BELDEX

International Limited OÜ

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EXECUTIVE SUMMARY

BELDEX: A HYBRID CRYPTOCURRENCY EXCHANGE

Beldex has created and is launching a hybrid cryptocurrency exchange that blends the best of centralized and decentralized technology with high liquidity, excellent customer support and private transactions for its users. WIth a working alpha in production, the Beldex team is on track for launch of the exchange in Q4 of 2019 Serving the APAC region at first, then expanding throughout the world, Beldex fulfills a real market need for a user-friendly hybrid exchange where people can trade in cryptocurrency and have a high level of utility for the token.

PROBLEM

The cryptocurrency market is dominated by difficult-to-use exchanges, coins that aren't truly private, and a lack of attention to the customer experience. One of the major Exchange, Binance is dominating the market, increasing acting as a centralized entity that is trying to monopolize the market. The recent advent of IEOs is a clear signal that exchanges are beginning to act similarly to large financial institutions in concentrating power under one roof. For people who are looking for more privacy and a great service, there's a niche opening up. Large investors will always get great care from whatever institution they use. But for medium and small investors, those who want privacy of their transactions, and people without access to banking, and people who want to have a one-stop-shop, there is a widening gap. The opportunity to provide people with a full solution of wallet, exchange and a highly useful medium of exchange is one that can transform communities.

MARKET

Transactions in cryptocurrency continues to increase and there's a real market need to reach a variety of investors.[1] Furthermore, the number of coins on the market is increasing everyday, yet many exchanges offer a small range of cryptocurrencies to trade. Especially when it comes to niche markets, it's becoming difficult for people to find one exchange where they can get high liquidity and a large number of cryptocurrencies at reasonable fees. The cryptocurrency market capitalization is more than $315 billion as of the writing of this whitepaper, and is predicted to reach as much as $40 Trillion[2].

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[1] https://www.hiveex.com/hiveex-cryptocurrency-report
[2] https://toshitimes.com/a-market-cap-of-40-trillion-for-cryptocurrencies-is-predicted/

BELDEX's core advantage

- Privacy coin
- Ecosystem development
- Hybrid exchange development

Company: Beldex

Beldex has been developing a privacy coin and an advanced hybrid Digital asset exchange for the last year, and is releasing the full exchange in autumn 2019. The privacy coin has the highest level of privacy available, as described in the technical section of this whitepaper.

Our company is devoted to providing a coin that is truly private, so that people can transact safely and with no fear of who has their data and transaction information. The exchange and wallet are designed as the first stage into the adoption of the privacy coin technology for those people who want to participate in the new economy throughout the Asia Pacific region. The exchange provides a full range of cryptocurrencies and utilizes both Beldex and other cryptocurrencies for the exchange fees. The wallet is a multicurrency wallet that works in partnership with both the exchange and online retailers who can accept the Beldex coin for their services.

Mission

BELDEX' mission is to make it easy for a wide demographic of people to benefit from the innovations that digital cash enables today. Our mission is to put cryptocurrency into the hands of people who can benefit the most from using, and make it as easy to use as any other type of exchange.

Vision

Beldex has the vision of becoming a one-stop-shop for a variety of financial services, making it quick and easy for people and businesses to conduct transactions with cryptocurrency, including trading and investing, with full privacy so that the users own their own data and are not subject to the intrusion of governments or big businesses.

COIN TECHNOLOGY

The Beldex coin uses a variety of privacy technologies to ensure the maximum privacy for users of the coin.

BELDEX COIN

Beldex is a mined proof-of-work token with masternodes as a mining opportunity to the community. Originally a fork of Monero, Beldex has integrated PrivateSend privacy protocol from DASH and few more key privacy features like ViewKey from ZEC to improve the original privacy, as well as developing its own configurable privacy technology.

BELDEX's core advantages

- **Untraceable Roots** - Like Monero which uses RingCT, Beldex too uses RingCT network type but higher size of RingCT.

- **Conditional Transactions** - Transaction will be done only if the specified conditions are met.

- **Airdrop** - If an individual, stake a certain amount of crypto in the wallet they get a specific amount of interest in terms of the same coins. .

- **Trustworthy** - If owner reports fraudulence and the suspected receiver is unable to justify the transaction, that particular transaction alone is revertible by the decision of the review tribunal (Disputes are open to debate

The Beldex coin also provides the following benefits to the users of the Beldex coin:

- Discounts on exchange fees.
- Participation in on-chain voting.
- Influence on innovation and development efforts.
- Priority for listing coins on the Beldex exchange.
- Purchase of goods and services within the Beldex partner network, as well as generic cryptocurrency capabilities.
- Access to market with large trading volumes.
- Faster transaction processing.
- Access to exclusive bonuses when offered.
- Larger commissions in referral and affiliate programs.
- Multilingual support.
- Premiere access to new products and features.

