Eterna Hybrid Exchange
The Next Generation of Crypto Investing
Introduction

Eterna Hybrid Exchange is a next-generation crypto exchange, which benefits from the strengths of centralized exchanges (CEXs) and the flexibility of decentralized exchanges (DEXs). EHX token is native to our exchange, and as such it will be one of the primary payment methods for anyone wishing to use our trading platform.

Eterna Hybrid Exchange is legally incorporated in Estonia, and abides by EU exchange regulations. Eterna is distinguished from other exchanges by several distinct features. First, Eterna is a centralized order book exchange, and by May 2022, we will deploy our proprietary AMM aggregator, which is the defining characteristic of a decentralized exchange. Second, Eterna is the first crypto exchange to distribute a percentage of its cashflow to its token stakers. Third, Eterna also provides token incubation services, through Eterna Incubator, and will eventually create its own launchpad and provide other services that enhance the value of new projects. Fourth and in the long run, Eterna will launch its own hybrid blockchain (EHXC), that will lower transaction costs associated with launching new projects and provide the crypto space with a more secure and efficient operating environment. Consequently, and for all these reasons, Eterna provides investors with a unique and sustainable underlying value proposition.
Introduction

After conducting a thorough critical survey of the market and experimenting with several prior crypto projects, Eterna’s development team concluded that the highest financial revenues are generated by market intermediaries, such as exchanges and stablecoins, that are essential market-makers and without which crypto markets could not operate. However, we also identified several gaps in the market that reduce the crypto market’s overall efficiency and create opportunities for bad actors to exploit honest investors and project developers.

To address these deficiencies, Eterna was legally incorporated, which distinguishes it from 99% of crypto projects that possess no legal identity. Eterna also complies with all EU financial rules and regulations governing exchanges. Many of the largest exchanges are not similarly registered in a specific domicile nor do they obey regulatory guidelines. However, legal incorporation and regulatory observance are integral to Eterna’s corporate identity.
Eterna represents a new generation of exchanges. Other exchanges are either centrally administered order book exchanges (CEXs) or decentralized exchanges (DEXs) governed by Automatic Market Makers (AMMs). Eterna is a hybrid exchange, in that it combines the best features of order books and AMM-governed exchanges while avoiding their respective drawbacks.

Centralized exchanges (CEXs), such as Coinbase, Kraken or Binance dominate the crypto space, as 80% of crypto trading in terms of volume takes place on CEX platforms. Transactions on a CEX are executed by an order book, which maintains records of all open orders for buying and selling assets in specific trading pairs. Buy-orders imply a trader’s commitment to purchase or to “bid” on an asset at a specific price. On the other hand, sell-orders imply that a trader is prepared to sell or is “asking” for a specific price for an asset. The discrepancy between buy-order and sell-order prices (the bid-ask spread) is responsible for determining the depth of the order book alongside the asset’s market price.

"The term "hybrid exchange" (HEX) can be applied to several different exchange models. For instance, Robin Hood and Qurrex are hybrid exchanges, because they permit trading of both crypto and more traditional equities. Here, the term "hybrid" is referring to the assets available for trading, and not the underlying exchange architecture, which is a standard order book. There are several other crypto exchanges that use the term "hybrid" in their brand name, such as Joyso.io, NextExchange, Pryvatex and several others, whose precise hybrid operating model remains unclear or is not very different from most centralized exchanges."
Eterna’s Architecture

CEXs are well known for being relatively stable and transparent, since there is no price impact effect and all fees and taxes are observable up front. Nevertheless, CEXs may be less secure than their decentralized counterparts, as they require KYC and store investors’ private information (often through presumably more secure third parties). That has not prevented most well-known CEXs from being hacked, and often on a regular basis, which exposes investor funds and records to the depredations of bad actors, whose hacking abilities are usually one-step ahead of the security protocols adopted by CEX administrators.

