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For the avoidance of doubt, all Project Documents are subject to all disclaimers, restrictions, notices, and legal provisions contained in this Whitepaper.

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1. you are not an Excluded Person;
2. you have read the entirety of this Whitepaper and understand the risks entailed in your purchase of Tokens;
3. you agree to be bound by the limitations and restrictions described herein; and
4. you acknowledge that this Whitepaper has been prepared for delivery to you so as to assist you in making a decision as to whether to purchase Tokens.

Beta Finance Whitepaper

Whitepaper
June 2021

Abstract

In this document, we introduce the theory and implementation behind Beta Finance, a permissionless money market for lending, borrowing, and short selling crypto assets with an isolated collateral model and dynamic interest rate. Beta aims to offset crypto volatility and facilitate market stability for the mainstream adoption of DeFi.

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1 Introduction

With the recent popularity of yield-farming, many projects are distributing new tokens as farmed rewards. Such tokens are often traded primarily based on speculation. While the active trading activities help kick-start ecosystems for many great DeFi projects, many investors suffer from extreme price volatility. This creates an unhealthy market condition for crypto as a whole, and threatens the market's long-term sustainability, growth, and adoption. To address this volatility, there needs to be a counter-balancing force.

Shorting is an essential tool widely employed in traditional finance for facilitating price stability and allowing the market to function efficiently. It is a critical piece of modern financial infrastructure that enables a counter-balancing force to volatility. In DeFi, money markets enable the possibility of opening a short position, but no tool exists; instead relying on the average DeFi user to go through multiple protocols and ad-hoc position management to maintain a position. This is because existing money market protocols in DeFi are built to serve a different purpose - to offer yields for low volatility assets in a pool-based structure. Because of how the existing money market protocols are designed, they have the following characteristics:

1. **Limited risk tolerance.** Existing money market protocols have collateral that tokens share the same pools. This means that if an asset is compromised, the entire protocol is at risk.
2. **Lack of crypto asset support.** Due to the previous point and how existing money market protocols are designed, they cannot support a majority of crypto assets where prices are volatile. The greater the volatility, the less likely the asset will be supported. This restricts money market access to the long tail of crypto assets.
3. **Built for leverage.** Existing money markets gear towards creating more volatility by promoting the use of leverage.

In this paper, we present **Beta Finance**, a cross-chain permissionless money market for lending, borrowing, and short selling crypto assets designed to offset crypto volatility and facilitate market stability. Beta Finance will be first available on Ethereum and launch on additional EVM-compatible chains afterwards.

Beta has four main characteristics:

1. **Isolated collateral model.** Beta uses an isolated collateral model for tighter fund security. This means that if an asset is compromised, the liability is limited to the collateral explicitly used for the related position.
2. **Selected collateral multiple asset tiers.** Not all assets are created equal. The more volatile the assets, the higher the collateral ratio. Each asset is assigned with different tiers of collateral ratio requirement. Only selected assets are also accepted as collateral to mitigate risk of worthless liquidations.
3. **Dynamic interest rate.** The interest rate will adjust dynamically based on 1) how far apart the current utilization rate is from the target range and 2) how much time has passed since last interest rate update.
4. **Simple debt repayment.** Beta supports debt repayment using the collateral asset for the position. Users can decide to repay using their collateral or the underlying asset that is borrowed/shorted.

Because of these four main characteristics, Beta is a money market protocol that:

1. **Tolerates high volatility in crypto market.**

2. **Supports a long-tail of assets.**
3. **Built for short-selling.**
4. **Designed to reduce systematic risk of price volatility, creating a robust infrastructure for DeFi ecosystem.**

2 Mechanisms of Beta Finance

2.1 Depositing Assets

Assets deposited into Beta are managed as an ERC-20 token balance, "bToken", which represents the depositor's stake to an interest accruing share of the underlying deposited token. The deposited asset is added into a pooled fund, which is referred to as *Total Liquidity*:

$$Total\ Liquidity = Total\ Available + Total\ Loan$$

It is calculated based on the current liquidity available (*Total Available*) and current total loan (*Total Loan*):

$$Total\ Loan = Total\ Loaned + Cumulative\ Interest$$

Users holding long term positions in any token can earn additional yield on any of their tokens. For example, a user that owns ALPHA can supply their tokens to the Beta protocol, receive bALPHA, and earn more ALPHA without having to take risks.

$$bToken\ Received = \frac{Deposit\ Amount \times Total\ bToken}{Total\ Liquidity}$$



Figure 1: When depositing, the deposited asset will be transferred to its respective BToken contract, minting bTokens for the depositor, and accrue interest for the depositor.

2.2 Borrow Assets

2.2.1 Prerequisites

To borrow assets on Beta, users must have sufficient collateral deposited. Each collateral token will have a collateral factor between 0 and 1, that represents the proportion of the value that can be borrowed. Each collateral position is isolated, meaning that even if the user is borrowing the same underlying asset or using the same collateral, a separate position for the underlying and collateral will be created. Beta maintains the state of a user's debt position by tracking the user's *collateral size* and *debt share*, and uses this debt position to calculate the loan-to-value (LTV) ratio.

$$LTV = \min\left(\frac{Debt\ Share \times price_{bToken}}{Collateral\ Size \times Collateral\ Factor \times price_{collateral}}, 1\right)$$

2.2.2 Borrow

When borrowing, to protect from immediate liquidations, the LTV ratio of the current position must be below the *safety LTV* defined by the configurator. For example, if the safety LTV is 60% and collateral factor is 80%, then a user is only able to borrow at most 48% of the value of the collateral asset. While the LTV can grow above 60% after a position is initiated, a user will not be able to borrow without depositing additional collateral to reduce the LTV.



Figure 2: When borrowing, borrowers must first supply a collateral token that is the borrower's limited liability for the position. Afterwards, the borrowed token is sent to the user and interest must be paid when closing out the position to retrieve collateral.

2.3 Short Assets

Beta Finance supports shorting all assets by borrowing the shorted asset and immediately swapping it to another asset through a specified path to the smart contract function. Shorting an asset has the same collateral and LTV prerequisites as borrowing an asset (see above). To execute the short, users will provide a swap path from the shorted asset to the final asset. For example, given sufficient collateral, if Alice wants to short TokenN for USDC, she can borrow TokenN and specify the swap to USDC, thus creating a short position on TokenN and going long on USDC.

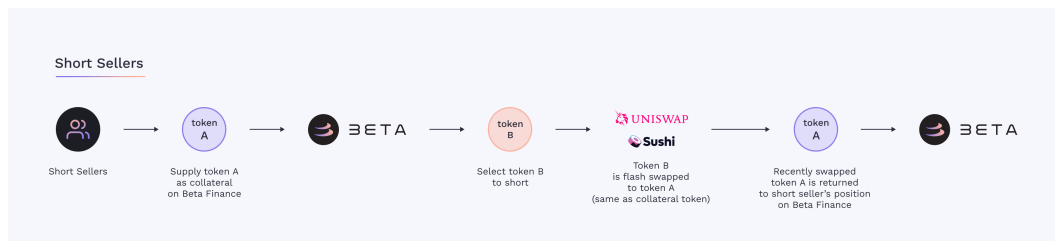


Figure 3: When short selling, short sellers must first supply a collateral token that is the seller's limited liability for the position. The protocol will then borrow the token to be shorted from its Beta money market, and swap the token through a supported DEX into the specified long token, e.g. the collateral token used.