BELDEX COIN TECHNICAL DETAILS

BASIC PARAMETERS

Beldex difficulty target(blocktime): 120 Seconds
Difficulty Algorithm: Zawy LWMA
Hashing Algorithm: Cryptonight Conceal
Elliptic curve: Curve25519

CRYPTONOTE ELEMENTS

Although a full-node incentive scheme could be implemented on top of any cryptocurrency, Beldex uses the Monero source code because of the high level of privacy it affords to transactions. Monero is an evolution on the CryptoNote protocol, which uses ring signatures, stealth addresses, and RingCT, giving users the ability to sign transactions and obfuscate amounts while maintaining plausible deniability.

For the Beldex ecosystem to maintain privacy, it is important to provide a medium of exchange that underpins the internal economy and also minimise the risk of temporal analysis when interactions occur across Beldex's independent layers. For example, when engaging in layer-one transactional services, users should never lose the privacy guarantees they receive from the second-layer and vice versa.

RING SIGNATURES

Ring signatures work by constructing a ring of possible signers to a transaction where only one of the signers is the actual sender. Beldex makes use of ring signatures to obfuscate the true history of transaction outputs. Ring signatures will be mandatory for all Beldex transactions (excluding block reward transactions), and uniquely, a fixed ring-size of ten is enforced on the Beldex blockchain. This means that each input will spend from one of ten possible outputs, including the true output.

STEALTH ADDRESS

Beldex makes use of stealth addresses to ensure that the true public key of the receiver is never linked to their transaction. Every time a Beldex transaction is sent, a one-time stealth address is created and the funds are sent to this address. Using a Diffie-Hellman key exchange, the receiver of the transaction is able to calculate a private spend key for this stealth address, thereby taking ownership of the funds without having to reveal their true public address. Stealth addresses provide protection to receivers of transactions and are a core privacy feature in Beldex.

RINGCT

RingCT was first proposed by the Monero Research Lab as a way to obfuscate transaction amounts. Current deployments of RingCT use range proofs, which leverage Pedersen

commitments to prove that the amount of a transaction being sent is between 0 and 264 . This range ensures that only non-negative amounts of currency are sent, without revealing the actual amount sent in the transaction. Recently a number of cryptocurrencies have proposed implementing bulletproofs as a replacement to traditional range proofs in RingCT because of the significant reduction in transaction size. Beldex will utilise bulletproofs, reducing the information that nodes are required to store and relay, thereby improving scalability.

MASTER NODES

Although Beldex implements novel changes on top of the CryptoNote protocol, much of Beldex's networking functionality and scalability is enabled by a set of incentivised nodes called Master Nodes. To operate a Master Node, an operator time-locks a significant amount of Beldex and provides a minimum level of bandwidth and storage to the network. In return for their services, Beldex Master Node operators receive a portion of the block reward from each block.

The resulting network provides market-based resistance to Sybil attacks, addressing a range of problems with existing mixnets and privacy-centric services. This resistance is based on supply and demand interactions which help prevent single actors from having a large enough stake in Beldex to have a significant negative impact on the second-layer privacy services Beldex provides. DASH first theorised that Sybil attack resistant networks can be derived from cryptoeconomics. As an attacker accumulates Beldex, the circulating supply decreases, in turn applying demand-side pressure, driving the price of Beldex up. As this continues, it becomes increasingly costly for additional Beldex to be purchased, making the attack prohibitively expensive.

To achieve this economic protection, Beldex encourages the active suppression of the circulating supply. In particular, the emissions curve and collateral requirements must be designed to ensure enough circulating supply is locked and reasonable returns are provided for operators to ensure Sybil attack resistance.

BLOCK REWARD

Distribution of block rewards in Beldex is conducted through proof-of-work, a robust and well studied system for the creation of blocks and the ordering of transactions. Miners collect and write transactions into blocks and collect fees for doing so. As a consensus rule in Beldex, each block contains multiple reward outputs of which only one goes to the miner. The Beldex block reward is set to a constant value as 2 BDX.

Mining Reward: As well as collecting transaction fees, 10% of the block reward is awarded to the miner that constructs the block.

Master Node Reward: The second output in each block (90% of total reward) goes to a Master Node, or two Master Nodes if a relay is selected. Master Nodes are rewarded based on the time

since they last received a reward (or time since they registered), with a preference for nodes that have been waiting longer. Each time a Master Node registers with the network it assumes the last position in the queue. If the Master Node maintains good service and is not ejected from the queue by a swarm flag, it slowly migrates to the higher positions in the queue. Nodes at or near the front of the queue are eligible for a reward, and once awarded, the node again drops to the last position in the queue and begins working its way back up.