By contrast, decentralized exchanges (DEXs), such as Uniswap, Pancakeswap (PCS), or Sushiswap, are governed by Automatic Market Makers (AMMs), which use smart contracts and price oracles to obtain information from exchanges and other platforms in order to discover the prices of traded assets. Rather than matching buy and sell orders, AMM-based DEXs employ liquidity pools, in which liquidity providers must deposit the equivalent value of each asset in a trading pair, allowing traders to execute orders. However, AMM-based DEXs also suffer from a significant setback in the form of relatively high price impacts, which are caused by a lack of liquidity. Price impact is most evident when the lack of liquidity causes DEX prices to rise above the rest of the market. In such cases, larger orders are more likely to encounter higher slippage. Furthermore, liquidity providers can also face the risk of impermanent loss due to the volatility of one of the assets in their trading pairs.
DEXs are in one sense more secure than CEXs, as no KYC information is required and investors retain control over their assets via their virtual wallets. However, DEXs also suffer from regulatory challenges, as no KYC or specific anti-money laundering (AML) protocols are implemented. These deficiencies create opportunities for bad actors to utilize DEXs for unethical purposes. DEXs are also famously rife with scam projects, since they don’t vet the projects launching on their platforms. Anyone can deploy a smart contract on a DEX, which may turn out to be a honeypot, a strategic rug, or an outright scam, and since DEXs are not governed by a central authority, there is no recourse for investors who have been robbed of their money.
Eterna is a hybrid of CEXs and DEXs by combining order book trading and AMM-trading. A buy or sell order on Eterna can be fulfilled internally as an order book transaction, or can be fulfilled via our AMM-aggregator, which executes the transaction through PCS or Uniswap. Eterna’s trading architecture is depicted in Figure 1 below:
Eterna’s Architecture

AMM-aggregators are trading protocols that route liquidity throughout multiple DEXs, and as a result, AMM aggregators have no need to maintain liquidity pools. Hence, neither order book transactions nor Binance cloud-mediated transactions will have an impact on a token’s liquidity pool, while AMM-mediated buy orders on Eterna will have a positive price and LP impact on Defi listed tokens. This permits new projects to list on Eterna with lower risk to their liquidity position on other exchanges. No other exchange provides this combination of inherent CEX and DEX features, which puts Eterna at the cutting edge of exchange technology. Because Eterna is highly innovative, we will release its exchange architecture in stages, to ensure that each stage operates correctly and is integrated with the previous stage in a seamless and efficient manner. Our development schedule is outlined in Table 1 below:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1 (March, 2022)</td>
<td>Order Book Exchange</td>
</tr>
<tr>
<td>Stage 2 (May, 2022)</td>
<td>Advanced Order Book + Binance Cloud-enabled Trading</td>
</tr>
<tr>
<td>Stage 3 (June, 2022)</td>
<td>Stage 2 + AMM-aggregator (PCS + Uniswap)</td>
</tr>
<tr>
<td>Stage 4 (August, 2022)</td>
<td>Stage 3 + AMM-scaled to other networks (AVAX, MATIC, etc.)</td>
</tr>
</tbody>
</table>
Eterna’s Architecture

The sequential release of each stage permits our developers to maintain high standards of quality control, and will ensure that the finished product operates seamlessly and with superior operational efficiency. Once our full hybrid exchange is released by June, 2022, we will provide users with a unique investment platform, that possesses the stability of a standard CEX, and the flexibility that access to multiple DEX platforms affords.

