; during this time, it has implemented more than 900 projects, and made available more than 60 solutions. Hathor and AdviseU are studying some cases to be built on Hathor Network. Hopefully, by the end of H1, we'll be able to share some significant advancements in this partnership.

# Network Maintenance & Improvements



## Full node

We had two new releases of our full node in Q4. Read the release notes and download them [here](#).

The latest release added some important optimizations for runtime and startup. Now it should take 5~10 min to load, depending on the setup. Also, those releases prepared the full node for the upgrade to Hathor's sync protocol. You can read more about the upgrade in our [blog post](#).



## Security best practices

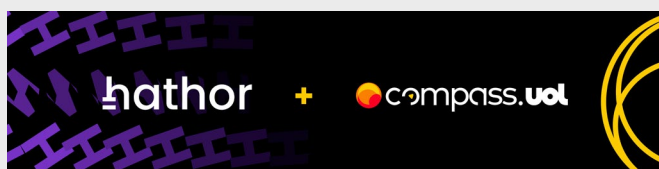
We worked on security best practices for use cases that integrate with Hathor Network in order to improve the reliability of their operations.

Our recommendations include:

- Running more than one node
- Validating new transactions on more than one full node before accepting them
- Validating that all your full nodes have the same best block
- Keeping your peer-id secret
- How you should validate a new transaction and the number of confirmations you should aim for
- Being on the alert for strange behavior

All the details can be found in the [article](#) we published on the topic.

# Marketing Highlights



**Hathon Network: a rede blockchain para as indústrias**  
Notícias • 22/11/2022 CONTEÚDO PATROCINADO

Conheça mais sobre a Hathon Network, rede blockchain mantida pela Hathon Labs. A arquitetura é inovadora e entrega benefícios fundamentais para viabilizar diversos tipos de uso!

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**PROMOÇÃO BLACKFRIDAY**

**hathon + compass.uol**

**Tire seu projeto blockchain do papel ainda em 2022!**

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## Tire o seu projeto de Blockchain do papel

Você tem alguma ideia que pode ser solucionada utilizando a tecnologia Blockchain? Preencha o formulário ao lado para entrar em contato com os nossos especialistas e descobrir os benefícios dessa promoção.

Os critérios avaliados nos projetos serão:

- Maturidade da ideia;
- Estágio de desenvolvimento atual do projeto;
- Viabilidade técnica;
- Objetivos de negócio;
- Benefícios para usuários e sociedade em geral;
- Impacto positivo na disseminação da tecnologia Blockchain.

Não perca essa oportunidade única, inscreva seu projeto!

Nome do aplicante\*

Email\*

Telefone\*

Nome da empresa\*

Mercado onde a empresa opera\*

Onde é a sede da empresa?\*

Explique detalhadamente a ideia/projeto em blockchain que você gostaria de viabilizar\*

Cite o motivo pelo qual o projeto ainda não foi implementado

4 + 10 = 7

[Quero me inscrever](#)

## Black Friday Campaign

Last November, Hathon and Compass UOL teamed up to launch a Black Friday opportunity for companies that had blockchain solutions projects but, for different reasons, weren't able to implement them.

The idea was to boost those projects with consulting, solution modeling, and up to 100,000 HTRs to execute their ideas. The offer was made to more than 4,000 CIOs in the Brazilian market.

All submissions are being evaluated by a hybrid committee, made up of Hathon's and Compass UOL's experts. The proposals' evaluation consists in getting clarification of some details and the observation of the following criteria: maturity of the idea, current development stage, technical viability, business goals, benefits for users and society, and positive impact on the spreading of the blockchain technology. The results will be disclosed in 23'Q1.



## LabitConf

Between November 10th and 13th of 2022, Labitconf, the Latin American Bitcoin & Blockchain Conference, took place in Buenos Aires, Argentina. As part of our plan to expand Hathor Network within the Latam Spanish-speaking community, some of our team members attended this four-day event.

Known for the high quality of its speakers and for being a networking hub for the crypto market in Latin America, Labitconf offered an excellent opportunity for us to meet potential partners and start negotiations.

Some big players and figures of the crypto world attended (to) this edition of LabitConf, such as Agrotoken, Accenture, VISA, Globant, Crypto.com, Rootstock, Kraken, Vitalik Buterin (Ethereum Foundation), Michael Saylor (MicroStrategy), Samson Mow (JAN3), Jimmy Song (Bitcoin Expert & Author), Giuseppe Giuliani (Crypto.com), Diego Gutierrez Zaldivar (Rootstock), Aleandro Palantzas (Kraken).

