

# SHARD

**EASY CRYPTO STAKING** 

WHITE PAPER



### **ABSTRACT**

Cryptocurrency trading is one of the most lucrative options for many people. However, the high volatility, the unregulated nature, the risk of scams and complicated technology make it tricky for new adopters to venture without guidance. Shard provides an alternative for those who do not have the technical insight or business acumen to conduct their own due diligence on cryptocurrency selections.

Shard is designed to be a secure decentralised cryptocurrency, with fast low-cost transactions, increased liquidity and reduced volatility; through support of the Shard Community Reserve (SCR). The reserve is a collection of cryptocurrencies, tokens and other crypto assets selected by our community driven team. As the community reserves grow Shard will have both increased liquidity and reduced volatility.

The Shard blockchain is based on the proof-of-stake consensus, giving holders the opportunity to stake their coins. This is a more energy efficient approach to validation of the transactions in the blockchain as opposed to proof-of-work. Staking does not require coins to be locked up in any way, and is fully automated while running the Shard wallet. Rewards are split 80-20 between the user and the Shard Community Reserve respectively. This will bolster the community reserves helping to tame market volatility. Users who do not wish to leave their wallet staking, but would still like to benefit from the staking rewards will have the option to deposit their Shard with the online staking platform to be staked for you.



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## INTRODUCTION

#### **BACKGROUND**

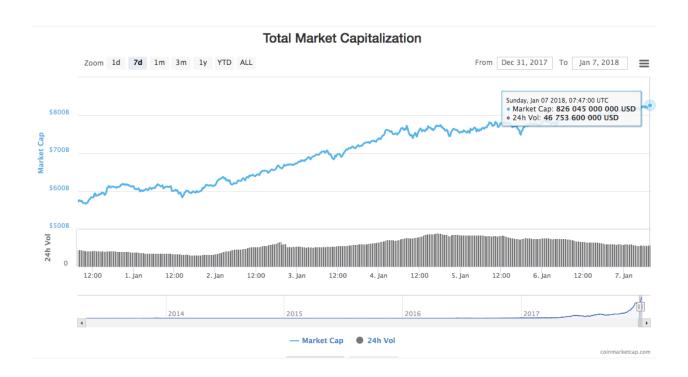
For a long time, cryptocurrencies have been on the fringes of the technology industry, but 2017 was the year that the industry gained mainstream recognition. Almost everyone knows what bitcoin is and they have a rough estimate of the value. This growing popularity led thousands of new users into the cryptocurrency market. They sought to make a killing in this highly unregulated market. One of the main reasons they diversified into cryptocurrencies is the volatility. At face value one may think that volatility is a negative thing. However, volatility just means that the price swings for a particular asset are high.

This is evident with the incredible rise in the value of Bitcoin, Ethereum, Ripple and other cryptocurrencies in 2017. Some holders became millionaires in months when Bitcoin rose from roughly \$5,000 to over \$20,000. Ripple, in particular, had the highest growth increasing its value by 380-fold in 2017 alone. The high volatility increases the spreads making it possible to make better profits when the markets are bullish. Many investors are turning their eyes towards the cryptocurrency market seeking better return than from established financial markets like the FX markets with lower spreads.



#### MARKET OVERVIEW

The cryptocurrency market peaked last year because of one thing, the introduction of institutional investors. Before retail traders drove cryptocurrency values but in the second quarter of 2017, institutional investors joined, and the demand for cryptocurrencies shot through the roof. This resulted in an appreciation of around 1200 percent in the cryptocurrency market's value. In 2016 the cryptocurrency market struggled to breach the \$200 billion mark but by the end of 2017 cryptocurrency market capitalisation had reached \$650 billion. As of January 2018, capitalization broke the \$800 billion glass ceiling.



Even though most of the major cryptocurrencies had a drop in value at the beginning of February, they have already stabilised and grown in value. Bitcoin had dropped to \$6,000, but at the moment it is hovering around the \$8,000-9,000 mark. The frenzy that existed may have lulled into a steady buzz, but this is what cryptocurrencies need. Apart from the main cryptocurrencies like Ethereum, Ripple, Bitcoin and Litecoin, there have been others making splashes in the industry. An example is Qtum that surged 189 percent in value before the release of its Mainnet in late 2017. Others like Monero and Dash have been growing in popularity among privacy coin enthusiasts.