2.4 Repay Assets

Repayment of all or a partial amount of the borrowed asset is possible at anytime. The protocol calculates the amount of *repay shares* from the input repayment amount, transfers the amount to the

pool, and reduces the outstanding debt share by the number of repay shares.

$$\text{Repay Shares} = \frac{\text{Repay Amount} \times \text{Total Debt Shares}}{\text{Total Loan}}$$

Since, the *Total Loan* increases due to accruing interest over time, the same repay amount will reduce the outstanding debt share by a smaller amount. Furthermore, if a user repays his entire borrowed position, the user will pay more than the principal amount due to accrued interest.

2.4.1 Reducing and Closing Positions

Beta Finance enables users to reduce or close a borrowed position or short position by supplying any token to repay with and a swap path to the underlying token to be repaid. For example, utilizing the collateral associated with the position for repayment. This gives users flexibility with managing their positions.

2.5 Withdraw Assets

2.5.1 Prerequisites

For depositors, a depositor can withdraw a deposited amount if there is enough total available liquidity for the underlying token being withdrawn. For a collateral token, the LTV of the user's position must remain below the safety LTV after the collateral is withdrawn.

2.5.2 Withdraw

To partially or completely withdraw a deposited position, the protocol calculates the *withdraw shares* from the input amount, burns bTokens equal to the number of withdraw shares, and transfers the input amount to the user.

$$\text{Withdraw Shares} = \frac{\text{Withdraw Amount} \times \text{Total bToken}}{\text{Total Liquidity}}$$

Similar to when repaying, as *Total Liquidity* increases due to accruing interest over time, the same withdrawn amount will require fewer bTokens to be burned. If the user withdraws their entire deposited amount, they will receive more than the principal from the accrued interest.

2.6 Beta Interest Rate Model

Beta will initially use a dynamic interest rate model to determine the borrow interest rate. All assets on the protocol will be initialized with the same base interest rate, and adjusted based off of the *utilization rate*. Additionally, our model includes an *adjust rate*, which is used to tune how aggressively the interest rate fluctuates. The utilization rate reflects the borrowing demand for a specific asset:

$$\text{Utilization Rate} = \frac{\text{Total Loan}}{\text{Total Liquidity}}$$

If the utilization rate is high, the borrow interest rate will be high. With the utilization rate, Beta chooses to dynamically set the interest rate based on the distance of the current utilization rate away from the *optimal utilization rate range*. The optimal range used by the protocol is [0.7, 0.8], and the interest rate remains constant while utilization is within this range.

Adjustments to the interest rate (r) are made based off of tiers of the utilization rate (u) outside this range, the adjust rate (a), and the time passed (t):

$$\begin{cases} r * (1 - at/1 \text{ day}) & u < 0.5 \\ r * (1 - 5at(0.7 - u)/1 \text{ day}) & 0.5 \leq u < 0.7 \\ r & 0.7 \leq u \leq 0.8 \\ r * (1 + 5t(\frac{1}{1-a} - 1)(u - 0.8)/1 \text{ day}) & 0.8 < u \end{cases}$$

2.7 Permissionless Money Markets

Money markets for ERC-20 compatible token can be initialized permissionlessly and automatically through Beta Finance. This facilitates the short selling functionality of Beta Finance, by enabling users the ability to short any asset in DeFi including those not listed in centralized exchanges. Permissionless money markets will be supported by the Uniswap V3 TWAP Oracle, so any asset with a WETH pool on Uniswap V3. The Uniswap V3 pool for the respective token must have a certain number of slots that have been updated (e.g. 30 minute TWAP 150 observations). Upon creation of the new money market, it will be assigned the most risky asset tier, and its parameters and tier can be upgraded through governance voting.

3 Risk and Liquidation

3.1 Liquidation Causes

A borrower and/or shorter bears the risk of having the LTV of their position increase when the user's total value of borrowed assets increases relative to the value of collateral assets. Swings in prices of the borrowed and collateral assets, failure to repay accumulated interest, failure to post more collateral, etc. are all potential causes for the user's position to increase to a dangerous LTV. This puts the user's position at risk for liquidation, and if the position's LTV crosses the configured liquidation LTV, an external actor can liquidate the position.

3.2 Liquidating a Position

When a user's position crosses the liquidation LTV threshold, a liquidator can repay up to 50% of the user's debt share in one transaction and obtain a financial reward. Liquidation can continue to occur until the position's LTV returns below the liquidation LTV. The liquidator will repay using the underlying token of the position to reduce the user's debt share.

To reward for liquidating the liquidatable position, the liquidator receives the equivalent value of collateral at a discounted price for the repaid underlying tokens. This difference in reward is the liquidator's bounty reward.

3.3 BetaBank

BetaBank is the core contract of the Beta protocol. This contract manages all states, creates money markets, and handles interactions with the money markets, including depositing, borrowing, repaying, withdrawing, and liquidating. Creating money markets is permissionless, and any user is able to directly call the BetaBank contract to create a new money market for a given underlying token.

3.4 BToken

BToken implements the ERC-20 token standard, and is responsible for structuring each money market on Beta. Users will mint bToken by depositing the underlying token into the BToken money market contract, and can burn bToken to receive the underlying token back.

3.5 Beta Runners

Beta Runners provide a higher level abstraction for interacting with the Beta protocol. The contracts integrate directly with existing decentralized exchanges UniswapV2, Pancakeswap, SushiSwap, and UniswapV3, to allow for shorting, repaying, and flash repaying positions.

3.6 Beta Configurator

3.6.1 Collateral Factors

Collateral factors are configured by community governance, and specifies the proportion of capital that needs to be supplied as collateral to initiate a borrow or short position.

3.6.2 Asset Tiers

Beta supports multiple asset tiers with increasing risk tolerance. To make sure user's deposits are safe, assets deemed more volatile will require greater collateralization from borrowers by having a lower LTV thresholds in the configuration. New money markets will be initialized to the tier with lowest risk tolerance, and can be updated by community governance.

3.7 Price Oracle

Beta will be leveraging the Alpha Oracle Aggregator to supports price feeds from various sources including Band Protocol, Chainlink, Uniswap V3 TWAP Oracle, and Pancakeswap V2 oracle.

Uniswap V3 TWAP will be used as default oracle for new assets on Ethereum respectively, where the majority of trading activities happen on-chain. As those assets mature and become listed on centralized exchanges, Band Protocol and Chainlink will be added to increase the price feed's robustness.

4 Beta Finance Governance

Beta Finance will have a governance token, BETA. BETA will play a significant role in bootstrapping liquidity, and governing the Beta protocol key parameters. Beta will begin initially with centralized control through a multisig wallet of protocol configurations, e.g. configuring risk levels of asset tiers, updating oracle addresses, updating interest rate models, and will transition to community control once the protocol matures.

