

*HorseCoin White paper is a living document. We are constantly upgrading our white paper to answer all your questions and provide all information you could possibly need before participating in our ICO and understanding Horsecoin solution, products, and token. If you miss any kind of information, please reach out to us at: <https://www.horsecoin.tech> Version 0.0.1 Updated: 2018-02-14*

INTRODUCTION

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HorseCoin is creating an open-source foundation for a decentralized web, which will provide access to content, and sharing of information for horses across the globe. Our mission is to bring transparency and fairness by combining proven technological building blocks with emergent technologies in an innovative and holistic way to help solve many of the problems that plague the horse industry.

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## 1. OVERVIEW [TL;DR]

Horse data (ownership, medical records, contest statistics) of pedigree horses are a very delicate and often fraudulent subject. Tracing the pedigree of horses, especially those of race, is not easy, as the current mechanism are paper certificates. Horse change owners and papers get lost. Lack of trust as there are a lot of counterfeit documents

The only way to verify now is to do extremely costly DNA tests. We are building a blockchain to tackle these issues. All data goes into a trusted, tamper-proof and decentralized dependency registry. By a revolutionary proof-of-stake system we make sure there never is pedigree fraud. Owners will be rewarded to register the children of their horses on horsecoin.

## 2. WHAT SPECIFIC PROBLEMS ARE WE ADDRESSING?

### 2.1 Scattered data

- Horse data is scattered across multiple sources and the only way to know about this is to trust the seller.
- Information about previous illnesses is impossible or hard to get (medical records).
- Number of previous ownership.
- Legal status (e.g. stolen).
- Content winner and statistics.

Each of these parts is scattered across a number of sources, which, on top of that, differ depending on country or region.

### 2.2 Unwillingness to disclose data or limited availability of information

None of the parties holding data about horses are willing to disclose it. Some data is closely linked to personal data, even though all of it can be depersonalized. Only a horse owner has rights to their data. Unfortunately, in this area, content creators have no incentives to get their data, as they have no use for it. This is closely linked to the fact that organizations holding automotive data do not provide tools for data owners to collect it. This is yet another reason for today's multi-billion horse fraud business.

## **2.3 Inter-country data loss or absence of synced regulations between countries**

Organizations within a country do not have infrastructure to share information in real time. The situation is even worse on the inter-country scale. Today's problems, economy, and animal/horse breeding market are rapidly becoming more global. Centralized organizations, which hold important data, cannot catchup with the fast progress of globalization trends.

As a result, every country (and every entity within the country) has its own rules for gathering and managing the data, and usually those rules are not aligned among different states. The time gap between deregistering a horse in one country and registering it in another usually marks a grey area where previous illnesses are hidden and wins are faked

## **2.4 Various nature of data makes it difficult to draw conclusions or get market-specific insights**

Every organization, entity, and country has different languages. You need a translator to know what it would say. And how would you verify it in that country?

## **2.5 Unfair trade practices defined by law, but hardly traceable in terms of timing**

There are laws protecting against these fraudulent and unfair practices. At the same time, these law enforcement agencies are being blocked by simple lack of trusted information. Falsifying documents or tampering with birth certificates can be done much more quickly than it can be detected by law enforcement. After these falsifications, a horse is sold and link between the fraud and the person who commits it is lost.

## **2.6 Lack of trusted source for horse value**

Today, there is no trusted way to calculate the value of a horse. Horses are evaluated privately, with questionable data, and low accuracy by people who mainly base their decisions on personal experience. Accuracy, transparency, and trust are vitally important in this area as a lot of expensive decisions are made according to this number.

# **3. DEEP DIVE INTO SOLUTION**

Horsecoin is blockchain-based horse history registry. We collect large quantity of information from a lot of different trusted sources, organize it in the form of records and store it in blockchain. We then feed this information into our data analysis stack, which, by using machine learning and advanced mathematical models, calculates the real value. Most of our elements will be open sourced and our system will be moving to full decentralization to preserve transparency. We will incentivize and empower users to easily collect and be rewarded for the data they own. They are content creators.

## **3.1 Data first**

There are three main data source categories:

- PoS miners;
- Data accessible to only a horse owner;
- Trusted sources.

### **3.1.1 PoS miners**

We are working with an industry-leading blockchain developer to create the first version of HorseCoin miner. Registering your horse will reward you, trying to cheat with your horse will cost you big time.

### **3.1.2 Data Accessible to Only Animal Owner**

There is a number of data sources, which can only be reached by a horse owner. We are working with advisors and partners to create ways for users to grant us access to such data in exchange for tokens. Primary sources of such information are local registries. Data will be depersonalized, securely stored, and encrypted. We do not need personal data. Only the data owner will be able to unlock and grant access to such information in exchange for tokens. This will allow user to control and receive value for their information.

Every horse data exchange will have to pass Ethereum smart contract to be validated and unlocked. We are using Merkle tree with Merkle reduce list to store final state of Horse data in Ethereum.