Beldex implements novel changes on top of the CryptoNote protocol (ASIC Resistance, Dynamic Block Size & Ring Signatures), much of Beldex's networking functionality and scalability is enabled by a set of incentivised nodes called Master Nodes. To operate a Master Node, an operator time-locks a significant amount of Beldex and provides a minimum level of bandwidth and storage to the network. In return for their services, Beldex Master Node operators receive a portion of the block reward from each block. The resulting network provides market-based resistance to Sybil attacks.

MASTERNODE REWARD TABLE

Daily Income	*126.404384 BDX*
Weekly Income	884.830685 BDX
Monthly Income	3539.32274 BDX
Yearly Income	46137.6 BDX
Staking Requirement	10000 BDX
ROI(Annual)	461.38%
Avg. MN reward freq.	0.333333
Active MN	10

The above table is for masternode revenue if there are 10 masternodes in the network. The revenue will gradually decrease if the number of nodes increases, while at the same time, as the number of masternodes increases, transactions in BDX will increase as masternodes use the token for staking, increasing the price per token.

BASIC MASTERNODE PARAMETERS

● Difficulty target (blocktime) 120 Seconds

● Difficulty algorithm Zawy LWMA

● Hashing algorithm CryptoNight Conceal

● Elliptic curve Curve25519

VERIFIABLE COLLATERALISATION

Master Nodes must prove to the network that they are holding the required collateral. Privacy features inherent in Beldex's design make this difficult, specifically the inability to audit public address balances or to use viewkeys to see outgoing transactions.

Beldex makes novel use of time-locked outputs, which allow Beldex coins to be time-locked until the blockchain reaches a defined block-height. Until this defined height, the Beldex network will invalidate attempts to spend these time-locked outputs. Beldex utilises this process to prove that an amount is being held by a specific Master Node, preventing shuffling of collateral.

To register as a Master Node, an operator creates a time-locked output of the required amount which unlocks after a minimum of 21,600 blocks have elapsed (approximately 30 days). In the extra field of the transaction, the Master Node operator includes the Beldex address which may receive Master Node rewards. This address will also be used as the public key for Master Node operations such as swarm voting. Wallets may avoid using these Master Node registration transactions as mixins, as their true amounts and destination are disclosed and therefore are not useful in providing extra anonymity to a transaction.

Before each node joins the Master Node network, other nodes must individually validate that the said nodes collateral outlay matches the required amount, as per the decreasing collateralization requirement. Although collateral transactions expire after 30 days, the wallet will have an opt-in automatic re-collateralisation feature.

CRYPTONOTE ALTERATIONS

As a cryptocurrency, Beldex is functionally similar to its fellow CryptoNote coins. However, there are key differences beyond the addition of Master Nodes and the associated functionality that comes with them.

ASIC RESISTANCE

An Application-Specific Integrated Circuit (ASIC) is a computer chip that is built specifically for a single function. In the context of mining, ASICs are used to compute for specific hashing algorithms. They pose a risk to decentralisation because they outpace all other mining methods, are manufactured by specific companies, have very limited distribution channels due to the specialised nature of the hardware, and they require significant capital costs to develop and operate profitably. There are potential benefits to ASICs, such as the capital cost requirements that miners must undertake to invest in algorithm specific hardware which makes it less likely that they would behave in a manner that undermines their own investment by acting dishonestly. However, the distribution and manufacture of ASIC chips, with mature hashing algorithms, is still centralised around a few large companies. These companies can refuse

shipment to certain areas, decide what regions and customers get the best performing ASICs, and they can structure limited runs and manipulate prices.

To prevent ASIC miners from monopolising the network hashrate, many cryptocurrencies developed ASIC resistant hashing algorithms, like Scrypt and Ethash [25][26]. Until recently, Monero used the CryptoNight hashing algorithm, which requires large amounts of L3 cache to operate. In theory, this should have made it difficult to produce an ASIC chip due to large memory requirements. However in 2018 Bitmain released the X3, a CryptoNight specific ASIC that could effectively mine at ten times the speed of a graphics processing unit (GPU) [27]. Other hashing algorithms have suffered similar fates, with Scrypt, Ethash, and Equihash all now being mined by ASICs.

To combat the use of ASICs, Monero proposed a strategy of hard forking every 3-6 months to slightly change the CryptoNight hashing algorithm (the first fork moving to CryptoNightV7). The capital and time required to build an ASIC is significant, and with highly specific hardware designs, slight tweaks in a hashing algorithm should invalidate the chip design, wasting the time and capital investment of ASIC manufacturers. However, this approach introduces its own issues. If changes made to the algorithm are insufficient to prevent ASICs being reprogrammed, then the network can become vulnerable to hashrate centralisation until another hard fork is possible. Field Programmable Gate Arrays (FPGAs) should also 12 be considered in ASIC resistance strategies, where infrequent, slight changes to hashing algorithms can be easily reprogrammed for FPGAs. Another concern is that regular changes to core consensus mechanisms introduce the chance of unintended bugs and generally centralise the development of such changes around a core team of developers.