Apart from established cryptocurrencies, 2017 also saw the launch of a myriad of Initial Coin Offerings. An estimated \$5.6 Billion was raised by ICOs launched last year. The most successful were EOS, HDaq, Texos and Filecoin which raised \$700 million, \$258 million, \$230 million and \$205 million respectively. The investment return in successful ICOs was 12.8 times the initial investment compared to Ethereum and Bitcoin that only returned 7.7 and 4.9 times in the same period. Successful ICOs generate more profit than existing cryptocurrencies. From an investment point of view, the cryptocurrency industry is one of the best markets when looking at the successes that have been highlighted.



#### STATEMENT OF THE PROBLEM

Despite the lucrative appeal of the cryptocurrency industry, it is one of the riskiest industries to invest in. The volatility can be quite lucrative when the market is bullish, but the moment it turns bearish, investors can take millions in losses. Just take the simple example of someone who bought Bitcoin when it was about to breach the \$20,000 mark. Right now, it is less than half the value. This is the flip side of the volatility, substantial losses. Unfortunately, there is no predetermined way to determine when the market will go south because prices are driven mostly by speculating.

Beside from the volatility, other issues make investing in the cryptocurrency industry a precarious matter. The other is the high failure rate of cryptocurrencies. If you have the money, you can invest in Bitcoin, Ethereum or Bitcoin cash. However, most of these coins cost over a thousand dollars with Bitcoin at around \$9,000. Most investors turn to less costly cryptocurrencies.

There is no shortage of cryptocurrencies to invest in, with over 1600 different cryptocurrencies on the market. However, most of them are disasters waiting to happen.

An expected 80 percent of these existing cryptocurrencies will fail or lose value. Investors need to be very careful when they are choosing the cryptocurrencies that they want to invest in

A look at the ICO market shows the same results. Even though close to \$5.6 billion was raised by ICO start-ups less than 50 percent of them were successful. The study showed that out of the 913 ICOs last year, only 435 of them became or are on course to become legitimate cryptocurrencies. This is only 48 percent of the total number of ICOs. Even though ICOs have the highest investment return, they are the riskiest with 52 percent of all investments likely to end in failure.



#### Some of the reasons why they fail include:

- A significant portion are out-right scams because the cryptocurrency industry is relatively unregulated.
- Some of them were simply replica altcoins that were seeking to unseat established cryptocurrencies. Many coins dubbed the next Bitcoin, or the Ethereum killer did not live up to expectations.
- Some of them were technically unsound. The smart contracts may have been buggy or the algorithms sketchy, turning many cryptocurrency enthusiasts away from them
- Finally, the execution of some of these cryptocurrencies was flawed. Some used
  the wrong approach to crowdfund while others failed to market effectively using
  proper ANN marketing and bounty campaigns.

The only way to identify these problems before investing is by being able to technically assess the soundness of the blockchain and smart contracts, being able to use complicated charting tools to predict price trends or business research to ensure that the ICO is not fraudulent. This is quite difficult for most investors who are novices in the market or without the technical skills to analyse blockchain algorithm competencies.



# **ABOUT**

#### **INTRODUCING SHARD**

After realising the complexity of the challenges that most need to overcome and the steep learning curve before they can enter diligently into the cryptocurrency industry, the Shard development team created Shard. This is a cryptocurrency that seeks to make participating in the cryptocurrency industry easier. Instead of going through the myriad of coins, ICOs and crypto securities in the market, users can simply purchase and stake Shard. From the staking rewards 20% are contributed to the Shard Community Reserve to provide increased market liquidity and reduced volatility.

### THE SHARD COMMUNITY RESERVE (SCR)

This is a multi-cryptocurrency reserve with the core purpose to provide market liquidity and reduced volatility of the Shard coin. The community reserve pools the knowledge of experienced business analysts, blockchain experts and experienced traders. The reserves will be grown both through market making of Shard and diligent diversification between other propitious cryptocurrencies.





The key functions of the reserve can be summarized into the following three roles:

- To grow the reserves through diversification in promising ICOs and undervalued cryptocurrencies, following the appropriate research and proper due diligence.
- To provide Shard with additional market liquidity. This makes it more resilient to volatility pressures than other altcoins.
- To counteract inflation by burning the excess Shard held in the community reserves. This reduces the total circulating supply of Shard enabling continued staking.

The community reserves will be initially raised from 70% of the contributions of the Shard pre-sale. Users in the Shard platform can additionally contribute to the reserves by staking their coins. The newly minted coins will be distributed 80-20 based on the Shard PoS reward split. 80 percent will go to the user who originally staked the coins while 20 percent of the reward will be pooled back to the Shard Community Reserve. This is a winwin situation.