### **3.1.3 Trusted Sources**

Most of the horse's history records are stored in closed and private databases. We are onboarding doctors, breeders, state registries, auctions, law enforcement agencies, and workshops to open horse data for horse owners. Such data exchange is in the best of interest to all parties: the owners who officially hold data and businesses that need this data to benefit. All exchanges will be done with Horsecoin token.

## **3.2 Horse value**

We are building a decentralized and open-sourced horse value calculation service. It will use information owned by users and will provide trusted, open, and collaborative source of true horse's value. This is in high demand by a lot of service providers, such as insurance companies, horse mortgage providers, doctors, and many more. Frauds and inaccuracy are usually very expensive for such companies, while additional price is usually overpaid by customers.

## **3.3 History reports and insights**

Our system will examine a horse's data, track record, and other records, and provide the history of details, sicknesses, as well as future predictions for the horse. Using these reports we are bringing trust and transparency into today's chaotic, unfair and, very often, fraudulent horse market.

## 4. HOW CAN BLOCKCHAIN ADDRESS THE BIGGEST HORSE DATA MANAGEMENT PROBLEMS?

It is widely agreed that blockchain technology has the potential to disrupt corrupted sectors by making user-generated data the core of the ecosystem. It can achieve this by increasing the security and interoperability of the horses data. Blockchain is a distributed system which records and stores transaction records, in a fashion making it impossible to change the content of the transaction in a digital ledger.

Each transaction block is stored in the ledger and chronologically linked to another block after the transaction records are verified by a distributed peer-to-peer network. End-to-end encryption makes an interaction like storing, exchanging and viewing information possible without established trust between the parties. Avoiding one central authority, blockchain relies on an anonymous network of participants preventing privacy and confidentiality breaches. Blockchain-based smart contracts represent contracts that can be fully executed when contract conditions are met. This system unbundles the need for any kind of exchange with an intermediary checking contract conditions.

Until now, intermediaries played a crucial role in exchange of value situations, thus earning from their role. Smart contracts enable end users to enter a trusted relationship without any other authority. The sensitive nature of horse-related data and the need to be able to delete this personal data in order to fulfil data protection regulations in some parts of the world (most notably the European Union) does not allow for storing this data itself on blockchain. In this case, blockchain technology is viewed as a secure and effective payment tool allowing micro-payments and a permission storing mechanism. Registering permissions to access horse-generated data on blockchain, users are empowered to control who can access their data, and under which conditions.

This capability enables individuals to be the owners of their precious data asset. This data set can be compiled from information originating from a variety of data sources; ranging from electronic medical horse records provided by vets. With data protection regulations tightening around the world, this feature will enable third parties to give solid proof on data provenance on the blockchain.

### 4.1 Action Plan

Using the experience on doing and building international and finance operations, we have created the action plan to be followed to fully develop and deploy HorseCoin Network. We can define several stages needed to achieve our objective:

**Stage 1 “Development”:** during the initial stage, we will develop HorseCoin Network 1.0 version and deploy it. This version will be fully functional to serve initial markets.

**Stage 2 “Preparation”:** preparing market making and business development operations for a specific region / country. Action may include hiring country specific staff, preparing needed legal

framework, adjusting procedures to local / regional specific and similar. During Stage 2 operations in a country are managed directly from the headquarters.

**Stage 3** “Market entry”: starting actual market making and business development activities within a specific region / country. During this stage, initial counterparties / communities are on-boarded in a specific region / country. At the end of stage 3 a country is managed via regional management.

**Stage 4** “Market penetration”: market penetration happens during a period of around 3 years for each country. After this period, there are enough counterparties and communities as well as local borrowers that the daily market making and business development operations are not needed and the ecosystem is self-sustainable in that specific country. At the end of stage 3, country operations are downsized, most of involvement happens from the regional level.

**Stage 5** “Self-sustainability”: With time the ecosystem will have enough counterparties, communities, borrowers and investors to be self-sustainable. No further business development activities will be needed.

## 4.2 Competition

Horsecoin Network does have little or no competition from scattered low-cost centralized management systems. There is no blockchain based solution regarding this issue we are focusing on. We started our value proposition with an analysis of the customer needs. At this moment in time, there are none companies that are fulfilling these needs. This is why HorseCoin will be a gain in this industry. The main drawback is the unusual nature of the framework which may limit the interest from businesses at the initial stage.

## 5. BUSINESS MODEL

One world - one decentralized registry for all horses. This is an unprecedented case. We are building a company, which will allow users to truly own, control, and benefit from the data their horses generate. Our company's healthy life cycle is calculated on the soft cap of the ICO 200 Ethereum. This amount of money could help us safely build a company and run it for 2 years only developing products. We aim to start a revenue flow in 1 year after we close the ICO.

At the start, our main revenue will come from people registering their horse on the Horsechain. This revenue will be reinvested in more marketing. We aim to get the public aware of the safe way to buy a horse, which is registered on the Horsechain. The only reason that people refrain to register their horse is because they have fraudulent intentions!

After the initial awareness phase, we will generate revenue with transactions of horses and new offspring. After we have successfully conquered the horse market, we will expand into other animals in which aforementioned problems are ubiquitous.