4.1 BETA Token

BETA token holders will be able to use the BETA token to vote on community proposals that will modify, upgrade, and improve the Beta Finance protocol. In order for any change to be made, there must be a majority vote in terms of number of BETA tokens. Stakers of BETA tokens will also act as a backstop for shortfall events of the protocol, and in exchange will be receiving protocol fees for bearing the risk. 20% of all interest paid by borrow and short positions will be distributed to BETA token stakers.

PLEASE READ THIS DISCLAIMER SECTION CAREFULLY. IF YOU ARE IN ANY DOUBT AS TO THE ACTION YOU SHOULD TAKE, YOU SHOULD CONSULT YOUR LEGAL, FINANCIAL, TAX OR OTHER PROFESSIONAL ADVISOR(S).

The Project Documents in their current form are circulated by the Token Vendor for general information and to invite feedback only on the Project, the Platform, the Tokens and their functions, and the Token Distribution as presently conceived, and is subject to review and revision by the directors of the Token Vendor and/or advisors of the Token Vendor. Please do not replicate or distribute any part of the Project Documents without this Section in accompaniment. The information in the Project Documents, including information set forth below, may not be exhaustive and no part of the Project Documents is intended to create legal relations with a recipient of the Project Documents or to be legally binding or enforceable by such recipient against the Token Vendor. An updated version of the Project Documents may be published at a later date and to be announced by the Token Vendor in due course.

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The Tokens are proprietary cryptographic tokens issued by the Token Vendor to function as the native utility token to be used on the Platform, as the means for holders of Tokens (“**Tokenholders**”) who are Users to participate in decision-making relating to the modification, upgrading and improvement of the Beta Finance protocol, and to be used as deposits or “stake” to provide liquidity on decentralised exchanges for token pairs in exchange for liquidity provider (“**LP**”) tokens. The Tokens are also intended to be used as rewards for Users who “stake” such LP tokens on the Platform.

The Project Documents do not constitute or form part of any opinion or any advice to purchase, sell or otherwise transact in Tokens and the fact of presentation of the Project Documents shall not form the basis of, or be relied upon in connection with, any contract or decision to purchase Tokens.

No Token should be construed, interpreted, classified or treated as enabling, or according any opportunity to Purchasers to participate in or receive profits, income, or other payments or returns arising from or in connection with the Token Vendor, the Project Group, the Platform, the Tokens, or the proceeds of the Token Distribution, or to receive sums paid out of such profits, income, or other payments or returns.

Any agreement as between the Token Vendor and you as a Purchaser, and in relation to any distribution and purchase, of Tokens is to be governed only by a separate document setting out the terms and conditions (the “**Token Distribution Terms**”) of such agreement. In the event of any inconsistencies between the Token Distribution Terms and the Project Documents, the former shall prevail.

There are risks and uncertainties associated with the Token Vendor, the Project Group, the Project, the Tokens, the Platform, and the Token Distribution. Please refer to the Section entitled “Risks and Uncertainties” set out at the end of this Project Document.

The Project Documents, any part thereof and any copy thereof must not be taken or transmitted to any jurisdiction where distribution or dissemination of the Project Documents is prohibited or restricted.

No part of the Project Documents is to be reproduced, distributed or disseminated without including this Section and the following Sections entitled “Disclaimer of Liability”, “No Representations and Warranties”, “Representations and Warranties By You”, “Cautionary Note On Forward-Looking Statements”, “Third Party Information and No Consent of Other Persons”, “Terms Used”, “No Advice”, “No Further Information or Update”, “Restrictions on Distribution and Dissemination”, “No Offer of Investment or Registration”, and “Risks and Uncertainties”.

Disclaimer of Liability

To the maximum extent permitted by the applicable laws, regulations and rules, the Project Group and no member of the Project Group (including but not limited to the Token Vendor) shall not be liable for any direct, indirect, special, incidental, consequential or other losses of any kind, in tort, contract or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with any acceptance of or reliance on the Project Documents or any part thereof by you.

No Representations and Warranties

The Token Vendor and/or the Project Group does not / do not make or purport to make, and hereby disclaims, any representation, warranty or undertaking in any form whatsoever to any entity or person, including any representation, warranty or undertaking in relation to the truth, accuracy and completeness of any of the information set out in the Project Documents.

Representations and Warranties by You

By accessing and/or accepting possession of any information in the Project Documents or such part thereof (as the case may be), you represent and warrant to the Token Vendor and the Project Group as follows:

- (a) you agree and acknowledge that the Tokens do not constitute shares or securities of any form, units in a business trust, units in a collective investment activity scheme or any other form of regulated product or investment product in any jurisdiction;
- (b) you are not:
 - (i) a U.S. Person (as defined in Regulation S under the U.S. Securities Act of 1993, as amended);
 - (ii) if you are an individual, a person who is a citizen of, domiciled in, resident of, or physically present / located in a jurisdiction stipulated in Annex 1 hereto (“**Token Distribution Excluded Jurisdiction**”);
 - (iii) if you are a body corporate, a body corporate:
 - (aa) which is incorporated or organized in, or operates out of, a Token Distribution Excluded Jurisdiction; or
 - (bb) which is under the control of one or more individuals who is/are citizen(s) of, domiciled in, residents of, or physically present / located in, a Token Distribution Excluded Jurisdiction; and/or
 - (iv) an individual or body corporate which is otherwise prohibited or ineligible in any way, whether in full or in part, from participating in any part of the transactions contemplated in the Token Distribution Terms,

(collectively, “**Excluded Persons**”);
- (c) you are fully aware of and understand that you are not eligible and you are not to purchase any Tokens if you are an Excluded Person;

- (d) you agree and acknowledge that the Project Documents do not constitute prospectuses or offer documents of any sort and are not intended to constitute an offer of shares or securities of any form, units in a business trust, units in a collective investment scheme or any other form of regulated investment or investment product in any jurisdiction, or a solicitation for any form of regulated product or investment product, and you are not bound to enter into any contract or binding legal commitment and no digital asset other than those provided for in the Project Documents or other form of payment is to be accepted on the basis of the Project Documents;
- (e) you agree and acknowledge that no Token should be construed, interpreted, classified or treated as enabling, or according any opportunity to, Tokenholders to participate in or receive profits, income, or other payments or returns arising from or in connection with Token Vendor, the Project Group, the Tokens or the proceeds of the Token Distribution, or to receive sums paid out of such profits, income, or other payments or returns;
- (f) you agree and acknowledge that no regulatory authority has examined or approved any of the information set out in the Project Documents, no action has been or will be taken by the Token Vendor to obtain such approval under the laws, regulatory requirements or rules of any jurisdiction and the publication, distribution or dissemination of the Project Documents to you does not imply that the applicable laws, regulatory requirements, or rules have been complied with;
- (g) you agree and acknowledge that the Project Documents, the undertaking and/or the completion of the Token Distribution, or future trading of Tokens on any cryptocurrency exchange, shall not be construed, interpreted or deemed by you as an indication of the merits of the Token Vendor, the Project, the Tokens, the Token Distribution, and the Platform;
- (h) the distribution or dissemination of the Project Documents, any part thereof or any copy thereof, or acceptance of the same by you, is not prohibited or restricted by the applicable laws, regulations or rules in your jurisdiction, and where any restrictions in relation to possession are applicable, you have observed and complied with all such restrictions at your own expense and without liability to the Token Vendor;
- (i) you agree and acknowledge that in the case where you wish to purchase any Tokens, the Tokens are not to be construed, interpreted, classified or treated as:
 - (i) any kind of currency other than cryptocurrency;
 - (ii) debentures, stocks or shares issued by the Token Vendor, the Project Group, or any other person or entity;
 - (iii) rights, options or derivatives in respect of such debentures, stocks or shares;
 - (iv) rights under a contract for differences or under any other contract the purpose or pretended purpose of which is to secure a profit or avoid a loss;
 - (v) securities;
 - (vi) units or derivatives of units in a business trust;
 - (vii) units in a collective investment scheme; or
 - (viii) any form of regulated investment or investment product;
- (j) you are legally permitted to participate in the Token Distribution and all actions contemplated or associated with such purchase, including the holding and use of Tokens;
- (k) the amounts that you use to purchase Tokens were not and are not directly or indirectly derived from any activities that contravene the laws and regulations of any jurisdiction, including anti-money laundering laws and regulations;