Shard will be decreasingly volatile as the cryptocurrency reserves continue to increase. However as a cryptocurrency, demand will also influence the value of Shard. If the demand significantly rises, the value of Shard may increase. As a result, Shard provides the best of both worlds.



#### WHERE DO THE RESERVES COME FROM?

The Shard Community Reserves will initially be raised from 70% of the contributions from the Shard pre-sale. Thereby giving direct reserves of Bitcoin, Ethereum, Bitcoin Cash, Ripple and Litecoin from the outset.

Continuing contributions to the SCR will be made through the Shard PoS block reward split. 80% is rewarded directly to the staker, the other 20% is assigned to the SCR for the benefit of all Shard holders.

We have planned multiple future projects directly related to Shard, and 20% of the profits generated by these projects will be contributed to the SCR.





# **FEATURES**

#### **FEATURES OF SHARD**

Shard is a cryptocurrency that uses the proof-of-stake consensus. It has some distinct differences from other coins in the market. Some of the features include:

#### High % based proof-of-stake rewards

Shard holders have the option to stake their coins to help secure the network and gain high % based rewards; the more Shard you are staking the higher the block reward received.

#### Soft cap allowing continued staking

Unlike most coins, Shard implements a soft cap through continued coin burns of the Shard Community Reserve. This will allow staking rewards to remain significant throughout the future. Therefore promoting a strong decentralised blockchain with maximum participation, and keeping transaction fees to a minimum.

#### Secure and confidential

As a blockchain-based cryptocurrency, Shard uses cryptographic encryption to protect the information in the blockchain. Additionally, pseudonyms are used when adding transaction histories on the blockchain to protect the confidentiality of the users. The combination of the cryptographic encryption, pseudonyms and advanced security protocols make Shard relatively secure.



#### Transparency

Shard uses a distributed ledger that is synchronised across of accounts. As a result, all the transactions are authenticated preventing any internal fraud. Users can view all the transactions on the blockchain.

#### Stability

Most cryptocurrencies are volatile because the value is completely dependent on the demand and supply forces. However, Shard will have less volatility because it will gain liquidity from a pool of cryptocurrencies held in the Shard Community Reserve.

#### Fast transaction speeds

Shard uses PoS consensus. The algorithms have low latency, this enables a high volume of transactions to be handled at the same time without any drop in the speed. The target speed of updating the transaction blocks will be 180 seconds.

#### Scalability and robustness

PoS coins can be scaled allowing more users to join the platform or purchase the coin. Even though the coin supply is limited, the blockchain is scalable allowing thousands of users to transact using Shard at the same time without any inherent latency.



#### FEATURES OF THE COMMUNITY RESERVE

The Shard Community Reserve relies on blockchain technology to provide benefits to holders on the platform. Some of the beneficial features include:

#### Holder transparency

Shard uses blockchain technology to provide holders with complete transparency of the transactions. This transparency is promoted by the decentralized ledger that is synchronized. All accounts will have the same blockchain history.

#### No restrictions

Shard is open to the public. You can join in by simply acquiring Shard and staking them. Leaving is equally easy by simply selling your Shard to other willing buyers either through the internal exchange or on other major exchanges around the globe.

#### Reduced risk

Participating in the cryptocurrency industry has become riskier due to the volatility and the number of scams on the market. The Shard Community Reserve will determine whether a particular cryptocurrency is experiencing bullish or bearish trends. Then purchase and liquidate them most efficiently to ensure that risks are minimal.



#### Access to new cryptocurrencies

The most profitable segment of the cryptocurrency industry is investing in ICO's. It yields 12 times the profits per dollar compared to trading that is limited to around seven times returns per investment. The SCR operators use their business acumen, corporate analytic skills and blockchain technical insight to choose the best and most successful ICOs. However, they will also diversify the risk across multiple cryptocurrencies.

#### SCR monthly report

This will be a monthly report showing:

- Estimated value in \$ of extra-Shard holdings
- Estimated value in BTC of extra-Shard holdings
- Shard held in the SCR
- Shard burned by the SCR



# **PROJECTS**

#### **FUTURE PROJECTS**

We have plans for multiple future projects over the next several years. 20% of the profits generated from these projects will be contributed to the Shard Community Reserve (SCR).