Beldex incorporated a version of CryptoNight called CryptoNight Conceal, which maintains ASIC resistance against CryptoNight ASIC miners as well as cloud mining (like nicehash). CryptoNight Heavy differs from CryptoNight V7 in a number of ways: it provides decrease in scratchpad size to 512kb, and a change in the way implodes and explodes are handled. These changes differentiate it from the largest target for ASIC miners which is Monero's CryptoNight V7 and also provide a more robust protection against ASIC development until a more permanent solution is proposed.

Dynamic Block Size
Like other CryptoNote coins, Beldex does not have a fixed block size. Instead, the block size changes over time, growing to include more transactions as the network reaches higher transaction throughput. The Beldex block size scales by observing the median block size over the last 100 blocks and slowly retargets the maximum size of any new blocks accordingly.

The long-term concern in other cryptocurrencies is that large block sizes burden the nodes that store and verify transactions. As block sizes grow, nodes that run on lower grade hardware are unable to process and propagate new blocks, leading to centralisation of the node network

among those with a commercial interest in maintaining nodes. This can be concerning because distributing the blockchain across many nodes allows for the state of the chain to be confirmed among many different parties, adding to its validity and censorship resistance.

In Beldex, a portion of the block reward is given to Master Nodes that process and propagate blocks as full nodes. Because Master Nodes with insufficient bandwidth and performance are dropped from the Master Node network, the reward pool self-enforces a minimum performance requirement. This incentive structure not only ensures that the node count remains high, but that the said nodes are of a sufficient performance level to successfully share blockchain data across the network, irrespective of how large the blockchain grows or how demanding the bandwidth requirements are. Even so, transaction size optimisations are still required to ensure that the network scales efficiently so as to keep the Master Node operating costs down so that a high node count can be sustained in the long term.

Ring Signature Size

Ring signatures are used to hide real outputs amongst others in any given transaction. The size of a ring signature refers to how many mixins are used to construct the ring. Monero currently has an enforced minimum ring signature size of seven, with six mixins used alongside the real unspent output in a transaction.

The effect of larger ring-sizes has been sparsely studied, however, in paper 0001 (published by the Monero Research Lab), the effect of differing ring-sizes was analysed versus an attacker who owned a large number of outputs on the blockchain. It was found that higher ring-sizes reduce the timeframe in which a malicious attacker who owned a large number of unspent outputs would be able to perform effective analysis of transactions. Mandating larger ring-sizes also protects against a theoretical attack known as an EABE/Knacc attack, where a third-party (i.e. an exchange) can perform limited temporal analysis on transactions between two users.

Additionally, Monero has no maximum ring-size enforced by network consensus rules. Many wallets like the Monero GUI wallet cap the ring-size at 26. However, a user is free to manually create a transaction with whatever ring-size they wish, as long as it is above a ring-size of seven. This is problematic since most wallets have a default ring-size of seven. Increasing a transactions ring-size above seven makes it stand out. Further, if an individual's transactions were to always use a non-standard ring-size in Monero (ten for example), a passive third-party could analyse the blockchain and infer patterns using temporal analysis.

Beldex improves on both of these problems by statically enforcing ring-sizes, and setting the ring-size to ten. Statically setting the maximum ring-size protects users who construct rings with more than nine mixins and setting the ring-size minimum to ten more effectively prevents an attacker who owns a large number of outputs from discerning the true outputs spent in a ring signature. Larger ring-sizes also increase the default churning effectiveness non-linearly, becoming more effective as ring-sizes grow.

In the current transaction scheme, increasing the ring-size to 10 would lead to a 2.6% increase in the size of the transaction. However, when Bulletproofs are implemented it will account for about a 8 - 13% increase in the size of a transaction. This is because of the overall reduction in transaction size caused by Bulletproofs. Increasing the minimum ring-size may present a problem on a network that lacks architecture to support larger sized transactions, due to the increased overhead. With Beldex however, this burden can be carried by Master Nodes that are incentivised to operate and provide sufficient bandwidth.

AI TECHNOLOGY

Beldex is collecting data to develop prediction algorithms to enhance the platform. These future-driven developments will benefit all users of the platform.
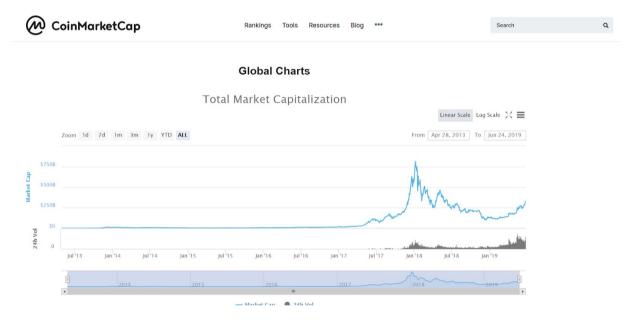
- Security: Normative user behavior is tracked so that suspicious activity can be identified. As user data is collected, the system knows how particular users typically transact and can identify anomalies.