- (l) if you are a natural person, you are of sufficient age and capacity under the applicable laws of the jurisdiction in which you reside and the jurisdiction of which you are a citizen to participate in the Token Distribution;
- (m) you are not obtaining or using Tokens for any illegal purpose;
- (n) none of:
 - (i) you;
 - (ii) any person controlling or controlled by you;
 - (iii) if you are a privately-held entity, any person having a beneficial interest in you; or
 - (iv) any person for whom you are acting as agent or nominee in connection with this Token Distribution,

is a senior foreign political figure, or any immediate family member or close associate of a senior foreign political figure.

A “**senior foreign political figure**” is defined as a senior official in the executive, legislative, administrative, military or judicial branch of a government (whether elected or not), a senior official of a major political party, or a senior executive of a foreign government-owned corporation, and includes any corporation, business or other entity that has been formed by, or for the benefit of, a senior foreign political figure.

An “**immediate family**” of a senior foreign political figure typically includes such figure’s parents, siblings, spouse, children and in-laws.

A “**close associate**” of a senior foreign political figure is a person who is widely and publicly known to maintain an unusually close relationship with such senior foreign political figure, and includes a person who is in a position to conduct substantial domestic and international financial transactions on behalf of such senior foreign political figure;

- (o) if you are affiliated with a non-U.S. banking institution (“**Foreign Bank**”), or if you receive deposits from, make payments on behalf of, or handle other financial transactions related to a Foreign Bank, you represent and warrant to the Token Vendor that:
 - (i) the Foreign Bank has a fixed address, and not solely an electronic address, in a country in which the Foreign Bank is authorized to conduct banking activities;
 - (ii) the Foreign Bank maintains operating records related to its banking activities;
 - (iii) the Foreign Bank is subject to inspection by the banking authority that licensed the Foreign Bank to conduct its banking activities; and
 - (iv) the Foreign Bank does not provide banking services to any other Foreign Bank that does not have a physical presence in any country and that is not a regulated affiliate;
- (p) you have such knowledge and understanding of the operation, functionality, usage, storage, transmission mechanisms and other material characteristics of cryptocurrencies, blockchain-based software systems, cryptocurrency wallets or other related token storage mechanisms, blockchain technology and smart contract technology so as to be able to evaluate the risks and merits of the Project, the Tokens, and the Platform, and correspondingly any purchase of the Tokens;
- (q) you are fully aware and understand that in the case where you wish to purchase any Tokens, there are risks associated with the Token Vendor, the Project Group, the Project, the Tokens, the Platform and the Token Distribution;

- (r) you bear the sole responsibility to determine what tax implications purchasing Tokens may have for you and you agree not to hold the Token Vendor or any other person involved in the Token Distribution liable for any tax liability associated with or arising therefrom;
- (s) you agree and acknowledge that neither the Token Vendor nor the Project Group is liable for any direct, indirect, special, incidental, consequential or other losses of any kind, in tort, contract or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with any acceptance of or reliance on the Project Documents or any part thereof by you;
- (t) you waive the right to participate in a class action lawsuit or a class wide arbitration against the Token Vendor and/or any person involved in the Token Distribution and/or with the creation and distribution of Tokens or the Platform; and
- (u) all of the above representations and warranties are true, complete, accurate and non-misleading from the time of your access to and/or acceptance of possession the Project Documents or such part thereof (as the case may be).

Cautionary Note on Forward-Looking Statements

All statements contained in the Project Documents, statements made in press releases or in any place accessible by the public and oral statements that may be made by the Token Vendor, the Project Group, or their respective directors, executive officers or employees acting on behalf of the Token Vendor or the Project Group (as the case may be), that are not statements of historical fact, constitute “**forward-looking statements**”. Some of these statements can be identified by forward-looking terms such as “**aim**”, “**target**”, “**anticipate**”, “**believe**”, “**could**”, “**estimate**”, “**expect**”, “**if**”, “**intend**”, “**may**”, “**plan**”, “**possible**”, “**probable**”, “**project**”, “**should**”, “**would**”, “**will**” or other similar terms. However, these terms are not the exclusive means of identifying forward-looking statements. All statements regarding the Token Vendor, the Project Group, and/or the future outlook of the industry which the Token Vendor and the Project Group are in are forward-looking statements. These forward-looking statements, including but not limited to statements as to the Token Vendor, the Project Group and other matters discussed in the Project Documents regarding the Token Vendor and the Project Group are matters that are not historic facts, but only predictions.

These forward-looking statements involve known and unknown risks, uncertainties and other factors that may have an impact or adversely affect the Token Vendor and/or the Project Group, the Project, the Platform, or the use of the Tokens. These factors include, amongst others:

- (a) changes in political, social, economic and stock or cryptocurrency market conditions, and the regulatory environment in the countries in which the Project Group conducts its business and operations;
- (b) the risk that the Project Group may be unable to execute or implement the Project;
- (c) changes in interest rates and exchange rates of fiat currencies and cryptocurrencies;
- (d) changes in the anticipated growth strategies and expected internal growth of the Project Group and the Project;
- (e) changes in fees payable to the Project Group in connection with its businesses and operations or on the Project;
- (f) changes in the availability and salaries of employees who are required by the Project Group to operate its business and operations;
- (g) changes in preferences of Users;

- (h) changes in competitive conditions under which the Project Group operates, and the ability of the Project Group to compete under such conditions;
- (i) changes in the future capital needs of the Project Group and the availability of financing and capital to fund such needs;
- (j) war or acts of international or domestic terrorism;
- (k) occurrences of catastrophic events, natural disasters and acts of God that affect the businesses and/or operations of the Project Group;
- (l) other factors beyond the control of the Token Vendor and/or the Project Group; and
- (m) any risks and uncertainties associated with the Token Vendor, the Project Group, the Project, the Tokens, the Platform and the Token Distribution.

All forward-looking statements made by or attributable to the Token Vendor, the Project Group, or persons acting on behalf of the Token Vendor and/or the Project Group, or relating to the Platform are expressly qualified in their entirety by such factors. Given the risks and uncertainties that may cause the eventual outcome to be materially different from that expected, expressed or implied by the forward-looking statements in the Project Documents, undue reliance must not be placed on these statements. These forward-looking statements are applicable only as of the date of the Project Documents.