#### SHARDAX EXCHANGE PLATFORM

The Shard exchange will be a new and unique exchange that will make it easy to buy all types of cryptocurrencies, removing the need to go between multiple exchanges and cryptocurrencies. In the cryptocurrency space at this time, investors must buy coins and tokens from a variety of exchanges to get the coins they want. In contrast, the Shard exchange will make it easy to invest in cryptocurrencies, as investors will be able to trade many cryptocurrencies in one place, including Shard, Bitcoin and other leading cryptocurrencies. Shardax has multiple features and some of these features are listed below, to note Sharax will be the only exchange at this time to have all these features.

- You will be able to trade on a advanced secure platform.
- Stake your coins and trade on the same platform.
- Instant exchanging between any listed coins, for those that are new to crypto.
- Shard coins will be usable to pay for trading fees at a discounted rate.

This means if you have enough Shard deposited and staking on the exchange then the staking rewards can continually cover any trading fees!

#### Shardax.com



#### STAKING POOL

We understand that knowing how staking works can be difficult for some proof-of-stake holders, as having some technical knowledge is helpful. However, we have made the staking concept more approachable for novice proof-of-stake holders by offering an easy-to-use staking pool option to complement the Shard Core Wallet.

The benefits of using a staking pool include that once a holder adds their Shard to a staking pool, the mining process is fully automated by the pool from that point forward.

Other benefits are that your coins stake without requiring your computer to be running 24/7, a savings on electricity – and that by combining smaller groups of coins together into a single large pool, every contributor's coins will produce a larger quantity of stake rewards than they would in isolated groups on individual wallets.

20% of the staking fee that funds the official staking pool will be contributed to the Shard Community Reserve, another way of increasing the value of the reserves.

Users can transact with their pool-staked coins directly between other pool users without having to stop their coins' staking process. An additional bonus is that there will be no added fees for deposits or withdrawals, or for any coin control transactions.

Finally, users will receive profit reports and infographics via the dashboard, based on the coins that you are staking in the pool.





#### MARKET CAP AND PORTFOLIO

Due to the lack of information and ways to calculate your potential earnings, we will be creating a market cap and earnings dashboard website that will allow you to view all your earnings across multiple cryptocurrencies while being able to keep track of the market all in one place. It will also have a multi-coin stake calculator to allow users to calculate their reward rate in staking coins. We will be listing current and future coins. We will also be giving users the ability to create their own personal account to keep track of their gains in the market.

#### QUANTUM PROJECT

The Quantum Project is one of many projects that have been planned. This project will be unique to the crypto world. Details will be released at the end of 2018, with development planned to start at the beginning of 2019.



# **SPECIFICATIONS**

#### ARCHITECTURE AND CONSENSUS

Shard has its own main-net blockchain that is based primarily on proof-of-stake consensus. A main-net is a stand-alone blockchain that does not rely on other cryptocurrencies, which sets it apart from many altcoins/tokens that are based on another cryptocurrency's blockchain, such as Ethereum's.

As a stand-alone blockchain, Shard transactions will be faster because products of the platform will only be subject to Shard's blockchain latency limits as opposed to parent-child chains that share a blockchain's latency limits thereby reducing the speed of transactions.

The validators (the equivalent of miners in PoW platforms) are chosen based on the number of coins they are staking, combined with the age of staked coins (their weight). This is not processor or GPU intensive, unlike blockchains that use only PoW consensus. The more coins staked and the longer a holder stakes their coins, the greater their value as a validator increases and the more transactions blocks that will be authenticated on their node. This results in better earnings.

A key reason why Shard opted for the PoS consensus is to reduce the likelihood of 51

Percent Attacks, and also to render the blockchain more scalable as compared to PoW based blockchains.



#### SECURITY PROTOCOLS

The Shard blockchain uses multiple security protocols to protect the blockchain from Sybil attacks, to prevent double spending and coin theft. The first element is the use of an effective hash algorithm; Shard has been created using the Scrypt hashing function. Essentially, public keys are used to receive coins during transactions, but the authentication of transactions is done using private keys.

The use of the PoS consensus protects the Shard blockchain from Sybil attacks where malicious individuals give users on the platform false information (i.e. fraudulent public keys which can result in coin theft).

Double spending is prevented by continuous authentication of account balances. Given an initial and then a duplicate transaction, only the first transaction would be completed while the duplicate would be rejected based on the algorithm used.

#### **WALLETS**

Currently Shard has personal desktop wallets for Windows, Linux and MacOS available from the website. A web wallet and mobile wallet are planned for the near future.

The personal desktop wallet will be used in the pre-sale, allowing users to start staking immediately.

From the website wallet dashboard users can send their Shard directly to their personal desktop wallet or a staking pool.