- Trading and prediction: Algorithms will be able to accurately track market movements and provide algo-trading as well as hedging for the Beldex exchange itself, reducing the custodianship risk that is sometimes associated with crypto exchanges.

BELDEX EXCHANGE

CRYPTOCURRENCY MARKET

Since the invention of Bitcoin, the cryptocurrency market has skyrocketed, both in value and trading volume. Many market experts expect cryptocurrency to replace or outpace other types of financial assets, because of the superior way in which tokens and cryptocurrencies can represent value. Bitcoin is used as a hedge against other types of investments, creating a balanced portfolio, because it appears that the cryptocurrency markets run counter to the traditional investment and forex markets.
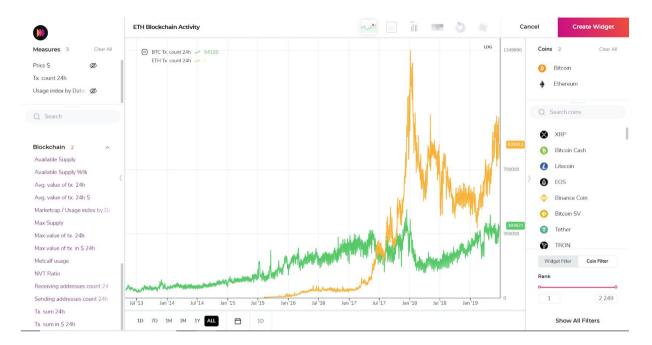
Transactions in cryptocurrency continues to increase and there's a real market need to reach a variety of investors.[3] As shown by CoinMarketCap, while the market experienced a dip in 2018, it is rapidly recovering.

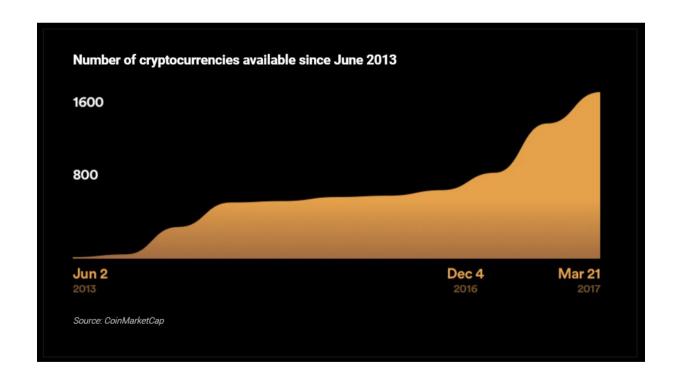Furthermore, the number of coins on the market is increasing, yet many exchanges offer a small range of cryptocurrencies to trade. Especially when it comes to niche markets, it's becoming difficult for people to find one exchange where they can get high liquidity and a large number of cryptocurrencies at reasonable fees.

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[3] https://www.hiveex.com/hiveex-cryptocurrency-report

Daily transactions in Bitcoin and Ethereum

In the initial geographies, users are limited in the exchanges they use. In Malaysia, the leading exchange is Luno, which offers no altcoins, only Bitcoin and Ethereum. While there are more than 50 exchanges listed, only 2 of them list more than 10 tokens or coins. Despite crypto-friedly regulation, the situation is quite limited when looking for a real trading platform for trading, investment, and exchange.[4] Furthermore, very few e commerce retailers have adopted the use of cryptocurrency.

Digital cash provides a huge opportunity for the people in many regions. However, retailers and online merchants have yet to adopt this form of currency over cash. Creating a user-friendly ecosystem with a wallet, APIs for ecommerce providers, and an exchange including peer-to-peer transactions will open up the opportunities. The layer of privacy on top of these solutions is essential to adoption, as many people are looking at how they can have the convenience and anonymity of cash in their transactions. For a variety of reasons, people don't want all of their transactions recorded by centralized companies and organizations without their permission. Therefore, having a privacy coin is the key to adoption in a variety of markets.

Today, there are hundreds of crypto asset exchanges, and every week we hear about more of them entering the market. However, the market is tremendously fragmented.

TRENDS IN MARKET

- Markets are beginning to consolidate around the market leaders.
- Market-specific options are needed for local languages and cultures.
- The leading exchanges are offering IEO and serving the function traditionally filled by risk insurers and financial corporations.
- IEOs and other services offered are further consolidating the market and squeezing smaller exchanges.
- Fees for listing are becoming a barrier to entry for many new startups issuing tokens, creating a market opportunity for niche exchanges.
- Hacks no longer make much of a difference in market leadership. In most recent hacks, the trading platforms just covered the problem, similar to how banks operate. People are no longer so worried about putting money on exchanges.