## 6. APPLICATION FEATURES

Our HorseCoin platform has tremendous features. Simple, easy to use and very professional. Should you have any further horse questions after reading this page, please feel free to contact us by E-Mail.

### 6.1 Poultry

- Record all index data including breed, color, parents, breeder and owner.
- Automatic composition of pedigrees.
- Precise inbreeding calculations.
- Fantastic search function for selecting poultry data.
- Print up to 5 generations in one pedigree, including picture and your own watermark or logo.
- Easily change an incorrect ring number.
- Brilliant default check to prevent double ring numbers.
- Unlimited recording of notes.
- Fast retrieval of lists of poultry owned.
- Quick data entry of brothers and sisters by means of a copy function.
- Easily enter a digital picture for each horse.
- Unlimited recording of medical history and genetic information.
- Print an index card for each animal including all relevant details.
- Quick-sort poultry by breed or color.
- Record poultry with or even without a ring number.
- Automatic age calculation.
- Record details of poultry purchased and sold.
- Sales module automatically adds the sale of an horse to finances + checks whether the horse may be sold.
- Easily distinguish between poultry from different seasons.
- Print labels with the horse's details.
- Common ancestors are marked in the pedigree. This very quickly enables you to see which horses cause inbreeding.
- Store the weight scheme per horse.
- Request a graph with the weight development per horse.
- Create a relationship matrix which shows how closely horses are related.
- Quickly add horses from within the pedigree in order to complete incomplete pedigrees.
- Separate administration of different breeds by tabs.
- Enter multiple measurement values of body characteristics. Categories can be added easily.
- Link with, amongst others, Word and Excel documents in order to archive and edit (scanned) files such as medical examinations, images of examinations as well as transport documents, directly from within ZooEasy.
- Store several pictures pertaining to an horse.
- Accurate calculation of the parenthood loss value (AVK). (Note: This value refers to the fact that an ancestor occurs several times in the pedigree and is calculated independent of the birth date.)
- Edit pictures directly from within HorseCoin platform.

## 6.2 Breeding pairs

- Print your own breeding cards for use on cages.
- Date of birth is automatically calculated and added to the logbook as a reminder.
- Compose trial pairs based on relationship percentages.
- Compare breeding results year by year.
- Sophisticated search facility for selecting breeding pair data by means of search criteria.
- Record information for every breeding round.
- Print labels with the breeding pair's details.
- Automatic safety check for breeding pairs entered twice.
- Use fictitious ring numbers in case the eggs entered have to be recorded in advance.
- Quickly create a new breeding round.
- Easily distinguish between breeding pairs from different seasons.
- Print an entry form for all breeding pairs.
- Quick-sort breeding pairs by breed or cage number.
- Enter the weight scheme of descendants.
- Show the weight development of all descendants in a graph. In this manner data can be compared.
- Store several pictures pertaining to a breeding pair.

## 6.3 Shows

- Easily distinguish between show results of different seasons.
- Compare show results year by year.
- Superb search function for the retrieval of show results.
- Quick-sort show results for each horse, season or breed.
- Store several pictures pertaining to a show result (eg. show report or the prize won).

## 6.4 Contact list

- Create and keep a well-organized contact list.
- Find your contacts at a glance.
- Record notes unlimitedly.
- Quick-sort contacts.
- Link with, amongst others, Word and Excel documents in order to archive and edit (scanned) files related to contacts, directly from within HorseCoin platform.
- Store pictures pertaining to a contact.

## 6.5 Finances

- Record your income and expenses.
- Create reports stating the annual balance for items of your choice.
- All totals are illustrated in a graph.
- Suitable for all currencies.
- Easily distinguish between revenues and expenses in different periods.

## 6.6 Safety measures

- Password protection, require a password to access HorseCoin platform or restrict access only within sensitive areas such as your financial information.



## **6.7 Reports**

- Print pedigrees and other reports with customizable content and use the Internet to publish them or send them by E-Mail.
- Add your own watermark or logo to each report.
- Produce an index card for each horse including or excluding remarks and details.
- Export reports to several formats unlimitedly.
- Breeding pairs sorted by cage number, breeding round and season.
- Lists of poultry owned.
- Numerous sorting options are available for printing various reports.
- Freely customizable reports and printing options.
- Print preview included for all reports.
- Lists of changes in poultry collection during a particular period.
- Etc, etc.

## **6.8 General**

- HorseCoin platform is suitable for all breeds and also for clubs and associations.
- Entry is checked while recording the details.
- HorseCoin platform is mouse and keyboard driven.
- Suitable for Chrome,Firefox,IE,Opera...
- User friendly, easy to use for everyone.
- Internet connection required.

## **6.9 Service**

- PDF and case sensitive online manuals included.
- Superb product support.
- FREE Helpdesk support during subscription period.
- NO shipping or handling costs.
- Secure and simple payment solutions.
- Fully customized programs can be developed.
- HorseCoin platform is dedicated to continuous development.

## **7. HORSECOIN TOKEN SALE TERMS AND CONDITIONS**

## **8. HORSECOIN PRIVACY POLICY**