The Token Vendor, the Project Group, and/or any other person do not represent, warrant, and/or undertake the contents in those forward-looking statements, and the eventual outcome may differ materially from those anticipated in these forward-looking statements.

Nothing contained in the Project Documents is or may be relied upon as a promise, representation or undertaking relating to the Token Vendor and/or the Project Group, or the Platform.

Further, the Token Vendor and the Project Group each disclaims any responsibility to update any of those forward-looking statements or publicly announce any revisions to those forward-looking statements to reflect future developments, events or circumstances, even if new information becomes available or other events occur in the future.

Third Party Information and No Consent of Other Persons

The Project Documents include information obtained from various third party sources (“**Third Party Information**”). The consent of the publishers of the Third Party Information has not been sought for the inclusion of the Third Party Information in the Project Documents and such publishers are therefore not liable for the Third Party Information. While the Token Vendor and the Project Group have taken reasonable action to ensure that the Third Party Information have been included in their proper form and context, the Token Vendor, the Project Group, and/or their respective directors, executive officers, and employees acting on its behalf, have not independently verified the accuracy, reliability, completeness of the contents, or ascertained any applicable underlying assumption, of the relevant Third Party Information. Consequently, the Token Vendor, the Project Group, and/or their respective directors, executive officers, and employees acting on their behalf do not make any representation or warranty as to the accuracy, reliability or completeness of such information and shall not be obliged to provide any updates on the same.

Terms Used

To facilitate a better understanding of the Tokens being offered for purchase by the Token Vendor, and the businesses and operations of the Project Group, certain technical terms and abbreviations, as well as, in certain instances, their descriptions, have been used in the Project Documents. These descriptions and assigned meanings should not be treated as being definitive of their meanings and may not correspond to standard industry meanings or usage.

Words importing the singular shall, where applicable, include the plural and vice versa and words importing the masculine gender shall, where applicable, include the feminine and neuter genders and vice versa. References to persons shall include corporations.

No Advice

No information in the Project Documents should be considered to be business, legal, financial or tax advice regarding the Token Vendor, the Project Group, the Project, the Tokens, the Platform, or the Token Distribution. You should consult your own legal, financial, tax or other professional advisor regarding the Token Vendor, the Project Group, the Project, the Tokens, the Platform, and the Token Distribution. You should be aware that you may be required to bear all risks of any purchase of Tokens for an indefinite period of time.

None of the advisors engaged by the Token Vendor and/or the Project Group has made or purports to make any statement in the Project Documents or any statement upon which a statement in the Project Documents is based and each of them makes no representation regarding any statement in the Project Documents and to the maximum extent permitted by law, expressly disclaims and takes no responsibility for any liability to any person which is based on, or arises out of, any statement, information or opinions in, or omission from, the Project Documents.

No Further Information or Update

No person has been or is authorized to give any information or representation not contained in the Project Documents in connection with the Token Vendor, the Project Group, the Project, the Tokens, the Platform, or the Token Distribution and, if given, such information or representation must not be relied upon as having been authorized by or on behalf of the Token Vendor and/or the Project Group. The Token Distribution shall not, under any circumstances, constitute a continuing representation or create any suggestion or implication that there has been no change, or development reasonably likely to involve a material change in the affairs, conditions and prospects of the Token Vendor and/or the Project Group or in any statement of fact or information contained in the Project Documents since the date hereof.

Restrictions on Distribution and Dissemination

The distribution or dissemination of the Project Documents or any part thereof may be prohibited or restricted by the laws, regulatory requirements and rules of any jurisdiction. In the case where any restriction applies, you are to inform yourself about, and to observe, any restrictions which are applicable to your possession of the Project Documents or such part thereof (as the case may be) at your own expense and without liability to the Token Vendor and/or the Project Group.

Persons to whom copies of the Project Documents have been distributed, disseminated, or provided access to or who otherwise have the Project Documents in their possession, shall not circulate it to any other persons, reproduce or otherwise distribute the Project Documents or any information contained herein for any purpose whatsoever nor permit or cause the same to occur.

No Offer of Investment or Registration

The Tokens are not intended to be and should not be construed to constitute shares or securities of any form, units in a business trust, units in a collective investment scheme or any other form of regulated investment or investment product in any jurisdiction. The Project Documents do not constitute prospectuses or offer documents of any sort and are not intended to and should not be construed to constitute an offer of shares or securities of any form, units in a business trust, units in a collective investment scheme or any other form of investment, or a solicitation for any form of investment in any jurisdiction. No person is bound to enter into any contract or binding legal commitment in relation to the distribution and purchase of the Tokens and no cryptocurrency (other than those provided for in the Project Documents) or other form of payment is to be accepted on the basis of the Project Documents.

THE TOKEN DISTRIBUTION (AS REFERRED TO IN THE PROJECT DOCUMENTS) IS INTENDED FOR, MADE TO OR DIRECTED AT ONLY PERSONS WHO ARE NOT EXCLUDED PERSONS. ACCORDINGLY, YOU ARE NOT ELIGIBLE AND YOU ARE NOT TO PURCHASE ANY TOKENS IN THE TOKEN DISTRIBUTION IF YOU ARE AN EXCLUDED PERSON.

No regulatory authority has examined or approved of any of the information set out in the Project Documents. No such action has been or will be taken under the laws, regulatory requirements or rules of any jurisdiction. The publication, distribution or dissemination of the Project Documents does not imply that the applicable laws, regulatory requirements or rules have been complied with.

Risks and Uncertainties

Prospective Purchasers should carefully consider and evaluate all risks and uncertainties associated with the Token Vendor, the Project Group, the Tokens, the Project, the Platform, and the Token Distribution, and all information set out in the Project Documents and the Token Distribution Terms prior to any purchase of the Tokens. If any of such risks and uncertainties develop into actual events, the business, financial condition, results of operations and prospects of the Project, the Platform, the Token Vendor and/or the Project Group could be materially and adversely affected. In such cases, the value or the trading price of the Tokens may be indirectly impacted.

Please refer to the risks and warnings set out in Annex 2 below and such other risk factors as highlighted in the Token Distribution Terms before deciding to purchase Tokens. It should be noted the aforementioned list of risks and warnings is not exhaustive. Accordingly, prospective Purchasers should not place undue reliance on these statements.