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[4]

https://fintechnews.my/16980/blockchain/cryptocurrency-exchanges-in-malaysia-registered-bnm/

CHALLENGES

Currently the crypto/digital asset market faces a number of challenges addressed by BELDEX:

- Individual privacy is not respected, and people have to trust their private details to a variety of companies who may or may not respect their privacy.

- Public legers mean all transactions can be traced, again violating people's privacy. People have the right to make private purchases and trades, and the current system does not respect this.

- Many exchanges feature a very limited number of cryptocurrencies to trade, and few exchange pairs.

- Exchanges do not have good customer service, and the use of the exchanges is difficult. This causes user frustration, loss of funds and low adoption rates.

- To use cryptocurrency, users need to use a variety of tools and vendors: wallet, exchange, and coins. People can't find all the services they need in one place.

- Although regulation is in place to legalize crypto in many geographies, those markets are underserved when it comes to user-friendly exchanges and wallets.

- The crypto market is growing rapidly and it's necessary to meet market demand with new solutions.

- Crypto exchanges today do not offer good support for the average customer. Support is through email most commonly, which is highly problematic. In transactions where prices are changing on a minute-by-minute basis, customers don't want to wait a day for an email exchange.

- Liquidity is limited on exchanges because the exchange can only trade using the liquidity from users on that specific exchange. Without integration to larger exchanges, it's difficult to guarantee that people will be able to trade in the currencies they want.

SOLUTION

Beldex is releasing the Beldex hybrid exchange, which provides a very high level of security and privacy to exchange users, focusing on APAC region.

Beldex is creating an ecosystem around the Beldex privacy coin and Beldex exchange to ensure a financial system that benefits all participants. Users of the Beldex ecosystem will enjoy the immediacy and privacy of cash, through electronic means. The Beldex ecosystem ensures a high level of utility for the coins through a wide network of partners and commercial entities that accept the Beldex coin.

The ecosystem includes:

- Beldex coin: A privacy coin based on the most advanced privacy protocols used by today's cryptocurrencies, ensuring user privacy, with configuration for greater levels of privacy.

- Beldex exchange: A hybrid centralized/decentralized exchange integrating privacy, peer-to-peer trades, a wide range of coins and trading pairs, and integration with the Beldex coin and wallet.

- Beldex wallet:

- Beldex commerce ecosystem: Integration with ecommerce partners for use of the Beldex coin and wallet, as well as set of APIs for integration of the wallet and coin for vendors wishing to accept the Beldex cryptocurrency.
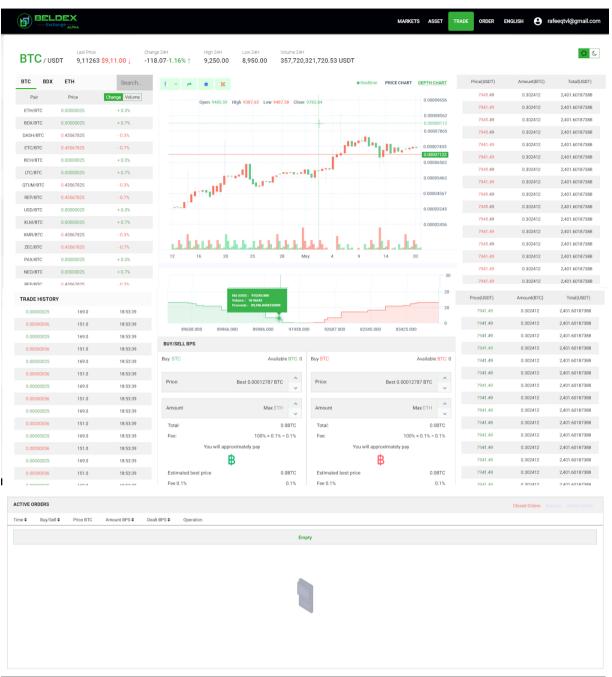
BELDEX EXCHANGE

The Beldex exchange is a hybrid centralized/decentralized exchange integrating privacy, peer-to-peer trades, a wide range of coins and trading pairs, and integration with the Beldex coin and wallet. The exchange itself is the result of more than a year's development of the latest technologies, taking the best from both centralized and decentralized technologies.

The benefits of our development efforts are in the unique features that Beldex can offer today as well as the future developments that are planned in our roadmap. The exchange puts an emphasis on:

- Huge selection of exchange currencies and exchange pairs. By connecting with large exchanges, Beldex can offer the widest variety of trading crypto assets and pairings. Rather than focusing on bringing in new coins, Beldex focused its attention on connectivity and partnerships. Beldex will also be partnering with innovative projects to provide exchange of assets not found in other exchanges.