Centralized exchanges comprise 80% of daily volume in crypto markets, and so establishing a well-run centralized exchange should make Eterna attractive to the large majority of crypto investors, who refuse to venture into the riskier and more volatile world of Defi exchanges. However, by offering investors the option of using Defi from a safe CEX environment, investors may more confidently explore the Defi space. Attracting CEX users, who comprise the overwhelming majority of crypto investors, is key to our strategy for success, and will be our primary marketing tool for attracting tokens and projects who seek new investors. Consequently, our high-quality investment ecosystem should attract new crypto projects, since EHX will reduce their cost of acquiring both CEX and DEX investors.
Eterna’s Value Proposition

Perhaps the biggest problem facing developers in the crypto space is “adverse selection” or a level of uncertainty that renders investors unable to distinguish between high-quality and low-quality crypto projects. In response, the rational investor will treat all crypto projects as if they are of average quality, which will in turn leave high quality projects potentially under-financed and low-quality projects over-financed. Indeed, if pre-contractual uncertainty (adverse selection) is severe, market failure may occur, which implies that at no price will supply = demand (markets will never clear). Well-managed CEXs can overcome the uncertainty problem by thoroughly vetting tokens that apply for listing, so that only high-quality projects will be offered to the exchange’s client base. This is particularly important for newer projects that seek market exposure, since listing on an exchange with an excellent reputation will increase the likelihood of a project’s success.

Eterna’s enterprise value should be distinguished from the market value of the EHX token. While the value of the two assets should be related in the long run, EHX as a token and Eterna as an exchange are subject to different value drivers and distinct price discovery dynamics. Eterna Hybrid Exchange is a privately held LLC (limited liability corporation) whose shares are not traded on the open market and its value is therefore not as easily determined by the standard price discovery mechanics.

---

In textbook financial economics, the value of an asset can be determined in several ways, including discounted cashflow, residual earnings, and comparing the hypothetical value of an asset to the market value of similar assets (or comparing the financial ratios of an asset with the ratios of similar assets traded on the open market). For contingent claims, or more exotic assets in which contingent claims are embedded, fair market value can be determined by dynamic replication. Dynamic replication suggests that the efficient market price of an asset of unknown value can be determined by replicating an asset’s underlying cashflow, with a portfolio consisting of cash and bonds, whose value is certain at any point in time. Once the possible price trajectories of the asset are projected n-periods into the future, the current market price can be estimated by backwards induction. Alternatively, Monte Carlo methods can be used to estimate the current fair market value of an asset, by randomly shocking the market price n-times using a pseudo-random number generator, and by then taking the expected value of the resulting n-price trajectories in order to determine the current net present value of the asset.4

---


1. Eterna’s Enterprise Value

As an LLC, Eterna Hybrid Exchange is a non-traded firm (its shares are not traded on the open market). The most straightforward method of determining Eterna’s value as a non-traded asset is to estimate the (discounted) net present value of its underlying cashflows (or DFCF = discounted free cash flow) over a specific investment horizon, and then adding a term for the asset’s terminal value, which captures the discounted value of all possible future cashflows beyond the specified investment horizon. For most crypto projects, the DFCF method is inadequate because cashflows are not well-defined and many projects (such as meme tokens) generate no cash flows.

Hence, Eterna’s total enterprise value can be estimated quite simply:

$$Eterna's\ Enterprise\ Value = \text{f}[\text{NPV}((\text{free}\ \text{cashflow}) + \text{terminal}\ \text{value}\ \text{(future}\ \text{cashflows}))]$$

In this formulation, NPV = net present value, which is the discounted free cashflow (or FCF, from which expenses have been deducted) generated by Eterna over a specified investment horizon. Eterna’s cashflow, in turn, is a measure of three distinct value drivers:

1) Exchange fees generated by trading activity, that can be measured as a fraction (usually 0.01%) of daily exchange volume. 2) A 3% staking tax that is generated by EHX trading on Pancakeswap (PCS) and Uniswap, and 3) Listing fees generated by new tokens listed on Eterna’s trading platform. In the future, other value drivers may include advertising fees generated by tokens and other exchanges who wish to increase their exposure to Eterna’s investment community.
Eterna’s Value Proposition

2. EHX’s Market Value

The market value of the EHX token is easier to determine than Eterna’s enterprise value as a firm. EHX’s market value is a function of the percentage of discounted free cashflow that is distributed to token stakers. This expectation should be qualified by the fact that a significant proportion of token holders will likely be short-term day traders rather than token stakers, who possess longer investment horizons. Nevertheless, as the total dollar value of free cashflow distributed to token stakers grows, so too should the proportion of token stakers to total token holders, which will create a stronger empirical relationship between the dollar value of cashflows distributed to token stakers and the market price of the EHX token. As a result, we can estimate the expected value of EHX token’s market price.