Annex 1

TOKEN DISTRIBUTION EXCLUDED JURISDICTIONS*

1. Albania[#]
2. Barbados[#]
3. Botswana[#]
4. Burkina Faso[#]
5. Cambodia[#]
6. Canada
7. Democratic People's Republic of Korea^{#^}
8. Democratic Republic of Congo[^]
9. Haiti[#]
10. Indonesia
11. Iran^{#^}
12. Jamaica[#]
13. Libya[^]
14. Malta[#]
15. Morocco[#]
16. Myanmar[#]
17. Nicaragua[#]
18. Pakistan[#]
19. Panama[#]
20. People's Republic of China, which for the purposes of this Agreement shall exclude the Hong Kong Special Administrative Region of the People's Republic of China, the Macau Special Administrative Region of the People's Republic of China, and the Republic of China (Taiwan)
21. Philippines[#]
22. Senegal[#]
23. Somalia[^]
24. South Sudan^{#^}
25. Sudan[^]
26. Syria[#]
27. Thailand

28. United States of America and its territories, namely, American Samoa, Guam, Northern Mariana Islands, Puerto Rico, United States Virgin Islands, Bajo Nuevo Bank, Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Palmyra Atoll, Serranilla Bank and Wake Island
29. Uganda[#]
30. Yemen^{#^}
31. Zimbabwe[#]
32. [With the exception of Mauritius], any jurisdiction in which the Token Distribution is (a) prohibited, restricted or unauthorized in any form or manner whether in full or in part under the laws, regulatory requirements or rules in such jurisdiction, or (b) subject of regulation so as to attract licensing or prospectus filing obligations on an issuer of digital assets under the laws, regulatory requirements or rules in such jurisdiction unless otherwise determined by the Token Vendor in its sole and absolute discretion to be a jurisdiction included in the Token Distribution.

[#] *Jurisdictions with strategic anti-money laundering / counter-financing of terrorism deficiencies most recently identified by the Financial Action Task Force for increased monitoring at <<http://www.fatf-gafi.org/countries/#high-risk>> (last accessed on 9 September 2021)*

[^] *Jurisdictions in which designated individuals and entities are identified by the MAS for the purposes of regulations promulgated under the Monetary Authority of Singapore Act (Chapter 186) of Singapore, the United Nations Act (Chapter 339) of Singapore or the Terrorism (Suppression of Financing) Act (Chapter 325) of Singapore*

^{*} *The Token Distribution Excluded Jurisdictions stipulated hereto are indicative for the purpose of this Whitepaper, and is subject always to and superseded by the full and final list of Token Distribution Excluded Jurisdictions as stipulated in the Token Distribution Terms. Please refer to the Token Distribution Terms to determine your eligibility to participate in the Token Distribution.*

Annex 2

RISK FACTORS

(1) **RISKS RELATING TO PARTICIPATION IN THE TOKEN DISTRIBUTION EVENT (AS DEFINED BELOW)**

Purchase of products, including but not limited to cryptocurrencies / cryptographic tokens, from start-ups such as the Token Vendor and the Project Group involve a high degree of risk

Financial and operating risks confronting start-ups are significant and the Token Vendor and the Project Group are not immune to these. Start-ups often experience unexpected problems in the areas of product development, marketing, financing, and general management, among others, which frequently cannot be solved.

The Token Vendor and/or the Project Group may be forced to cease operations

It is possible that, due to any number of reasons, including, but not limited to, an unfavourable fluctuation in the value of cryptographic and fiat currencies, the inability of the Token Vendor and/or the Project Group to establish the Project or the Tokens' utility, the failure of commercial relationships, or intellectual property ownership challenges, the Token Vendor and/or the Project Group may no longer be viable to operate and the Token Vendor and/or the Project Group may dissolve or take actions that result in a dissolution of the Token Vendor and/or the Project Group.

The tax treatment in relation to Tokens are uncertain and there may be adverse tax consequences for a Purchaser upon certain future events

The tax characterisation of Tokens are uncertain, and a Purchaser should seek independent tax advice in connection with a purchase of Tokens. A purchase of Tokens may result in adverse tax consequences to the Purchaser, including withholding taxes, income taxes, and tax reporting requirements. The Purchaser should consult with and must rely upon the advice of its own professional tax advisors with respect to tax treatment of a purchase of Tokens.

There is no prior market for the Tokens and the Token Distribution Event may not result in an active or liquid market for the Tokens

Prior to a Token Distribution event ("**Token Distribution Event**"), there has been no public market for the Tokens and the Tokens are not traded, whether on any cryptocurrency exchange or otherwise. In the event that the Tokens are traded on a cryptocurrency exchange, there is no assurance that an active or liquid trading market for the Tokens will develop or if developed, be sustained after the Tokens have been made available for trading on such cryptocurrency exchange. There is also no assurance that the market price of the Tokens will not decline below the purchase consideration at which the Purchaser acquired the Tokens. Such purchase consideration may not be indicative of the market price of the Tokens after they have been made available for trading on a cryptocurrency exchange.

A Token is not a currency issued by any central bank or national, supra-national or quasi-national organisation, nor is it backed by any hard assets or other credit. The Token Vendor and/or the Project Group is/are not responsible for nor does it / do they pursue the circulation and trading of Tokens on the market. Trading of Tokens merely depends on the consensus on its value between the relevant market participants, and no one is obliged to purchase any Token from any holder of the Token, including the purchasers, nor does anyone guarantee the liquidity or market price of Tokens to any extent at any time. Accordingly, the Token Vendor and/or the Project Group cannot ensure that there will be any demand or market for Tokens, or that the purchase consideration at the relevant time is indicative of the market price of Tokens after they have been made available for trading on a cryptocurrency exchange.

Future sales of the Tokens could materially and adversely affect the market price of Tokens

Any future sale of the Tokens (which were not available for sale in the Token Distribution Event) would increase the supply of Tokens in the market and this may result in a downward price pressure on the Tokens. The sale or distribution of a significant number of Tokens outside of the Token Distribution Event, or the perception that such further sales or issuance may occur, could adversely affect the trading price of the Tokens.

Negative publicity may materially and adversely affect the price of the Tokens

Negative publicity involving the Token Vendor, the Project Group, the Project, the Tokens and/or any of the key personnel of the Token Vendor and/or the Project Group may materially and adversely affect the market perception or market price of the Tokens, whether or not such negative publicity is justified.

There is no assurance of any success of the Project

The value of, and demand for, the Tokens hinges heavily on the performance of the Project. There is no assurance that the Project will gain traction after its launch and achieve any commercial success.

The Project has not been fully developed, finalised, and integrated and is subject to further changes, updates, and adjustments prior to its launch. Such changes may result in unexpected and unforeseen effects on its projected appeal to users, and hence impact its success.

While the Token Vendor has made every effort to provide a realistic estimate, there is also no assurance that the proceeds raised in the Token Distribution Event will be sufficient for the development and integration of the Project. For the foregoing or any other reason, the development and integration of the Project may not be completed and there is no assurance that it will be launched at all. As such, distributed Tokens may hold little worth or value, and this would impact its trading price.

If and when the Project is fully developed, there is no assurance that its systems, protocols, or products will be widely adopted or utilised by its target users.

The trading price of the Tokens may fluctuate following the Token Distribution Event

The prices of digital tokens in general tend to be relatively volatile, and can fluctuate significantly over short periods of time. The demand for, and correspondingly the market price of, the Tokens may fluctuate significantly and rapidly in response to, among others, the following factors, some of which are beyond the control of the Token Vendor and/or the Project Group:

- (a) new technical innovations;
- (b) analysts' speculations, recommendations, perceptions or estimates of the Token's market price or the financial and business performance of the Token Vendor and/or the Project Group;
- (c) changes in market valuations and token prices of entities with operations similar to that of the Token Vendor and/or the Project Group that may be made available for sale and purchase on the same cryptocurrency exchanges as the Tokens;
- (d) announcements by the Token Vendor and/or the Project Group of significant events, for example, partnerships, sponsorships, or new product developments;
- (e) fluctuations in market prices and trading volume of cryptocurrencies on cryptocurrency exchanges;

- (f) additions or departures of key personnel of the Token Vendor and/or the Project Group;
- (g) success or failure of the management of the Token Vendor and/or the Project Group in implementing business and growth strategies; and
- (h) changes in conditions affecting the blockchain or financial technology industry, the general economic conditions or market sentiments, or other events or factors.