- Liquidity of crypto assets. Rather than relying on exchange-specific asset trades, through partnerships with other exchanges, Beldex allows liquidity at the market rate. This type of decentralized trading combines the liquidity of all of the Beldex partner exchanges for a superior level of liquidity for all trading pairs and assets.

- Customer support. Beldex provides 24/7 human chat support. Rather than chatbots or email responses, customers on the exchange can chat with a real person who will answer their needs immediately. This level of support is a standard for all other market trading platforms, but in the crypto space it's a rarity. When it comes to money, people want real, immediate answers, and Beldex provides that.

- Privacy and security: Beldex uses a privacy coin that can be used for a variety of transactions. All transactions in Beldex are completely private. Security will be through biometric login for authentication assurance, and for the ease of login. Rather than having to remember passwords and keys, and 2-factor authentication, people use their retina scan, fingerprint. Not only is this more secure, but it's much easier on people than other forms of login.

- Competitive transaction fees: The exchange will be focusing on volume and conservation of operational costs in order to provide low fees for crypto asset transactions. Using the Beldex token will provide additional fee discounts to users.

- Instant Lending against your crypto asset in wallet system with minimal percentage of interest fee and long terms pay back duration.

- Stake your coins while holding your staking coins on our exchange you will be able to receive proof-of-stake rewards for them. You can stake and exchange all in one place with no delay.

FEATURES

The Beldex exchange includes a variety of features that make it particularly appealing to the target market. Following are highlighted features, with more to be added in future versions.

ECHO TRADING

Echo trading is a way to allow new traders to experience the returns of seasoned traders. Using echo trading, new traders can follow the movements of the top earners, buying and selling when the experts do. The Beldex system follows the top traders in real time, and provides real-time mimicking of the trades of the top traders. In return for sharing their data on trades, these investors will receive rewards based on the returns from those who have chosen to mimic their trades.

MARGIN TRADING

Users of the platform can borrow against their holdings from other lenders on the platform to do margin trading. Margin trading of up to 200% will be allowed on the platform, allowing people to leverage their capital as collateral for margin trading. It also provides return on investment for the lenders of the capital. If the asset gains more than 200%, their positions are liquidated and the loan is returned. Margin trading will be allowed against select assets only.

API

The Beldex exchange will include an API that can be used only by approved developers. The API will allow integration of approved applications following code and security reviews, to maintain the integrity and security of the platform.

ROADMAP

The Beldex roadmap includes the following features:
- Future Markets
- Stop/Conditional Limit order.
- Algo trading
- Copy trade features: watching and following the community experts.
- Social trading, chat, and group trading capabilities.
- Multi-currency custodial wallet.
- Peer-to-peer exchange (decentralized and private exchanges between peers)
- Multiple Language support
- Lending against Digital asset
- Rewards for staking

Beldex wallet

The Beldex wallet is a gateway into private decentralised transactions and communications. They allow users to hold private keys, secure or mine BELDEX, perform peer-to-peer transactions, and purchase with any retailer or ecommerce partner accepting BDX. Following is a screenshot of the web-based version of the wallet. The Beldex team is developing the wallet to provide a variety of services based on crypto/Digital assets.

The wallet includes multi-level security in it and its security code is unbreakable at any point. The wallet only holds the information about the amount stored in it and the location where it is stored is non-traceable. The Beldex wallet uses RingCT, which helps to mask the sender's address.

Beldex commerce ecosystem

Beldex is building a network of partners online who will accept transactions in Beldex tokens, and using the Beldex wallet for other cryptocurrency. The design of the system is to create an easy way for both online and offline merchants to accept cryptocurrency, at a much lower cost than credit card and other digital forms of payment today.

The Beldex team will create an easy-to-use plugin to existing Point of Sale systems in order to allow brick-and-mortar merchants to accept the Beldex token as a form of payment. Initially, the payment systems will support Beldex as well as Bitcoin and Ethereum. Payouts to merchants will be in their local fiat currency, so they do not need to have any knowledge of how to trade in crypto. Merchants and ecommerce partners can continue business as usual, but with the added convenience of accepting cryptocurrency. The Beldex network will expand the utility for the Beldex coin. Users experience the ease of digital cash with the privacy of cash when they purchase services with the Beldex coin and wallet. Also, Beldex coin gives added advantage to users as its a privacy coin.