Find more about the event [here](#).



## Criptorama (by ABCripto)

On November 8th, our COO Rodrigo Rosa was one of the panelists to talk about tokenization in Criptorama. Held in São Paulo, Brazil, Criptorama is an event that has the purpose of strengthening crypto economics in Brazil as a whole, promoting information, the guidance of good practices, regulation, and innovation.

Rodrigo Rosa shared the stage with influential market figures, like Rodrigo Monteiro (director of ABCripto), Daniel Coquiere (CEO of Liqi), Eric Altafim (director of Itaú Digital Assets) and Leandro Vilain (director of FEBRABAN's Business and Operations Policy).



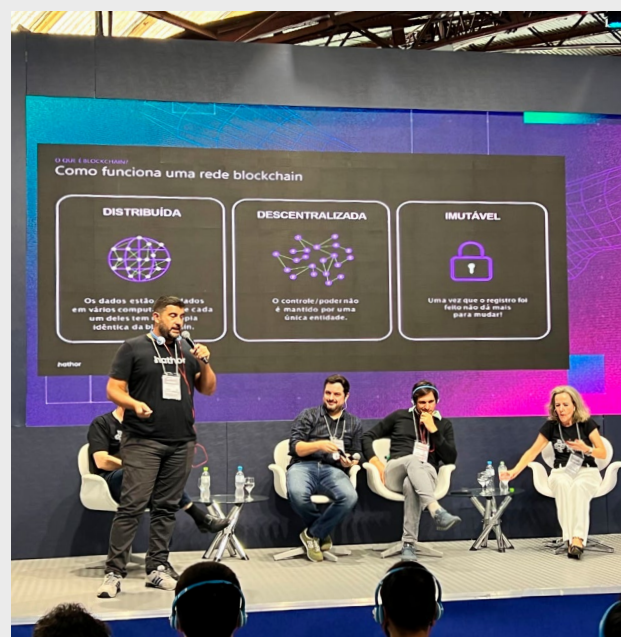
## CHOC Reunion

Last November, our CEO Yan Martins and Fernando Carvalho, CEO of QR Capital, had the honor to be the keynote speakers at the opening of the Crypto House of Commons Reunion. They presented the QR Vórtx Tokenizadora case – the very first blockchain STO use case approved by the CVM Sandbox. This event celebrated the launch of the Crypto House of Commons (CHOC) platform, a database for educating about blockchain, web3, and crypto in Brazil.

The Reunion took place in São Paulo, Brazil, from November 18th to November 19th, and brought together more than 100 panelists talking about multiple subjects, such as sector regulation, decentralized investments, and the use of blockchain in culture, entertainment, marketing, and governance.

Alongside Fernando Carvalho, Yan Martins highlighted the thorough examination Hathor went through to be approved by the CVM Sandbox in order to become the ledger for Tokenizadora.

Find further information about CHOC [here](#).



## W[3]BR

On December 7th and 8th, 2022, the first edition of W[3]BR – Blockchain Revolution took place simultaneously in several cities in Brazil and in the metaverse. With a local agenda distributed in São Paulo, Curitiba, Porto Alegre, and Rio de Janeiro, this hybrid event is an annual meeting for business and government leaders who seek to accelerate the blockchain revolution through web3 platforms and DAOs, NFTs, and other digital assets, open finance, and open health.

Hathor participated in this event with two presentations delivered by our CEO, Yan Martins, one about STO in São Paulo and another about how Blockchain technology could revolutionize the health care segment in Curitiba.

## Mercopar

In the 2022 Mercopar Fair, Hathor had a special participation with our Business Developer Leandro Pereira talking about Hathor technology and the advantages of blockchain for the industries.

Mercopar is the largest business fair in Latin America. It is a traditional hub for networking, in addition to sharing information and knowledge about industry trends. For over 30 years, the fair has been bringing together national and international companies, as well as connecting organizations of multiple sizes and sectors.

We are glad to see that more traditional events are giving space to new technologies like blockchain to innovate and improve old processes, tackling industries real crippling points and opening doors to new business opportunities.

# Community Highlights

## Q4 Survey

Through the use of our community outreach surveys, we have been able to assess the year-on-year change in community opinion on certain topics, as well as the demographics of those who answer.

There was an increase in positive outlook on certain aspects of the project, most notably a 33% increase from last year in users who believed that the presence of the core team was good or better. This increase followed the change in our marketing strategy within 2022, with Nil and Diego being more present and available for contact, besides having members of the development team regularly holding events throughout the year.