The funds raised in the Token Distribution Event are exposed to risks of theft

The Token Vendor will make every effort to ensure that the funds received from the Token Distribution Event will be securely held at such addresses as directed by the Token Vendor (“**Receiving Addresses**”). Further, upon receipt of the funds, the Token Vendor will make every effort to ensure that the funds received will be securely held through the implementation of security measures. Notwithstanding such security measures, there is no assurance that there will be no theft of the cryptocurrencies as a result of hacks, mining attacks (including but not limited to double-spend attacks, majority mining power attacks, and “selfish-mining” attacks), sophisticated cyber-attacks, distributed denials of service or errors, vulnerabilities or defects on the Receiving Addresses, the applicable blockchain(s), or any other blockchain, or otherwise. Such events may include, for example, flaws in programming or source code leading to exploitation or abuse thereof. In such event, even if the Token Distribution Event is completed, the Token Vendor may not be able to receive the cryptocurrencies raised and the Token Vendor may not be able to utilise such funds for the development of the Project, and the launch of the Project might be temporarily or permanently curtailed. As such, the issued Tokens may hold little worth or value, and this would impact their trading price. The Tokens are uninsured, unless the Purchaser specifically obtains private insurance to insure them. In the event of any loss or loss of value of the Tokens, the Purchaser may have no recourse.

(2) **RISKS RELATING TO THE RECEIVING ADDRESSES AND WALLETS**

The Receiving Addresses may be compromised and the cryptocurrencies may not be able to be disbursed

The Receiving Addresses are designed to be secure. However, in the event that the Receiving Addresses are, for any reason compromised (including but not limited to scenarios of the loss of keys to such Receiving Addresses), the funds held by the Receiving Addresses may not be able to be retrieved and disbursed, and may be permanently unrecoverable. In such event, even if the Token Distribution Event is successful, the Token Vendor and/or the Project Group will not be able to receive the funds raised and the Token Vendor and/or the Project Group will not be able to utilise such funds for the development of the Project, and the implementation of the Project might be temporarily or permanently curtailed. As such, distributed Tokens may hold little worth or value, and this would impact their trading price.

The loss or compromise of information relating to the Purchaser’s wallet may affect the Purchaser’s access and possession of the Tokens

The Purchaser’s access to the Tokens in a cryptocurrency wallet (“**Wallet**”) depends on, among other things, the safeguards to the information to such Wallet, including but not limited to the user account information, address, private key, and password. In the event that any of the foregoing is lost or compromised, the Purchaser’s access to the Wallet may be curtailed and thereby adversely affecting the Purchaser’s access and possession to the Tokens, including such Tokens being unrecoverable and permanently lost.

The Wallet or Wallet service provider may not be technically compatible with the Tokens

The Wallet or Wallet service provider may not be technically compatible with the Tokens which may result in the delivery of Tokens being unsuccessful or affect the Purchaser’s access to such Tokens.

(3) **RISKS RELATING TO THE TOKEN VENDOR AND THE PROJECT GROUP**

The Project is initiated by the Token Vendor and the Project Group. Any events or circumstances which adversely affect the Token Vendor and/or the Project Group may have a corresponding adverse effect on the Project if such events or circumstances affect the Token Vendor's and/or the Project Group's ability to launch the Project. This would correspondingly have an impact on the trading price of the Tokens.

There may be weaknesses, vulnerabilities or bugs in the protocols, systems, and smart contracts in connection with the Project

As blockchain and smart contract technology is still relatively in its early stage of development and its application of experimental nature carries significant operation, technological, financial, regulatory and reputational risks, there are inherent risks that such protocols, systems and/or smart contracts could contain weaknesses, vulnerabilities or bugs.

Purchasers of Tokens should understand and accept that there are no warranties that Tokens are fit for a particular purpose or do not contain any weaknesses, vulnerabilities or bugs which would cause loss in their worth or value. In the event that any of the aforementioned risks materialises, the business strategies, results of operations and outlook of the Token Vendor and/or the Project Group may also be adversely affected.

The Token Vendor and/or the Project Group may experience system failures, unplanned interruptions in their network or services, hardware or software defects, security breaches or other causes that could adversely affect the infrastructure network of the Token Vendor and/or the Project Group, and/or the Project

The Token Vendor and/or the Project Group is/are unable to anticipate when there would be occurrences of hacks, cyber-attacks, mining attacks (including but not limited to double-spend attacks, majority mining power attacks, and "selfish-mining" attacks), distributed denials of service or errors, vulnerabilities or defects in the Project, the Tokens, the Receiving Addresses, the Wallet or any technology (including but not limited to smart contract technology) on which the Project Group, the Project, the Tokens, the Receiving Addresses, and the Wallet rely or on the applicable blockchain(s). Such events may include, for example, flaws in programming or source code leading to exploitation or abuse thereof. The Token Vendor and/or the Project Group may not be able to detect such hacks, mining attacks (including but not limited to double-spend attacks, majority mining power attacks, and "selfish-mining" attacks), cyber-attacks, distributed denials of service errors vulnerabilities or defects in a timely manner, and may not have sufficient resources to efficiently cope with multiple service incidents happening simultaneously or in rapid succession.

The network or services of the Token Vendor and/or the Project Group, which would include the Project, could be disrupted by numerous events, including natural disasters, equipment breakdown, network connectivity downtime, power losses, or even intentional disruptions of their services, such as disruptions caused by software viruses or attacks by unauthorised users, some of which are beyond the control of the Token Vendor and/or the Project Group. Although the Token Vendor and the Project Group will be taking steps against malicious attacks on their appliances or infrastructure, which are critical for the initiation and maintenance of the Project and its other services, there can be no assurance that cyber-attacks, such as distributed denials of service, will not be attempted in the future, and that any of the enhanced security measures of the Token Vendor and/or the Project Group will be effective. The Token Vendor and/or the Project Group may be prone to attacks on their infrastructure intended to steal information about its technology, financial data or user information or take other actions that would be damaging to the Token Vendor, the Project Group, and/or users of the Project. Any significant breach of the security measures of the Token Vendor and/or the Project Group or other disruptions resulting in a compromise of the usability, stability and security of the network or services of the Token Vendor and/or the Project Group (including the Project) may adversely affect the trading price of the Tokens.