#### PROOF OF STAKE

The target block spacing is 180 seconds, meaning that around every 3 minutes, a single user with mature coins will earn a stake reward for securing the blockchain. The minimum maturity period before your coins are eligible to stake is 9 hours, while the maximum maturity period is 72 hours.

The odds of a specific users wallet being selected to secure the blockchain is based on their coins' weight. Your coins' weight increases depending on how long you have been waiting to receive a reward, and how much Shard you are staking. To be eligible to receive the stake reward for securing the network, your computer must be on and connected to the internet, otherwise the algorithm will select the next eligible wallet to create the block (and receive the reward). Of note, even with one's computer off a holders coins still gain weight and increase the potential rewards for when a blockchain signing & stake reward event does occur.

The distribution of the stake reward will be split into two parts: 80% will be deposited directly into the staker's wallet while 20% will be added to the Shard Community Reserve to assist with Shard market liquidity. Staking grows the wealth of the holders while also increasing the value of the SCR which will be used to diversify in the cryptocurrency market and reduce inflation.

1st Year				
Block	Annual %			
1 - 4000	50%			
4001 - 20000	600%			
20001 - 40000	550%			
40001 - 60000	500%			
60001 - 80000	475%			
80001 - 100000	450%			
100001 - 120000	425%			
120001 - 140000	400%			
140001 - 160000	375%			
160001 - 180000	350%			

2nd Year			
Block	Annual %		
180001 - 200000	325%		
200001 - 220000	300%		
220001 - 240000	275%		
240001 - 260000	250%		
260001 - 280000	225%		
280001 - 300000	200%		
300001 - 320000	180%		
320001 - 340000	160%		
340001 - 360000	140%		

3rd Year			
Block	Annual %		
360001 - 380000	130%		
380001 - 400000	120%		
400001 - 420000	110%		
420001 - 440000	100%		
440001 - 460000	90%		
460001 - 480000	80%		
480001 - 500000	70%		
500001 - 520000	60%		
520001 ÷	50%		



#### PROOF OF WORK

Apart from staking Shard in a wallet or a staking pool, at launch there was also the possibility of PoW (Proof of Work) mining. The block reward in the 1-1000 range of blocks was 5 Shard, while those between 1001-5000 were 20 Shard each.

However as the current block is now above 5000, the mining reward element of the Shard coin has ended. The date stamp for the first PoS-only block (5001) was 19-03=2018.

PoS is now the exclusive blockchain validator and the only method of generating new Shard coins.

BLOCK	1 - 1000	1001 - 5000	5000+
POW REWARD	5 SHARD	20 SHARD	END



# PRE-SALE

#### SHARD ALLOCATION

Shard will be allocated as follows from the 25 million initial supply:

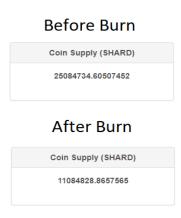
- 80% will be sold during the pre-sale
- 14% will be set aside as the development and marketing reserve
- 3% will be used for airdrops and bounties
- 3% will be reserved for the project team, to be released over the next several years tied directly to roadmap goal completion.

A total of 1 million Shard was sold to raise funds for exchange listings, marketing and the community reserve. In total 15 million Shard was burned before Shard was listed on any exchange. The community voted to spare 4 million Shard to continue to raise funds in the same way.

The 1<sup>st</sup> coin burn of 1 millions coins occurred on the 22/3/2018 and the  $2^{nd}$  coin burn of 14 million coin occurred on the 24/04/2018. As can be found on the block explorer.

Link here:

https://goo.gl/xYtgw3

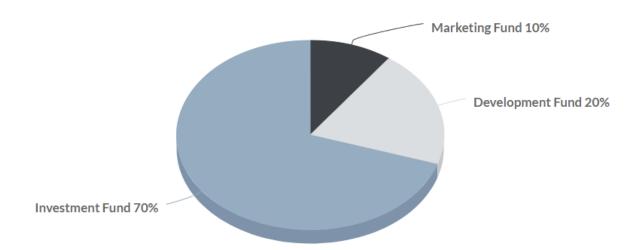




#### **ALLOCATION OF PROCEEDS**

All funds from the pre-sale will be utilised in the following way:

- A total of 70% will be used to set up the Shard Community Reserve. This involves
  the acquisition of the cryptocurrencies that will be held within it, and will provide
  increased liquidity to the Shard markets.
- 20% will be used for development. This involves the creation of all projects and exchange listings.
- The final 10% will be used for marketing. The marketing is important, and it will initially target the cryptocurrency community.