Hence, Eterna’s total enterprise value can be estimated quite simply:

\[ \text{EHX token price} = \frac{\text{NPV}(\text{FCF distributed to stakers})}{\text{token stakers/total holders}} \]

In this case, the NPV(FCF distributed to stakers) is the discounted percentage of free cashflow (from which expenses have been deducted) that is distributed to token stakers. In order to estimate the fair market value of the EHX token, the discounted FCF is weighted by the proportion of token stakers to token holders, since token stakers are less likely to sell their tokens due to regular price fluctuations, which in turn provides a minimum floor for EHX’s market price.
Eterna’s Value Proposition

Are financial markets “efficient”? In other words, do prices of financial assets incorporate all available information, so that any sustained arbitrage is impossible over time? Efficient crypto markets would mean that the best forecast of future prices is the current market price, since current prices incorporate all available information. That further suggests that prices should follow a “random walk” so that no forecasting model will give investors an informational advantage regarding the future trajectory of asset prices. However, the empirical literature suggests, that in fact, even the NYSE and other large equity markets are not “efficient” and therefore significant arbitrage opportunities exist. If so, then opportunities for self-financing riskless profits are possible, where investors can leverage their position, sell assets trading in markets at higher prices while simultaneously buying the same asset in distinct markets at lower prices. This simultaneous selling (at a higher price) and buying (at a lower price) permits investors to pay back their borrowed funds plus interest accrued, while pocketing net profits = (the difference of the price discrepancy) x (the $ value of their market position) – (financing costs). But even if they do exist, such arbitrage opportunities will not endure, or as the folk aphorism suggests: arbitrage in financial markets is like seeing $100 on the ground. The moment you bend down to pick it up, it will be gone (since everyone else wants free money as well).

---

Eterna’s Value Proposition

Given the inefficiency and manipulation inherent in crypto markets, much larger arbitrage opportunities may exist, especially if the same asset is trading on different blockchains simultaneously. But unless investors are whales (or a group of colluding whales) who can push prices down, forcing leveraged traders to liquidate, so that assets can then be re-bought at much lower prices, average investors are unlikely to benefit from this kind of price manipulation.

More specifically, EHX will trade on at least two blockchains, the Binance Smart Chain (BSC) and the Ethereum Chain (ETH). Eterna is a single corporate entity, but EHX ETH and EHX BSC trade independently, although their prices should converge in the long run, because both tokens are connected by a cross-chain bridge.

Thus, while each version of **EHX** trades separately and has its own LP, the price of both tokens should converge over time, once ETH gas fees and bridge fees are included. Consequently, over time:

The price of **EHX ETH** should = **EHX BSC** + ETH gas fees + bridging fees.

It’s possible that initially **EHX** ETH will surpass the price of **EHX BSC**, since more whales inhabit the ETH network, but if so, then some investors will likely sell at the higher **EHX ETH** price and cross the bridge, to buy at the lower **EHX BSC** price. This arbitrage process will continue until: the price of **EHX ETH** = the price of **EHX BSC** + ETH gas fees + bridging fees. Hence, the "long run equilibrium price" of both tokens should be roughly equal once trading fees are included.
Eterna is not simply a token, it’s a full-service crypto exchange, and a percentage of its cashflow will be distributed to our token stakers on a regular basis. EHX’s tokenomics is outlined in Table 2 below, although once EHX is listed on centralized exchanges, all taxes listed below will be eliminated to abide by the rules governing CEX trading.