The Token Vendor and/or the Project Group are dependent in part on the location and data centre facilities of third parties

The infrastructure network of the Token Vendor and/or the Project Group is in part established through servers which they own and house at the location facilities of third parties, and servers that they rent at data centre facilities of third parties. If the Token Vendor and/or the Project Group is/are unable to renew its data facility lease on commercially reasonable terms or at all, the Token Vendor and/or the Project Group may be required to transfer their servers to a new data centre facility, and may incur significant costs and possible service interruption in connection with the relocation. These facilities are also vulnerable to damage or interruption from, among others, natural disasters, arson, terrorist attacks, power losses, and telecommunication failures. Additionally, the third party providers of such facilities may suffer a breach of security as a result of third party action, employee error, malfeasance or otherwise, and a third party may obtain unauthorised access to the data in such servers. As techniques used to obtain unauthorised access to, or to sabotage systems change frequently and generally are not recognised until launched against a target, the Token Vendor, the Project Group, and/or the providers of such facilities may be unable to anticipate these techniques or to implement adequate preventive measures. Any such security breaches or damages which occur that impact upon the infrastructure network of the Token Vendor and/or the Project Group, and/or the Project may adversely impact the price of the Tokens.

General global market and economic conditions may have an adverse impact on the operating performance, results of operations and cash flows of the Token Vendor and/or the Project Group

The Token Vendor and/or the Project Group have/have been and could continue to be affected by general global economic and market conditions. Challenging economic conditions worldwide have from time to time, contributed, and may continue to contribute, to slowdowns in the information technology industry at large. Weakness in the economy could have a negative effect on the business, operations and financial condition of the Token Vendor and/or the Project Group, including decreases in revenue and operating cash flows. Additionally, in a down-cycle economic environment, the Token Vendor and/or the Project Group may experience the negative effects of increased competitive pricing pressure and a slowdown in commerce and usage of the Project. Suppliers on which the Token Vendor and/or the Project Group rely for servers, bandwidth, location and other services could also be negatively impacted by economic conditions that, in turn, could have a negative impact on the operations or expenses of the Token Vendor and/or the Project Group. There can be no assurance, therefore, that current economic conditions or worsening economic conditions or a prolonged or recurring recession will not have a significant adverse impact on the business, financial condition and results of operations of the Token Vendor and/or the Project Group, and hence the Project, which may indirectly impact the trading price of the Tokens.

The Token Vendor, the Project Group, the Tokens and/or the Project may be affected by newly implemented regulations

The Token Vendor, the Project Group, the Project, and/or the Tokens may be affected by newly implemented regulations relating to cryptocurrencies or digital tokens markets, including having to take measures to comply with such regulations, or having to deal with queries, notices, requests or enforcement actions by regulatory authorities, which may come at a substantial cost and may also require substantial modifications to the Project. This may impact the appeal of the Project for users and result in decreased usage of the Project. Further, should the costs (financial or otherwise) of complying with such newly implemented regulations exceed a certain threshold, launching the Project may no longer be commercially viable and the Token Vendor and/or the Project Group may opt to discontinue the Project and/or the Tokens. Further, it is difficult to predict how or whether governments or regulatory authorities may implement any changes to laws and regulations affecting distributed ledger technology and its applications, including the Project and the Tokens. The Token Vendor and/or the Project Group may also have to cease operations in a jurisdiction that makes it illegal to operate in such jurisdiction, or make it commercially unviable or undesirable to obtain the necessary regulatory approval(s) to operate in such jurisdiction. In scenarios such as the foregoing, the trading price of Tokens will be adversely affected or Tokens may cease to be traded.

The regulatory regime governing blockchain technologies, cryptocurrencies, tokens, and token offerings such as the Token Distribution Event, the Project, and the Tokens is uncertain, and regulations or policies may materially adversely affect the development of the Project and the utility of the Tokens

Regulation of tokens (including the Tokens) and token offerings (such as the Token Distribution Event), cryptocurrencies, blockchain technologies, and cryptocurrency exchanges is likely to rapidly evolve, varies significantly among international, federal, state and local jurisdictions, and is subject to significant uncertainty. Various legislative and executive bodies in the relevant jurisdictions may in the future adopt laws, regulations, guidance, or other actions, which may severely impact the development and growth of the Project, the adoption and utility of the Tokens or the issue, offer, and sale of the Tokens by the Token Vendor. Failure by the Token Vendor and/or the Project Group or users of the Project to comply with any laws, rules and regulations, some of which may not exist yet or are subject to interpretation and may be subject to change, could result in a variety of adverse consequences, including civil penalties and fines.

Blockchain networks also face an uncertain regulatory landscape in many foreign jurisdictions and may, in the near future, adopt laws, regulations or directives that affect the Project. Such laws, regulations or directives may directly and negatively impact the business of the Token Vendor and/or the Project Group. The effect of any future regulatory change is impossible to predict, but such change could be substantial and materially adverse to the development and growth of the Project and the adoption and utility of the Tokens.

New or changing laws and regulations or interpretations of existing laws and regulations may materially and adversely impact the value of the currency in which the Tokens may be sold, the liquidity of the Tokens, the ability to access marketplaces or exchanges on which to trade the Tokens, and the structure, rights and transferability of Tokens.

Token holders will have no control over the Token Vendor and/or the Project Group

The holders of Tokens are not and will not be entitled to vote or receive dividends or distributions and are not and will not be treated as the holder of shares in the Token Vendor and/or the Project Group for any purpose, nor will anything be construed to confer on the Purchaser any of the rights of a member of the Token Vendor and/or the Project Group or any right to vote for the election of directors or upon any matter submitted to members at any meeting thereof, or to give or withhold consent to any corporate action or to receive notice of meetings, or to receive subscription rights or otherwise.

The Purchaser may lack information in respect of the Token Vendor, the Project Group, the Tokens, and/or the Project

The Purchaser may not be able to obtain all the information it would want regarding the Token Vendor, the Project Group, the Tokens, and/or the Project, on a timely basis or at all. It is possible that the Purchaser may not be aware on a timely basis of material adverse changes that have occurred. Information in relation to the development of Tokens may also be highly technical by nature. As a result of these difficulties, as well as other uncertainties, the Purchaser may not have accurate or accessible information about the Token Vendor, the Project Group, the Tokens, and/or the Project.

There may be risks relating to acts of God, natural disasters, wars, terrorist attacks, riots, civil commotions, widespread communicable diseases and other force majeure events beyond the control of the Token Vendor and/or the Project Group

The Token Distribution Event and the performance of the activities of the Token Vendor, the Project Group, and/or the Project may be interrupted, suspended or delayed due to acts of God, natural disasters, wars, terrorist attacks, riots, civil commotions, widespread communicable diseases and other force majeure events beyond the control of the Token Vendor and/or the Project Group. Such events could also lead to uncertainty in the economic outlook of global markets and there is no assurance that such markets will not be affected, or that recovery from the global financial crisis would continue. In such events, the business strategies, results of

operations and outlook of the Token Vendor and/or the Project Group may be materially and adversely affected. Further, if an outbreak of such infectious or communicable diseases occurs in any of the countries in which the Token Vendor, the Project Group, the developers, data providers and/or data consumers have operations in the future, market sentiment could be adversely affected and this may have a negative impact on the Project and community.

There may be unanticipated risks arising from the Tokens

Cryptographic tokens such as the Tokens are a relatively new and dynamic technology. In addition to the risks included herein, there are other risks associated with the Purchaser's purchase, holding and use of the Tokens, including those that the Token Vendor and/or the Project Group cannot anticipate. Such risks may further materialise as unanticipated variations or combinations of the risks discussed herein.