Another category that showed a big improvement was the 22% increase in users who felt that the project's integrations and partnerships were good or better than last year. The use of Hathor to fuel the first STO in Brazil which is officially regulated by the CVM contributed to this result. Hathor is an ideal network for this type of use case, due to instant and feeless transactions that are easily verifiable.

The outreach via social media channels has also improved, with over 92% of users who answered the survey following us actively on Twitter, with over 72% saying they also used the Telegram chat. This is an increase of 18% and 44%, respectively. The increase

## SOCIAL MEDIA GROWTH Q3 // Q4

Published posts **64.9%**

Engagements **57.7%**

Video views **197.5%**

Impressions **13.6%**

results from a new community strategy with more frequent postings on social media channels, added to the consistent delivery of news across all platforms, be that Discord, Telegram or Twitter.

The respondents to the quiz were based worldwide, with responses originating from each of the seven continents! We hope to improve this year-on-year as we aim to reach more people. 24% of respondents were from Asia, 53% from Europe, and the rest from the other 5 continents.

We were likewise able to see that the community as a whole believes we should work on use cases moving forward - a very useful insight.



## Leadership Forum

Here are the highlights of Q4 Leadership Forum episodes:

### OCTOBER

#### with Marcelo Brogliato

Founder & Hathor Labs' CTO

We are working on the foundation of nano contracts. The whole testing now is more about how the blueprints and the nano contracts will go into the DAG of transactions, into the blockchain itself, and how they will play with the consensus algorithm. We have been testing different kinds of attacks that might happen and confirming that everything works as expected.

We have the UTXO playing together with the account base model. We have to have deposits into the account base as well as withdrawals, and we are testing all these parts, which are, let's call it, the foundation of nano contracts: how the start system works, how these transactions propagate through the network, to the P2P network, and go into the consensus and get confirmed. We are testing all the APIs that allow wallets and use cases to access and to interplay with nano contracts.

We are equally testing the wallets themselves: What's the best interface and the best experience for users? How do they want to look at things? What's the best way to present things? Furthermore, we are building tools for the use cases. Because a person will use wallets in the cell phone or in the computer, but for the use cases, they need a piece of software, robots to do the things. We have the headless wallet



for that – therefore, we are also testing how the headless wallets will work with nano contracts, how they will interact with the full nodes, so that use cases can confirm and can do whatever kind of integration they need. These are the kinds of tests that we're running right now. We need a network to do this because we need to understand how transactions propagate through the network. How long does it take? Is it efficient enough? Is it fast enough?

We're working on the foundation. After that, we can build as many blueprints as we want on top of it. The blueprints were developed to make them easy to be developed. Of course, we have 1 or 2 blueprints that we're using more. But it's not about the blueprints themselves. It's about the foundation. Find the full episode [here](#).

## NOVEMBER

### with Diego Guareschi

Hathor Labs' CMO

Businesswise, we need to play differently. We should not try to replicate what the big players with infinite budgets are doing, but instead come up with our own strategy for growth. Our ambition to be in the top charts is intact, but to get there, we will need to focus on fewer, bigger, and better opportunities.

Hathor Network has attributes that are specifically aimed at developers who care for their clients' satisfaction and want to get things done neither having to invest lots of resources nor compromising quality and security. This is a very compelling proposition that is very much appreciated by our actual partners, and we will work hard to get more and more developers to regard us that way!

Looking forward to 2023, I am really excited about all the great initiatives that our technical team is working on. These will increase our competitiveness and enable our sales team to go after more relevant and impactful use cases. Also, all our community members will have the possibility to build and help develop a bigger and more robust ecosystem. Find the full episode [here](#).





## 1M Transactions & World Cup Celebration

We are excited to have hit a major milestone in our transaction count - 1 Million individual feeless transactions. We would like to thank those who use our network for their continued support, building and making the network grow with us. We look forward to sharing many more milestones with the global community.

Another stimulating event in the past years' timeline was the Hathor World Cup. We were happy to be able to involve countries from around the globe in a fun event combining Hathor and football. This was especially dear

to us since here in Brazil the football culture is something which helps unite people, and we hoped to bring that union through to our community online. Our heartfelt thanks to everyone who participated.

The ultimate Hathor halving has ended. This means that as the supply continues to grow Hathor will become less and less inflationary with each passing year. The block reward is now only 8 HTR, compared to the 64 HTR when we initially launched the main-net. That's an 87.5% reduction on block rewards since the genesis block!