Business model

The Beldex system will gain revenues based on the following:

- Trading fees: Trading fees are the primary revenue stream for the Beldex exchange. Beldex will work to offer the lowest possible trading fees, to make the exchange appealing in a competitive market, and bring in a large volume of users. Traders using Beldex tokens will get a 50% discount for using the Beldex token, increasing the transaction volume of Beldex coins.
- Withdrawal fees: Withdrawal fees for both cryptocurrency and fiat currency will be charged to platform users. A nominal charge will be added on top of the gas fees for crypto transactions.

No fees will be charged for deposits to the Beldex exchange.

Use of funds

The funds are to be used for the following purposes.

Exchange Platform Completion	30%
APIs for ecommerce	5%
Token development	10%
Ecommerce Partnership	15%

Legal	3%
Compliance	7%
Customer Support	10%
General Administration	5%
Marketing	10%
Reserve	5%

MARKETING

BELDEX's marketing plan will focus on distinct customer segments that will enable the platform to grow. Some elements of BELDEX's marketing plan are outlined below.

COMMUNITY SUCCESS TO DATE

The initial ICO in May-August 2018 garnered significant attention. The Beldex community is active and growing. As of the writing of this whitepaper, the community comprises thousands of users:

- Facebook: 35K followers
- Telegram: 5K Members
- Community: 15K token holders and growing strongly

SOCIAL CHANNELS.

- Telegram: t.me/BeldexCommunity
- GitHub: https://github.com/beldex-coin/beldex
- Twitter: https://twitter.com/BeldexCoin
- Facebook: https://www.facebook.com/beldexofficial

EXCHANGE LAUNCH AND MARKETING

Beldex plans to launch their Beta exchange in Q4 2019. Beldex will be conducting as many as roadshows before the launch and also will be sponsoring major events in Asia and Europe region.
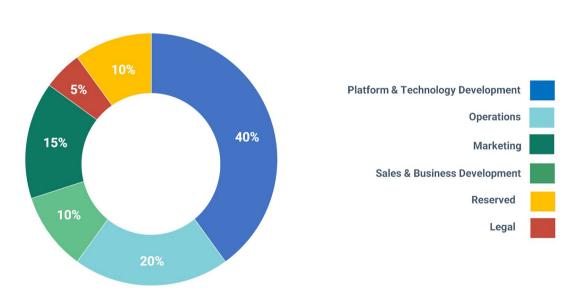
BOUNTY AND AIRDROP

Beldex plans to do an Airdrop and Bounty program before the launch of the exchange focussing on various marketing activities by the community members to increase the partnership in their region.

TOKENOMICS

∑ **TOTAL SUPPLY:** 1.4 BILLION $↕↑$$ **MAXIMUM SUPPLY:** 1.5 BILLION

60% — PRESALE & PUBLIC SALE

10% — BOUNTY & AIRDROP

20% — TEAM & ADVISORS

10% — RESERVED TOKENS

70% Circulating Supply

FUND ALLOCATION

- 40% Platform & Technology Development
- 20% Operations
- 15% Marketing
- 10% Sales & Business Development
- 10% Reserved
- 5% Legal

ROADMAP AND MILESTONES

ROADMAP

Q1 2018
- Product inception and planning rom market requirement analysis

Q2 2018
- Pre ICO preparation
- Public crowd sale
- Bounty program launch

Q3 2018
- ICO Completed
- Beldex web wallet launch
- Beldex mobile wallet launch
- Beldex Exchange development started

Q4 2018
- Implemented Cryptonight algorithm
- Listed on BTC-Alpha and STEX exchanges

Q1 2019
- Implemented Cryptonight v7
- ASIC resistant POW
- Listed on Coingecko

Q2 2019
- Upstreamed Monero v11
- Changed hashing algorithm to cryptonight conceal
- Master nodes release with infinite staking
- Listing on masternodes.pro
- Beldex Exchange Alpha version launch

Q3 2019
- Listed on Coinmarketcap
- Beldex Exchange beta version launch
- Major update on our whitepaper

Q4 2019
- Beta launch of Beldex Exchange
- Launch of Android mobile app for Beldex Exchange
- Official beldex mining pool release
- Listing on Tier 1 exchange (Top 20 in CMC)

Q1 2020
- Launch of iOS app for the exchange
- Integration of Margin Trading in the Beldex Exchange.

Q2 2020
- Future Market implementation in Beldex Exchange.
- Proof of Stake for Beldex Coin.

Q3 2020
- Ecommerce partnerships
- API's for merchants to integrate
- P2P Transactions

Q4 2020
- Support for Hardware wallet.
- Integration of Algo Trading in Beldex Exchange.
- Revenue sharing system for staking

Beldex Team

Beldex has assembled a team of passionate and experienced individuals who have researched and created the launch of the Beldex exchange.

Afanddy B Hushni
Chairman

Liew Kang Loon
Cheif Executive Officer

Marcus Foo
Cheif Operating Officer

Advisors

John Dutchak
Technical Advisor

David van der Vaart
Technical Advisor