# **TEAM**



ALEX DEVELOPER BSc. Computer Science Cyber Security Expert

KYAN INVESTMENT ADVISOR BSc.Physics Professional Investor





ARON DEVELOPER BSc. Computer Science Google Scholarship

JAMES
MARKETING STRATEGIST
Former Co-Founder and Site Engineer of a
Crypto News Website, Buckinghamshire New University





ANRI DESIGNER BA Graphic Design CSM London

CHRIS
ADVISOR
Security Engineer at Expedia and ex Security
Engineer at Morgan Stanley and Crypto Insight Advisor



# **ROADMAP**





# CONCLUSION

Shard provides a completely different way to participate in the cryptocurrency market. How is it different? First, it relies on its main-net blockchain, versus non-blockchain based currencies or those that rely on other blockchains like Ethereum's. As a result, Shard will be substantially faster in transaction speed while supporting higher volumes.

Instead of setting a maximum supply, Shard uses a soft cap that constrains the total number of coins below 700 million in order to control inflation. This gives Shard both longevity and scalability. The architecture relies mainly on PoS staking as opposed to PoW. However, PoW mining was supported until block 5000.

70% of the pre-sale proceeds will be contributed to the Shard Community Reserve, where the community driven team will use their business insight and blockchain knowledge to select cryptocurrencies that are on the rise, and promising ICO's that have been proven to be legitimate. As a result, the holdings of the Shard Community Reserve will continue to increase and any Shard staked by the holders will continue to increase in quantity.

As well as the 20% PoS block reward split, there will be multiple projects in the future that will contribute 20% of profits generated to the Shard Community Reserve, which in turn will be used to provide liquidity and burn excess Shard to counteract inflation. Fewer coins in the supply will allow continued staking of new coins, promoting higher staking participation; fundamental to maintaining the blockchain security and low transaction costs.



# **DISCLAIMERS**

#### **DISCLAIMER**

This document is intended for the sole use of recipients only and may not be distributed externally or reproduced for external distribution in any form without express written permission of the Shard team. As of the date of publication of this white paper, the Shard currency has no known potential uses outside of the Shard platform.

#### WHITE PAPER IS NOT AN OFFER DOCUMENT

This white paper does not constitute a prospectus or an offering document and is not an offer to sell, nor the solicitation of an offer to buy any investment or financial instrument in any jurisdiction. Shard should not be acquired for speculative or investment purposes with the expectation of making a profit or an immediate resale. No promises of future performance or value are or will be made with respect to Shard, including any promise of inherent value, any promise of continuing payments, and any guarantee that Shard will hold any particular value. Do not participate in the pre-sale unless you are prepared to lose the entire amount you allocated to purchasing Shards. Shards are sold as a functional good and all proceeds received by the Shard team may be spent freely by the Shard platform absent any conditions, save as may be prescribed in this white paper.



#### WHITEPAPER WARRANTIES

This white paper is for information purposes only and is subject to change. The Shard team cannot guarantee the accuracy of the statements made or conclusions reached in this white paper, and does not make and expressly disclaims all representations and warranties (whether express or implied by statute or otherwise) whatsoever, including but not limited to:

- Any representations or warranties relating to merchantability, fitness for a particular purpose, suitability, wage, title or non-infringement
- The contents of this white paper are accurate and free from error
- That such contents do not infringe any third-party rights.

The Shard team shall have no liability for damages of any kind arising out of the use, reference to or reliance on the contents of this white paper, even if advised of the possibility of such.

#### **USAGE OF THIRD PARTY ESTIMATES**

This white paper includes references to third-party data and industry publications. The Shard team believes that this industry data is accurate and that its estimates and assumptions are reasonable, but there are no assurances as to the accuracy or completeness of this data. Third party sources generally state the information contained therein has been obtained from sources believed to be reliable; however, there are no assurances as to the accuracy or completeness of included information. Although the data are believed to be reliable, we have not independently verified any of the data from third party sources referred to in this white paper or ascertained the underlying assumptions relied upon by such sources.



#### SHARD IS NOT A SECURITY

User acknowledges, understands and agrees that Shard coins are not securities and are not registered with any government entity as a security, and shall not be considered as such. User acknowledges, understands, and agrees that ownership of Shard does not grant the user the right to receive profits, income, or other payments or returns arising from the acquisition, holding, management or disposal of, the exercise of, the redemption of, or the expiry of, any right, interest, title or benefit in the Shard or Shard Platform or any other Shard property, whole or in part.