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3% Marketing</td>
<td>Used to promote EHX on various advertising platforms</td>
</tr>
<tr>
<td>3% Staking</td>
<td>Claimed by EHX token stakers at regular intervals</td>
</tr>
<tr>
<td>2% Liquidity Pool</td>
<td>Used to stabilize the chart against erratic fluctuations</td>
</tr>
<tr>
<td>2% Development</td>
<td>Used to upgrade our trading platform and add extra services</td>
</tr>
<tr>
<td>1% Buyback</td>
<td>Used to further stabilize the chart from selling pressure</td>
</tr>
</tbody>
</table>

11% Total Transaction Tax
The Eterna eco-system will enable staking of its native token. Staking involves "locking up" a portion of an investor’s EHX token balance for a period of time and provides liquidity to the blockchain network. Crypto staking is similar to depositing money in a bank in that investors delegate their tokens to a set of nodes that govern the network, and in exchange investors earn rewards in the form of additional tokens.

There are several benefits created by token staking. First, staking EHX token can increase its value by limiting its supply. Second, the tokens can be used to govern the blockchain if the network uses a proof-of-stake (PoS) system. A PoS system does not involve “mining” as in the case of proof-of-work (PoW) consensus framework. Instead, in the proof-of-stake model, owners put up their tokens as collateral. In return, they receive authority over the token’s network in proportion to the amount they stake. Generally, the token stakers receive additional ownership rights over time through network fees, newly minted tokens or similar reward mechanisms.

Within the Eterna network, 5.2% of its total circulation will be reserved for staking, and profits earned by investors can also be staked in our system. For the first year, 0.1% of rewards generated by staking will be released each week. A more general staking tax of 3% on each transaction will also be reserved for the staking pool and will be distributed to stakers. Finally, a significant percentage of free cash flow from all of Eterna’s transactions and services will be distributed to stakers in proportion to the total percentage of the circulating supply staked by each investor. This will not only permit the efficient operation of our network, but will provide investors with an additional incentive for holding EHX tokens.
Eterna Hybrid Exchange was created by 3 teams of software developers. The first team developed the initial order book exchange. The second team developed the more advanced order book and a Binance cloud-enabled trading platform. The third team is independently developing our proprietary AMM-aggregator. In all, we employ 15 software developers, and we intend to expand our talent pool to extend our technical capabilities even further.

Our future plans include the development of our own stablecoin, that will play a role similar to that of BUSD on the BSC. The EHXUSD will stabilize trading by providing a safe haven that is native to our trading environment. Next, we plan to launch our own hybrid blockchain EHXChain, that will combine the best features of public and private blockchains in order to maximize efficiency while remaining open to all interested developers.
Table 3 below depicts the proposed timeline for the release of future Eterna services:

- **March 2022**: Eterna Incubator
- **July 2022**: Eterna Launchpad
- **January 2023**: EHX Stablecoin
- **March 2023**: Eterna Visa Card
- **May 2023**: Mobile App
- **June 2023**: EHX (EHX’s Blockchain Project)
- **July 2023**: EHX Scan
- **August 2023**: EHX Swap

Table 3: Development Schedule for Eterna Services

As Table 3 illustrates, Eterna will evolve into a full-service crypto enterprise, manned by experienced and enthusiastic professionals, whose goal is to provide the best service possible for our clients and to maximize investor value.

Hence, Eterna is not simply a token, but a hybrid exchange and broader crypto firm with its own native token. Our goal is to provide state-of-the-art services for our clients and to maximize returns for our investors. Our team strives to cultivate a reputation for quality, excellent service and integrity. If you believe that you have the skills and experience to help us in our venture, we are always searching for new talent. Come and join our team and help us re-invent the crypto space.
Eterna Hybrid Exchange

The Next Generation of Crypto Investing

© Eterna OÜ is registered in Estonia and has applied for an EU exchange license.

Eterna OÜ
Tina 18, 10126 Tallinn, Estonia